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<td>refrigeration</td>
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<tr>
<td>History</td>
<td>315</td>
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<td>Humanities</td>
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<td>Natural science (see biological science)</td>
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<tr>
<td>Nutrition</td>
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<td>Oceanography</td>
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<td>Physical science</td>
<td>402</td>
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<td>Respiratory therapy</td>
<td>421</td>
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<td>Russian</td>
<td>423</td>
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<td>Sign language</td>
<td>425</td>
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<td>Social science</td>
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<td>Sociology</td>
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<td>Sports medicine/athletic training</td>
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<tr>
<td>(see kinesiology)</td>
<td></td>
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<td>Steamfitting</td>
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</tbody>
</table>
UNDERSTANDING THE COURSE DESCRIPTIONS

Availability of course offerings
The courses listed in the catalog may not be offered every term or every year. Refer to the schedule of classes for courses offered in the current term.

Course numbering
Course descriptions with numbers below 100 are not college level (degree applicable) courses and do not apply as credit toward the associate degree. Most courses with numbers between 100 and 299 are college-level freshman and sophomore level courses. Exceptions apply in English. English and English as a Second Language courses numbered below 122/122A/122AM/122L/122AL/122X have limited or no degree applicability. Only one of the following courses may be applied to the units required for an associate degree: ENGL-116, 117, 118, 121 or ESL-117A. Students should carefully review each specific course description and meet with a counselor to ensure that the selected courses will satisfy requirements for transfer, degree, or certificate goals.

Prerequisites/co-requisites
When a course description lists a prerequisite, it means that the prerequisite must be successfully completed before the student may enroll in that course. If the course lists a co-requisite, students must have successfully completed the course in a prior term or be enrolled in the co-requisite course in the same term. See page 20 for more information about course prerequisites and/or co-requisites.

Advisories
When a course description lists an advisory, students are advised to complete the advisory course or courses before enrolling in the selected course. Advisories increase the student’s ability to succeed.

Course codes
The course descriptions in this catalog and in the schedule of classes use codes to identify grading and transferability options. These codes are defined as follows:

Grade Codes
P/NP - The course may only be taken for a pass/no pass grade.
LR - The course may only be taken for a letter grade.
SC - Students may choose P/NP grading before the fourth week of the term for full-term classes. See page 31 for more information about the grade policy.
Transferability codes

CSU-transferable (CSU)
Courses identified with the CSU code at the end of the description are transferable to campuses of the CSU system. However, they may only be transferable as an elective, not as a major or general education requirement. Students should seek the advice of a counselor for complete information about the transferability of courses toward meeting general education or major requirements. Lists of CSU-transferable courses are available at www.assist.org.

UC-transferable (UC)
DVC offers many courses that are transferable to all UC campuses. A course must be on the Transfer Course Agreement (TCA) at the time it is taken to be transferable to UC. Courses identified with a UC code at the end of the description are transferable. Lists of UC-transferable courses are available at www.assist.org.

California Course Identification Numbering System (C-ID)
The Course Identification Numbering System (C-ID) is a statewide numbering system independent from the course numbers assigned by local California community colleges. A C-ID number signals that participating California colleges and universities have determined that courses offered by other California community colleges are comparable in content and scope to courses offered on their own campuses, regardless of their unique titles or local course number. Thus, if a schedule of classes or catalog lists a course bearing a C-ID number, for example COMM 110, students at that college can be assured that it will be accepted in lieu of a course bearing the C-ID COMM 110 designation at another community college. In other words, the C-ID designation can be used to identify comparable courses at different community colleges. However, students should always go to www.assist.org to confirm how each college’s course will be accepted at a particular four-year college or university for transfer credit.

The C-ID numbering system is useful for students attending more than one community college and is applied to many of the transferable courses students need as preparation for transfer. Because these course requirements may change and because courses may be modified and qualified for or deleted from the C-ID database, students should always check with a counselor to determine how C-ID designated courses fit into their educational plans for transfer.

Students may consult the ASSIST database at www.assist.org for specific information on C-ID course designations. Counselors can help students interpret or explain this information. See course descriptions for C-ID course designations.

COURSEWORK AND STUDY TIME PER UNIT

Units of credit are established based on the minimum amount of time students will need to achieve the intended learning outcomes as described by Title 5, section 55002.5. Units of credit established by the faculty for each course reflect generally accepted norms or equivalencies in higher education. In general, for a full-term, three-unit lecture class, students spend three plus hours each week in class and six plus hours of study time out of class totaling a minimum of 9 hours each week. The number of units established for laboratory courses is based on the number of hours of laboratory work alone, although many laboratory courses may also require study outside of laboratory hours.

Expected total hours of study outside of class apply equally to short-term and summer classes; students should carefully plan their schedules to include these hours of study during accelerated terms. Online classes require more hours of independent work in lieu of face-to-face meetings and students are advised that total hours of study for such courses will exceed minimums.

The following examples reflect the minimum expected hours of study per term:

<table>
<thead>
<tr>
<th>Sample Course</th>
<th>Units</th>
<th>Lecture hours</th>
<th>Laboratory Activity hours</th>
<th>Minimum out of class study hours</th>
<th>Total hours</th>
<th>Typical hours week for a full term class</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST-120</td>
<td>3</td>
<td>54</td>
<td>0</td>
<td>108</td>
<td>162</td>
<td>9+</td>
</tr>
<tr>
<td>COMSC-210</td>
<td>2</td>
<td>54</td>
<td>54</td>
<td>108</td>
<td>216</td>
<td>12+</td>
</tr>
<tr>
<td>KNACT-110A</td>
<td>4</td>
<td>0</td>
<td>54</td>
<td>0</td>
<td>54</td>
<td>3+</td>
</tr>
<tr>
<td>MATH-135</td>
<td>4</td>
<td>72</td>
<td>0</td>
<td>144</td>
<td>216</td>
<td>12+</td>
</tr>
</tbody>
</table>

A unit load of 12 units is generally considered full-time. In the examples provided above, a student enrolling in HIST-120, COMSC-210, KNACT-110A and MATH-135 would expect to devote a minimum of 36 hours to study (in and out-of-class).

PROGRAM LENGTH

Most degree programs at DVC can be completed in two years, assuming students take an average of 15 units per term. Certificate programs vary in length; most certificate programs require less than two years of full-time study to complete and many programs may be completed on a part-time basis. DVC offers two types of credit certificates; certificates of achievement and certificates of accomplishment. In many cases, courses completed as part of a certificate program can be applied to a degree program. Only certificates of achievement and associate degrees are recorded on the student’s official transcript. Students are advised to meet with a counselor or program advisor to develop an educational plan as not all courses are offered every term.
PROGRAM AND COURSE DESCRIPTIONS

ACCOUNTING

See Business accounting - BUSAC

ADDITION STUDIES – ADS

Diablo Valley College is approved by the California Board of Registered Nurses for continuing education credits. All ADS courses can be used. (Provider #CEP 7992).

Christine Worsley, Dean
Kinesiology, Athletics, and Health Sciences Division
Kinesiology Offices, Room 1

Possible career opportunities
Addiction studies students develop an in-depth understanding of the addiction process and how to motivate someone towards positive change. The addiction counseling certificate prepares students for a career as a substance abuse counselor, community services worker, or an addiction/prevention/intervention educator.

Associate in science degree
Addiction counseling

Students completing the program will be able to...

A. compare and contrast the efficacy of various assessment tools, motivational strategies, and substance abuse treatment approaches.
B. describe the importance of cultural competence and how it relates to becoming an effective addiction counselor.
C. demonstrate basic listening skills.
D. discuss the legal and ethical issues that workers may encounter in the addiction treatment field.
E. explain how addiction affects family systems.
F. compare and contrast various assessment tools, treatment plans and charting protocols.

The associate degree program in addiction counseling provides students with the academic preparation needed for employment in the addiction counseling field. Earning this degree may also facilitate the student’s transfer to a four-year college or university. Students who wish to transfer must consult with program faculty and college counselors to ensure that the requirements for transfer to appropriate institutions are met. To earn an associate in science degree, students must complete each course used to meet a major requirement with a “C” grade or higher. Certain courses may satisfy both a major and other general education requirements; however, the units are only counted once.

Upon completing this degree, a student may apply for any of the state recognized professional credentials offered by the following organizations: California Association of Alcoholism and Drug Abuse Counselors (CAADAC), California Association of Alcohol and Drug Educators (CAADE), and the California Association of Addiction Recovery Resources (CAARR). Each of these credentials has additional testing and/or field practicum hours required, but all of the educational coursework is completed when you finish the addiction counseling program at DVC.

major requirements:  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADS-102</td>
<td>Introduction to Motivational Interviewing Skills</td>
<td>3</td>
</tr>
<tr>
<td>ADS-151*</td>
<td>Ethical and Legal Concerns for ADS Counselors</td>
<td>1.5</td>
</tr>
<tr>
<td>ADS-152</td>
<td>Relapse Prevention</td>
<td>3</td>
</tr>
<tr>
<td>ADS-154</td>
<td>Dual Disorders</td>
<td></td>
</tr>
<tr>
<td>ADS-154*</td>
<td>Group Process and Leadership</td>
<td>3</td>
</tr>
<tr>
<td>ADS-170</td>
<td>Introduction to Codependency and Family Issues</td>
<td></td>
</tr>
<tr>
<td>ADS-171*</td>
<td>ADS Field Work I</td>
<td>5.5</td>
</tr>
<tr>
<td>ADS-172*</td>
<td>ADS Field Work II</td>
<td></td>
</tr>
<tr>
<td>PH-127</td>
<td>Drugs, Health, and Society</td>
<td>3</td>
</tr>
<tr>
<td>PH-137</td>
<td>Cultural Competence in Health and Social Service</td>
<td>3</td>
</tr>
</tbody>
</table>

*The above courses have specific prerequisites. See course descriptions for details.

Associate in science degree
Addiction studies

Students completing the program will be able to...

A. compare and contrast the prevalence, impact, and cost of substance use, abuse, and dependence to the individual and society.
B. identify the general terminology related to addiction and recovery.
C. analyze common family patterns of behavior and the influence addiction has within the family system.
D. describe ways addiction affects family systems.
The associate degree program in addiction studies provides students with a broad general education while integrating an in-depth exploration of the skills and knowledge to work with people who have addiction problems. This degree will contribute significantly to those who want to work in occupational fields such as social services, criminal justice, youth services, education, clergy, nursing, and human resources. Earning this degree may also facilitate the student’s transfer to a four-year college or university. Students who wish to transfer must consult with program faculty and college counselors to ensure that the requirements for transfer to appropriate institutions are met. Certain courses may satisfy both major and general education requirements; however, the units are only counted once. To earn a certificate in science degree, students must complete each course used to meet a major requirement with a “C” grade or higher.

** major requirements: **

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>ADS-152</td>
<td>Relapse Prevention</td>
<td>3</td>
</tr>
<tr>
<td>ADS-154</td>
<td>Dual Disorders</td>
<td>3</td>
</tr>
<tr>
<td>ADS-170</td>
<td>Introduction to Codependency and Family Issues</td>
<td>3</td>
</tr>
<tr>
<td>PH-127</td>
<td>Drugs, Health, and Society</td>
<td>3</td>
</tr>
<tr>
<td>PH-137</td>
<td>Cultural Competence in Health and Social Service</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 18

**Certificate of achievement**

**Addiction counseling**

Students completing the program will be able to...

A. compare and contrast the prevalence, impact, and cost of substance use, abuse, and dependence to the individual and society.

B. identify the general terminology related to addiction and recovery.

C. analyze common family patterns of behavior and the influence addiction has within the family system.

D. describe ways addiction affects family systems.

The addiction counseling certificate provides students with the academic preparation needed for employment in the addiction counseling field. Upon completing this certificate, a student may apply for any of the state recognized professional credentials offered by the following organizations: California Association of Alcoholism and Drug Abuse Counselors (CAADAC), California Association of Alcohol and Drug Educators (CAADE), and the California Association of Addiction Recovery Resources (CAARR). Each of these certificates has additional testing and/or field practicum hours required, but all of the educational coursework is completed when you finish the addiction counseling certificate at DVC.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are primarily available in the evening and late afternoon. Although students may start during any term and progress at their own pace, completion of the certificate will take approximately four terms.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADS-102</td>
<td>Introduction to Motivational Interviewing Skills</td>
<td>3</td>
</tr>
<tr>
<td>ADS-151*</td>
<td>Ethical and Legal Concerns for ADS Counselors</td>
<td>1.5</td>
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<tr>
<td>ADS-152</td>
<td>Relapse Prevention</td>
<td>3</td>
</tr>
<tr>
<td>ADS-154</td>
<td>Dual Disorders</td>
<td>3</td>
</tr>
<tr>
<td>ADS-168*</td>
<td>Group Process and Leadership</td>
<td>3</td>
</tr>
<tr>
<td>ADS-170</td>
<td>Introduction to Codependency and Family Issues</td>
<td>3</td>
</tr>
<tr>
<td>ADS-171*</td>
<td>ADS Field Work I</td>
<td>5.5</td>
</tr>
<tr>
<td>ADS-172*</td>
<td>ADS Field Work II</td>
<td>5.5</td>
</tr>
<tr>
<td>PH-127</td>
<td>Drugs, Health, and Society</td>
<td>3</td>
</tr>
<tr>
<td>PH-137</td>
<td>Cultural Competence in Health and Social Service</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units** 33.5

*The above courses have specific prerequisites. See course description for details.

**Certificate of achievement**

**Addiction studies**

Students completing the program will be able to...

A. compare and contrast the prevalence, impact, and cost of substance use, abuse, and dependence to the individual and society.

B. identify the general terminology related to addiction and recovery.

C. analyze common family patterns of behavior and the influence addiction has within the family system.

D. describe ways addiction affects family systems.

The addiction studies certificate is for students who want a specialized focus in addiction, treatment and recovery but are not preparing to become an addiction counselor. This certificate may be useful for teachers, human services personnel, or community service personnel who want to have a deeper understanding of the addiction process.

Important note: Once this certificate is completed, if you choose to continue in the addiction studies program, you may apply these units towards the more in-depth addiction counseling certificate. When a student has enough units to earn either certificate, they need to fill out an “application for a certificate” form during the term in which they will complete the units. This form must be picked up and turned in to the Admissions and Records Office. If the form is not filled out, a student will not receive the certificate from the college even if they have completed all the units.
To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a "C" grade or higher. Required courses are primarily available in the evening and late afternoon. Although students may start during any term and progress at their own pace, completion of the certificate requirements will take a minimum of two terms.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADS-102</td>
<td>Introduction to Motivational Interviewing Skills</td>
<td>3</td>
<td>SC, 54 hours lecture per term, Advisory: College-level reading and writing are expected.</td>
</tr>
<tr>
<td>ADS-152</td>
<td>Relapse Prevention</td>
<td>3</td>
<td>SC, 54 hours lecture per term, Advisory: College-level reading and writing are expected.</td>
</tr>
<tr>
<td>ADS-154</td>
<td>Dual Disorders</td>
<td>3</td>
<td>SC, 54 hours lecture per term, Advisory: College-level reading and writing are expected.</td>
</tr>
<tr>
<td>ADS-155</td>
<td>Diverse Communities and Social Services</td>
<td>3</td>
<td>SC, 54 hours lecture per term, Advisory: College-level reading and writing are expected.</td>
</tr>
<tr>
<td>ADS-156</td>
<td>Group Process and Leadership</td>
<td>3</td>
<td>SC, 54 hours lecture per term, Advisory: College-level reading and writing are expected.</td>
</tr>
</tbody>
</table>

This course provides an overview of the progressive and predictable warning signs of relapse in the addiction and recovery process. Skills and techniques used to develop a relapse prevention program will be covered. CSU

This course presents an overview of the concepts and definitions related to co-occurring (dual) disorders, and the impact that co-occurring disorders have on addiction treatment and recovery. Emphasis will be placed on the various strategies that mental health and substance abuse professionals use to address co-occurring disorders with reference to the Diagnostic Statistical Manual of Mental Disorders (DSM). CSU

This course investigates the impact of health status, lifestyle and behavioral patterns, communication styles, socioeconomic status, personal prejudices, ethnic stereotyping, and cultural beliefs on individual and group access to social services. An evaluation of existing social services programs and effective strategies for cross- and inter-cultural work in social services, with particular emphasis on addiction prevention, intervention, and treatment services will be examined. CSU

This course explores the theories and practices of group process, group dynamics, and group facilitation. Administrative tasks related to group leadership responsibilities, facilitating various types of addiction groups, and the stages of cohesion are presented. Basic observation and communication skills needed for facilitating support groups for people with histories of substance abuse, co-dependence, and other addictive behaviors will be developed. CSU

A supplemental course in addiction studies to provide a study of current concepts and problems in addiction studies and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

This course is designed to familiarize students with the legal and ethical issues related to addiction counseling in the state of California. Reporting laws, requirements related to maintaining client confidentiality and boundaries, and recognizing the differing levels of legal and ethical obligations for licensed mental health practitioners and certified addiction counselors versus other voluntary recovery support providers will also be examined. CSU
ADS-170  Introduction to Codependency and Family Issues  
3 units  SC  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected. PH-127 or equivalent  
This course examines the biological, psychological, and sociological aspects of family systems, and the influence of addiction on the family. Close examination of family system variables, such as family structure, family roles, communication, and emotional bonding with a focus on how addiction impacts functional and dysfunctional patterns of behavior is provided. CSU

ADS-171  ADS-Field Work I  
5.5 units  SC  
- 54 hours lecture/135 hours laboratory per term  
- Prerequisite: ADS-102, PH-127 or equivalents  
- Advisory: College-level reading and writing are expected.  
- Note: It is highly recommended that a student complete at least 10 units in the addiction studies program before entering this course.  
Students will gain first-hand experience by working in community clinical settings that serve clients with various substance abuse problems. Emphasis is placed on the development of clinical competency through assisting in assessment, treatment planning, group facilitation, record-keeping, and general agency procedures. Students will have on-site supervision and then debrief their experiences with fellow students by sharing what they learned, as well challenges of providing substance abuse services in a community clinic setting. Additionally, students will explore possible locations for employment, learn interviewing skills, and develop an understanding of the necessary requirements for state and other professional certifications. CSU

ADS-172  ADS-Field Work II  
5.5 units  SC  
- 54 hours lecture/135 hours laboratory per term  
- Prerequisite: ADS-171 or equivalent  
- Co-requisite: ADS-151 or equivalent (may be taken previously)  
Students will continue to gain first-hand experience by working in community clinical settings that serve clients with various substance abuse problems to develop clinical competency by facilitating groups, utilizing case-management skills, and examining the clinical procedures related to addiction treatment. Students will have on-site supervision, and then debrief their experiences with fellow students by sharing what they learned, as well as the challenges of providing substance abuse services in a community clinic setting. Students will also prepare for state certification and employment by reviewing Technical Assistance Publication (TAP) 21 addiction counseling competency guidelines and refining interview skills. CSU

ADS-299  Student Instructional Assistant  
.5-3 units  SC  
- Variable hours  
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.  
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems or projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

ADMINISTRATION OF JUSTICE – ADJUS  
Obed Vazquez, Dean  
Social Sciences Division  
Faculty Office Building, Room 136

Possible career opportunities  
Law enforcement study prepares students for a career as a police officer, sheriff’s deputy, California Highway Patrol Officer (CHP), Federal Bureau of Investigation Agent (FBI), Drug Enforcement Administration Agent (DEA), Secret Service Agent, U.S. Border Patrol Agent, Fish and Game Warden, or Customs Agent. Corrections study prepares students for a career as a correctional officer, parole officer, probation officer, youth counselor, prison warden, or criminologist. A pre-law specialization prepares students for further study towards the advanced degree required to become a lawyer, district attorney, public defender, defense lawyer, judge or bailiff.

Associate in science degree  
Administration of justice  
Students completing the program will be able to...  
A. demonstrate an understanding of the three parts of the criminal justice system and how they interrelate.  
B. demonstrate a working knowledge of the theory and practice of criminal law.  
C. demonstrate an understanding of the legal procedures of the United States and California criminal justice systems.  
Students wishing to pursue a career in the field of law enforcement, crime scene investigation, probation, parole, corrections, private security, law, criminal behavior studies, rehabilitation programs or the like should consider this two-year program. All students planning to seek employment with a government or private agency after they graduate should speak with a faculty member of the department in order to review the special requirements of the various agencies.
Administration of justice

To earn an associate in science degree, students must complete each required course with a “C” grade or higher. Degree requirements can be attended by attending classes in the day, the evening, or both. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**major requirements:**

- ADJUS-120 Introduction to the Administration of Justice .... 3
- ADJUS-121 Criminal Law ................................................. 3
- ADJUS-122 Criminal Procedure ........................................... 3
- ADJUS-124 Elements of Corrections .................................. 3
- ADJUS-130 Cultural Diversity in Criminal Justice ............... 3
- ADJUS-221 Legal Aspects of Evidence .............................. 3
- ADJUS-284 Interviewing and Counseling .......................... 3

**plus at least 7-9 units from:**

- ADJUS-125 Report Preparation for Criminal Justice .......... 3
- ADJUS-139 Gangs and Threat Groups in America .............. 3
- ADJUS-203 Crime Scene Investigation .............................. 4
- ADJUS-222 Criminal Investigation .................................. 3
- ADJUS-230 Juvenile Procedures ...................................... 3
- ADJUS-250 Terrorism and Homeland Security .................. 3
- ADJUS-260 The Police: Roles, Methods, and Operations ...... 3
- ADJUS-270 Personal Self Defense and Firearms ............... 2
- ADJUS-280 Community-Based Corrections ....................... 3
- ADJUS-298 Independent Study ........................................ 0.5-3

**total minimum units for the major** 28

**Associate in science in administration of justice for transfer**

Students completing the program will be able to...

A. achieve an advanced level of understanding about the administration of justice, the law, crime and delinquency, and working with diverse communities.

B. identify and increase understanding of major social issues relating to crime, criminals, prevention and control, and victims.

C. focus on police and social control, law and courts, corrections, juvenile justice, and special problems, trends, and contemporary topics in this field.

A DVC administration of justice student who has earned the associate in science in administration of justice for transfer (AS-T) will be granted priority admission to the CSU into a similar baccalaureate (BA) degree program as long as the student meets all prescribed admission requirements.

The associate in science in administration of justice for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area IC requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

**major requirements:**

- ADJUS-120 Introduction to the Administration of Justice ...... 3
- ADJUS-121 Criminal Law .................................................. 3

**plus at least 6 units from:**

- ADJUS-122 Criminal Procedure ........................................ 3
- ADJUS-124 Elements of Corrections .................................. 3
- ADJUS-130 Cultural Diversity in Criminal Justice ............... 3
- ADJUS-203 Crime Scene Investigation .............................. 4
- ADJUS-221 Legal Aspects of Evidence .............................. 3
- ADJUS-222 Criminal Investigation .................................. 3
- ADJUS-230 Juvenile Procedures ...................................... 3
- ADJUS-250 Terrorism and Homeland Security .................. 3

**total minimum units for the major** 18
Certificate of achievement
Administration of justice

Students completing the program will be able to...
A. demonstrate a working knowledge of the basic components of the criminal justice system.
B. demonstrate a working knowledge of the theory and practice of criminal law.
C. demonstrate an understanding of the legal procedures of the United States and California criminal justice systems.

Students wishing to pursue a career in the field of law enforcement, crime scene investigation, probation, parole, corrections, private security, law, criminal behavior studies, rehabilitation programs or the like should consider this two-year program. All students planning to seek employment with a government or private agency after they graduate should speak with a faculty member of the department in order to review the special requirements of the various agencies.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a "C" grade or higher. Certificate requirements can be completed by attending classes in the day, the evening, or both.

required courses:

<table>
<thead>
<tr>
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<tbody>
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<td>ADJUS-221</td>
<td>Legal Aspects of Evidence</td>
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</tr>
<tr>
<td>ADJUS-284</td>
<td>Interviewing and Counseling</td>
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</tr>
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<td>ADJUS-298</td>
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<td></td>
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plus at least 7-9 units from:

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<td>Report Preparation for Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>ADJUS-139</td>
<td>Gangs and Threat Groups in America</td>
<td>3</td>
</tr>
<tr>
<td>ADJUS-203</td>
<td>Crime Scene Investigation</td>
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</tr>
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<td>ADJUS-260</td>
<td>The Police: Roles, Methods, and Operations</td>
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<tr>
<td>ADJUS-270</td>
<td>Personal Self Defense and Firearms</td>
<td>2</td>
</tr>
<tr>
<td>ADJUS-280</td>
<td>Community-Based Corrections</td>
<td>3</td>
</tr>
</tbody>
</table>

total minimum required units 28

Certificate of accomplishment
Administration of justice

Community relations specialist

Students completing the program will be able to...
A. demonstrate an understanding of the three parts of the criminal justice system and how they interrelate.
B. demonstrate an understanding of the theoretical and conceptual overview of multicultural concepts and issues as they relate to the criminal justice system.
C. demonstrate an understanding of the history, culture, organization of criminal gangs and their social and criminal impact upon society.

This certificate prepares students for entry-level careers either as law enforcement or civilian positions that require a better than average understanding of multicultural issues as they impact the community and the criminal justice system. Anyone contemplating a career in the criminal justice field should consider taking these courses. Citizens active in their community such as teachers, activists, political and social leaders, and members of cultural organizations will find this series of courses an excellent resource in better understanding the issues that impact their communities.
To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Certificate requirements may be completed by a combination of day, evening or weekend courses listed in the Administration of Justice (AJ) Program. Successful completion of the certificate of accomplishment requirements also counts towards the completion of the AJ certificate of achievement.

**Certificate of accomplishment**

**Administration of justice**

**Crime scene investigator**

Students completing the program will be able to...

A. demonstrate an understanding of the three parts of the criminal justice system and how they interrelate.

B. identify, collect, package and analyze physical evidence from a crime scene.

C. conduct a successful criminal investigation using interviews, interrogation, and case preparation.

This certificate prepares students for entry-level careers as crime scene investigators, fingerprint examiners, crime scene photographers, private security investigators, and criminal investigators. It also is a foundation for those students who wish to pursue advanced careers as criminalists or criminal profilers. Completion of this certificate can lead to employment in these fields or provide advancement and promotion to those currently employed in these fields.

To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Certificate requirements may be completed by a combination of day, evening or weekend courses listed in the Administration of Justice (AJ) Program. Successful completion of the certificate of accomplishment requirements also counts towards the completion of the AJ certificate of achievement.

**Certificate of accomplishment**

**Administration of justice**

**Criminal law specialist**

Students completing the program will be able to...

A. demonstrate an understanding of the three parts of the criminal justice system and how they interrelate.

B. demonstrate a working knowledge of the theory and practice of criminal law.

C. demonstrate an understanding of the legal procedures of the United States and California criminal justice systems.

This certificate prepares a student for entry-level careers in many areas of the criminal justice system where a basic understanding of statutory and procedural criminal law is necessary. Examples of these positions would be law enforcement officers, lawyers, investigators, correctional personnel and private and corporate security. Anyone choosing a career in the criminal justice field should complete this certificate as a minimum.
To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Certificate requirements may be completed by a combination of day, evening or weekend courses listed in the Administration of Justice (AJ) Program. Successful completion of the certificate of accomplishment requirements also counts towards the completion of the AJ certificate of achievement.

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<td>ADJUS-121</td>
<td>Criminal Law</td>
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</tr>
<tr>
<td>ADJUS-122</td>
<td>Criminal Procedure</td>
<td>3</td>
</tr>
<tr>
<td>ADJUS-221</td>
<td>Legal Aspects of Evidence</td>
<td>3</td>
</tr>
</tbody>
</table>

total minimum required units 12

Certificate of accomplishment

Administration of justice

Students completing the program will be able to...

A. demonstrate an understanding of the three parts of the criminal justice system and how they interrelate.
B. demonstrate an understanding of the history, culture, organization of criminal gangs and their social and criminal impact on society.
C. demonstrate a working knowledge of the organization, functions and jurisdiction of juvenile agencies and processing and detention of juveniles.

This certificate prepares students for entry-level careers working with juvenile offenders, crime prevention, juvenile correctional facilities, and juvenile counseling and rehabilitation programs. Since juveniles commit most crimes, law enforcement officers should have a good understanding of the juvenile justice system. Those persons wishing to work as probation officers or parole officers should strongly consider taking these courses to greatly improve their opportunity for employment.

To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Certificate requirements may be completed by a combination of day, evening or weekend courses listed in the Administration of Justice (AJ) Program. Successful completion of the certificate of accomplishment requirements also counts towards the completion of the AJ certificate of achievement.

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<td>ADJUS-124</td>
<td>Elements of Corrections</td>
<td>3</td>
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<td>Gangs and Threat Groups in America</td>
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</tr>
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<td>ADJUS-230</td>
<td>Juvenile Procedures</td>
<td>3</td>
</tr>
<tr>
<td>ADJUS-284</td>
<td>Interviewing and Counseling</td>
<td>3</td>
</tr>
</tbody>
</table>

total minimum required units 15

Noncredit - certificate of completion

Public safety employment preparation

Students completing this program will be able to...

A. successfully complete an employment and background application process.
B. successfully pass a written entry-level examination process.
C. successfully pass an entry-level oral interview process.
D. successfully pass an entry-level physical agility exam.

This noncredit program will assist and support students with the key components of the hiring process to attain careers in public safety. The program will provide the instruction and hands-on training, coaching, and support for students through the police and public safety career application and hiring process, including the entry level application and background process, successfully passing written tests and the oral interview, as well as fitness preparation and passing the physical agility entry test.

Complete a minimum of two of the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
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</thead>
<tbody>
<tr>
<td>ADJUS-010NC</td>
<td>Public Safety Employment Application &amp; Personal History Statement</td>
<td>0</td>
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<tr>
<td>ADJUS-020NC</td>
<td>Public Safety Written Exam and Writing Skills Preparation</td>
<td>0</td>
</tr>
<tr>
<td>ADJUS-030NC</td>
<td>Public Safety Oral Interview Preparation</td>
<td>0</td>
</tr>
<tr>
<td>ADJUS-040NC</td>
<td>Public Safety Physical Fitness and Testing</td>
<td>0</td>
</tr>
</tbody>
</table>

total minimum required units 0

ADJUS-010NC Public Safety Employment Application & Personal History Statement-NC

0 units P/NP

* 9 hours lecture/9 hours laboratory per term

This noncredit course will assist and support students with the key components of the hiring process to attain careers in public safety. Students will be instructed and supported through the public safety application and hiring process, which includes the preparation of the employment application, resume writing, completing the personal history statement, and the background investigation process. This course also creates a pipeline to employment for students and will include contact and access to police, fire, and emergency medical services employers and recruiters.
ADJUS-020NC Public Safety Written Exam and Writing Skills Preparation-NC
0 units P/NP
• 9 hours lecture/9 hours laboratory per term
This noncredit course will assist and support students with the key components of the hiring process to attain careers in public safety. Students will be instructed and supported through the public safety application and hiring process, which includes essential writing skills and success strategies for the written entry-level examination. This course also creates a pipeline to employment for students and will include contact and access to police, fire, and emergency medical services employers and recruiters.

ADJUS-030NC Public Safety Oral Interview Preparation-NC
0 units P/NP
• 9 hours lecture/9 hours laboratory per term
This noncredit course will assist and support students with the key components of the hiring process to attain careers in public safety. Students will be instructed and supported through the public safety application and hiring process, which includes essential verbal presentation skills and passing the entry-level oral board examination. This program also creates a pipeline to employment for students and will include contact and access to police, fire, and emergency medical services employers and recruiters.

ADJUS-040NC Public Safety Physical Fitness and Testing-NC
0 units P/NP
• 9 hours lecture/9 hours laboratory per term
This noncredit course will assist and support students with the key components of the hiring process to attain careers in public safety. Strategies to prepare for and pass the basic police/public safety physical fitness test for most California agencies will be presented. Students will develop a fitness plan including basic health and nutrition, participate in physical fitness training, and receive coaching. This program also creates a pipeline to employment for students and will include contact and access to police, fire, and emergency medical services employers and recruiters.

ADJUS-100 Public Safety Career Academy
2 units SC
• 18 hours lecture/54 hours laboratory per term
• Note: This course is open to all, but is particularly appropriate for high school students entering 10th, 11th, or 12th grade in the fall term. Participation in vigorous physical activity will be required.
This course will offer students an overview of current and emerging career opportunities in public safety. Topics include the roles and functions of police officers, firefighters, paramedics and other public safety career professionals. It provides hands-on instructional experience where students will perform basic public safety services. The course will be instructed by public safety professionals. The preparation, education, training, and testing required of applicants for these careers will be explored. CSU

ADJUS-120 Introduction to the Administration of Justice
3 units SC
• IGETC: 4; CSU GE: D; DVC GE: IV
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
• Note: Credit by examination option available
This course presents the evolution, history and philosophy of the administration of justice. Topics presented include the American system of justice and the various subsystems, the roles and interrelationships of criminal justice agencies, concepts of crime accusations, punishments, and rehabilitation, and issues pertaining to ethics, education, and training for participants in the criminal justice system. C-ID AJ 110, CSU, UC

ADJUS-121 Criminal Law
3 units SC
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
• Note: Credit by examination option available
This course presents the historical development and philosophy of American law, statutory law, including classification, definitions and legality, case and constitutional law as it applies to situations and individuals in the justice system, and methodology and concepts of law and their role as a social force. The course emphasizes California criminal statutes. C-ID AJ 120, CSU, UC

ADJUS-122 Criminal Procedure
3 units SC
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
• Note: Credit by examination option available
This course examines legal processes from pre-arrest, arrest, trial, sentencing and correctional procedures; a review of the history of case and common law; conceptual interpretations of law as reflected in course decisions; a study of case law methodology and case research as the decisions impact upon the procedures of the justice system. California law and procedures are emphasized. C-ID AJ 122, CSU

ADJUS-124 Elements of Corrections
3 units SC
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course is an introduction to major types of criminal behavior, patterns of career offenders, causal factors of crime and delinquency, and methods used in the justice system to deal with violators. Emphasis is placed on the changing roles of corrections as practiced by law enforcement, courts, and correctional agencies. C-ID AJ 200, CSU
ADJUS-125 Report Preparation for Criminal Justice
3 units SC
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.

This course introduces the practical aspects of gathering, organizing, and preparing written reports used in the criminal justice system. Topics include various techniques of communicating facts, information, and ideas in a simple, clear, and logical manner. Students practice note-taking, report writing, and presenting testimony in court. CSU

ADJUS-126 Leadership and Ethics
3 units SC
• IGETC: 4; CSU GE: D; DVC GE: IV
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.

This course is an in-depth analysis of ethics and leadership within the criminal justice system and its various public service organizations. Topics include the history, philosophy, theories, and evolution of leadership, ethics, and professional standards and their impact on employees and the individuals and communities they serve. The critical importance of decision making and discretion within the criminal justice system and the interplay of values, ethics, morals and professional standards is emphasized. This course examines the theories of leadership within various institutions, the supervision and leadership interconnections with ethics and professional standards within organizations, the practical aspects of leadership and the reality of obstacles and challenges faced by employees, and the legal and civil ramifications of leadership and professional conduct and standards within criminal justice and public organizations. The course also investigates recent negative national trends and aberrational incidents in criminal justice agencies and studies what the future holds for these organizations. C-ID LPPS 120, CSU, UC

ADJUS-127 Youth Law Enforcement Academy
3 units LR
• 40 hours lecture/40 hours laboratory per term
• This course is open to all, but is particularly appropriate for high school students.
• Participation in vigorous physical activity will be required

This is a career planning course primarily for high school students and recent high school graduates who are interested in or are currently in positions such as police explorers, police cadets, police aids, and community service officers in local police departments. The functions of law enforcement agencies and their relationship to the Criminal Justice System will be explored. Students will examine community-involved policing and general police practices. CSU

ADJUS-130 Cultural Diversity in Criminal Justice
3 units SC
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
• Note: Credit by examination option available

This course presents a theoretical and conceptual overview of multicultural concepts and issues, including those related to gender, age and sexual preference, as applied in the criminal justice system. Challenges related to an increasingly diverse population and strategies to overcome them, particularly in relation to the maintenance of social order, are examined. C-ID AJ 160, CSU, UC

ADJUS-139 Gangs and Threat Groups in America
3 units SC
• CSU GE: D
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.

This course presents an introduction to modern criminal gangs and terrorist organizations, their philosophy, history, structure, impact on the community and the criminal justice system. Legal codes and prosecution of gang, terrorist and other criminal organization members will be covered. This course also explores the evaluation of prison gangs and their impact on the community. Also covered is an examination of prevention and treatment programs in the community and in the criminal justice institutions. CSU

ADJUS-150 Topics in Administration of Justice
.3-.4 units SC
• Variable hours

A supplemental course in administration of justice to provide a study of current concepts and problems in the administration of justice. Specific topics will be announced in the schedule of classes. CSU

ADJUS-203 Crime Scene Investigation
4 units LR
• 54 hours lecture/54 hours laboratory per term
• Advisory: College-level reading and writing are expected.

This course presents an in-depth analysis and discussion of the nature and significance of various types of physical evidence commonly found at crime scenes. The course combines theoretical concepts associated with the use of physical evidence in the forensic setting with student involvement in the processing of simulated crime scenes. Areas of emphasis include: (1) the use of physical evidence in the forensic setting, (2) types of physical evidence, (3) the identification, collection and packaging of physical evidence, (4) principles of crime scene photography, (5) crime scene sketching, (6) evidence collection techniques: casting shoe and tool marks, lifting latent fingerprints and (7) the preservation of trace evidence, i.e. physiological fluids, hair, soil, fibers, glass, etc. C-ID AJ 150, CSU
ADJUS-206 Advanced Crime Scene Forensics
4 units LR
- 54 hours lecture/54 hours laboratory per term
- Prerequisite: ADJUS-203 or Equivalent
- Advisory: College-level reading and writing are expected. ADJUS-120, ADJUS-222 or equivalent

This advanced course presents the analysis and discussion of crime scene reconstruction and the forensic examination of evidence. Areas of emphasis include the use of physical evidence, types of physical evidence, advanced recording techniques, specialized collection techniques, evidence collection for autopsies, firearm and bloodstain analysis, and techniques for courtroom testimony. This course combines the theoretical concepts of analysis of forensic evidence and crime scene reconstruction and applies these advanced principles in the laboratory. CSU

ADJUS-221 Legal Aspects of Evidence
3 units SC
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.
- Note: Credit by examination option available

This course covers the origin, development, philosophy and constitutional basis of evidence; procedural considerations affecting arrest, search and seizure, kinds and degrees of evidence and rules governing admissibility; judicial decisions interpreting individual rights and case studies. C-ID AJ 124, CSU

ADJUS-222 Criminal Investigation
3 units SC
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.
- Note: Credit by examination option available

This course presents fundamentals of investigation; crime scene search and recording; collection and preservation of physical evidence; scientific aids; modus operandi; sources of information; interviews and interrogation; follow-up; ethical issues for investigators; and case preparation. C-ID AJ 140, CSU

ADJUS-230 Juvenile Procedures
3 units LR
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.
- Note: Credit by examination option available

This course examines the organization, function, and jurisdiction of juvenile agencies; the processing and detention of juveniles; juvenile case disposition; juvenile statutes and court procedures. C-ID AJ 220, CSU

ADJUS-250 Terrorism and Homeland Security
3 units SC
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course is an introduction to contemporary terrorism and its relation to homeland security. There will be an emphasis on the growing threat of homegrown violent extremism and weapons of mass destruction. Motivational factors of international and domestic terrorism organizations, the basic elements of government intelligence, prevention measures, responses to terrorism, and disciplines within the counter-terrorism profession will be discussed. This course meets the California Bureau of Security and Investigative Services requirement for training in weapons of mass destruction. CSU

ADJUS-260 The Police: Roles, Methods, and Operations
3 units LR
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.
- Note: Credit by examination option available

This course presents the responsibilities, techniques, purpose and methods of the police. Topics include routine patrol, crisis intervention, officer survival and investigation techniques. The effect of the police officer’s decision making and judgment on the community will also be examined. CSU

ADJUS-270 Personal Self Defense and Firearms
2 units SC
- 18 hours lecture/54 hours laboratory per term
- Advisory: College-level reading and writing are expected.
- Note: Participation in vigorous physical activity and a payment of a mandatory range fee required. Felony conviction prohibits enrollment.

This course provides training in personal self-defense and the use of handguns, pepper spray and Electronic Immobilization Devices (EID.) This course is appropriate for anyone desiring knowledge and proficiency in personal safety, defensive tactics, and firearms and is similar in design to police academy training. The course will also include legal and moral aspects of the use of force and weapons with an emphasis on safety. CSU

ADJUS-280 Community-Based Corrections
3 units SC
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course presents an introduction to the philosophy and history of community-based corrections including legal mandates, relations to courts, basic procedures, and common treatment approaches. Topics include legal codes affecting probation and parole, evaluation of the prison system and inmate community, parole supervision, and the examination of the outcomes of the contemporary prison and parole system. There will be a specific emphasis on California’s probation, institutions and parole system. CSU
ADJUS-281 Community Policing and Problem Solving
3 units SC
• 54 hours lecture per term
This course focuses on the history and evolution of the relationship between the criminal justice system and the community in the United States. The roles and interrelationship of all criminal justice agencies, public and private agencies, and the community will be addressed. Topics include the concepts of crime control and prevention, police and government transparency, community partnerships, input and oversight, community-based prosecution, incarceration and rehabilitation, and social justice. There will be open discussion of issues pertaining to ethics, education, and collaboration between participants in the community and the criminal justice system. CSU

ADJUS-284 Interviewing and Counseling
3 units LR
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course introduces the concepts and techniques of communication, casework and counseling as utilized by practitioners in the administration of justice field. It is recommended for students planning to enter, or for those already employed, within the administration of justice field. Emphasis is placed on interview and interrogation skills and methods as applied to investigation, counseling, and social work functions in policing and corrections. CSU

ADJUS-295 Occupational Work Experience Education in ADJUS
2-4 units SC
• May be repeated eight times
• Variable hours
• Note: In order to enroll in ADJUS-295, students must be employed, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.
ADJUS-295 is supervised employment that extends classroom learning to the job site and relates to the student’s chosen field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Each unit represents five hours of work per week or 75 hours of work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

ADJUS-296 Internship in Occupational Work Experience Education in ADJUS
2-4 units SC
• May be repeated eight times
• Variable hours
• Note: In order to enroll in the ADJUS-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.
ADJUS-296 is a supervised internship in a skilled or professional level assignment in the student’s major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and educational goals. Internships may be paid, non-paid, or some partial compensation provided. Each unit represents five hours of paid work or four hours of unpaid work per week or 75 hours of paid work or 60 hours of unpaid work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

ADJUS-298 Independent Study
.5-3 units SC
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office is required.
This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

ADJUS-299 Student Instructional Assistant
.5-3 units SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU
Anthropology

**ALLIED HEALTH**

See Biological science - BIOSC

**ANTHROPOLOGY – ANTHR**

Obed Vazquez, Dean
Social Sciences Division
Faculty Office Building, Room 136

**Possible career opportunities**

Anthropology is a basic component for careers like anthropologist, archaeologist, museum curator, environmental impact analyst, and many others. Most career options require more than two years of college study.

**Associate in arts in anthropology for transfer**

Students completing the program will be able to...

A. demonstrate an understanding of core knowledge within the anthropology discipline.

B. demonstrate the ability to communicate ideas clearly and persuasively in writing.

C. demonstrate the ability to analyze a problem and draw correct inferences using qualitative and/or quantitative analysis.

D. demonstrate the ability to evaluate theory and critique research within the anthropology discipline.

The associate in arts in anthropology for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area IC requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

**major requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTHR-125</td>
<td>Introduction to Archaeology and Prehistory</td>
<td>3</td>
</tr>
<tr>
<td>ANTHR-130</td>
<td>Cultural Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>ANTHR-140</td>
<td>Biological Anthropology</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 3 units from:**

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<th>Units</th>
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<tbody>
<tr>
<td>ANTHR-120</td>
<td>Magic, Witchcraft, and Religion in the Americas</td>
<td>3</td>
</tr>
<tr>
<td>ANTHR-135</td>
<td>Native Americans</td>
<td>3</td>
</tr>
<tr>
<td>ANTHR-141L</td>
<td>Biological Anthropology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>GEOG-120</td>
<td>Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>BUS-240</td>
<td>Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-142</td>
<td>Elementary Statistics with Probability</td>
<td>4</td>
</tr>
</tbody>
</table>

**plus at least 3 units from any course not used above or:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-139</td>
<td>Human Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>GEOG-125</td>
<td>Introduction to Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-120</td>
<td>Physical Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-122</td>
<td>Physical Geology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>PSYCH-215</td>
<td>Introduction to Research Methods in Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO-123</td>
<td>Introduction to Social Research</td>
<td>3</td>
</tr>
</tbody>
</table>

This curriculum is designed to provide an opportunity for the anthropology major to achieve an associate in arts degree while completing the requirements for transfer to a California State University (CSU) or other four-year college or university to earn a bachelor’s degree in anthropology. A baccalaureate degree is recommended preparation for those considering professional careers in anthropology. Completion of this curriculum will demonstrate commitment to the field and provide comprehensive preparation for upper-division work.
plus at least 3 units from any course not used above or:

ANTHR-115 Primate Evolution and Adaptation .................. 3
GEOG-130 Cultural Geography ........................................ 3
MUSIC-114 World Music ................................................. 3
SOCIO-120 Introduction to Sociology ............................... 3

 total minimum units for the major 18

ANTHR-115 Primate Evolution and Adaptation
3 units  SC
- IGETC: 5B; CSU GE: B2; DVC GE: II
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course introduces the biology, behavior, ecology, and evolutionary history of the primate order. Emphasis is placed on the following topics: evolutionary theory; mammalian biology, anatomy, and osteology; primate behavior, ecology, and biogeography; primate evolutionary history; Paleoanthropology. CSU, UC

ANTHR-120 Magic, Witchcraft, and Religion in the Americas
3 units  SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course presents a cross-cultural, multi-cultural examination of the forms and functions of supernatural belief systems and associated rituals that have developed in various societies in the Americas. Basic ethnographic and archaeological concepts and methodologies will be introduced and applied to the assessment and analysis of selected New World cultural/religious traditions. Emphasis will be placed on understanding religious belief systems within their given social contexts. The course will also provide a comparative assessment of the major prehistoric and historic social and religious patterns that developed in the Americas. CSU, UC

ANTHR-125 Introduction to Archaeology and Prehistory
3 units  SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course is an introduction to the study of concepts, theories, data and models of anthropological archaeology that contribute to our knowledge of the human past. Students will study the nature of scientific inquiry; the history and interdisciplinary nature of archaeological research; dating techniques; methods of survey, excavation, analysis, and interpretation; cultural resource management; professional ethics; and selected cultural sequences. Emphasis is placed on reconstructing the ways of ancient life in order to understand the development of social and technological complexity in the prehistoric and the historic past. C-ID ANTH 150, CSU, UC

ANTHR-130 Cultural Anthropology
3 units  SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course explores how anthropologists study and compare human culture to understand the broad arc of human experience focusing on a set of central issues. Topics include how people around the world: make their living; organize themselves socially, politically and economically; communicate; relate to each other through family and kinship ties; develop belief systems; apply gender, racial and ethnic identity labels; have shaped and been shaped by social inequalities such as colonialism; and navigate cultural change and processes of globalization that affect us all. Ethnographic case studies will be utilized to highlight similarities and differences. C-ID ANTH 120, CSU, UC

ANTHR-135 Native Americans
3 units  SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course is a survey of the Native American cultures that developed in North America. The course explores the effects of European contact, conquest, colonization, United States expansion, acculturation, U.S. Government policies, wars and treaties, and reservation life of Native Americans, as well as the past and present roles of Native Americans in U.S. society. CSU, UC
**ANTHR-140 Biological Anthropology**
3 units SC
- IGETC: 5B; CSU GE: B; DVC GE: II
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course introduces the concepts, methods of inquiry, and scientific explanations for biological evolution and their application to the human species. Issues and topics will include, but are not limited to, genetics, evolutionary theory, human variation and biocultural adaptations, comparative primate anatomy and behavior, and the fossil evidence for human evolution. The scientific method and the theory of biological evolution serve as foundations of the course. C-ID ANTH 110, CSU, UC

**ANTHR-141L Biological Anthropology Laboratory**
1 unit SC
- IGETC: 5C; CSU GE: B3
- 54 hours laboratory per term
- Prerequisite: ANTHR-140 (may be taken concurrently) or equivalent
- Advisory: College-level reading and writing are expected.

This introductory laboratory course presents scientific methodology that is used to explore/experiment with topics found in introductory biological anthropology and primate evolution courses. Topics will include: paleontology, hands-on study of fossils, Mendelian and population genetics, human variability, forensics, medical anthropology, epidemiology, nonhuman primates, primate dental and skeletal anatomy, primatology, paleoanthropology, hominid dietary patterns, the study of hominids as bio-culturally adapted animals, and a survey of general methodologies utilized in biological anthropological research. C-ID ANTH 115L, CSU, UC

**ANTHR-155 Topics in Anthropology**
.3-4 units SC
- Variable hours

A supplemental course in anthropology to provide a study of current concepts and problems in anthropology and related disciplines. Specific topics will be announced in the schedule of classes. CSU

**ANTHR-299 Student Instructional Assistant**
.5-3 units SC
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

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**ARABIC – ARABC**

Janette Funaro, Dean
Arts and Communication Division

**Possible career opportunities**
The study of Arabic can open up opportunities in communications, foreign trade and banking, transportation, government, the Foreign Service, tourism, library services, teaching, professional translating, journalism, and all levels of education, including university teaching. Most foreign language careers require more than two years of study.

**ARABC-120 First Term Arabic**
5 units SC
- IGETC: 6A
- 90 hours lecture per term

This course provides an introduction to the Arabic language and the culture of Arabic-speaking countries. Topics include the four language skills: speaking, listening, reading, and writing. Emphasis is placed on active use of the language in class as well as basic communicative functions and structures. CSU, UC
ARABC-121 Second Term Arabic
5 units SC
- IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
- 90 hours lecture per term
- Prerequisite: ARABC-120 or two years of high school study or equivalent
- Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the second level language course in Modern Standard Arabic. This course is designed to build upon skills in reading and writing developed in ARABC-120. Students will gain increased vocabulary and a greater understanding of more complex grammatical structures. They will be able to approach prose, fiction, and non-fiction written in the language. Students will also increase their proficiency in Arabic script and sound system, widen their working vocabulary, learn key grammatical points, and practice conversation and dictation. Students deliver oral presentations and write academic papers in Arabic. A variety of Arabic texts covering many subjects of interest such as literature, classical writing, poetry, media reports, and news will be introduced. CSU, UC

ARABC-150 Topics in Arabic
.3-4 units SC
- Variable hours
A supplemental course in Arabic to provide a study of current concepts and problems in Arabic and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

ARABC-299 Student Instructional Assistant
.5-3 units SC
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

ARCHITECTURE – ARCHI

Despina Prapavessi, Dean
Mathematics and Engineering Division
Mathematics Building, Room 267

Possible career opportunities
Students are provided with a strong background in spatial composition, design theory, and production methods that prepare them for employment as an architectural technician. Many general courses in the architecture program offer education in areas that are also applicable to an entry-level internship position performing manual or computer-aided drafting, furniture or cabinet design, or architectural rendering and illustration.

Associate in science degree
Architecture design

Students completing the program will be able to...
A. communicate architectural concepts using graphic conventions and representational methods.
B. demonstrate an understanding of drawing methods and graphic compositional techniques.
C. construct physical models of architectural elements and graphic.
D. demonstrate an understanding of building components, structures and systems in relation to design.
E. identify notable architects, design concepts, canonical buildings and precedents in architecture.
F. identify the historical and contemporary role of architects in the profession and related design fields.
G. describe the role of environmental design, energy use and sustainable design practices in the profession and in buildings.
H. utilize digital means of production, representation and digital fabrication methods for the creation and manipulation of architectural images and forms.

Students in the architectural design program will develop the necessary skills to analyze, modify or create architectural space and the abilities to present their ideas in graphic form using a variety of media. The program emphasizes spatial and architectural theories relating to design, architectural history, and methods of graphic composition and presentation.

The DVC architecture design major is intended for transfer. Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE). Option 1 (DVC General Education) is not generally advised.
Architecture

To earn an associate in science degree with a major in architecture design, students must complete each course used to meet a major requirement with a “C” grade or higher, maintain an overall GPA of 2.5 or higher and complete all general education requirements as listed in the catalog. Many upper level architecture degree programs require specific physics, math and general education preparation. Please consult the transfer institution for required courses. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

major requirements:
 ARCHI-120 Introduction to Architecture and Environmental Design ........................................... 3
 ARCHI-121 Architectural Design I .................................................. 3
 ARCHI-130 Architectural Graphics I ........................................... 3
 ARCHI-131 Architectural Graphics II .......................................... 3
 ARCHI-135 Digital Tools for Design .................................................. 3
 ARCHI-136 Digital Tools for Architecture ........................................ 3
 ARCHI-207 Environmental Control Systems ..................................... 3
 ARCHI-220 Architectural Design II .................................................. 3
 ARCHI-221 Architectural Design III .............................................. 3
 ARCHI-244 Architectural Practice and Working Drawings .................. 3
 CONST-144 Materials of Construction ............................................. 3

plus at least 3 units from:
 ARCHI-156 History of World Architecture: Early Civilizations to Middle Ages ........................................... 3
 ARCHI-157 History of World Architecture: Middle Ages to 18th Century .................................................. 3
 ARCHI-158 History of World Architecture: 18th Century to Present .................................................. 3
 ARCHI-160 History of American Architecture ........................................ 3

total minimum units for the major 39

Associate in science degree
Architecture technology

Students completing the program will be able to...

A. communicate architectural concepts using graphic conventions and representational methods.
B. demonstrate an understanding of drawing methods and graphic compositional techniques.
C. construct physical models of architectural elements and spaces.
D. demonstrate an understanding of building components, structures and systems in relation to design.
E. identify notable architects, design concepts, canonical buildings and precedents in architecture.
F. identify the historical and contemporary role of architects in the profession and related design fields.
G. describe the role of environmental design, energy use and sustainable design practices in the profession and in buildings.
H. utilize digital means of production, representation and/or digital fabrication methods for the creation and manipulation of architectural images and forms.

The DVC architecture technology degree program offers students the opportunity to earn an associate in science degree in architecture technology, which prepares students for a career as an architectural intern, draftsman or designer. As an architecture technology student, students gain an in-depth understanding of the requirements and skills necessary for employment in an architect’s office.

Architectural interns, draftsmen or designers prepare technical and presentation drawings, draft copies of specifications and cost estimates, revise plans, trace details from various sources, operate printing machines, and assemble prints and other documents for projects. Graduates with these skills are also employed by landscape architects, industrial designers, interior designers, and engineers.

To earn an associate in science with a major in architecture technology, students must complete each course used to meet a major requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the major. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

major requirements:
 ARCHI-120 Introduction to Architecture and Environmental Design ........................................... 3
 ARCHI-126 Computer Aided Design and Drafting - AutoCAD .................................................. 3
 ARCHI-130 Architectural Graphics I ........................................... 3
 ARCHI-244 Architectural Practice and Working Drawings .................................................. 3
 CONST-124 Construction Details and Specifications ........................................... 3
 CONST-135 Construction Processes: Residential ........................................... 4
 CONST-144 Materials of Construction ........................................... 3

plus at least 6 units from:
 ARCHI-131 Architectural Graphics II ........................................... 3
 ARCHI-226 Computer Aided Drafting Design, Advanced Concepts - AutoCAD ........................................... 3
 ARCHI-296 Internship in Occupational Work Experience Education in ARCHI ........................................... 2-4
 CONST-116 Plane Surveying .................................................. 4
 CONST-181 Building Code Interpretation: Non-Structural ........................................... 3
 CONST-183 Title 24: Energy Conservation Codes ........................................... 3

total minimum units for the major 28
Certificate of achievement
Architecture design

Students completing the program will be able to...

A. communicate architectural concepts using graphic conventions and representational methods.
B. demonstrate an understanding of drawing methods and graphic compositional techniques.
C. construct physical models of architectural elements and spaces.
D. demonstrate an understanding of building components, structures, and systems in relation to design.
E. identify notable architects, design concepts, canonical buildings, and precedents in architecture.
F. identify the historical and contemporary role of architects in the profession and related design fields.
G. describe the role of environmental design, energy use and sustainable design practices in the profession and in buildings.
H. utilize digital means of production, representation and/or digital fabrication methods for the creation and manipulation of architectural images and forms.

Students in the architectural design program will develop the necessary skills to analyze, modify, or create architectural space and the abilities to present their ideas in graphic form using a variety of media. The program emphasizes spatial and architectural theories relating to design, architectural history, and methods of graphic composition and presentation. This certificate provides a foundational core curriculum that prepares students for both accredited and non-accredited architectural degree programs at four-year colleges and universities, and also provides a strong foundation in core subjects for those who seek a career in the design field.

Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the day, and some are also offered in the evening.

required courses:  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
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<td>ARCHI-120</td>
<td>Introduction to Architecture and Environmental Design</td>
<td>3</td>
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<tr>
<td>ARCHI-121</td>
<td>Architectural Design I</td>
<td>4</td>
</tr>
<tr>
<td>ARCHI-130</td>
<td>Architectural Graphics I</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI-131</td>
<td>Architectural Graphics II</td>
<td>3</td>
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<tr>
<td>ARCHI-135</td>
<td>Digital Tools for Architecture I</td>
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</tr>
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<td>ARCHI-136</td>
<td>Digital Tools for Architecture II</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI-220</td>
<td>Architectural Design II</td>
<td>4</td>
</tr>
</tbody>
</table>

**total minimum required units** 23

Certificate of achievement
Architecture technology

Students completing the program will be able to...

A. communicate architectural concepts using graphic conventions and representational methods.
B. demonstrate an understanding of drawing methods and graphic compositional techniques.
C. construct physical models of architectural elements and spaces.
D. demonstrate an understanding of building components, structures, and systems in relation to design.
E. identify notable architects, design concepts, canonical buildings, and precedents in architecture.
F. identify the historical and contemporary role of architects in the profession and related design fields.

This program offers students the opportunity to earn a certificate of achievement in architecture technology, which prepares students for a career as an architectural intern, draftsman or designer. As an architecture technology student, students gain an in-depth understanding of the requirements and skills necessary for employment in an architect’s office.

Architectural interns, draftsmen or designers prepare technical and presentation drawings, draft copies of specifications and cost estimates, revise plans, trace details from various sources, operate printing machines, and assemble prints and other documents for projects. Graduates with these skills are also employed by landscape architects, industrial designers, and engineers.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the day, and some are also offered in the evening.

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<tr>
<td>ARCHI-244</td>
<td>Architectural Practice and Working Drawings</td>
<td>3</td>
</tr>
<tr>
<td>CONST-124</td>
<td>Construction Details and Specifications</td>
<td>3</td>
</tr>
<tr>
<td>CONST-135</td>
<td>Construction Processes: Residential</td>
<td>4</td>
</tr>
<tr>
<td>CONST-144</td>
<td>Materials of Construction</td>
<td>3</td>
</tr>
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plus at least 6 units from:

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<tbody>
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<td>Architectural Graphics II</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI-296</td>
<td>Internship in Occupational Work Experience Education in ARCHI</td>
<td>2-4</td>
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<tr>
<td>CONST-116</td>
<td>Plane Surveying</td>
<td>4</td>
</tr>
<tr>
<td>CONST-181</td>
<td>Building Code Interpretation: Non-Structural</td>
<td>3</td>
</tr>
<tr>
<td>CONST-183</td>
<td>Title 24: Energy Conservation Codes</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units** 28
ARCHI-110 Design-Build Workshop
1 unit SC
- May be repeated three times
- 72 hours laboratory per term
- Advisory: IDSGN-103 or equivalent
- Note: During spring term students will participate in the Cal Poly San Luis Obispo Design Village Competition. This allows each group of two-six students to design, build and live in their structure for three days in Poly Canyon. Multiple teams allowed, entry fees and material fees may apply.
This is a design-build course for full-scale projects in wood, metal, and other materials to be designed and constructed by students working in teams in consultation with faculty. The course explores drawing, modeling, fabrication and assembly of full-scale architectural projects utilizing manual and computer controlled tools. CSU

ARCHI-119 Introduction to Technical Drawing
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Note: Same as ENGTC-119. Credit by examination option available.
This course presents an introduction to technical drawing. Topics include technical lettering and line work, geometric constructions, sketching and shape description, orthographic projection, dimensioning, section views, and auxiliary views. Students will gain experience using computers to produce technical drawings utilizing 3D modeling and orthographic computer aided design (CAD) drafting. An introduction to computer numerical control (CNC) prototyping and 3D printing is also covered. CSU, UC (credit limits may apply to UC - see counselor)

ARCHI-120 Introduction to Architecture and Environmental Design
3 units LR
- CSU GE: C1
- 36 hours lecture/72 hours laboratory per term
This course is an introduction to the professional field of architecture, environmental design, landscape design, and urban planning. An overview of the practice of environmental design with concepts in design methods and theory, analysis and problem solving, history of design, and the profession is presented. An emphasis on beginning design projects utilizing drawing, model making and computers is covered in class. CSU, UC

ARCHI-121 Architectural Design I
4 units SC
- CSU GE: C1
- 36 hours lecture/108 hours laboratory per term
- Prerequisite: ARCHI-120 or equivalent and ARCHI-130 (may be taken concurrently) or equivalent
- Advisory: ARCHI-135 or equivalent
This first-year studio design course focuses on development of fundamental design skills and spatial theory. Topics include spatial qualities of architecture, composition and ordering systems, circulation and movement through space, daylighting, introductory structural systems, precedent studies and architectural theory. CSU, UC

ARCHI-126 Computer Aided Design and Drafting - AutoCAD
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: ARCHI-119 or ENGTC-119 or equivalent
- Note: Same as ENGTC-126. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply toward the 60 units required for the degree. Credit by examination option available.
This introductory course covers the fundamentals of AutoCAD, and its application to the creation of technical drawings. Hands-on training utilizing a comprehensive overview of the software package and its applications to technical drafting is emphasized. CSU, UC (credit limits may apply to UC - see counselor)

ARCHI-127 Introduction to Revit
3 units SC
- 36 hours lecture/54 hours laboratory per term
- Note: Credit by examination option available.
This course presents an introduction to Revit software. Topics include fundamentals of the Revit operating environment, file structure, creation and organization of three-dimensional and two-dimensional construction models and documents. CSU

ARCHI-130 Architectural Graphics I
3 units LR
- CSU GE: C1
- 36 hours lecture/72 hours laboratory per term
- Advisory: ARCHI-119 or ENGTC-119 or equivalent
This course is an introduction to architectural graphics related to projection systems, representation of architectural forms, rendering and shadow casting. An overview of history and methods of graphic representation used by architects and an application of drafting, drawing and rendering methods is presented. Problem-solving in orthographic and pictorial projection and drawing, architectural lettering, shades and shadows, and color rendering techniques are covered. There is an emphasis on mechanical drafting with pencil and beginning introduction to other art media. CSU, UC

ARCHI-131 Architectural Graphics II
3 units LR
- 36 hours lecture/72 hours laboratory per term
- Prerequisite: ARCHI-130 or equivalent
This course is an advanced exploration of drawing techniques utilizing freehand and mechanical drawing methods of representation. Emphasis is placed on perspective drawing, shade and tone, color theory and composition. A continuing exploration of media for architectural rendering and representation is included. CSU, UC
ARCHI-135 Digital Tools for Design
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Note: ARCHI-135 and ARCHI-136 may be taken in any order.
This course is an introduction to the use of computers in design communication and representation. Topics presented include two-dimensional and three-dimensional graphics utilizing Adobe Illustrator, InDesign, Photoshop, AutoCAD, Sketchup and other related programs. Students will be introduced to additional concepts in processing digital images, digital photography, scanning and printing. CSU

ARCHI-136 Digital Tools for Architecture
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Note: ARCHI-135 and ARCHI-136 may be taken in any order.
This course covers the use of computers in architectural design for advanced architectural graphics, three-dimensional modeling, rendering, and fabrication. Topics include Rhinoceros 3-D modeling software and V-Ray rendering software for architectural presentations, modeling of complex non-orthogonal geometries and architectural forms, fabrication utilizing a laser cutter, and current computer graphics and architectural rendering standards. CSU

ARCHI-150 Topics in Architecture
.3-4 units SC
• Variable hours
A supplemental course in architecture to provide a study of current concepts and problems in architecture. Specific topics to be announced in the schedule of classes. CSU

ARCHI-156 History of World Architecture: Early Civilizations to Middle Ages
3 units SC
• IGETC: 3A; CSU GE: C1; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
• Note: ARCHI-156, 157 and 158 may be taken in any order
This course presents a survey of world architecture and urbanism to the Middle Ages. The social, cultural, and physical conditions that influence the built environment in the Mediterranean region, Europe, Asia, Africa, and Pre-Columbian Americas will be explored. Topics include early megalithic tombs and structures, Native American dwellings, architecture of Egypt, Mesopotamia, Persia and the Middle East, early civilizations of the Aegean, temples and cities of Greece, architecture and engineering of Rome, and early medieval structures after the fall of Rome. CSU, UC

ARCHI-157 History of World Architecture: Middle Ages to 18th Century
3 units SC
• IGETC: 3A; CSU GE: C1; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
• Note: ARCHI-156, 157 and 158 may be taken in any order
This course presents a survey of world architecture and urbanism from the Middle Ages until the end of the 18th Century. The social, cultural, and physical conditions that influence the built environment of Europe, Asia and the Colonial Americas will be explored. Topics include the development of the Gothic cathedral, art and architecture of the Renaissance, Baroque design in Europe, architecture of Japan, China and India, historic buildings in Colonial America, and architectural developments in Europe during the 18th Century including Romanticism and later Greek and Gothic revival movements. CSU, UC

ARCHI-158 History of World Architecture: 18th Century to Present
3 units SC
• IGETC: 3A; CSU GE: C1; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
• Note: ARCHI-156, 157 and 158 may be taken in any order
This course presents a survey of world architecture and urbanism from the 18th Century to the present. The social, cultural, and physical conditions that influence the built environment of Europe, Asia, and the Americas will be explored. Topics include American architectural contributions of Frank Lloyd Wright and the Chicago School of Architecture, Art Nouveau and the work of Gaudi, the influence of industrialization in architecture as well as topics in Russian Constructivism, 20th Century Modernism, Post-modernism and Deconstructivism. CSU, UC

ARCHI-160 History of American Architecture
3 units SC
• IGETC: 3B; CSU GE: C1, C2; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course is a survey of American architectural history from Native American dwellings to the present. The architectural influence of immigrant groups is presented, as well as the influences of architectural design movements in the United States through the course of history. CSU, UC
ARCHI-207 Environmental Control Systems
3 units SC
• 54 hours lecture per term
This course covers the theory and application of climate, energy use and comfort as determinants of architectural form in small-scale buildings. Methods of ventilating, cooling, heating, and lighting will be discussed. Topics include passive solar techniques, cross and stack ventilation, daylighting and an introduction to various passive systems for environmental control in buildings. There will be an emphasis on green building technology and sustainable practices in design. CSU

ARCHI-220 Architectural Design II
4 units LR
• 36 hours lecture/108 hours laboratory per term
• Prerequisite: ARCHI-121 and 135 or equivalents
• Advisory: ARCHI-136 or equivalent
This course is a second-level studio design class continuing the study of architectural design. Students will develop fundamental design skills utilizing concepts related to site planning and site analysis with projects of greater complexity. A continuing investigation of topics in material qualities, general methods of assembly and construction, and human factors in design are covered. Methods of presentation and design development include drawing, model making, and architectural reviews and critiques are utilized. CSU, UC

ARCHI-221 Architectural Design III
4 units LR
• 36 hours lecture/108 hours laboratory per term
• Prerequisite: ARCHI-136 (may be taken concurrently) or equivalent and ARCHI-220 or equivalent
This course is a third-level studio design class continuing the study of architectural design. Focus is placed on the application of advanced design skills and spatial theories to projects of greater architectural complexity. Design problems and projects incorporate advanced concepts of site planning, urban design, integration of structural and mechanical systems, programming and circulation are included. CSU, UC

ARCHI-226 Computer Aided Drafting Design, Advanced Concepts - AutoCAD
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Advisory: ARCHI-126 or ENGTC-126 or equivalent
• Note: Same as ENGTC-226. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.
This course covers the concepts and applications of constructing digital three-dimensional (3D) models and photo-realistic renderings for presentation using AutoCAD. Advanced techniques for surface, wireframe and solid modeling will be presented. Students will explore lighting, materials mapping and rendering as they apply to architecture, engineering and industrial design. Other software may be presented. CSU, UC (credit limits may apply to UC - see counselor)

ARCHI-244 Architectural Practice and Working Drawings I
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Prerequisite: ARCHI-130 or equivalent
• Advisory: CONST-144 or equivalents
This course will cover methods and processes for the interpretation and creation of architectural working drawings, connections, details and specifications. The technical concepts related to the construction of small-scale structures and their representation in construction documents will be discussed. Students will be introduced to the design review process, along with Construction Specifications Institute (CSI) format, standards of practice and graphic representation, and the role of the architect, client and local governing agencies. CSU

ARCHI-296 Internship in Occupational Work Experience Education in ARCHI
2-4 units SC
• May be repeated eight times
• Variable hours
• Note: In order to enroll in the ARCHI-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.
ARCHI-296 is a supervised internship in a skilled or professional level assignment in the student’s major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Each unit represents five hours of paid work or four hours of unpaid work per week or 75 hours of paid work or 60 hours of unpaid work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU
**ARCHI-298 Independent Study**  
.5-3 units SC  
- Variable hours  
- Note: Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

**ARCHI-299 Student Instructional Assistant**  
.5-3 units SC  
- Variable hours  
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

**LANDSCAPE ARCHITECTURE - ARCLA**

**ARCLA-120 Introduction to Landscape Architecture and Environmental Design**  
3 units SC  
- 36 hours lecture/54 hours laboratory per term  
- Formerly HORT-180

This course presents the basic principles and concepts in the field of landscape architecture and environmental landscape design. The history of human impact on natural environments and methods to mitigate those impacts will be explored. Design standards and practices governing landscape architecture and design skills such as site analysis, planning, and construction design will be covered as part of the core of the profession. CSU, UC

**ARCLA-121 Landscape Design**  
3 units SC  
- 36 hours lecture/54 hours laboratory per term  
- Prerequisite: ARCLA-120 or equivalent  
- Formerly HORT-182

This course explores advanced landscape design concepts including design principles, development of design concepts, and creative problem-solving techniques. Emphasis is placed on environmental context and other factors of design and form. CSU, UC

**ARCLA-130 Landscape Drafting and Graphics**  
3 units SC  
- 36 hours lecture/54 hours laboratory per term  
- Formerly HORT-181

This course in landscape graphics covers the graphic representation of vegetation, topography, and landscape elements. The course will explore the techniques and methods utilized to represent landscape elements, including lettering, line weights, and scale in relation to landscape graphics. CSU, UC

**ART – ART**

Janette Funaro, Dean  
Arts and Communication Division

Possible career opportunities

Career options include professions engaged in creating works of art as an artist, painter, sculptor, ceramist, engraver, printmaker, metal smith, illustrator, designer, muralist, and jeweler. Some careers requiring an education beyond the associate degree include: art critic, art dealer, educator, historian, arts administrator, advertising specialist, computer graphics illustrator, display designer, gallery director, and visual information specialist.

Associate in arts  
Photography

Students completing this program will be able to...

A. execute technical proficiency using photographic equipment and software.

B. demonstrate an understanding of the principles and concepts of analog and digital photography in selected areas of emphasis.

C. articulate, analyze, and evaluate the meaning in photographs, including social contexts and ethical choices.

D. employ critical thinking skills regarding their artwork and the artwork of others.

E. work collaboratively within a creative team.

F. develop a portfolio of work.

The associate in arts degree in photography offers students a curricular program for studying a variety of fine art and commercially-driven courses within the field of professional photography. The student with an associate in arts degree in photography is prepared for upper division work in the major at four-year institutions. The major is available at UC and CSU systems, the San Francisco Art Institute, the California College of Art, and at other colleges of art and schools of design. The photography curriculum develops a student’s critical thinking skills, hones problem-solving skills, and establishes a well-rounded photographic skill set. The photography associate in arts program prepares students for entry-level employment in the photography industry.
Career opportunities in photography include: freelance photographer, commercial photographer, artist, product photographer, architectural photographer, editorial photographer, wedding photographer, portrait photographer, food photographer, event photographer, photojournalist, assistant photographer, production assistant, photography studio assistant, lighting technician, digital technician, photo editor, photographic retouching specialist, art director, stylist, curator, gallery director, digital restoration technician, educator, photography instructor, photography lab technician, fine art printer, print production technician, and camera operator.

To earn an associate in art in photography degree, students must complete each course used to meet a major requirement with a “C” grade or higher. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**major requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-160 Photography I</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-136 Introduction to Digital Photography</td>
<td>3</td>
</tr>
<tr>
<td>ARTHS-199 Contemporary Art History</td>
<td>3</td>
</tr>
</tbody>
</table>

*plus at least 3 units from:

- ART-161 Photography II | 3
- ARTDM-137 Intermediate Digital Photography | 3

*plus at least 3 units from any course above not already used, or:

- ART-163 Documentary Photography | 3
- ART-166 Experimental Photography | 3

*plus at least 3 units from:

- ART-164 Photographic Portfolio Development | 3
- ART-165 Advanced Photographic Portfolio Development | 3

*plus at least 6 units from any course above not already used, or:

- ART-135 Professional Practices for Artists | 3
- ART-164* Photographic Portfolio Development | 3
- ART-165* Advanced Photographic Portfolio Development | 3
- WRKX-180 Internship in Occupational Work Experience Education | 2-4

**total minimum units for the major** 24

### Associate in arts degree

#### Studio arts

Students completing the program will be able to...

A. demonstrate proficiency in basic skills and techniques related to two-dimensional media and apply the elements and principles of design in the creation of art and projects in selected media.

B. demonstrate proficiency in basic skills and techniques related to three-dimensional media and apply the elements and principles of design in the creation of art and projects in selected media.

C. apply critical thinking skills to the critique and evaluation of their artwork and the artwork of others.

D. analyze works of art in terms of their historical circumstances and cultural values.

The associate in arts degree in studio arts offers students a curricular program for studying a variety of beginning courses within the field of art practice. The student with an associate in arts degree in studio arts is prepared for upper division work in the major at four-year institutions. The major is available at UC and CSU systems, the San Francisco Art Institute, the California College of Art, and at other colleges of art and schools of design. The studio arts curriculum develops a student’s critical thinking skills, hones problem-solving skills, and establishes visual literacy. Career opportunities in studio arts include: exhibiting artist, art critic, art dealer, educator, artist historian, graphic designer, photographer, sculptor, ceramicist, jeweler, printmaker, painter, art illustrator, art technician, museum curator, art journalist, art administrator, product designer, advertising specialty and other professions in creative endeavor.

The studio arts major is a two-year degree program of transferrable courses open to all students. The program requirements are designed for those interested in art as professional practice and as preparation for transfer. The major has three components. The first component is a core of two required foundations studio arts courses. The second component is two required art history courses. The third component offers students choices in ten emphasis areas.

Students may select an emphasis in drawing, painting, sculpture, photography, printmaking, ceramics, art digital media, graphic design, art history, or metalsmithing, but are encouraged to choose within a wide range of these beginning courses for transfer. Studio arts faculty and staff are dedicated to assisting students in exploring job opportunities, internships, and transferring to four-year institutions of higher learning.

The DVC studio arts major is intended for transfer. Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSUGE). Option 1 (DVC General Education) is not generally advised.

To earn an associate in arts degree with a major in studio arts, students must complete each course used to meet a major requirement with a “C” or higher, maintain an overall GPA of 2.5 or higher in the coursework required for the major and complete all general education requirements as listed in the catalog. Degree requirements may be completed by attending classes in the day, evening, or weekends. Some courses may satisfy both major and other general education requirements; however, the units are only counted once.

**major requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-101 Introduction to Two-Dimensional Design</td>
<td>3</td>
</tr>
<tr>
<td>ART-102 Introduction to Three-Dimensional Design and Sculpture</td>
<td>3</td>
</tr>
</tbody>
</table>
plus at least 6 units from:
ARTHS-193 History of Asian Art ............................................. 3
ARTHS-195 History of Prehistoric and Ancient Art .................... 3
ARTHS-196 History of Medieval and Renaissance Art .................. 3
ARTHS-197 History of Baroque to 20th Century Art .................... 3
ARTHS-199 Contemporary Art History ...................................... 3

plus at least 12 units from a minimum of three areas of specialization:

**art history**
ARTHS-193 History of Asian Art ............................................. 3
ARTHS-195 History of Prehistoric and Ancient Art .................... 3
ARTHS-196 History of Medieval and Renaissance Art .................. 3
ARTHS-197 History of Baroque to 20th Century Art .................... 3
ARTHS-199 Contemporary Art History ...................................... 3

**ceramics**
ART-151 Visual Theory and Practice - Ceramic Art ..................... 3
ART-152 Wheel-Thrown Pottery I ............................................. 3
ART-153 Wheel-Thrown Pottery II ............................................. 3
ART-154 Hand-Built Ceramics .................................................. 3
ART-155 Ceramic Sculpture I ................................................... 3
ART-156 Figurative Ceramics I ................................................ 3
ART-252 Wheel-Thrown Pottery III .......................................... 3
ART-253 Wheel-Thrown Pottery IV ............................................. 3
ART-254 Hand-Built Ceramics II .............................................. 3
ART-255 Ceramic Sculpture II .................................................. 3
ART-256 Figurative Ceramics II ............................................... 3

**color**
ART-103 Visual Theory and Practice - Color Theory .................... 3

**digital media**
ARTDM-105 Introduction to Digital Imaging ................................ 3
ARTDM-112 Digital Imaging for the Artist ................................ 3
ARTDM-117 Digital Illustration ............................................... 3
ARTDM-136 Introduction to Digital Photography .......................... 3
ARTDM-140 Motion Graphics ................................................... 3
ARTDM-160 3D Modelling and Animation I ................................. 3
ARTDM-161 3D Modelling and Animation II .............................. 3
ARTDM-171 Web Design I ...................................................... 3
ARTDM-214 Introduction to Graphic Design ................................ 3

**drawing**
ART-105 Introduction to Drawing ............................................ 3
ART-106 Drawing in Color ....................................................... 3
ART-107 Figure Drawing I ....................................................... 3
ART-108 Figure Drawing II ...................................................... 3

**other**
ART-135 Professional Practices for Artists ................................. 3
ARTDM-224 Typography ............................................................ 3

**metalsmithing**
ART-146 Metalsmithing and Jewelry I ....................................... 3
ART-147 Metalsmithing and Jewelry II ...................................... 3

**painting**
ART-120 Watercolor I .............................................................. 3
ART-121 Watercolor II ............................................................. 3
ART-126 Painting I: Introduction to Painting ............................. 3
ART-127 Painting II: Intermediate Painting .............................. 3
ART-128 Painting Concepts and Portfolio Development .................. 3
ART-129 Advanced Painting ..................................................... 3
ART-130 Figure Painting .......................................................... 3
ART-131 Painting and Abstraction ............................................. 3

**photography**
ART-160 Photography I ........................................................... 3
ART-161 Photography II ........................................................... 3
ARTTDM-136 Introduction to Digital Photography ......................... 3

**printmaking**
ART-109 Monotype and Mixed Media ....................................... 3
ART-110 Introduction to Printmaking ........................................ 3
ART-111 Printmaking: Etching I ............................................... 3
ART-112 Printmaking: Etching II .............................................. 3
ART-114 Printmaking: Woodblock I .......................................... 3
ART-116 Printmaking: Screen Print ............................................ 3

**sculpture**
ART-138 Sculpture I ............................................................... 3
ART-139 Sculpture II ............................................................... 3
ART-141 From Clay to Bronze .................................................. 3
ART-144 Metal Casting Techniques I ......................................... 3

**total minimum units for the major** 24

*Note: There may be no duplication of course units between major requirements and restricted elective courses.

**Associate in arts in studio arts for transfer**

Students completing the program will be able to...

A. demonstrate proficiency in basic skills and techniques related to two-dimensional media, and apply the elements and principles of design in visual problem solving, the creation of art, and projects in selected areas of emphasis.

B. demonstrate proficiency in basic skills and techniques related to three-dimensional media, and apply the elements and principles of design in the creation of forms in selected areas of emphasis.

C. apply critical thinking skills to the critique and evaluation of their artwork and the artwork of others.

D. analyze works of art in terms of their historical circumstances and cultural values.

The associate in arts in studio arts for transfer offers students a curricular program for studying a variety of beginning courses within the field of art practice. The student with associate in arts in studio arts for transfer is prepared for upper division work in the major at four-year institutions.

The curriculum develops a student’s critical thinking skills, hones problem-solving skills, and establishes visual literacy.
The associate in arts in studio arts for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSU GE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

<table>
<thead>
<tr>
<th>major requirements:</th>
<th>units</th>
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<tbody>
<tr>
<td>ART-101</td>
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<td>ART-102</td>
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<td>ART-105</td>
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<td>ARTHS-196</td>
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<tr>
<td>ARTHS-197</td>
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<td>plus at least 3 units from:</td>
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<td>ARTHS-193</td>
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<td>ARTHS-195</td>
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<td>ARTHS-199</td>
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<td>plus at least 9 units from:</td>
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<td>applied design</td>
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<td>ART-146</td>
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<td>ART-147</td>
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<td>ART-103  Visual Theory and Practice - Color Theory ....... 3</td>
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<td>digital art</td>
<td>ARTDM-112  Digital Imaging for the Artist .................. 3</td>
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<tr>
<td></td>
<td>ARTDM-171  Web Design I ........................................ 3</td>
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<tr>
<td></td>
<td>ARTDM-214  Introduction to Graphic Design ................... 3</td>
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<tr>
<td>drawing</td>
<td>ART-106  Drawing in Color ...................................... 3</td>
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<tr>
<td></td>
<td>ART-107  Figure Drawing I ...................................... 3</td>
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<td>ART-108  Figure Drawing II ..................................... 3</td>
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<td>ART-110  Introduction to Printmaking ...................... 3</td>
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<td>ART-111  Printmaking: Etching I .............................. 3</td>
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<td>sculpture</td>
<td>ART-138  Sculpture I ............................................ 3</td>
</tr>
<tr>
<td>total minimum units for the major</td>
<td>27</td>
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</tbody>
</table>

Certificate of achievement

Ceramics

Students completing the program will be able to...

A. identify and apply the formal design elements of art.
B. create original works of ceramic art.
C. create a portfolio demonstrating ideas in a broad range of ceramic techniques.
D. formally compare the attributes of ceramics and other art forms.
E. employ critical thinking to analyze ceramic art works in terms of historical context and cultural values.

A certificate of achievement in ceramics offers a variety of beginning courses within the field of three-dimensional art. The program will introduce both techniques and concepts of ceramics in an academic context. The program requirements are designed for those interested in ceramics as professional practice and provide exposure to the discipline that may help students decide to continue their studies at a four year institution. The ceramics major is available at UC and CSU systems, the San Francisco Art Institute, the California College of Arts, and at other colleges of art and schools of design.
Students seeking to complete an associate in arts degree in fine arts may choose to supplement that award with a certificate of achievement in ceramics. The fine art curriculum develops students’ critical thinking skills, hones problem-solving skills, and establishes visual literacy in the ceramic medium. The ceramics certificate offers technical training related to the commercial ceramic industry and can lead to career opportunities that include: art educator, exhibiting artist, hand-made production potter, ceramic art studio assistant, art therapy intern, creative tile designer, tile producer, mosaic muralist, portrait sculptor, industrial ceramics product designer, industrial ceramics shop manager, ceramic engineering intern, museum or gallery assistant, art dealer, art critic and other professions in creative, hands-on endeavors.

The certificate of achievement has three components. The first component is a core of two required foundations: one introductory drawing/design class and an art history class. The second component is five classes of ceramics (three required, two elective). The third component is one studio art course outside ceramics.

To earn a certificate, students must complete each course with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-105</td>
<td>Introduction to Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ART-152</td>
<td>Wheel-Thrown Pottery I</td>
<td>3</td>
</tr>
<tr>
<td>ART-155</td>
<td>Ceramic Sculpture I</td>
<td>3</td>
</tr>
<tr>
<td>ART-299</td>
<td>Student Instructional Assistant</td>
<td>0.5-3*</td>
</tr>
<tr>
<td>ARTHS-199</td>
<td>Contemporary Art History</td>
<td>3</td>
</tr>
</tbody>
</table>

*minimum 2 units required

**plus at least 9 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-153</td>
<td>Wheel-Thrown Pottery II</td>
<td>3</td>
</tr>
<tr>
<td>ART-154</td>
<td>Hand-Built Ceramics I</td>
<td>3</td>
</tr>
<tr>
<td>ART-156</td>
<td>Figurative Ceramics I</td>
<td>3</td>
</tr>
<tr>
<td>ART-252</td>
<td>Wheel-Thrown Pottery III</td>
<td>3</td>
</tr>
<tr>
<td>ART-253</td>
<td>Wheel-Thrown Pottery IV</td>
<td>3</td>
</tr>
<tr>
<td>ART-254</td>
<td>Hand-Built Ceramics II</td>
<td>3</td>
</tr>
<tr>
<td>ART-255</td>
<td>Ceramic Sculpture II</td>
<td>3</td>
</tr>
<tr>
<td>ART-256</td>
<td>Figurative Ceramics II</td>
<td>3</td>
</tr>
<tr>
<td>ART-298</td>
<td>Independent Study</td>
<td>0.5-3</td>
</tr>
</tbody>
</table>

**total minimum required units** 23

---

**Certificate of achievement Painting and drawing**

**Students completing the program will be able to...**

A. create a portfolio demonstrating ideas in a broad range of painting and drawing techniques.

B. identify the elements that define two-dimensional art.

C. employ critical thinking to analyze two-dimensional art works in terms of historical context and cultural values.

D. demonstrate basic drawing skills, color manipulation, and application of design principles.

E. apply the processes necessary to create drawings in various media and/or paintings in oil, acrylic, and alternative media.

The certificate of achievement in painting and drawing offers a variety of fundamental courses within the field of two-dimensional art. The program will introduce both techniques and concepts of painting and drawing in an academic context. The program requirements are designed for those interested in painting and drawing as a professional practice and may provide preparation for transfer. The requirements for the certificate of achievement in painting and drawing also apply to the associate in arts degree in fine arts. The fine art major in painting and drawing is available at the UC and CSU systems, the San Francisco Art Institute, the California College of the Arts and at other colleges of art and schools of design. Students who wish to transfer must consult with program faculty and college counselors to ensure that the requirements for transfer to appropriate institutions are met.

The fine art curriculum develops a student’s critical thinking abilities, hones problem solving skills and establishes visual literacy in the visual arts. Career opportunities that may be enhanced by the certificate of achievement in painting and drawing include: exhibiting artist, muralist, illustrator, graphic designer, art dealer, art critic and other professions in creative endeavors.

To earn the certificate, students must complete each course with “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-105</td>
<td>Introduction to Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ART-126</td>
<td>Painting I: Introduction to Painting</td>
<td>3</td>
</tr>
<tr>
<td>ARTHS-197</td>
<td>History of Baroque to 20th Century Art</td>
<td>3</td>
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</table>

**plus at least 6 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-103</td>
<td>Visual Theory and Practice - Color Theory</td>
<td>3</td>
</tr>
<tr>
<td>ART-106</td>
<td>Drawing in Color</td>
<td>3</td>
</tr>
<tr>
<td>ART-107</td>
<td>Figure Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ART-120</td>
<td>Watercolor I</td>
<td>3</td>
</tr>
<tr>
<td>ART-135</td>
<td>Professional Practices for Artists</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-112</td>
<td>Digital Imaging for the Artist</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units** 15
Certificate of achievement
Photography

Students completing the program will be able to:

A. execute technical proficiency using photographic equipment and software appropriate to creative and commercial photographic industries.
B. demonstrate an understanding of the principles and concepts of analog and digital photography in selected areas of emphasis.
C. articulate, analyze, and evaluate the meaning in photographs, including social contexts and ethical choices.
D. employ critical thinking skills regarding their artwork and the artwork of others.
E. work collaboratively within a creative team.
F. develop a professional portfolio of work.

The certificate of achievement in photography is designed to acquaint students with a variety of skills as practiced by photography professionals. The photography curriculum develops a student's critical thinking skills, hones problem-solving skills, and establishes a well-rounded photographic skillset.

The program primarily aims to provide an individual with the knowledge to maximize his or her own proficiency in the photographic arts. While not designed to provide preparation for a career in photography, individuals may apply the skills in a variety of jobs and career fields. Certain required courses provide prerequisite preparation for advanced professional programs should students decide to pursue an associate or bachelor's degree.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a "C" grade or higher.

required courses:  
ART-160 Photography I ......................................................3
ARTDM-136 Introduction to Digital Photography .......................3
ARTHS-199 Contemporary Art History ....................................3

plus at least 3 units from: .......................................................
ART-161 Photography II ......................................................3
ART-163 Documentary Photography .......................................3
ART-166 Experimental Photography .......................................3
ARTDM-137 Intermediate Digital Photography ..........................3

plus at least 3 units from: .......................................................
ART-164 Photographic Portfolio Development ..........................3
ART-165 Advanced Photographic Portfolio Development ..........3

total minimum required units: 15

Certificate of achievement
Printmaking

Students completing the program will be able to...

A. create a portfolio demonstrating ideas in a broad range of printmaking techniques.
B. create and produce edition art prints from various print media.
C. employ critical thinking to analyze art prints in terms of historical content and cultural values.
D. demonstrate ability to create prints independently and to present professionally.
E. create images suitable for printing.
F. critique their own artwork and the artwork of others.

The certificate of achievement in printmaking includes fundamental courses within the field of printmaking. The program will introduce both techniques and concepts of printmaking in an academic context. The program requirements are designed for those interested in printmaking as professional practice and may provide preparation for transfer. The printmaking major is available at UC and CSU systems, the San Francisco Art Institute, the California College of Arts, and at other colleges of art and schools of design. Students who wish to transfer must consult with program faculty and college counselors to ensure that the requirements for transfer to appropriate institutions are met.

Students whose educational goal is the associate in arts in fine arts may choose to supplement the degree with a certificate of achievement in printmaking. The fine arts curriculum develops a student’s critical thinking skills, hones problem-solving skills, and establishes visual literacy in print media. Career opportunities that may be enhanced by the printmaking certificate include: printmaking exhibiting artist, print dealer, printmaking educator, graphic designer, illustrator, internships and paid apprenticeships in print publishers, and work in print shops including those specializing in etching, woodblock, letterpress, monotype, and silkscreen processes.

To earn the certificate, students must complete each course with “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate.

required courses:  
ART-105 Introduction to Drawing .........................................3
ARTDM-112 Digital Imaging for the Artist ...............................3

plus at least 9 units from:
ART-109 Monotype and Mixed Media ....................................3
ART-110 Introduction to Printmaking .....................................3
ART-111 Printmaking: Etching I ............................................3
ART-112 Printmaking: Etching II ..........................................3
ART-114 Printmaking: Woodblock .........................................3
ART-116 Printmaking: Screen Print .......................................3

total minimum required units: 15
Limitations on enrollment
Effective fall term 2013, changes to the regulations that govern community college enrollments placed limitations on the number of courses that students may take in certain disciplines within the Contra Costa Community College District. The charts below indicate which Diablo Valley College (DVC) courses are assigned to groups of courses ("families") for which limitations have been imposed. Certain courses within certain “families” may be repeated (see catalog description), however, students are limited to four enrollments within the family. Certain DVC courses are equivalent to courses at Los Medanos College and Contra Costa College. An enrollment in an equivalent course at one of those colleges will count toward the allowable four enrollments within the family.

Note: Diablo Valley College may offer experimental or topics courses. When appropriate, based on content, such courses will be assigned to a “family” and that enrollment will be counted as an experience within the “family”.

### ART

#### Family: Design

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-101</td>
<td>Introduction to Two-Dimensional Design</td>
</tr>
<tr>
<td>ART-102</td>
<td>Introduction to Three-Dimensional Design and Sculpture</td>
</tr>
<tr>
<td>ART-103</td>
<td>Visual Theory and Practice - Color Theory</td>
</tr>
</tbody>
</table>

#### Family: Drawing

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-105</td>
<td>Introduction to Drawing</td>
</tr>
<tr>
<td>ART-106</td>
<td>Drawing in Color</td>
</tr>
<tr>
<td>ART-107</td>
<td>Figure Drawing I</td>
</tr>
<tr>
<td>ART-108</td>
<td>Figure Drawing II</td>
</tr>
<tr>
<td>ART-250F</td>
<td>Advanced Drawing</td>
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</table>

#### Family: Printmaking

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-110</td>
<td>Introduction to Printmaking</td>
</tr>
<tr>
<td>ART-111</td>
<td>Printmaking: Etching I</td>
</tr>
<tr>
<td>ART-112</td>
<td>Printmaking: Etching II</td>
</tr>
<tr>
<td>ART-114</td>
<td>Printmaking: Woodblock I</td>
</tr>
<tr>
<td>ART-116</td>
<td>Printmaking: Screen Print</td>
</tr>
<tr>
<td>ART-150WB</td>
<td>Printmaking: Woodblock II</td>
</tr>
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#### Family: Painting

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ART-126</td>
<td>Painting I: Introduction to Painting</td>
</tr>
<tr>
<td>ART-126A</td>
<td>Introduction to Oil/Acrylic Painting A</td>
</tr>
<tr>
<td>ART-126B</td>
<td>Introduction to Oil/Acrylic Painting B</td>
</tr>
<tr>
<td>ART-127</td>
<td>Painting II: Intermediate Painting</td>
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<tr>
<td>ART-128</td>
<td>Painting Concepts and Portfolio Development</td>
</tr>
<tr>
<td>ART-129</td>
<td>Advanced Painting</td>
</tr>
<tr>
<td>ART-130</td>
<td>Figure Painting</td>
</tr>
<tr>
<td>ART-131</td>
<td>Painting and Abstraction</td>
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#### Family: Sculpture

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ART-138</td>
<td>Sculpture I</td>
</tr>
<tr>
<td>ART-139</td>
<td>Sculpture II</td>
</tr>
<tr>
<td>ART-141</td>
<td>From Clay to Bronze</td>
</tr>
<tr>
<td>ART-142</td>
<td>Metal Art I</td>
</tr>
<tr>
<td>ART-143</td>
<td>Metal Art II</td>
</tr>
<tr>
<td>ART-144</td>
<td>Metal Casting Techniques I</td>
</tr>
<tr>
<td>ART-145</td>
<td>Metal Casting Techniques II</td>
</tr>
<tr>
<td>ART-150CB</td>
<td>From Clay to Bronze</td>
</tr>
<tr>
<td>ART-150WK</td>
<td>Woodworking for Sculpture</td>
</tr>
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</table>

#### Family: Applied Art Design

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ART-146</td>
<td>Metalsmithing and Jewelry I</td>
</tr>
<tr>
<td>ART-147</td>
<td>Metalsmithing and Jewelry II</td>
</tr>
<tr>
<td>ART-150DC</td>
<td>Digital Ceramics Workshop</td>
</tr>
<tr>
<td>ART-150HC</td>
<td>Hand-Built Ceramics II</td>
</tr>
<tr>
<td>ART-150JC</td>
<td>Introduction to Jewelry Casting</td>
</tr>
<tr>
<td>ART-150LE</td>
<td>Metalsmithing and Jewelry III</td>
</tr>
<tr>
<td>ART-150PJ</td>
<td>Production Pottery</td>
</tr>
<tr>
<td>ART-150PX</td>
<td>Wheel-Thrown Pottery III</td>
</tr>
<tr>
<td>ART-150PY</td>
<td>Wheel-Thrown Pottery IV</td>
</tr>
<tr>
<td>ART-150SM</td>
<td>Small Metal Casting for Jewelry</td>
</tr>
<tr>
<td>ART-152</td>
<td>Wheel-Thrown Pottery I</td>
</tr>
<tr>
<td>ART-153</td>
<td>Wheel-Thrown Pottery II</td>
</tr>
<tr>
<td>ART-154</td>
<td>Hand-Built Ceramics I</td>
</tr>
<tr>
<td>ART-252</td>
<td>Wheel-Thrown Pottery III</td>
</tr>
<tr>
<td>ART-253</td>
<td>Wheel-Thrown Pottery IV</td>
</tr>
<tr>
<td>ART-254</td>
<td>Hand-Built Ceramics II</td>
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</table>

#### Family: Ceramic Art

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ART-150AT</td>
<td>Anatomy for Artists</td>
</tr>
<tr>
<td>ART-150CR</td>
<td>Ceramic Sculptures II - Surface</td>
</tr>
<tr>
<td>ART-151</td>
<td>Visual Theory and Practice - Ceramic Art</td>
</tr>
<tr>
<td>ART-155</td>
<td>Ceramic Sculpture I</td>
</tr>
<tr>
<td>ART-156</td>
<td>Figurative Ceramics I</td>
</tr>
<tr>
<td>ART-255</td>
<td>Ceramic Sculpture II</td>
</tr>
<tr>
<td>ART-256</td>
<td>Figurative Ceramics II</td>
</tr>
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</table>

#### Family: Photography

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>ART-150PA</td>
<td>Advanced Alternative Photographic Process</td>
</tr>
<tr>
<td>ART-160</td>
<td>Photography I</td>
</tr>
<tr>
<td>ART-161</td>
<td>Photography II</td>
</tr>
<tr>
<td>ART-163</td>
<td>Documentary Photography</td>
</tr>
<tr>
<td>ART-164</td>
<td>Photographic Portfolio Development</td>
</tr>
<tr>
<td>ART-165</td>
<td>Advanced Photographic Portfolio Development</td>
</tr>
<tr>
<td>ART-166</td>
<td>Experimental Photography</td>
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#### Family: Watercolor

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>ART-120</td>
<td>Watercolor I</td>
</tr>
<tr>
<td>ART-120A</td>
<td>Introduction to Watercolor</td>
</tr>
<tr>
<td>ART-120B</td>
<td>Watercolor Workshop</td>
</tr>
<tr>
<td>ART-121</td>
<td>Watercolor II</td>
</tr>
</tbody>
</table>

#### Family: Mixed Media

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-109</td>
<td>Monotype and Mixed Media</td>
</tr>
<tr>
<td>ART-150FM</td>
<td>Figurative Monotype and Mixed Media</td>
</tr>
</tbody>
</table>
ART-101  Introduction to Two-Dimensional Design
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: College-level reading and writing are expected.

This course presents the theories and applications of two-dimensional design and color in visual art and design. The formal, theoretical, cultural, contemporary, as well as historical elements of two-dimensional design will be explored. C-ID ARTS 100, CSU, UC

ART-102  Introduction to Three-Dimensional Design And Sculpture
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: College-level reading and writing are expected.

This introductory-level studio art course emphasizes the concepts, applications, and historical references related to three-dimensional design in art. Students study and create art projects based on the elements of three-dimensional design: line, plane, volume, mass, texture, surface, treatment, negative and positive space, composition, and scale. Students develop a visual vocabulary for this creative expression through lecture presentations, demonstrations, and use of appropriate materials for three-dimensional studio art projects. Materials may include wire, cardboard, plaster, papier-mâché, wood and mixed media. C-ID ARTS 101, CSU, UC

ART-103  Visual Theory and Practice - Color Theory
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: College-level reading and writing are expected. ART 101 or equivalent

This introductory course exposes students to the history of color usage and theory and their application across the globe. The art of diverse cultures including Western/European Art, Asian/Middle Eastern Art, Meso-American Art and African Art with a focus on visual theory, aesthetics, criticism and historical context will be examined. The historical impact of pigments on art and culture will be explored. The development of critical thinking skills through analysis of cultural and technological constructs that influence the creation of specific genres will be emphasized. Students will produce original art works demonstrating diverse applications of color theory by interpreting the cultural traditions they study into a contemporary context with an emphasis on creative problem solving skills. CSU, UC

ART-105  Introduction to Drawing
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: College-level reading and writing are expected. ART-101 or equivalent

This course introduces observational drawing concepts and form-rendering techniques. Basic visual problem solving skills including perceptual drawing and application of compositional, spatial, and perspectival principles will be presented. C-ID ARTS 110, CSU, UC

ART-106  Drawing in Color
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: College-level reading and writing are expected.

The course is an exploration of artistic concepts, styles, and creative expression related to drawing and color. Students will learn to apply a variety of black and white and color drawing mediums and methodologies to complex subject matter. Students in this course will build on fundamental drawing skills and the application of color theory to develop personalized approaches to content and materials in exercises covering multiple historical and contemporary approaches to drawing. C-ID ARTS 205, CSU, UC

ART-107  Figure Drawing I
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: ART-105 or equivalent; College-level reading and writing are expected.

This course introduces drawing the human figure from live models. Basic human anatomy and its application to figure drawing will be discussed. Pencil, charcoal, and ink techniques will be practiced in the creation of figure drawings. C-ID ARTS 200, CSU, UC

ART-108  Figure Drawing II
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Prerequisite: ART-107 or equivalent
- Advisory: College-level reading and writing are expected.
- Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This course presents a continuation of the concepts and techniques introduced in ART-107. Ink wash, gouache, and pastel techniques will be applied to human figure drawing. CSU, UC
ART-109  Monotype and Mixed Media  
3 units SC  
- 36 hours lecture/72 hours laboratory per term  
- Advisory: College-level reading and writing are expected.  
- Note: Mandatory materials fee required  
This course is an exploration of mixed media using monotype printmaking. Monotype is a single print with painterly approach. Various drawing/painting techniques such as gouache, watercolor, pastel, oil, or acrylic are explored. The emphasis is on the development of individual stylistic and expressive interpretations subjects by combining various contemporary and traditional media. CSU, UC

ART-110  Introduction to Printmaking  
3 units SC  
- 36 hours lecture/72 hours laboratory per term  
- Advisory: College-level reading and writing are expected. ART-105 or equivalent  
- Note: Mandatory materials fee required  
This course provides an introduction to various printmaking techniques: relief (linocut/woodcut), intaglio (drypoint, etching and collagraph), planography (lithograph and monotype), and stencil (screenprint). CSU, UC

ART-111  Printmaking: Etching I  
3 units SC  
- 36 hours lecture/72 hours laboratory per term  
- Advisory: College-level reading and writing are expected. ART-110 or equivalent  
- Note: Mandatory materials fee required  
This course is the study of intaglio printmaking including line etching, aquatint, deep-bite, and multiple color plates. Projects and discussions develop students’ understanding of how images can communicate our experience and imagination. Projects may include publishing multiple impressions in book arts form. CSU, UC

ART-112  Printmaking: Etching II  
3 units SC  
- 36 hours lecture/72 hours laboratory per term  
- Prerequisite: ART-111 or equivalent  
- Advisory: College-level reading and writing are expected. ART-110 or equivalent  
- Note: Students may meet prerequisite equivalency in a variety of ways. Students should seek assistance at Admissions and Records. Mandatory materials fee required.  
This course presents a continuation of ART-111, the study of intaglio printmaking. Topics include line etching, aquatint, deep-bite, multiple color plates, and photo etching. Projects and discussion will emphasize understanding of traditional print media and application of contemporary methods. CSU, UC

ART-114  Printmaking: Woodblock I  
3 units SC  
- 36 hours lecture/72 hours laboratory per term  
- Advisory: College-level reading and writing are expected. ART-110 or equivalent  
- Note: Mandatory materials fee required  
This course focuses on relief printmaking history and methods. Students will build on basic printmaking techniques such as linocut and woodcut and further explore the possibilities of the media through advanced color woodblock techniques. Various media will be introduced, including multi-plate relief printing and reduction relief printing. Various printing methods will be introduced including hand printing, etching press, and letter press. CSU, UC

ART-116  Printmaking: Screen Print  
3 units SC  
- 36 hours lecture/72 hours laboratory per term  
- Advisory: College-level reading and writing are expected. ART-110 or equivalent  
- Note: Mandatory materials fee required  
The study of stencil methods of printmaking, which are utilized in various fine art media and commercial industries in the contemporary world. Students will learn practice the principles of stenciling through cutting stencil and explore various stencil usage in screen printing, including usage of photo positives and digital imagery. CSU, UC

ART-120  Watercolor I  
3 units SC  
- 36 hours lecture/72 hours laboratory per term  
- Advisory: College-level reading and writing are expected. ART-105 or Equiv.  
This course is an introduction to the materials and processes of watercolor painting with emphasis on techniques, problem solving, concept development, and skill demonstration. CSU, UC

ART-121  Watercolor II  
3 units SC  
- 36 hours lecture/72 hours laboratory per term  
- Prerequisite: ART-120 or equivalent  
- Advisory: College-level reading and writing are expected.  
- Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.  
This course is a continuation of the study of watercolor materials and techniques with emphasis on the development of intermediate level skills and concepts required to produce a portfolio of work. CSU, UC
ART-126   **Painting I: Introduction to Painting**  
3 units  SC  
- 36 hours lecture/72 hours laboratory per term  
- Advisory: ART-105 and College-level reading and writing are expected.  
- Note: ART-126A and ART-126B combined are equivalent to ART-126  
This beginning level course provides students with an introduction to the materials and techniques of oil and acrylic painting. C-ID ARTS 210, CSU, UC

ART-127   **Painting II: Intermediate Painting**  
3 units  SC  
- 36 hours lecture/72 hours laboratory per term  
- Prerequisite: ART-126 or equivalent  
- Advisory: College-level reading and writing are expected. ART-103 or equivalent  
- Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.  
This is an intermediate level painting course that provides students with painting projects designed to further develop painting techniques and problem solving abilities. Principles of critiquing art will also be covered. CSU, UC

ART-128   **Painting Concepts and Portfolio Development**  
3 units  SC  
- 36 hours lecture/72 hours laboratory per term  
- Advisory: College-level reading and writing are expected. ART-127 or equivalent  
This course is designed to help students transition to initiating a series of paintings with a unifying theme while developing their painting portfolios. Emphasis will be on the development of the artist's content exploration and imagination. Ideas and themes addressing issues of historic, contemporary, and cultural significance in painting will be presented. CSU, UC

ART-129   **Advanced Painting**  
3 units  SC  
- 36 hours lecture/72 hours laboratory per term  
- Advisory: College-level reading and writing are expected. ART-127 or equivalent  
This course is an advanced-level painting class. Approaches to painting issues concerning contemporary painting subject matter, composition, and expression will be studied. Students will develop and complete a series of cohesive and thematic paintings. This course is designed for students who want to develop their painting practice more deeply with a body of work that will possibly assist them in transferring to a 4-year college or a MFA graduate program. CSU, UC

ART-130   **Figure Painting**  
3 units  SC  
- 36 hours lecture/72 hours laboratory per term  
- Advisory: ART-107, ART-127 and College-level reading and writing are expected. ART-127 or equiv.  
This course is designed to provide students the experience with concepts and media in painting using the human figure as subject matter. The objective of this course is to offer development in the skills and techniques necessary to depict the human figure. CSU, UC

ART-131   **Painting and Abstraction**  
3 units  SC  
- 36 hours lecture/72 hours laboratory per term  
- Advisory: College-level reading and writing are expected. ART-127 or equiv.  
This course is designed to enable advanced students to develop their painting and drawing techniques while focusing on contemporary abstraction and its influence on today's art movements and studio practice. Students will paint using a variety of subjects while focusing on abstraction as the form and style. A survey of historical art movements in abstraction will be presented and their relevance to current painting issues will be discussed. CSU, UC

ART-135   **Professional Practices for Artists**  
3 units  SC  
- 36 hours lecture/72 hours laboratory per term  
- Advisory: College-level reading and writing are expected. ART-127 or equivalent  
This course is a study of the skills, theories, and practices necessary to prepare works of art for public display. Preparation of artwork, exhibition design, installation, registration, conservation, advertising, and legal issues will be addressed. Students will develop professional skills needed to interact within art and related business environments. Students will apply practical skills in the DVC Art Gallery and with the DVC art collection throughout campus. CSU

ART-138   **Sculpture I**  
3 units  SC  
- 36 hours lecture/72 hours laboratory per term  
- Advisory: College-level reading and writing are expected. ART-102 or equivalent  
This introductory course focuses on the materials and processes of sculpture. No previous experience in sculpture is required. The course combines an analysis of the history of sculpture (including contemporary object making, installation, art, and self expression) through lectures, demonstrations, and studio projects. A variety of techniques and materials are presented including: wood working, welding, mold-making, modeling, metal casting, plaster, and cement working. CSU, UC
ART-139  Sculpture II  
3 units  SC  
• 36 hours lecture/72 hours laboratory per term  
• Advisory: ART-102 and ART-138 or equivalents  
This studio course is an intermediate level study in both traditional and contemporary approaches to sculpture. Students should have experience and knowledge of basic sculpture techniques. Processes for this course may include, but are not limited to, woodworking, metal casting, rubber mold-making, installation, new technologies, and welding. Contemporary approaches to sculpture are emphasized through thematic project guidelines. Students further develop their personal aesthetics in a body of related work and a portfolio. CSU, UC

ART-141  From Clay to Bronze  
3 units  SC  
• 36 hours lecture/72 hours laboratory per term  
• Advisory: College-level reading and writing are expected. ART-102 or equivalent  
• Note: Mandatory materials fee required  
This class explores the sculpture process from clay to bronze in a variety of traditional and contemporary techniques. Clay modeling and hand building are utilized as a means to create finished cast bronze works. Traditional skills of lost-wax casting and mold-making are combined with contemporary approaches to sculpture making. No former experience or knowledge of these processes are required to take the course. CSU, UC

ART-144  Metal Casting Techniques I  
3 units  SC  
• 36 hours lecture/72 hours laboratory per term  
• Advisory: ART-102 or equivalent  
• Note: Mandatory materials fee required  
This course introduces various aspects of metal sculpture using casting techniques. Moldmaking techniques for castings in bronze, aluminum, and iron are introduced. An in-depth study of traditional and contemporary metal sculpture processes with an emphasis on 3-D design quality are established. CSU

ART-145  Metal Casting Techniques II  
3 units  SC  
• 36 hours lecture/72 hours laboratory per term  
• Advisory: ART 102 or equivalent and ART 144 or equivalent  
• Note: Mandatory materials fee required  
This course expands on metal casting skills with emphasis on more complex casting projects. The casting process for aluminum, bronze, and/or iron will be thoroughly explored. Advanced mold-making techniques in rubber, Resin-Bonded Sand Molds, Green Sand, Standard Investment molds, and Ceramic Shell molds are covered. Emphasis is added to sustainable studio practice, as well as advanced 3-D design. CSU

ART-146  Metalsmithing and Jewelry I  
3 units  SC  
• 36 hours lecture/72 hours laboratory per term  
• Advisory: ART-102 or equivalent  
• Note: Mandatory materials fee required  
This is a beginning course providing skills in basic jewelry and metalsmithing design and hands-on processes. The studio coursework includes the techniques of soldering, cutting, stone setting, bezel work, rolling, chain making, metal forming, and metal finishing. The course further provides a foundation in traditional and contemporary jewelry design and aesthetic forms. CSU

ART-147  Metalsmithing and Jewelry II  
3 units  SC  
• 36 hours lecture/72 hours laboratory per term  
• Advisory: ART 102 or equivalent and ART 146 or equivalent  
• Note: Mandatory materials fee required  
This is an advanced metalsmithing/jewelry course with an emphasis on hands-on processes incorporating individual design, aesthetics, and conceptualization. Further exploration of traditional and contemporary metalsmithing design and aesthetics will be presented. Techniques such as advanced chainmaking, advanced stone setting, forming and raising, chasing, moldmaking, and casting are introduced. CSU

ART-150  Topics in Studio Art  
3-4 units  SC  
• Variable hours  
• Advisory: College-level reading and writing are expected.  
This is a supplemental course in studio art topics to provide a study of current concepts and problems in studio art. Specific topics will be announced in the schedule of classes. CSU

ART-151  Visual Theory and Practice - Ceramic Art  
3 units  SC  
• IGETC: 3A; CSU GE: C1; DVC GE: III  
• 36 hours lecture/72 hours laboratory per term  
• Advisory: ENGL-097 or equivalent  
• Note: Mandatory materials fee required  
This introductory course will expose students to a broad spectrum of ceramic art from diverse cultures including Western/European Art, Asian/Middle Eastern Art, Meso-American Art and African Art with a focus on visual theory, aesthetics, criticism and historical context. Students will develop critical thinking skills through the analysis of cultural and technological constructs that influence the creation of specific genres. In addition, with an emphasis on creative problem solving skills, students will produce original works of ceramic art by reinterpreting the traditions they study in a contemporary context. CSU, UC
ART-152  Wheel-Thrown Pottery I
3 units  SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: ENGL-097 or equivalent
- Note: Mandatory materials fee required

This course is an introduction to the creation of ceramic vessels using the potter’s wheel, as well as the development of critical thinking skills through the examination of ceramic art. Through the study of the art of various cultures, the fundamentals of three-dimensional design, and the development of a vocabulary of aesthetic terms and theories, students will engage in both critical discussion and creative application utilizing the potter’s wheel. CSU, UC

ART-153  Wheel-Thrown Pottery II
3 units  SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: ART-152 or equivalent; ENGL-097 or equivalent
- Note: Mandatory materials fee required

This intermediate-level, wheel-thrown pottery course focuses on the development of surface treatments. Students will study both form and surface treatments from various western and non-western cultures. Experimentation with a variety of different materials and processes as well as the fundamentals of glaze formulation and mixing will be emphasized. CSU, UC

ART-154  Hand-Built Ceramics I
3 units  SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: College-level reading and writing are expected.
- Note: Mandatory materials fee required

Using functional objects as a starting point, students learn traditional and contemporary hand-building techniques. This involves the study of hand-built ceramics from various western and non-western cultures. Students explore the creative potential of these methods during the construction of original hand-built ceramics. CSU, UC

ART-155  Ceramic Sculpture I
3 units  SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: College-level reading and writing are expected.
- Note: Mandatory materials fee required

This course is an introduction to ceramic sculpture. Its focus is on fundamental techniques and creative strategies to produce ceramic sculpture. This involves the study of sculptural form from various western and non-western cultures and the creation of original works. CSU, UC

ART-156  Figurative Ceramics I
3 units  SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: College-level reading and writing are expected.
- Note: Mandatory materials fee required

This course is an introduction to the fundamental techniques and creative strategies to produce ceramic sculpture based on the human figure. This involves the study of sculptural form from various western and non-western cultures and the creation of original figurative ceramic sculpture based on observations of live models and other sources. CSU, UC

ART-160  Photography I
3 units  SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: College-level reading and writing are expected.
- Note: Students will need to have a working SLR film camera with manual capability. Note: Mandatory materials fee required

This course introduces black and white film photography and offers students a working knowledge of the basics of traditional darkroom photography, including history, theory and practice. The technical aspects of photography along with the historical and contemporary role of photography in visual expression, including contributions from diverse cultures and backgrounds will be explored. Class critiques will be used to analyze and discuss photographic images as a form of personal expression and communication. Students will produce a portfolio of photographs. CSU, UC

ART-161  Photography II
3 units  SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: ART-160 and College-level reading and writing are expected.
- Note: Students supply a working SLR film camera with manual capability and a light meter (either hand held or built into the camera). Note: Mandatory materials fee required

This intermediate photography class enhances students’ knowledge of materials and techniques used in traditional black and white film photography. The course concentrates on the specific controls of image processing and the multiple characteristics of a variety of photographic materials. Beyond technique, emphasis is placed on developing concept, editing, and aesthetic considerations relating to image presentation. CSU, UC
ART-163  Documentary Photography  
3 units  SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: ART-161 and College-level reading and writing are expected.
- Note: Students supply cameras (film or DSLR), laptop, and external drive. Note: Mandatory materials fee required.

This is an intermediate level course in which students participate in field trips, in-class lectures, demonstrations, critiques, and studio time to develop their own documentary photo essays. The main emphasis will be on documentary photography, its definition, historical precedents, and image making. This course is appropriate for students in art, journalism, and communication. The students should have a working knowledge of camera operation. CSU

ART-164  Photographic Portfolio Development  
3 units  SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: ART-161 and College-level reading and writing are expected.
- Note: Students supply a working SLR film or DSLR camera with manual capability. Note: Mandatory materials fee required
- Formerly ART-162

This course offers students an opportunity to develop advanced skills using the materials and techniques of traditional and digital photography. Portfolio development and photographic practices will be emphasized. Discussion and critique will be informed by the history of photography and an examination of contemporary art practices. CSU

ART-165  Advanced Photographic Portfolio Development  
3 units  SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: College-level reading and writing are expected. ART-161 or equivalent
- Note: Mandatory materials fee required
- Formerly ART-265

This course is designed to refine the aesthetic vision and visual literacy of the experienced photographer by offering a structured environment to cultivate an individual's point of view. Students will identify individual aesthetic concerns, define themes and genres as the basis of their creative project, and relate their construction of a personal vision to contemporary and historical creative photography. CSU

ART-166  Experimental Photography  
3 units  SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: ART-160 or equivalent and ARTDM-136 or equivalent
- Note: Students supply a working SLR or DSLR camera with manual capability. Mandatory materials fee required

This experimental photography course examines how photographic images are made using both film and digital techniques. The course will offer darkroom techniques combined with digital technologies. Image scanning, digital negatives, image transfers and handmade cameras are some of the tools used in this course. Students will produce pieces made from computers and enlargers. Historical and contemporary processes will be explored along with artistic contributions for diverse cultures. Class critiques will be used to analyze and discuss photographic images and techniques as a form of personal expression and communication. Students will produce a portfolio of photographs using experimental techniques. CSU

ART-167  Art  
.3-4 units  SC
- Variable hours

This is a supplemental course in art that provides a study of current concepts and problems in art. Specific topics will be announced in the schedule of classes. CSU

ART-250  Projects in Art  
3-4 units  SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: ART-160 or equivalent and ARTDM-136 or equivalent
- Note: Mandatory materials fee required

This course is designed to refine the aesthetic vision and visual literacy of the experienced photographer by offering a structured environment to cultivate an individual's point of view. Students will identify individual aesthetic concerns, define themes and genres as the basis of their creative project, and relate their construction of a personal vision to contemporary and historical creative photography. CSU

ART-252  Wheel-Thrown Pottery III  
3 units  SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: ART-152 or equivalent; ENGL-097 or equivalent
- Note: Mandatory materials fee required

This intermediate-level, wheel-thrown pottery course focuses on the development of wheel-thrown and altered vessel forms. Emphasis is placed on using wheel-thrown forms as a starting point for more complex structures. The study of vessels from various cultures and the creation of complex forms will be discussed. CSU, UC

ART-253  Wheel-Thrown Pottery IV  
3 units  SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: ART-152 or equivalent; ENGL-097 or equivalent
- Note: Mandatory materials fee required

This intermediate-level, wheel-thrown pottery course focuses on the development of functional pottery forms for the production potter. The study of the art of various cultures, the fundamentals of three-dimensional design, and the development of a vocabulary of aesthetic terms and theories will be addressed. Students will engage in both critical discussion and creative application utilizing the potter's wheel to develop a line of functional pottery forms. CSU, UC
ART-254  Hand-Built Ceramics II  
3 units  SC  
- 36 hours lecture/72 hours laboratory per term  
- Advisory: ART-154 or equivalent; College-level reading and writing are expected.  
- Note: Mandatory materials fee required  

This intermediate-level, hand-built ceramics course focuses on the progressive refinement of hand-built techniques with an emphasis on surface treatment. This involves the study of hand-built forms and surface from various western and non-western cultures and the creation of original hand-built ceramics with an emphasis on developing unique surfaces. CSU, UC

ART-255  Ceramic Sculpture II  
3 units  SC  
- 36 hours lecture/72 hours laboratory per term  
- Advisory: ART-155 or equivalent; College-level reading and writing are expected.  
- Note: Mandatory materials fee required  

This intermediate-level, ceramic sculpture course focuses on the progressive refinement of sculpture form with an emphasis on surface treatment. This involves the study of sculptural form and surface from various western and non-western cultures and the creation of original ceramic sculpture with an emphasis on developing unique surfaces. CSU, UC

ART-256  Figurative Ceramics II  
3 units  SC  
- 36 hours lecture/72 hours laboratory per term  
- Advisory: ART-156 or equivalent; College-level reading and writing are expected.  
- Note: Mandatory materials fee required  

This intermediate-level, figurative ceramics course focuses on the progressive refinement of figurative sculptural form with an emphasis on surface treatment. This involves the study of figurative sculptural form and surface from various western and non-western cultures. The creation of original figurative ceramic sculpture is based on observations of live models and other sources, with an emphasis on developing unique surfaces. CSU, UC

ART-298  Independent Study  
.5-3 units  SC  
- Variable hours  
- Note: Submission of acceptable educational contract to department and Instruction Office is required.  

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

ART-299  Student Instructional Assistant  
.5-3 units  SC  
- Variable hours  
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.  

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

ART DIGITAL MEDIA – ARTDM

Janette Funaro, Dean  
Arts and Communication Division

Possible career opportunities  
Digital media or graphic design jobs cover all ends of the creative spectrum. Some possible career options include website designer/developer, multimedia designer, computer-graphic artist, animator and cartoonist, interface designer, instructional designer, production artist, video specialist, audio specialist, multimedia programmer, technical writer, informational designer, multimedia company executive, internet consultant, and computer game designer.

Associate in arts degree  
Animation  
Students completing the program will be able to...  
A. visually and verbally conceptualize in a clear and concise way the artistic/technical direction for an animation project.  
B. develop technical proficiency using computer hardware and software appropriate to the animation industry.  
C. articulate, analyze, and evaluate the meaning in creative projects, including social contexts and ethical choices.  
D. work collaboratively within a creative team.  
E. develop a professional portfolio of work.  

The animation associate in arts degree provides students with a strong foundation in the fundamental aspects of animation. Students will learn the skills to develop animations including techniques such as modeling, animation, and texturing. Courses present material that will take the student through the production process and workflow of animation projects. Curriculum includes traditional animation techniques, drawing, and the technical fundamentals of animation. The program goal is to provide the skills necessary to enter this growing, professional field. The types of industries that employ individuals with animation skills include animation for film or television and animation for the web. Advanced students have the opportunity to create portfolios to prepare for animation careers.
To earn an associate in arts degree with a major in animation, students must complete each course used to meet a major requirement with a “C” grade or higher. Degree requirements can be completed by attending classes in the day, evening, online, or a combination of those. Some courses may satisfy both major and other general education requirements; however, the units are only counted once.

**Art digital media**

**Associate in arts degree**

**Art digital media**

Students completing the program will be able to...  
A. demonstrate an understanding of basic drawing techniques.  
B. produce a digital image from scanned or digital photographs.  
C. utilize digital images for exports to websites, multimedia presentations, and print.  
D. utilize production tools for digital audio for multimedia projects.  
E. demonstrate basic techniques for video capture and editing.  
F. design a multimedia project.  
G. critically evaluate multimedia design techniques and their use in the development of a professional portfolio.  
H. qualify for entry-level employment in the art digital media field.

The art digital media associate in arts program prepares students for entry level employment in the digital media industry. This program of study will provide students with the design and technical skills needed for creating non-linear interactive digital media. Students will participate in a collaborative, team-oriented learning experience that mirrors the industry design and production process. Additionally, students will explore career opportunities and develop a professional portfolio for entry into the workforce.

To earn an associate in arts degree, students must complete each course used to meet a major requirement with a “C” grade or higher. Required courses are available in the evening and during the day. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**major requirements:**

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>ART-105</td>
<td>Introduction to Drawing</td>
<td>3</td>
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<tr>
<td>ARTDM-105</td>
<td>Introduction to Digital Imaging</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-167</td>
<td>Digital Animation</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-122</td>
<td>Basic Principles of Acting</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-160</td>
<td>Introduction to Film Production</td>
<td>3</td>
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<tr>
<td>FTVE-165</td>
<td>Digital Editing</td>
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<td>FTVE-166</td>
<td>Intermediate Digital Editing</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-167</td>
<td>Introduction to Electronic Music and MIDI</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-172</td>
<td>Introduction to Electronic Music and MIDI</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-173</td>
<td>Advanced Electronic Music</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-174</td>
<td>Introduction to Music Technology and Pro Tools</td>
<td>3</td>
</tr>
<tr>
<td>WRKX-170</td>
<td>Occupational Work Experience Education</td>
<td>2-4</td>
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<tr>
<td>WRKX-180</td>
<td>Internship in Occupational Work Experience</td>
<td>2-4</td>
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**plus at least 6 units from:**

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<tr>
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<tbody>
<tr>
<td>ARTDM-101</td>
<td>Introduction to the Production of Digital Media</td>
<td>3</td>
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<tr>
<td>ARTDM-112</td>
<td>Digital Imaging for the Artist</td>
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<tr>
<td>ARTDM-130</td>
<td>Introduction to Digital Audio</td>
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<tr>
<td>ARTDM-136</td>
<td>Introduction to Digital Photography</td>
<td>3</td>
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<td>ARTDM-161</td>
<td>3D Modeling and Animation I</td>
<td>3</td>
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<tr>
<td>ARTDM-165</td>
<td>Drawing for Digital Animation</td>
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<td>ARTDM-166</td>
<td>Intermediate Drawing for Digital Animation</td>
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<td>ARTDM-167</td>
<td>Digital Animation</td>
<td>3</td>
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<tr>
<td>ARTDM-170</td>
<td>Animation for Interaction Design</td>
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</tr>
<tr>
<td>ARTDM-172</td>
<td>User Experience Design for Web and Mobile Devices</td>
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<tr>
<td>ARTDM-173</td>
<td>Web Design II</td>
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<tr>
<td>ARTDM-174</td>
<td>Web and Mobile Design with JavaScript</td>
<td>3</td>
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<td>ARTDM-180</td>
<td>Game Design I</td>
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<td>ARTDM-224</td>
<td>Typography</td>
<td>3</td>
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<td>BUS-109</td>
<td>Introduction to Business</td>
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<td>BUSMG-191</td>
<td>Small Business Management</td>
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<td>COMSC-110</td>
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<td>FTVE-165</td>
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<tr>
<td>WRKX-170</td>
<td>Occupational Work Experience Education</td>
<td>2-4</td>
</tr>
</tbody>
</table>

**total minimum units for the major:** 36
Associate in arts degree
Game design

Students completing this program will be able to...
A. develop technical proficiency using computer hardware and software appropriate to the game design or 3D design industry.
B. visually and verbally conceptualize in a clear and concise way the artistic/technical direction for a game design project.
C. articulate, analyze, and evaluate the meaning in creative projects, including social contexts and ethical choices.
D. work collaboratively within a creative team.
E. develop a professional portfolio of work.

The game design associate in arts degree provides students with a strong foundation in the fundamental aspects of game design. Students will learn the skills to develop games including game engine integration. Courses present material that will take the student through the production process and workflow game design. The program goal is to provide the skills necessary to enter this growing, professional field.

The types of industries that employ individuals with game design skills include game design, game development for the web, and assets for game production. Advanced students have the opportunity to create portfolios to prepare for game design careers.

To earn an associate in arts degree with a major in game design, students must complete each course used to meet a major requirement with a “C” grade or higher. Degree requirements can be completed by attending classes in the day, evening, online, or a combination of those. Some courses may satisfy both major and other general education requirements; however, the units are only counted once.

major requirements:      units
ARTDM-105 Introduction to Digital Imaging 3
ARTDM-160 3D Modeling and Animation I 3
ARTDM-161 3D Modeling and Animation II 3
ARTDM-167 Digital Animation 3
ARTDM-180 Game Design I 3
ARTDM-181 Game Design II 3
plus at least 3 units from:
ARTDM-115 Digital Interface Design 3
COMSC-110 Introduction to Programming 4
DRAMA-122 Basic Principles of Acting 3

total minimum units for the major 21

Associate in arts degree
Graphic design

Students completing the program will be able to...
A. combine appropriate aesthetic form and content to create evocative and engaging work.
B. create appropriate typographic solutions for a variety of design situations.
C. demonstrate proficiency with computers, software and production processes.
D. select appropriate tools, materials and processes for a range of media products.
E. work collaboratively within a creative team.
F. critically evaluate and discuss the merits of various creative ideas.
G. develop a professional portfolio of work.

This degree program provides students with a strong foundation in the fundamental aspects of graphic design and digital art. Students develop creativity and ideation skills, learn the theories of communication design and apply this to a wide range of design situations. The program is hands-on, integrating conceptual design studies with traditional and digital tools and production methods. The program goal is to provide the skills necessary to enter this growing, professional field.

Some examples where students might find employment using their design and illustration skills might include website design and development, design and illustration of electronic magazines and books, design of interactive marketing presentations, interactive learning products, scientific visualizations, etc. Advanced students have the opportunity to complete professional career preparation courses that deal with specific business issues relevant for designers, illustrators, and digital artists.

DVC graphic design students who intend to transfer must consult with a program advisor to select appropriate courses and are advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE). General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

To earn an associate in arts degree with a major in graphic design, students must complete each course used to meet a major requirement with a “C” grade or higher. Degree requirements can be completed by attending classes in the day, evening, online or a combination of those. Some courses may satisfy both major and general education requirements; however, the units are only counted once.

major requirements:      units
ART-105 Introduction to Drawing 3
ARTDM-105 Introduction to Digital Imaging 3
ARTDM-117 Digital Illustration 3
ARTDM-171 Web Design I 3
ARTDM-172 User Experience Design for Web and Mobile Devices 3
ARTDM-190 Digital Media Projects 3
ARTDM-214 Introduction to Graphic Design 3
ARTDM-224 Typography 3

total minimum units for the major 24
Associate in arts degree
Interaction design for web and mobile platforms

Students completing the program will be able to...

A. design, develop and publish responsive websites using industry best practices.
B. create research and planning deliverables for interactive media projects.
C. implement visual design, user-centered design, and interaction design concepts.
D. apply foundation knowledge in rich-media production.
E. qualify for entry-level employment in the interactive design field.
F. demonstrate skill in a range of professional interactive media design tools.

The associate degree in interaction design for web and mobile platforms prepares students for entry level employment in the interaction design industries with emphasis in user-centered design. This program of study will expose students to the design and technical skills needed for creating interactive digital media. This includes working with industry best practices and applying them using current professional tools. Students will participate in a collaborative team-oriented learning experience that reflects the design industry production processes.

Additionally, students will explore web and mobile career opportunities and develop a professional portfolio for entry into the workforce. A few of the areas that students might find employment include: web design and development, user experience design (UX), user interface design (UI), digital product design, and mobile design and development.

To earn an associate degree, students must complete each course used to meet a major requirement with a “C” grade or higher. Some courses may satisfy both major and general education requirements; however, the units are only counted once.

**major requirements:**

- ARTDM-105 Introduction to Digital Imaging ..............................3
- ARTDM-115 Digital Interface Design .......................................3
- ARTDM-171 Web Design I .....................................................3
- ARTDM-172 User Experience Design for Web and Mobile Devices ..................................................................................3
- ARTDM-173 Web Design II .......................................................3
- ARTDM-174 Web and Mobile Design with JavaScript ..................3

**plus at least 3 units from:**

- ARTDM-117 Digital Illustration ...............................................3
- ARTDM-140 Motion Graphics ....................................................3

**plus at least 6 units from:**

- ARTDM-160 3D Modeling and Animation I ..............................3
- ARTDM-161 3D Modeling and Animation II ..............................3
- ARTDM-165 Drawing for Digital Animation ..............................3
- ARTDM-166 Intermediate Drawing for Digital Animation ........3

**total minimum units for the major** 24

Certificate of achievement

**Animation**

Students completing the program will be able to...

A. visually and verbally conceptualize in a clear and concise way the artistic/technical direction for an animation project.
B. develop technical proficiency using computer hardware and software appropriate to the animation industry.
C. articulate, analyze, and evaluate the meaning in creating projects, including social contexts and ethical choices.
D. work collaboratively within a creative team.
E. develop a professional portfolio of work.

The art digital media program prepares students for entry level employment in the digital media industry with a specialization in animation. This program of study will provide students with the design and technical skills needed for creating non-linear interactive digital media. Students will participate in a collaborative team-oriented learning experience that mirrors the multimedia industry design and production process. Additionally, students will explore multimedia career opportunities and develop a professional portfolio for entry into the workforce.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and during the day.

**required courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTDM-105 Introduction to Digital Imaging</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-167 Digital Animation</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-122 Basic Principles of Acting</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-160 Introduction to Film Production</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 3 units from:**

- ARTDM-117 Digital Illustration ...............3
- ARTDM-140 Motion Graphics ........................3

**plus at least 6 units from:**

- ARTDM-160 3D Modeling and Animation I .......3
- ARTDM-161 3D Modeling and Animation II .......3
- ARTDM-165 Drawing for Digital Animation .......3
- ARTDM-166 Intermediate Drawing for Digital Animation .......3

**total minimum required units** 21

Certificate of achievement

**Digital media**

Students completing the program will be able to...

A. create digital images suitable for printing or multimedia applications.
B. evaluate digital images for effective design.
C. create graphic design projects.
D. build foundation knowledge in digital media production.
E. qualify for entry-level employment in the art digital media field.
F. gain skills in specific digital media applications.
The art digital media program prepares students for entry level employment in the digital media industry with a specialization in digital imaging. This program of study will provide students with the design and technical skills needed for creating non-linear interactive digital media. Students will participate in a collaborative team-oriented learning experience that mirrors the multimedia industry design and production process. Additionally, students will explore multimedia career opportunities and develop a professional portfolio for entry into the workforce.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and during the day.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTDM-105</td>
<td>Introduction to Digital Imaging</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 12 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTDM-100</td>
<td>Introduction to the History and Development of Digital Media</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-101</td>
<td>Introduction to the Production of Digital Media</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-112</td>
<td>Digital Imaging for the Artist</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-115</td>
<td>Digital Interface Design</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-117</td>
<td>Digital Illustration</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-130</td>
<td>Introduction to Digital Audio</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-136</td>
<td>Introduction to Digital Photography</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-140</td>
<td>Motion Graphics</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-149</td>
<td>Fundamentals of Digital Video</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-150</td>
<td>Topics in Digital Media</td>
<td>0.5-4</td>
</tr>
<tr>
<td>ARTDM-160</td>
<td>3D Modeling and Animation I</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-161</td>
<td>3D Modeling and Animation II</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-165</td>
<td>Drawing for Digital Animation</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-166</td>
<td>Intermediate Drawing for Animation</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-167</td>
<td>Digital Animation</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-170</td>
<td>Animation for Interaction Design</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-171</td>
<td>Web Design I</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-172</td>
<td>User Experience Design for Web and Mobile Devices</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-173</td>
<td>Web Design II</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-174</td>
<td>Web and Mobile Design with JavaScript</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-180</td>
<td>Game Design I</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-181</td>
<td>Game Design II</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-190</td>
<td>Digital Media Projects</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-214</td>
<td>Introduction to Graphic Design</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-224</td>
<td>Typography</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-295</td>
<td>Occupational Work Experience Education</td>
<td>2-4</td>
</tr>
<tr>
<td>ARTDM-296</td>
<td>Internship in Occupational Work Experience</td>
<td>2-4</td>
</tr>
<tr>
<td>ARTDM-298</td>
<td>Independent Study</td>
<td>0.5-3</td>
</tr>
<tr>
<td>ARTDM-299</td>
<td>Student Instructional Assistant</td>
<td>0.5-3</td>
</tr>
</tbody>
</table>

**total minimum required units** 15

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**Certificate of achievement**

**Game design**

Students completing the program will be able to...

A. develop technical proficiency using computer hardware and software appropriate to the game design or 3D design industry.

B. visually and verbally conceptualize in a clear and concise way the artistic/technical direction for a game design project.

C. articulate, analyze, and evaluate the meaning in creative projects, including social contexts and ethical choices.

D. work collaboratively within a creative team.

E. develop a professional portfolio of work.

The game design certificate of achievement program provides students with a strong foundation in the fundamental aspects of game design. Students will learn the skills to develop game designs including techniques such as game engine integration. Courses present material that will take the student through the production process and workflow of game design. The program goal is to provide the skills necessary to enter this growing, professional field.

The types of industries that employ individuals with game design skills include game design companies, game development for the web, or assets for game production. Advanced students have the opportunity to create portfolios to prepare for game design careers.

To earn a certificate of achievement in game design, students must complete each course used to meet a major requirement with a “C” grade or higher. Certificate requirements can be completed by attending classes in the day, evening, online, or a combination of those.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTDM-105</td>
<td>Introduction to Digital Imaging</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 3 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTDM-115</td>
<td>Digital Interface Design</td>
<td>3</td>
</tr>
<tr>
<td>COMSC-110</td>
<td>Introduction to Programming</td>
<td>4</td>
</tr>
<tr>
<td>DRAMA-122</td>
<td>Basic Principles of Acting</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units** 21
Certificate of achievement

Graphic design

Students completing the program will be able to...

A. combine appropriate aesthetic form and content to create evocative and engaging work.
B. create appropriate typographic solutions for a variety of design situations.
C. demonstrate proficiency with computers, software and production processes.
D. select appropriate tools, materials and processes for a range of media products.
E. work collaboratively within a creative team.
F. critically evaluate and discuss the merits of various creative ideas.
G. develop a professional portfolio of work.

This certificate program provides students with a strong foundation in the fundamental aspects of graphic design and digital art. Students develop creativity and ideation skills, learn the theories of communication design and apply this to a wide range of design situations. The program is hands-on, integrating conceptual design studies with traditional and digital tools and production methods. The program goal is to provide the skills necessary to enter this growing, professional field.

Some examples where students might find employment using their design and illustration skills might include website design and development, design and illustration of electronic magazines and books, design of interactive marketing presentations, interactive learning products, scientific visualizations, etc. Advanced students have the opportunity to complete professional career preparation courses that deal with specific business issues relevant for designers, illustrators, and digital artists.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and during the day.

required courses:  units
ART-105 Introduction to Drawing ......................... 3
ARTDM-105 Introduction to Digital Imaging ................. 3
ARTDM-117 Digital Illustration ................................. 3
ARTDM-171 Web Design I ..................................... 3
ARTDM-172 User Experience Design for Web and Mobile Devices ................................. 3
ARTDM-190 Digital Media Projects .............................. 3
ARTDM-173 Web Design II ..................................... 3
ARTDM-174 Web and Mobile Design with JavaScript .... 3

plus at least 3 units from:
ARTDM-173 Web Design II ................................. 3
ARTDM-174 Web and Mobile Design with JavaScript .... 3

**total minimum required units** 21

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Certificate of achievement

Interaction design for web and mobile platforms

Students completing the program will be able to...

A. design, develop, and publish responsive websites using industry best practices.
B. create research and planning deliverables for interactive media projects.
C. implement visual design, user-centered design, and interaction design concepts.
D. apply foundation knowledge in rich-media production.
E. qualify for entry-level employment in the interactive design field.
F. demonstrate skill in a range of professional interactive media design tools.

The certificate of achievement in interaction design for web and mobile platforms prepares students for entry-level employment in the interaction design industries with emphasis in user-centered design. This program of study will expose students to the design and technical skills needed for creating interactive digital media. This includes working with industry best practices and applying them using current professional tools. Students will participate in a collaborative team-oriented learning experience that reflects the design industry production processes. Additionally, students will explore web and mobile career opportunities and develop a professional portfolio for entry into the workforce. A few of the areas that students might find employment include: web design and development, user experience design (UX), user interface design (UI), digital product design, and mobile design and development.

To earn a certificate, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Some courses are available in online and traditional formats.

required courses:  units
ARTDM-105 Introduction to Digital Imaging ................. 3
ARTDM-115 Digital Interface Design .............................. 3
ARTDM-117 Digital Illustration ................................. 3
ARTDM-171 Web Design I ..................................... 3
ARTDM-172 User Experience Design for Web and Mobile Devices ................................. 3
ARTDM-190 Digital Media Projects .............................. 3
ARTDM-173 Web Design II ..................................... 3
ARTDM-174 Web and Mobile Design with JavaScript .... 3

**total minimum required units** 21
Certificate of achievement
Motion graphics

Students completing the program will be able to...
A. create motion graphic projects.
B. utilize digital production tools for web delivery.
C. demonstrate competency in various aspects of digitizing, importing, and exporting images.
D. build foundation knowledge in digital media production.
E. qualify for entry-level employment in the art digital media field.

The art digital media program prepares students for entry level employment in the digital media industry with a specialization in motion graphics. This program of study will provide students with the design and technical skills needed for creating non-linear interactive digital media. Students will participate in a collaborative team-oriented learning experience that mirrors the multimedia industry design and production process. Additionally, students will explore multimedia career opportunities and develop a professional portfolio for entry into the workforce.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and during the day.

required courses:  units
ART-105 Introduction to Drawing .................................... 3
ARTDM-105 Introduction to Digital Imaging  .........................3
ARTDM-115 Digital Interface Design ...................................3
ARTDM-117 Digital Illustration ........................................ 3
ARTDM-140 Motion Graphics ...........................................3
ARTDM-160 3D Modeling and Animation I ........................... 3
ARTDM-170 Animation for Interaction Design ......................3
ARTDM-171 Web Design I .................................................3
ARTDM-190 Digital Media Projects ....................................3
ARTDM-214 Introduction to Graphic Design .......................3
CARER-140 Job Search Strategies ....................................1
CIS-108 Introduction to WordPress ...................................2
FTVE-165 Digital Editing ................................................3

total minimum required units  36

Certificate of achievement
Web design

Students completing the program will be able to...
A. design, develop, and publish responsive website designs using industry best practices.
B. create, research, and plan deliverables for web and mobile projects.
C. implement visual design, user-centered design, and interaction design concepts.
D. incorporate rich-media into website productions.
E. prepare a web portfolio for applying to entry-level jobs in the digital media field.
F. demonstrate proficiency in a range of professional web design tools.

The certificate of achievement in web design prepares students for entry-level employment in the web and mobile industries. This program of study introduces students to the design and technical skills needed to create easy to use websites that function well regardless of screen size. Students use current professional tools and apply industry best practice of web design. Students participate in a collaborative team-oriented learning experience that reflects human-centered design processes.

Potential areas of employment include: web design, user experience design (UX), and user interface design (UI). This certificate is an entry point for building toward the certificate of achievement or associate in arts degree in interaction design.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

required courses:  units
ARTDM-105 Introduction to Digital Imaging  .........................3
ARTDM-115 Digital Interface Design ...................................3
ARTDM-171 Web Design I .................................................3
ARTDM-172 User Experience Design for Web and Mobile Devices ..................................................3
ARTDM-173 Web Design II ...............................................3

total minimum required units  15
Certificate of accomplishment
Art digital media - Foundation

Students completing any program will be able to...
A. discuss the career opportunities available in the field of digital media.
B. describe the different applications of digital media such as website, mobile application, and augmented reality.
C. produce and utilize digital images for exports to websites, multimedia presentations, and print.
D. design and create a multimedia project.
E. critically evaluate multimedia design concepts and techniques.

Art digital media is a set of technologies and techniques that can be used to enhance the presentation of information. Art digital media uses computers to create productions that bring together text, sounds, animation, graphic art and video to educate, inform and entertain. Classes are designed to serve both working professionals who wish to upgrade their skills and students who wish to enter the field.

To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and during the day.

**Required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTDM-101</td>
<td>Introduction to the Production of Digital Media</td>
<td>3</td>
<td>This course introduces key concepts and industry concerns, technologies, and the creation of digital media. Time-based art, network culture, image resolution, computational techniques, and interactivity will be examined. Students will also explore ways of constructing different types of digital media and investigate the history of digital technology. CSU, UC</td>
</tr>
<tr>
<td>ARTDM-105</td>
<td>Introduction to Digital Imaging</td>
<td>3</td>
<td>This course presents design and composition concepts, processes, and aesthetic interpretation of making digital imagery. Students will create computer graphics and edit digital images from scanned photographs and digital photography. CSU, UC</td>
</tr>
<tr>
<td>ARTDM-112</td>
<td>Digital Imaging for the Artist</td>
<td>3</td>
<td>This course is designed to develop a fine arts approach to computer-generated imaging using graphic arts software. An emphasis will be placed on the application and integration of color theory as well as design principles with digital imaging. C-ID ARTS 250, CSU, UC</td>
</tr>
<tr>
<td>ARTDM-115</td>
<td>Digital Interface Design</td>
<td>3</td>
<td>This introductory course explores current trends and techniques of interface design and design skills. Emphasis is placed on the development of visual solutions for various interactive communication problems, platforms, and devices. CSU, UC</td>
</tr>
</tbody>
</table>
ARTDM-117  Digital Illustration  
3 units  SC  
- 36 hours lecture/54 hours laboratory per term  
This course introduces students to digital illustration. Students will engage in the production of vector graphics suitable for printing and the web. Emphasis will be given to fundamentals of design and composition. Instruction will utilize a variety of software programs including Adobe Illustrator. CSU, UC

ARTDM-130  Introduction to Digital Audio  
3 units  SC  
- 36 hours lecture/54 hours laboratory per term  
- Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply toward the 60 units required for the degree.

This is an introductory course about the application of audio to various forms of digital media. The course covers how to capture, edit and create digital audio for a variety of digital media formats including DVD’s, video and the Internet. The course will involve hands-on work with a variety of digital workstations and multimedia software applications. CSU

ARTDM-136  Introduction to Digital Photography  
3 units  SC  
- 36 hours lecture/72 hours laboratory per term  
- Advisory: ART-160 or equivalent  
- Note: Students must have digital camera with manual functions. Note: Mandatory materials fee required

This introductory course focuses on the skills required to create effective digital photographs using digital cameras. Students will be introduced to the fundamental principles of image making, composition, color theory, color management, lighting, image processing, and printing with a specific focus on digital photographic practice in fine art. CSU, UC

ARTDM-137  Intermediate Digital Photography  
3 units  SC  
- 36 hours lecture/72 hours laboratory per term  
- Advisory: ARTDM-136 or equivalent  
- Note: Mandatory materials fee required

This digital photography class advances students’ knowledge of materials and techniques used in ARTDM-136 Introduction to Digital Photography. The course will concentrate on the specific controls of image processing and the characteristics of a digital photographic practice. In addition to advanced imaging techniques, emphasis will be placed on developing concept, nondestructive editing, and aesthetic considerations relating to image presentation, printing, and professional development for both commercial and fine art photography. CSU

ARTDM-140  Motion Graphics  
3 units  SC  
- 36 hours lecture/54 hours laboratory per term  
- Advisory: ARTDM-105 or equivalent  
- Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply toward the 60 units required for the degree.

This introductory course focuses on the creative design skills required to create effective motion graphics. Students will create motion graphics utilizing digital video and various graphic file formats. The theory and production of animated two-dimensional (2D) graphics for time-based media environments will be introduced, focusing on animating typography, graphic objects, and still images. Various software applications will be used including Adobe After Effects. CSU, UC

ARTDM-149  Fundamentals of Digital Video  
3 units  SC  
- 36 hours lecture/54 hours laboratory per term  

This introductory course covers the application of video to various forms of digital media including how to capture, edit and create digital video for DVD’s and the internet. The course will involve hands-on work with a variety of digital workstations and multimedia software applications. CSU, UC

ARTDM-150  Topics in Digital Media  
.5-4 units  SC  
- Variable hours

A supplemental course in digital media to provide a study of current concepts and problems in digital media. Specific topics will be announced in the schedule of classes. CSU

ARTDM-160  3D Modeling and Animation I  
3 units  SC  
- 36 hours lecture/54 hours laboratory per term  
- Advisory: ARTDM-105 or equivalent  
- Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply toward the 60 units required for the degree.

This course presents the basic concepts of three-dimensional (3D) modeling and animation. Students explore the production of 3D computer animation including modeling, animation, rigging, and texture mapping. Students will also plan, design and produce 3D animation projects. CSU, UC
ARTDM-161  3D Modeling and Animation II
3 units  SC
- 36 hours lecture/54 hours laboratory per term
- Advisory: ARTDM-160 or equivalent
- Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply toward the 60 units required for the degree.

This course builds on skills presented in ARTDM-160 and focuses on the creation of short, 3D animated movies. Students explore the principles that govern animation and practice techniques to implement them in 3D. CSU, UC

ARTDM-165  Drawing for Digital Animation
3 units  SC
- 36 hours lecture/54 hours laboratory per term
- Advisory: ART-105 or equivalent

This course introduces students to the skills necessary to create animation that utilizes the 12 principles of animation, character pages, and storyboard animatics. The course is designed to prepare students to develop a particular style of animation using hand drawing techniques and introduces digital applications. In addition, a survey of the history of animation will be presented. CSU

ARTDM-166  Intermediate Drawing for Digital Animation
3 units  SC
- 36 hours lecture/54 hours laboratory per term
- Advisory: ART-165 or equivalent

This course builds on skills in ARTDM-165 and emphasizes fluidity of movement, multiple visual perspectives, and creating a unified cast of characters for digital animation. Through a series of projects and experiments, students will explore these subjects and discover how to create an animator’s “story bible”. CSU

ARTDM-167  Digital Animation
3 units  SC
- 36 hours lecture/54 hours laboratory per term
- Advisory: ARTDM-160 or equivalent, ARTDM-165 or equivalent
- Formerly ARTDM-175

This course explores how to combine multiple techniques and processes related to animation to create complete viewing experiences. The course follows basic industry production structure to immerse students in the animation process. Students will compare 2D, 3D, and compositing techniques and how to apply them in the creation of animated projects. In addition, students will apply audio recording and post production techniques to animated projects. CSU, UC

ARTDM-170  Animation for Interaction Design
3 units  SC
- 36 hours lecture/54 hours laboratory per term
- Advisory: ARTDM-115 or equivalent, ARTDM-171 or equivalent

This course explores animation for the purpose of improving interaction design and user experience design. Concepts and techniques for improving usability and user engagement for the web, mobile, and other interactive contexts will be addressed. CSU, UC

ARTDM-171  Web Design I
3 units  SC
- 36 hours lecture/54 hours laboratory per term
- Advisory: ARTDM-105 or equivalent

This introductory course focuses on the essential principles and processes of web design. Students will design and publish effective websites using HTML, cascading style sheets (CSS) and a variety of software tools. CSU

ARTDM-172  User Experience Design for Web and Mobile Devices
3 units  SC
- 36 hours lecture/54 hours laboratory per term

This course explores user-centered design concepts, practices, and standard deliverables employed in planning interactive experiences. Students will also be exposed to the detailed processes of researching, planning, and designing user experiences for digital contexts. CSU

ARTDM-173  Web Design II
3 units  SC
- 36 hours lecture/54 hours laboratory per term
- Prerequisite: ARTDM-171 or equivalent

This course presents advanced production concepts such as design and development frameworks, pre-and postprocessors, and content management systems. Students will build upon previous web design experiences to learn professional tools and practices. CSU

ARTDM-174  Web and Mobile Design with JavaScript
3 units  SC
- 36 hours lecture/54 hours laboratory per term
- Prerequisite: ARTDM-171 or equivalent
- Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply toward the 60 units required for the degree.

This course presents JavaScript/ECMAScript skills and best practices for web standards. Utilization of code libraries for the development of user interfaces will also be covered. Concepts include interactive design skills with emphasis on scripting the functionality of web interfaces. CSU
ARTDM-180   Game Design I
3 units SC
• 36 hours lecture/54 hours laboratory per term
• Advisory: ARTDM-160 or equivalent
• Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply toward the 60 units required for the degree.

This course will present techniques for the development of interactive game environments. Students will create multiple levels, integrate game mechanics, and apply visual design concepts in the development process. The course follows basic industry production structure to immerse students in the game design process and will introduce node based programming tool sets to be applied to level designs. CSU, UC

ARTDM-181   Game Design II
3 units SC
• 36 hours lecture/54 hours laboratory per term
• Advisory: ARTDM-180 or equivalent
• Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply toward the 60 units required for the degree.

This course will build upon techniques and methods covered in ARTDM-180 Game Design I. Students will create multiple levels, integrate game mechanics, and apply visual design concepts in the development process with an emphasis on continuity and level transitions. The course follows standard industry production structure to immerse students in the game design process. Students will be introduced to intermediate programming and artificial intelligence (AI) behavior systems to be applied to level designs. CSU, UC

ARTDM-190   Digital Media Projects
3 units SC
• 36 hours lecture/54 hours laboratory per term
• Advisory: ART-105, ARTDM-130 and ARTDM-149 or equivalents

This advanced course is designed for students who are preparing for employment in the digital media industry. Working independently and in teams, students will use a variety of software and design tools to create projects for real-world clients. Students will also create presentations combining a variety of digital media. CSU

ARTDM-214   Introduction to Graphic Design
3 units SC
• IGETC: 3A; CSU GE: C1; DVC GE: III
• 36 hours lecture/54 hours laboratory per term
• Advisory: College-level reading and writing are expected.

This course presents the fundamentals of graphic design including history, theory and practice. Students will use graphic design as a means of communicating ideas in a digital environment. Specific focus will be given to principles of design, balance and visual hierarchy, and the integration of text and image. Students will survey the history of graphic design as a basis for exploring and understanding graphic design fundamentals. CSU, UC

ARTDM-224   Typography
3 units SC
• 36 hours lecture/54 hours laboratory per term
• Advisory: College-level reading and writing are expected.

This course presents fundamentals of typography including history, theory and contemporary practices of typography in the practice design. Topics cover typographic terminology, conventions, typesetting fundamentals, grid systems, type as visual/verbal expressive communication, and development of unique alphabet letterforms. CSU, UC

ARTDM-295   Occupational Work Experience in ARTDM
2-4 units SC
• May be repeated eight times
• Variable Hours
• Note: In order to enroll in ARTDM-295, students must be employed, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.

ARTDM-295 is supervised employment that extends classroom learning to the job site and relates to the student’s chosen field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Each unit represents five hours of work per week or 75 hours work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU
ARTDM-296  Internship in Occupational Work Experience Education in ARTDM
2-4 units  SC
- May be repeated eight times
- Variable hours
- Note: In order to enroll in the ARTDM-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.

ARTDM-296 is a supervised internship in a skilled or professional level assignment in the student’s major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Each unit represents five hours of paid work or four hours of unpaid work per week or 75 hours of paid work or 60 hours of unpaid work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

ARTDM-298  Independent Study
.5-3 units  SC
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

ARTDM-299  Student Instructional Assistant
.5-3 units  SC
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

ART HISTORY – ARTHS
Janette Funaro, Dean
Arts and Communication Division

Possible career opportunities
Students can pursue careers as curators or archivists at the many museums and galleries across the country. Careers in media, advertising, publishing, fashion or design, as well as art therapy, and working with handicapped or disabled people are also open to art history students. Undergraduate art history majors can pursue advanced training in art history, archaeology, architecture, law, library and information science, business, and education.

Associate in arts in art history for transfer
Students completing any program will be able to...
A. identify, describe, and analyze important artworks and issues from respective historical periods using appropriate art historical vocabulary.
B. employ critical thinking skills in the study of art.
C. describe the intersection of culture, politics, religion, and the arts in specific cultures and time periods.
D. apply the elements and principles of design and aesthetics to create works of art.
E. relate visual art to cultural traditions in language, literature, music, and philosophy.

The associate in arts in art history for transfer offers students a curricular program for studying a variety of beginning courses within the field of art history. The art history major is a two-year degree program of transferable courses open to all students. The program requirements are designed for those interested in art history as preparation for transfer. The program is broadly constructed both to prepare students for advanced study in the history of art and to provide a basis for many other fields that require the ability to do independent research, evaluate evidence (visual and textual), and create a coherent argument.

The major has required components of Western art history, non-Western art, and fundamentals of drawing and design. The studio practice courses are common components of art history degrees, and are necessary to an understanding of the fundamentals of art making, which informs theory and critique. Students also select related electives. Foreign language preparation is recommended as many baccalaureate degrees and most post-baccalaureate programs require proficiency in at least one foreign language.
Fine arts faculty and staff are dedicated to assisting students in exploring job opportunities, internships, and transferring to four-year institutions of higher learning. Students interested in the major must contact DVC counselors and art faculty about program requirements and transferability to specific institutions. The student with an associate in arts in art history for transfer is prepared for upper division work in the major or related fields (humanities, interdisciplinary studies, visual studies) at four-year institutions. The major is available at UC and CSU systems, the San Francisco Art Institute, the California College of Art, and at other colleges of art and schools of design. Career opportunities include: art or art history teacher, art conservator, museum curator, art journalist, and other related professions. Career opportunities are also available in galleries, museums, and art organizations. Some career fields will require post-baccalaureate preparation. Students also receive a broad-based liberal arts education that is strong in critical thinking skills, which prepares them for a range of professions.

The associate in arts in art history for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.

In order to earn the degree, students must:
- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE) or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area IC requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSU GE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-101 Introduction to Two-Dimensional Design</td>
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</tr>
<tr>
<td>ART-102 Introduction to Three-Dimensional Design</td>
<td>3</td>
</tr>
<tr>
<td>ART-107 Figure Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ART-138 Sculpture I</td>
<td>3</td>
</tr>
<tr>
<td>ART-152 Wheel-Thrown Pottery I</td>
<td>3</td>
</tr>
<tr>
<td>ART-160 Photography I</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-112 Digital Imaging for the Artist</td>
<td>3</td>
</tr>
<tr>
<td>ARTHS-100 Art Appreciation</td>
<td>3</td>
</tr>
<tr>
<td>ITAL-121 Second Term Italian</td>
<td>5</td>
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<td>ITAL-220 Third Term Italian</td>
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<td>ITAL-231 Sixth Term Italian</td>
<td>3</td>
</tr>
<tr>
<td>GRMAN-121 Second Term German</td>
<td>5</td>
</tr>
<tr>
<td>GRMAN-221 Fourth Term German</td>
<td>5</td>
</tr>
<tr>
<td>HUMAN-110 Humanities: Ancient Civilizations</td>
<td>3</td>
</tr>
<tr>
<td>HUMAN-111 Humanities: The Middle Ages and Renaissance</td>
<td>3</td>
</tr>
<tr>
<td>HUMAN-112 Humanities: The Modern World</td>
<td>3</td>
</tr>
<tr>
<td>HUMAN-115 Humanities: The Multicultural American Experience</td>
<td>3</td>
</tr>
<tr>
<td>ITAL-121 Second Term Italian</td>
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<td>ITAL-220 Third Term Italian</td>
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</tr>
<tr>
<td>ITAL-231 Sixth Term Italian</td>
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**major requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>ART-105 Introduction to Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ARTHS-193 History of Asian Art</td>
<td>3</td>
</tr>
<tr>
<td>ARTHS-195 History of Prehistoric and Ancient Art</td>
<td>3</td>
</tr>
<tr>
<td>ARTHS-196 History of Medieval and Renaissance Art</td>
<td>3</td>
</tr>
<tr>
<td>ARTHS-197 History of Baroque to 20th Century Art</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
</tr>
<tr>
<td>ARTHS-199 Contemporary Art History</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-176 The Graphic Novel as Literature</td>
<td>3</td>
</tr>
<tr>
<td>FRNC-212 Second Term French</td>
<td>5</td>
</tr>
<tr>
<td>FRNC-220 Third Term French</td>
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<tr>
<td>GRMAN-121 Second Term German</td>
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<td>GRMAN-221 Fourth Term German</td>
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<td>GRMAN-230 Fifth Term German</td>
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<tr>
<td>HUMAN-111 Humanities: The Middle Ages and Renaissance</td>
<td>3</td>
</tr>
<tr>
<td>HUMAN-112 Humanities: The Modern World</td>
<td>3</td>
</tr>
<tr>
<td>HUMAN-115 Humanities: The Multicultural American Experience</td>
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</table>

**total minimum units for the major** 21

**ARTHS-100 Art Appreciation**

<table>
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<tbody>
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**ARTHS-190 Topics in Art History**

<table>
<thead>
<tr>
<th>Units</th>
<th>SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-4</td>
<td></td>
</tr>
</tbody>
</table>

This introductory course offers a look at works of art through the study of theory, terminology, themes, design principles, media, and techniques. Visual arts across time and diverse cultures will be examined. C-ID: ARTH 100, CSU, UC
ARTHS-191  Critical Thinking in Visual Studies
3 units SC
• IGETC: 1B; CSU GE: A3; DVC GE: IB
• 54 hours lecture per term
• Prerequisite: ENGL-122 or equivalent
This course explores the power of visual culture including analysis of how visual culture creates and mediates meaning. Emphasis is placed on understanding and using principles of inductive and deductive reasoning as well as on evaluation and creation of argument, persuasion, and criticism of visual culture topics from both visual and textual sources. Students will investigate our rich visual world which includes art, advertisements, illustrations, and many other forms of visual communication that inform and mediate every aspect of our lives. CSU, UC

ARTHS-193  History of Asian Art
3 units SC
• IGETC: 3A; CSU GE: C1; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course examines major artistic traditions in Asia from prehistory to the present. It tracks the interdependence of artists, patrons, cultures, and religions. Artistic changes are contextualized in relation to political developments and cross-cultural exchanges. C-ID ARTH 130, CSU, UC

ARTHS-195  History of Prehistoric and Ancient Art
3 units SC
• IGETC: 3A; CSU GE: C1; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course presents the history of Western art from the Paleolithic through the end of the Roman period and the beginning of early Christian art. Archeological and anthropological concepts are discussed in relation to the study of art styles. The social and cultural background of ancient civilizations and the role of the artist will be considered. ARTHS-195 + ARTHS-196 = C-ID: ARTH 110, CSU, UC

ARTHS-196  History of Medieval and Renaissance Art
3 units SC
• IGETC: 3A; CSU GE: C1; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
The course presents the history of Western art from the Early Christian Period through the Renaissance. Stylistic changes are related to significant social and cultural changes. Consideration is given to the changing role of the artist, socially, culturally, and within patronage systems. ARTHS-195 + ARTHS-196 = C-ID: ARTH 110, ARTHS 195 + ARTHS 197 = C-ID ARTH 120, CSU, UC

ARTHS-197  History of Baroque to 20th Century Art
3 units SC
• IGETC: 3A; CSU GE: C1; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course presents a history of Western art from the 17th century through major movements of the 20th century. Stylistic changes are related to significant social and cultural changes. Consideration is given to the changing role of the artist. ARTHS 196 + ARTHS 197 = C-ID ARTH 120, CSU, UC

ARTHS-199  Contemporary Art History
3 units SC
• IGETC: 3A; CSU GE: C1; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course presents a survey of contemporary art in the United States and globally from 1945 to the present. Emphasis is placed on identifying and understanding important contemporary art movements and images, as well as social and political issues that shape the character of art. CSU, UC

ARTHS-299  Student Instructional Assistant
.5-3 units SC
•Variable hours
•Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU
Astronomy

ASTRONOMY

Charles Ramos, Dean
Sciences Division
Physical Sciences Building, Room 263

Possible career opportunities
Considered a branch of physics, astronomy is really a marriage of the physical sciences from planetary science and atmospheric science to physics and chemistry. Study in astronomy prepares students for careers in scientific research, systems analysis and engineering, as well as software engineering and development. More than two years of college study is usually required.

ASTRO-110  The Visible Universe
3 units LR
• IGETC: 5A; CSU GE: B1; DVC GE: II
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected. MATH-085 or equivalent
• Note: Students who have successfully completed ASTRO-112 should not enroll in ASTRO-110. Students who have successfully completed ASTRO-112 will not receive credit for ASTRO-110. The planetarium sky provides students with the opportunity to observe concepts presented in class for in-person and hybrid classes on the Pleasant Hill campus only.

This introductory course focuses on observational astronomy. Students will visit the planetarium to identify constellations, discover how the rotation and orbit of the Earth affects our view of the night sky, distinguish the causes of the Moon phases and how to predict eclipses. Students will be introduced to light and energy output from the cosmos and use planetary orbits to find planets outside of our Solar System. CSU, UC (credit limits may apply to UC - see counselor)

ASTRO-112  The Visible Universe With Laboratory
4 units LR
• IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: B3
• 54 hours lecture/54 hours laboratory per term
• Advisory: College-level reading and writing are expected. MATH-085 or equivalent

This introductory course focuses on observational astronomy. Students will visit the planetarium to identify constellations, discover how the rotation and orbit of the Earth affects our view of the night sky, distinguish the causes of Moon phases and predict eclipses. Students will be introduced to light and energy output from the cosmos and use planetary orbits to find planets outside of our Solar System. The laboratory component will involve the study of the fundamentals of astronomy and will include investigations of the sun, moon, planets, stars, and galaxies. Telescopes and other instruments will be used by students to gather data. Students will analyze data they have collected as well as that collected by others. CSU, UC (credit limits may apply to UC - see counselor)

ASTRO-120  Elementary Astronomy
3 units LR
• IGETC: 5A; CSU GE: B1; DVC GE: II
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected. MATH-085 or MATH-085SP or beginning algebra or MATH-114 equivalents.

This course presents an introduction to an elementary mathematical approach to the solving of problems relating to solar and stellar systems. Properties and evolution of stars and galaxies as well as their role in the evolution of the universe will be the major emphasis. Instrumentation used for and the analysis of electromagnetic radiation will also be discussed. CSU, UC (credit limits may apply to UC - see counselor)

ASTRO-130  Astronomy Laboratory
1 unit LR
• IGETC: 5C; CSU GE: B3
• 54 hours laboratory per term
• Prerequisite: ASTRO-110 or 120 or equivalent (may be taken concurrently)

The laboratory course will involve the study of the fundamentals of astronomy and will include investigations of the sun, moon, planets, stars and galaxies. Telescopes and other instruments are used by students to gather data. Students will analyze data they have collected as well as that collected by others. CSU, UC

ASTRO-298  Independent Study
.5-3 units SC
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

ASTRO-299  Student Instructional Assistant
.5-3 units SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU
DIABLO VALLEY COLLEGE CATALOG 2022-2023 chapter four PROGRAM/COURSE DESCRIPTIONS 125

BIOLOGICAL SCIENCE – BIOSC

Diablo Valley College is approved by the California Board of Registered Nurses for continuing education credits (provider #CEP 7992). Biological Science courses that can be used are BIOSC-119, 120, 139, 140 and 146.

Charles Ramos, Dean
Sciences Division
Physical Sciences Building, Room 263

Possible career opportunities
Completion of the biology program prepares students for advanced study leading to careers in government, industry, or secondary-school teaching. The program also partially satisfies the entrance requirements for medical and dental schools. Career options include: researcher, educator, laboratory technician, botanist, ecologist, and field technician.

Associate in science degree
Allied health

Students completing any program will be able to...
A. illustrate and analyze chemical bonds and reactions.
B. demonstrate an understanding of the structure and growth of microbes.
C. demonstrate knowledge of the structure and function of the human body.
D. demonstrate knowledge of the structure of the human body including both normal and pathological conditions.
E. demonstrate knowledge of cell structure and function.

The associate in science degree with a major in allied health is a transfer degree for students who wish to transfer to a four-year institution with a major in an allied health field. These fields include, but are not limited to, nursing, radiological sciences, physical therapy, occupational health, and dental hygiene. The degree offers students a broad general education, and provides basic knowledge in microbiology, human anatomy and physiology. These are common prerequisites for above mention four-year majors, while also preparing students for more advanced allied health courses. Degree requirements for four-year programs differ from institution to institution, so students wishing to transfer to a particular four-year program should consult a counselor regarding specific course requirements for that particular program.

The DVC allied health major is intended for transfer. Students wishing to transfer must consult with a counselor regarding other courses in math, chemistry and physics that may be required by the four-year institution to which they intend to transfer. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE), Option 1 (DVC General Education) is not generally advised.

To earn an associate in science degree with a major in allied health, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all general education requirements as listed in the catalog. Major requirements may be taken only on a “for grade” basis. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**major requirements:**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BIOSC-139 Human Anatomy</td>
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<tr>
<td>BIOSC-140 Human Physiology</td>
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**plus at least 4 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>BIOSC-119 Fundamentals of Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-146 Principles of Microbiology</td>
<td>5</td>
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**plus at least 4 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>CHEM-107 Integrated Inorganic, Organic, and Biological Chemistry</td>
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<td>CHEM-108 Introductory Chemistry</td>
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<tr>
<td>CHEM-109 Introduction to Organic and Biochemistry</td>
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<tr>
<td>CHEM-120 General College Chemistry I</td>
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</tbody>
</table>

**total minimum units for the major** 18

**Associate in science degree**

**Biology**

Students completing any program will be able to...
A. apply the scientific method of inquiry.
B. illustrate and analyze chemical bonds and reactions.
C. compare and contrast organismal life structures and functions.
D. demonstrate an understanding of the mechanisms and evidence for the theory of evolution.

The associate in science degree with a major in biology is designed as a two-year program that offers a broad general education background and an introduction to the basic principles of biology as well as the supporting knowledge of chemistry needed to fully understand and appreciate biology as specified by the learning objectives of the courses. The courses included in the major are also applicable to further study in the life sciences.

The DVC biology major is intended to transfer. Students wishing to transfer must consult with a counselor regarding other courses in math, chemistry and physics that may be required by the four-year institution to which they intend to transfer. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE), Option 1 (DVC General Education) is not generally advised.

To earn an associate in science degree with a major in biology, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.
Biological science

Associate in science degree

Life science

Students completing any program will be able to...
A. understand and apply the scientific method of inquiry.
B. explain, illustrate and analyze chemical bonds and reactions.
C. discuss the mechanisms and evidence for the theory of evolution.
D. understand the molecular aspects of cell biology/genetics. (Cellular Biology emphasis)
E. discuss interactions of organisms in communities. (Field Studies emphasis)
F. demonstrate knowledge of the structure and function of the human body. (Health emphasis)
G. demonstrate the proper use and care for common laboratory equipment, lab skills, and techniques.

The associate in science degree with a major in life science is designed as a two-year program that offers a broad general education background and an introduction to the basic principles of biology and the supporting knowledge of biology needed to fully understand and appreciate biology. Furthermore, courses in three categories of life science are offered from which students select a minimum of twelve units. These categories emphasize I: health science, II: field studies, and III: cellular and molecular biology.

The associate degree in life science is not designed to transfer as major preparation for a baccalaureate degree. DVC life science students who intend to transfer must consult with a program advisor or counselor to ensure that other major preparation courses in math, chemistry, physics and other transfer requirements at the four-year institutions of their choice are met. Students who intend to transfer are advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE). General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

To earn an associate in science degree with a major in life science, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

<table>
<thead>
<tr>
<th>major requirements:</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-130 Principles of Cellular and Molecular Biology</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-131 Principles of Organismal Biology, Evolution and Ecology</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-120 General College Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-121 General College Chemistry II</td>
<td>5</td>
</tr>
<tr>
<td><strong>total minimum units for the major</strong></td>
<td><strong>20</strong></td>
</tr>
</tbody>
</table>

### Cellular Biology

- **BIOSC-107** Genetics and Evolution .............................................. 4
- **BIOSC-119** Fundamentals of Microbiology .................................... 4
- **BIOSC-130** Principles of Cellular and Molecular Biology ............ 5
- **BIOSC-146** Principles of Microbiology .......................................... 5

### Field Studies

- **BIOSC-128** Ecology and Field Biology ........................................ 4
- **BIOSC-131** Principles of Organismal Biology, Evolution and Ecology | 4
- **BIOSC-161** Fundamentals of Marine Biology with Laboratory .......... 3
- **BIOSC-162** Fundamentals of Marine Biology with Laboratory .......... 4
- **BIOSC-170** Environmental Science ............................................. 3
- **BIOSC-171** Environmental Science with Laboratory ....................... 4
- **HORT-148L** California Native Plants Laboratory .......................... 1
- **OCEAN-101** Fundamentals of Oceanography ................................ 3
- **OCEAN-102** Fundamentals of Oceanography with Laboratory .......... 4

### Health

- **BIOSC-120** Introduction to Human Anatomy and Physiology ............ 5
- **BIOSC-139** Human Anatomy ...................................................... 5
- **BIOSC-140** Human Physiology .................................................. 5
- **NUTRI-160** Nutrition: Science and Applications .......................... 3

| total minimum units for the major | 20 |
Associate in science degree
Natural science

Students completing any program will be able to...

A. understand and apply scientific terminology appropriate for this specific field of life or physical science.
B. understand and apply the method of scientific inquiry appropriate for this specific field of life or physical science.
C. collect and/or analyze laboratory and/or field data appropriate for the specific field of life or physical science.
D. critically evaluate scientific information in various formats.
E. understand the relationship between humans and the physical and/or life sciences.

The associate in science degree in natural science is designed as a two-year program that offers a broad general education background and an introduction to the diverse field of the natural sciences. This degree is an appropriate choice for students who seek breadth in their knowledge of the sciences or for those starting their preparation for a career in elementary education (multi subject), secondary education (single subject), journalism, liberal arts, environmental sciences, etc. Students may transfer to a science-related major or career/technical program or may work in a science-related field.

This degree, however, is not designed to present the complete lower division preparation for a major in a traditional scientific field. DVC natural sciences students who intend to transfer must consult with a program advisor or counselor to ensure that other major preparation courses such as mathematics and other transfer requirements at the four-year institutions of their choice are met. Students who intend to transfer are advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE). General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

To earn an associate in science degree in natural sciences, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however the units are only counted once.

Major requirements – Students will select a minimum of 18 units total from courses in the biological sciences and physical sciences:

<table>
<thead>
<tr>
<th>Biological science</th>
<th>required biological science core: at least 4 units from the following biological science courses with a laboratory:</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-102</td>
<td>Fundamentals of Biological Science with Laboratory</td>
</tr>
<tr>
<td>BIOSC-107</td>
<td>Genetics and Evolution</td>
</tr>
<tr>
<td>BIOSC-117</td>
<td>Human Biology with Laboratory</td>
</tr>
<tr>
<td>BIOSC-119</td>
<td>Fundamentals of Microbiology</td>
</tr>
<tr>
<td>BIOSC-120</td>
<td>Introduction to Human Anatomy and Physiology</td>
</tr>
<tr>
<td>BIOSC-126</td>
<td>Ecology and Field Biology</td>
</tr>
<tr>
<td>BIOSC-130</td>
<td>Principles of Cellular and Molecular Biology</td>
</tr>
<tr>
<td>BIOSC-131</td>
<td>Principles of Organismal Biology, Evolution and Ecology</td>
</tr>
<tr>
<td>BIOSC-139</td>
<td>Human Anatomy</td>
</tr>
<tr>
<td>BIOSC-146</td>
<td>Principles of Microbiology</td>
</tr>
<tr>
<td>BIOSC-162</td>
<td>Fundamentals of Marine Biology</td>
</tr>
<tr>
<td>BIOSC-171</td>
<td>Environmental Science with Laboratory</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical science</th>
<th>required physical science core: at least 4 units from the following physical science courses with a laboratory:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTRO-110</td>
<td>The Visible Universe</td>
</tr>
<tr>
<td>ASTRO-130</td>
<td>Astronomy Laboratory</td>
</tr>
<tr>
<td>ASTRO-120</td>
<td>Elementary Astronomy</td>
</tr>
<tr>
<td>ASTRO-130</td>
<td>Astronomy Laboratory</td>
</tr>
<tr>
<td>CHEM-106</td>
<td>Chemistry for Non-Science Majors</td>
</tr>
<tr>
<td>CHEM-107</td>
<td>Integrated Inorganic, Organic, and Biological Chemistry</td>
</tr>
<tr>
<td>CHEM-108</td>
<td>Introductory Chemistry</td>
</tr>
<tr>
<td>CHEM-109</td>
<td>Introduction to Organic and Biochemistry</td>
</tr>
<tr>
<td>CHEM-120</td>
<td>General College Chemistry I</td>
</tr>
<tr>
<td>GEOG-120</td>
<td>Physical Geography</td>
</tr>
<tr>
<td>GEOG-121</td>
<td>Physical Geography Laboratory</td>
</tr>
<tr>
<td>GEOG-140</td>
<td>Introduction to Weather</td>
</tr>
<tr>
<td>GEOG-141</td>
<td>Introduction to Weather Laboratory</td>
</tr>
<tr>
<td>GEOL-120</td>
<td>Physical Geology</td>
</tr>
<tr>
<td>GEOL-122</td>
<td>Physical Geology Laboratory</td>
</tr>
<tr>
<td>GEOL-121</td>
<td>Earth and Life Through Time</td>
</tr>
<tr>
<td>GEOL-124</td>
<td>Earth and Life Through Time Laboratory</td>
</tr>
<tr>
<td>GEOL-130</td>
<td>Earth Science</td>
</tr>
<tr>
<td>OCEAN-102</td>
<td>Fundamentals of Oceanography with Laboratory</td>
</tr>
<tr>
<td>PHYS-110</td>
<td>Elementary Physics</td>
</tr>
<tr>
<td>PHYS-111</td>
<td>Physics Laboratory</td>
</tr>
</tbody>
</table>
Biological science

PHYS-120 General College Physics I ........................................ 4
PHYS-129 Introductory Physics for Engineers ......................... 4
PHYS-130 Physics for Engineers and Scientists A: Mechanics and Wave Motion ........................................ 4

plus 8-10 units from the following if not used above: 
ASTRO-110 The Visible Universe .............................................. 3
ASTRO-120 Elementary Astronomy .............................................. 3
ASTRO-130 Astronomy Laboratory .............................................. 3
BIOG-101 Fundamentals of Biological Science ....................... 3
BIOG-102 Fundamentals of Biological Science with Laboratory ........................................ 4
BIOG-107 Genetics and Evolution .............................................. 4
BIOG-116 Human Biology ......................................................... 3
BIOG-117 Human Biology with Laboratory ........................................ 4
BIOG-119 Fundamentals of Microbiology ........................................ 4
BIOG-120 Introduction to Human Anatomy and Physiology ........................................ 5
BIOG-126 Ecology and Field Biology .............................................. 4
BIOG-130 Principles of Cellular and Molecular Biology ....... 5
BIOG-131 Principles of Organismal Biology, Evolution and Ecology ......................................................... 5
BIOG-139 Human Anatomy ......................................................... 3
BIOG-140 Human Physiology ......................................................... 5
BIOG-146 Principles of Microbiology .............................................. 5
BIOG-161 Fundamentals of Marine Biology with Laboratory ........................................ 3
BIOG-162 Fundamentals of Marine Biology ........................................ 4
BIOG-170 Environmental Science .............................................. 3
BIOG-171 Environmental Science with Laboratory ................. 4
CHEM-106 Chemistry for Non-Science Majors .................... 4
CHEM-107 Integrated Inorganic, Organic, and Biological Chemistry ........................................ 5
CHEM-108 Introductory Chemistry .............................................. 4
CHEM-109 Introduction to Organic and Biochemistry ......... 4
CHEM-120 General College Chemistry I ........................................ 4
CHEM-121 General College Chemistry II ........................................ 4
CHEM-226 Organic Chemistry I ................................................. 5
CHEM-227 Organic Chemistry II ................................................. 5
GEOG-120 Physical Geography ................................................. 3
GEOG-121 Physical Geography Laboratory ........................................ 3
GEOG-125 Introduction to Geographic Information Systems (GIS) ........................................ 3
GEOG-126 Advanced Geographic Information Systems .......... 3
GEOG-140 Introduction to Weather .............................................. 3
GEOG-141 Introduction to Weather Laboratory ....................... 1
GEOG-160 Introduction to Remote Sensing ........................................ 3
GEOG-162 Map Design and Visualization ........................................ 3
GEOG-163 Geographic Information Systems ........................................ 3
GEOG-164 Earth and Life Through Time ........................................ 3
GEOG-122 Physical Geology Laboratory ........................................ 1
GEOG-124 Earth and Life Through Time Laboratory .............. 1
GEOG-125 Geology of California ................................................. 3
GEOG-130 Earth Science ......................................................... 4
HORT-110 Introduction to Horticulture and Plant Science ........................................ 4
HORT-148L California Native Plants Laboratory ....................... 1
NUTR-160 Nutrition: Science and Applications .................. 3
OCEAN-101 Fundamentals of Oceanography .......................... 3
OCEAN-102 Fundamentals of Oceanography with Laboratory ........................................ 3
PHYS-110 Elementary Physics ......................................................... 3
PHYS-111 Physics Laboratory ......................................................... 1
PHYS-113 Elementary Modern Physics: From Atoms to the Big Bang ........................................ 3
PHYS-120 General College Physics I .............................................. 4
PHYS-121 General College Physics II .............................................. 4
PHYS-124 Calculus Supplement for Physics 120 .................... 0.5
PHYS-125 Calculus Supplement for Physics 121 .................... 0.5
PHYS-129 Introductory Physics for Engineers ....................... 4
PHYS-130 Physics for Engineers and Scientists A: Mechanics and Wave Motion ........................................ 4
PHYS-230 Physics for Engineers and Scientists B: Heat and Electro-Magnetism ........................................ 4
PHYS-231 Physics for Engineers and Scientists C: Optics and Modern Physics ........................................ 4
PHYSIC-112 Fundamentals of Physical Science ......................... 3

total minimum units for the major 18

Associate in science in biology for transfer

Students completing any program will be able to...

A. apply the scientific method of inquiry using appropriate and effective tools in obtaining, analyzing (including use of statistical procedures and standard techniques in data gathering), and interpreting information including peer-reviewed articles.

B. illustrate and analyze chemical bonds and reactions starting on the level of subatomic particles to the level of large organic molecules.

C. compare and contrast organismal life structures and functions including microorganisms.

D. demonstrate an understanding of the mechanisms and evidence for the theory of evolution.

E. demonstrate the concept of limits and apply limits to real-world problems.

F. solve problems involving rates of change and derivatives, including real-world problems.

G. explain the core concepts in mechanics; forces, motion, momentum and energy.

H. solve simple circuit problems involving electric potential, capacitance and resistance.

The associate in science in biology for transfer degree is designed as a two-year program that offers an introduction to the basic principles of biology as well as the supporting knowledge of chemistry, physics, and mathematics. The associate in science in biology for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.
In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Students must complete each course used to meet a major requirement with a “C” grade or higher. Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Students are advised that for this major, they may use the IGETC for STEM (Science, Technology, Engineering, and Mathematics) pattern. This pattern allows students to complete one course in Area 3A; one course in Area 3B; and two courses in Area 4 from two different disciplines. Some variations in major requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

**Certificate of achievement Allied health**

Students completing any program will be able to:

A. illustrate and analyze chemical bonds and reactions.
B. demonstrate an understanding of the structure and growth of microbes.
C. demonstrate knowledge of the structure and function of the human body.
D. demonstrate knowledge of the structure of the human body including both normal and pathological conditions.
E. demonstrate knowledge of cell structure and function.

This program prepares the student for entry into some health professional programs or jobs in the medical field that do not require degrees. These courses provide some of the prerequisites for advanced training in the medical field for such occupations as nursing, dental hygiene, physical therapy, occupational therapy, medical laboratory technician, and radiological sciences.

To earn a certificate of achievement, students must complete the required courses with a “C” grade or higher. Course requirements are typically available in the day and evening. Students may also earn an associate in science degree in allied health.

Students who intend to transfer to a four-year program should consult with a counselor regarding course and program requirements.

**required courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-139 Human Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-140 Human Physiology</td>
<td>5</td>
</tr>
<tr>
<td>plus at least 4 units from:</td>
<td></td>
</tr>
<tr>
<td>BIOSC-119 Fundamentals of Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-146 Principles of Microbiology</td>
<td>5</td>
</tr>
<tr>
<td>plus at least 4 units from:</td>
<td></td>
</tr>
<tr>
<td>CHEM-107 Intergrated Inorganic, Organic, and Biological Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-108 Introductory Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-109 Introduction to Organic and Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-120 General College Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>total minimum required units</td>
<td>18</td>
</tr>
</tbody>
</table>
Certificate of achievement
Allied health fundamentals

Students completing any program will be able to...

A. demonstrate an understanding of the structure and growth of microbes.
B. demonstrate knowledge of the structure and function of the human body.
C. demonstrate knowledge of changes in bodily functions as a result of disease and determine the reason for functional changes.
D. analyze chemical reactions.
E. demonstrate knowledge of cell structure and function.

This program prepares the student for entry into some health professional programs or jobs in the medical field that do not require degrees. These courses provide some of the prerequisites for advanced training in the medical field for such occupations as nursing, dental hygiene, physical therapy, occupational therapy, medical laboratory technician, and radiological sciences.

To earn a certificate of achievement, students must complete the required courses with a “C” grade or higher. Course requirements are typically available in the day and evening. Students may also earn a certificate of achievement in allied health or an associate in science degree in allied health.

Students who intend to transfer to a four-year program should consult with a counselor regarding course and program requirements.

required course:  units
BIOSC-120 Introduction to Human Anatomy and Physiology ............................................................5

plus at least 4 units from:
BIOSC-119 Fundamentals of Microbiology ....................................4
BIOSC-146 Principles of Microbiology ....................................5

plus at least 4 units from:
CHEM-107 Integrated Inorganic, Organic, and Biological Chemistry ........................................5
CHEM-108 Introductory Chemistry ........................................4
CHEM-109 Introduction to Organic and Biochemistry .............4
CHEM-120 General College Chemistry I ................................5

total minimum required units 13

BIOSC-101 Fundamentals of Biological Science
3 units SC
- IGTC: 5B; CSU GE: B2; DVC GE: II
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.
- Note: Students who have successfully completed BIOSC-102 should not enroll in BIOSC-101. Students who have successfully completed BIOSC-102 will not receive credit for BIOSC-101.

In this course students will explore fundamental biological principles including the process of evolution by means of natural selection, cell structure and function, plant and animal growth and development, reproduction, genetics and homeostasis within and among living things, populations and communities. CSU, UC (credit limits may apply to UC - see counselor)

BIOSC-102 Fundamentals of Biological Science with Laboratory
4 units SC
- IGTC: 5B, 5C; CSU GE: B2, B3; DVC GE: II
- 54 hours lecture/54 hours laboratory per term
- Advisory: College-level reading and writing are expected.
- Note: Students who have successfully completed BIOSC-101 should not enroll in BIOSC-102. Students who have successfully completed BIOSC-101 will not receive credit for BIOSC-102.

In this course students will explore fundamental biological principles including the process of evolution by means of natural selection, cell structure and function, plant and animal growth and development, reproduction, genetics and homeostasis within and among living things, populations and communities. A laboratory component is included that introduces scientific method and experimentation, including data gathering and analysis with a variety of scientific equipment. CSU, UC (credit limits may apply to UC - see counselor)

BIOSC-107 Genetics and Evolution
4 units SC
- IGTC: 5B, 5C; CSU GE: B2, B3; DVC GE: II
- 54 hours lecture/54 hours laboratory per term
- Advisory: College-level reading and writing are expected.

This course presents the study of various aspects of genetics and evolution. Topics include cellular reproduction, Mendelian Genetics, DNA structure and function, protein synthesis, gene regulation, biotechnology, genetically-modified organisms and gene therapy as well as an introduction to the process of evolution by means of natural selection and the social implications of these topics. The laboratory component includes an introduction to the scientific method and experimentation including data gathering and analysis with a variety of scientific equipment. Laboratory activities will include manipulating DNA, conducting genetic crosses and constructing cladograms. CSU, UC
BIOSC-116  Human Biology  
3 units  SC  
• IGETC: 5B; CSU GE: B2; DVC GE: II  
• 54 hours lecture per term  
• Advisory: College-level reading and writing are expected.  
• Note: Students who have successfully completed BIOSC-117 should not enroll in BIOSC-116. Students who have successfully completed BIOSC-117 will not receive credit for BIOSC-116.  
This course will explore fundamental biological principles as applied to humans. Topics will include evolution; ecology and human impact on the environment; human heredity including genetics and DNA structure and function; cell structure and function; major organ systems including structure, function, and pathology; human reproduction and development; and scientific method, including evaluation of scientific and medical information in the media and application of this knowledge to real life decision-making. CSU, UC (credit limits may apply to UC - see counselor)

BIOSC-117  Human Biology with Laboratory  
4 units  SC  
• IGETC: 5B, 5C; CSU GE: B2, B3; DVC GE: II  
• 54 hours lecture/54 hours laboratory per term  
• Advisory: College-level reading and writing are expected.  
• Note: Students who have successfully completed BIOSC-116 should not enroll in BIOSC-117. Students who have successfully completed BIOSC-116 will not receive credit for BIOSC-117.  
This course will explore fundamental biological principles as applied to humans. Topics will include evolution; ecology and human impact on the environment; human heredity including genetics and DNA structure and function; cell structure and function; major organ systems including structure, function and pathology; human reproduction and development; and the scientific method, including evaluation of scientific, medical and health information in the media and application of this knowledge to real life decision-making. The laboratory component introduces the scientific method and experimentation, including histology, dissection, data gathering and analysis with instruction in the use of a variety of scientific equipment. CSU, UC (credit limits may apply to UC - see counselor)

BIOSC-119  Fundamentals of Microbiology  
4 units  SC  
• IGETC: 5B, 5C; CSU GE: B2, B3; DVC GE: II  
• 54 hours lecture/54 hours laboratory per term  
• Prerequisite: CHEM 107 or CHEM-108 or CHEM-109 or CHEM-120 or equivalent  
• Advisory: College-level reading and writing are expected.  
• Note: Students who have successfully completed BIOSC-146 should not enroll in BIOSC-119. Students who have successfully completed BIOSC-146 will not receive credit for BIOSC-119.  
This course will explore the fundamentals of microbiology and emphasize its application to allied health professions. Topics include microscopy and staining, cell structure and function, biological molecules and metabolism, growth and control of microbes (with an emphasis on sterile technique), microbial genetics and biotechnology, classification and identification of microbes, immunology and applications, epidemiology, medical microbiology, and public health microbiology. CSU, UC (credit limits may apply to UC - see counselor)

BIOSC-120  Introduction to Human Anatomy and Physiology  
5 units  SC  
• IGETC: 5B, 5C; CSU GE: B2, B3; DVC GE: II  
• 54 hours lecture/108 hours laboratory per term  
• Advisory: College-level reading and writing are expected. High school or college biology or chemistry or equivalent.  
The course covers the structure and function of the human body, stressing the levels of organization within the body, the relationship between structure and function, the importance of maintaining relatively stable internal conditions for health, and some health consequences resulting from loss of this stability. Hands-on laboratory work including microscopy, experiments, and dissection (including cadavers) supports the lecture material. CSU, UC (credit limits may apply to UC - see counselor)

BIOSC-126  Ecology and Field Biology  
4 units  SC  
• IGETC: 5B, 5C; CSU GE: B2, B3; DVC GE: II  
• 54 hours lecture/54 hours laboratory per term  
• Advisory: College-level reading and writing are expected.  
This course is designed for non-majors and presents the principles of ecology, natural selection, speciation and biodiversity. During field laboratories, students will survey the natural history of ecological communities in northern California to identify dominant plant and animal species in each community, and explore the influence of the physical environment on the evolutionary adaptations and ecology of the species. Human impacts on ecological systems and conservation issues are explored. CSU, UC
### BIOSC-130 Principles of Cellular and Molecular Biology

<table>
<thead>
<tr>
<th>Units</th>
<th>SC</th>
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</thead>
<tbody>
<tr>
<td>5</td>
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</tbody>
</table>

- **IGETC: 5B, 5C; CSU GE: B2, B3; DVC GE: II**
- **54 hours lecture/108 hours laboratory per term**
- **Prerequisite:** CHEM-120 or equivalent
- **Advisory:** College-level reading and writing are expected. BIOSC-101 or BIOSC-102 or equivalents

This course is formed around the universal biological processes of all organismal life with an emphasis on the cellular level of organization and is intended for biology majors or other students with an in-depth interest in the biological sciences. Topics include principles of biomolecules, prokaryotic and eukaryotic cellular morphology and ultrastructure, biochemical pathways (photosynthesis and cellular respiration), enzymes, cellular communication and reproduction, classical and molecular genetics, gene control, embryology, immunology, and selected topics of animal physiology emphasizing homeostatic control mechanisms. The laboratory component focuses on methodologies necessary for analyzing molecular, cellular and genetic problems like microscopy, spectrophotometry, graphing and statistical analysis, as well as recombinant DNA technologies. C-ID BIOL 190, BIOSC 130 + BIOSC 131 = C-ID BIOL 135S, CSU, UC

### BIOSC-139 Human Anatomy

<table>
<thead>
<tr>
<th>Units</th>
<th>SC</th>
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<tbody>
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<td>5</td>
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</tbody>
</table>

- **IGETC: 5B, 5C; CSU GE: B2, B3; DVC GE: II**
- **54 hours lecture/108 hours laboratory per term**
- **Prerequisite:** CHEM-120 or CHEM-120 or equivalents
- **Advisory:** College-level reading and writing are expected. BIOSC-101 or 102 or BIOSC-130 or equivalents

This course examines the physical structure of the human body as an integrated unit, stressing normal structure and the changes that occur with aging and disease. Gross anatomy will be studied primarily through cadaver dissection in conjunction with preserved specimens, student self-reference, models and charts. Microscopic anatomy (histology) will be studied mainly through the use of microscope slides. C-ID BIOL 110B, CSU, UC (credit limits may apply to UC - see counselor)

### BIOSC-140 Human Physiology

<table>
<thead>
<tr>
<th>Units</th>
<th>SC</th>
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<tbody>
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</tbody>
</table>

- **IGETC: 5B, 5C; CSU GE: B2, B3; DVC GE: II**
- **54 hours lecture/108 hours laboratory per term**
- **Prerequisite:** BIOSC-120 or BIOSC-139 or Equivalent. CHEM-107, 108, 109 or 120 or one year of high school chemistry or equivalents
- **Advisory:** College-level reading and writing are expected. BIOSC-102, MATH-119, MATH-119SP or intermediate algebra or equivalents

This course presents the essential concepts of physiological mechanisms for the functioning of the human body. Emphasis will be given to regulatory mechanisms ranging from the cellular level to organ-system level employing chemical, mathematical and physical principles. Topics of study will include physiological function, communication, integration and homeostasis of the human body ranging from the cellular to organismal level. Laboratory activities focus on the knowledge of scientific methodologies necessary for the application, analysis and evaluation of major physiological principles using standard measuring equipment, bioelectronics, computer analysis, simulations and/or live organisms. C-ID BIOL 120B, CSU, UC (credit limits may apply to UC - see counselor)
### BIOSC-146  Principles of Microbiology
5 units SC
- IGETC: 5B, 5C; CSU GE: B2, B3; DVC GE: II
- 54 hours lecture/108 hours laboratory per term
- Prerequisite: CHEM-107 or CHEM 108 or CHEM 109 or CHEM 120 or equivalents
- Advisory: College-level reading and writing are expected. High school or College biology or equivalents. MATH-119 or MATH-119SP or intermediate algebra or equivalent.

This course will explore the principles of microbiology with a molecular emphasis, as well as extensive laboratory experience. It is appropriate for allied health and biology majors. Topics include microscopy and staining, cell structure and function, cell biochemistry and metabolism, growth and control of microbes (with an emphasis on sterile technique), microbial genetics, biotechnology concepts and applications, classification and identification of microbes, immunology and applications, epidemiology, medical microbiology and public health microbiology. CSU, UC (credit limits may apply to UC - see counselor)

### BIOSC-150  Topics in Biology
 .3-4 units SC
- Variable hours

A supplemental course in biology to provide a study of current concepts and problems in biology and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

### BIOSC-161  Fundamentals of Marine Biology
3 units SC
- IGETC: 5B; CSU GE: B2; DVC GE: II
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.
- Note: This course does not include a laboratory. Students requiring or wanting a laboratory to accompany this course should enroll in BIOSC-162. Students who have successfully completed BIOSC-161 will not receive credit for BIOSC-161.

This course is an introduction to the diversity of marine organisms, the environments in which they live, and the relationships between species and organisms with their environments. Topics will include: the scientific method and its utilization in the marine sciences; properties of the marine environment; marine organisms (including their diversity and evolutionary adaptations); marine ecosystems with a focus on local estuarine and coastal environs; marine ecology; and the sustainable use of marine biological resources. CSU, UC (credit limits may apply to UC - see counselor)

### BIOSC-162  Fundamentals of Marine Biology with Laboratory
4 units SC
- IGETC: 5B, 5C; CSU GE: B2, B3; DVC GE: II
- 54 hours lecture/54 hours laboratory per term
- Advisory: College-level reading and writing are expected.
- Note: Students who have successfully completed BIOSC-161 should not enroll in BIOSC-162. Students who have successfully completed BIOSC-161 will not receive credit for BIOSC-162. This course will include field trips outside of regularly scheduled class time. Formerly BIOSC-160.

This course is an introduction to marine organisms, marine environments, and the ecological relationships that exist between them. Lecture topics will include: the scientific method and its utilization in the marine sciences; physical, chemical and geological properties of the marine environment; marine organisms (including their taxonomic classification, diversity and evolutionary adaptations); marine ecosystems; marine ecology. Laboratory topics will include: observation and dissection of representative marine organisms; and inquiry based comparison of organisms in different phyla and from different habitats. CSU, UC (credit limits may apply to UC - see counselor)

### BIOSC-170  Environmental Science
3 units SC
- IGETC: 5B; CSU GE: B2; DVC GE: II
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected. Biosc-101 or 102 or equivalents
- Note: Students who have successfully completed BIOSC-171 should not enroll in BIOSC-170. Students who have successfully completed BIOSC-171 will not receive credit for BIOSC-170.

This is an introductory course designed to expose students to environmental science. Human interactions with the environment and their consequences for living and nonliving systems will be examined. Topics will include evolution, ecology, biodiversity, human population dynamics, natural resource use, pollution, environmental degradation, climate change, marine and freshwater resources, and environmental policy. CSU, UC (credit limits may apply to UC - see counselor)
BIOSC-171  Environmental Science with Laboratory
4 units  SC
• IGETC: 5B, 5C; CSU GE: B2, B3; DVC GE: II
• 54 hours lecture/54 hours laboratory per term
• Advisory: College-level reading and writing are expected. BIOSC-101 or BIOSC-102 or equivalents
• Note: Students who have successfully completed BIOSC-170 should not enroll in BIOSC-171. Students who have successfully completed BIOSC-170 will not receive credit for BIOSC-171. Class field trips will be organized to local sites related to course topics.

This is an introductory course designed to expose students to environmental science. Human interactions with the environment and their consequences for living and nonliving systems will be examined. Topics will include evolution, ecology, biodiversity, human population dynamics, natural resource use, pollution, environmental degradation, climate change, marine and freshwater resources, and environmental policy. The laboratory component will introduce the scientific method, including experimental design, sampling methods, data collection and analysis techniques, as well as representing those data in graphical form. CSU, UC (credit limits may apply to UC - see counselor)

BIOSC-299  Student Instructional Assistant
.5-3 units  SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

BUSINESS – BUS

Charlie Shi, Dean
Business, Computer Science, and Culinary Arts Division

Possible career opportunities - Business
Studies in business prepare students to participate and support the operations of organizations. Careers include supervising and coordinating activities, such as purchasing, budgeting, and record keeping. Functional area of management or administration, such as human resources, purchasing, or administrative services are likely focal points of a business professional.

Possible career opportunities - Business management and leadership
Careers in business management/leadership assist administrative functions through teamwork to conduct organizational studies, design systems and procedures, conduct measurement analyses, and prepare operations and procedures reports. Some careers also involve assessing staff requirements in hiring, training new employees, or participating in human resources processes.

Possible career opportunities - Business marketing
Study in business marketing prepares students for careers in several areas, including brand and product management, professional selling, public relations, advertising and promotions, marketing research, marketing logistics, and nonprofit services. Regardless of whether students plan to become a marketing professional or do something else in business, a basic understanding of marketing is important in preparation for any career.

Possible career opportunities - Office professional
The office professional curriculum enriches the chosen career of all who work in professional office settings, especially those who are employed as an administrative assistant, administrative technician, administrative associate, office manager, office clerk, receptionist, secretary, customer service representative, office coordinator, or typist.

Possible career opportunities - Real estate
Professionals in real estate arrange, support, or coordinate the selling, buying, and leasing of commercial, industrial, or residential property. Careers may include working with homeowner associations, rented or leased housing units, buildings, or land (including rights-of-way). Employees work in real estate offices or for commercial real estate firms to arrange loans for the purchase of property.

Possible career opportunities - Small business management/Entrepreneurship
Small business managers/entrepreneurs have diverse career duties including finding financial resources, collecting sales tax, creating computer networks, setting up filing systems, and creating marketing plans. Further, those who select careers in this discipline identify trends and potential markets for products, direct salespersons, provide guidance and training for new employees, and mitigate compliant and compliance issues.
Associate in science degree in business

Students completing the program will be able to...

A. demonstrate knowledge of business operations, the business organization, and business procedures.

B. analyze and evaluate business situations in the major concentration area (i.e., real estate, wealth management, business marketing, advanced general business, management and leadership studies, and small business management/entrepreneurship), identify business problems, and develop solutions/plans of action.

C. apply ethical standards and best practices of social responsibility to business situations.

D. develop communication that presents business information in an organized and clear form.

E. implement technologies to identify business problems and to develop solutions and action plans.

This curriculum is designed to provide an opportunity for business students to achieve an associate in science degree after completing a series of foundational and more advanced courses in the area of business. Completion of this curriculum will demonstrate commitment to the field and provide comprehensive preparation for employment in business-related occupations. This degree is not primarily intended for transfer students and does not include all courses required for transfer. Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are also advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE). General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

To earn this associate degree with a major in business, students must satisfactorily complete sixty (60) units of degree-applicable coursework with a grade point average of 2.0 (C) or higher. At least 12 units of degree applicable coursework must be earned at DVC. Certain courses may satisfy both major and general education requirements; however, the units are only counted once. Because currency of information is relevant for this employment-related degree, all coursework required for the degree major must be completed within ten years of the degree date.

**major requirements:**

- BUS-109 Introduction to Business .......................... 3
- BUS-294 Business Law ........................................ 3
- BUSMG-120 Introduction to Management Studies ...... 3

**plus at least 9 units from:**

- BUSAC-181 Applied Accounting........................... 3
- BUSAC-186 Financial Accounting ......................... 4
- BUSAC-185 QuickBooks Accounting for Business I ...... 1.5
- BUSAC-187 Managerial Accounting ....................... 4
- BUSAC-188 QuickBooks Accounting for Business II ...... 1.5
- BUSMG-121 Practices and Concepts of Supervision ...... 3
- BUSMG-131 Managing Diversity in the Workplace ....... 3
- BUSMG-191 Small Business Management ................. 3
- BUSMG-192 Entrepreneurship and Venture Management .. 3
- BUSMG-226 Group Behavior and Leadership ............ 3
- BUSMK-158 Professional Selling ............................ 3
- BUSMK-255 Advertising ........................................ 3
- BUSMK-256 Marketing ......................................... 3
- BUSMK-258 Advertising and Gender ....................... 3
- CIS-116 Microsoft Excel – Comprehensive ............... 2
- RE-160 Real Estate Principles ................................ 3
- RE-161 Real Estate Law ....................................... 3
- RE-162 Real Estate Appraisal ............................... 3
- RE-163 Real Estate Practice ................................... 3
- RE-164 Real Estate Finance .................................... 3
- RE-165 Real Estate Economics ............................... 3
- RE-166 Real Estate Escrow Procedures .................... 3
- RE-167 Real Estate Property Management ............... 3

**Associate in science degree in business administration for transfer 2.0**

Students completing the program will be able to...

A. communicate in a professional, concise, clear, and correct manner.

B. explain the functions of business financial operations and apply them to business case problems.

C. compare and contrast ethical approaches and social responsibility options in business situations.

D. evaluate an existing business and identify the business organization and key business procedures relevant to a specific problem using appropriate technology.

This curriculum is designed to provide an opportunity for the business major to achieve an associate in science degree in business administration while completing the requirements for transfer to a California State University (CSU) or other four-year college or university to earn a bachelor's degree in business administration. A baccalaureate degree is recommended preparation for those considering professional careers in business. Completion of this curriculum will demonstrate commitment to the field and provide comprehensive preparation for upper-division work.
The associate in science in business administration 2.0 for transfer is intended for students who plan to complete a bachelor's degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education-Breadth pattern (CSUGE-Breadth); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area IC requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor's degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60-unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

major requirements: 

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS-109</td>
<td>3</td>
</tr>
<tr>
<td>BUS-294</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC-186</td>
<td>4</td>
</tr>
<tr>
<td>BUSAC-187*</td>
<td>4</td>
</tr>
<tr>
<td>ECON-220*</td>
<td>3</td>
</tr>
<tr>
<td>ECON-221*</td>
<td>3</td>
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plus at least 3 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>MATH-161*</td>
<td>3</td>
</tr>
<tr>
<td>MATH-182*</td>
<td>4</td>
</tr>
<tr>
<td>MATH-192*</td>
<td>5</td>
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</table>

plus at least 3 units from:

<table>
<thead>
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<th>Course</th>
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<tr>
<td>BUS-240*</td>
<td>3</td>
</tr>
<tr>
<td>MATH-142*</td>
<td>4</td>
</tr>
</tbody>
</table>

total minimum units for the major 26

*These courses have specific prerequisites. See course description for details.

Associate in science

Professional and technical workplace skills

Program learning outcomes for the professional workplace skills:

Students completing this program will be able to...

A. communicate clearly in writing.
B. communicate clearly in meetings and oral presentations.
C. perform essential functions in Microsoft Excel.
D. navigate Microsoft Office suite applications proficiently (Outlook, PowerPoint, Word).
E. demonstrate professionalism in daily interactions.
F. deliver and receive feedback in a professional manner.
G. work collaboratively with colleagues and clients.

Program learning outcomes for the technical workplace skills: Helpdesk and desktop support

Students completing this program will be able to...

A. identify, assemble, and disassemble the major components of a personal computer.
B. describe the basics of networking and security forensics.
C. diagnose and troubleshoot common hardware, software, and networking issues.
D. identify the basics of virtualization, desktop imaging, and deployment.
E. create basic business documents including letters, memos, and email messages.

Program learning outcomes for the technical workplace skills: Project management support

Students completing this program will be able to...

A. utilize project management concepts, terminology, and processes.
B. use project management software to manage multi-facet ed projects.
C. define a project plan and develop diagrams and charts to illustrate enterprise structure, workflow, and scheduling.
D. demonstrate basic graphical user interface operations in a computer environment.
E. produce spreadsheets, documents, and presentations by using basic to advanced software operations.

The professional and technical workplace skills associate in science degree program is designed in consultation with industry wide professionals to address changing workforce needs. Students complete a set of interdisciplinary core courses that deliver communication and fundamental workplace competencies and select a specialization in one of the following areas: Help desk and Desktop Support or Project Management Support. In addition, students have the option to participate in work experience opportunities that reinforce classroom learning. This degree major will provide robust preparation for a student interested in a career in technology support in either of these job categories.

Eligible DVC students have the option to complete this program in an accelerated format through the DVC Year Up program. See the college website for details.
The DVC professional and technical workplace skills major is not intended for transfer. General Education Option 1 (DVC GE) is advised for students who do not intend to transfer. Students who intend to transfer to a four-year baccalaureate program should consult with a counselor regarding specific major preparation requirements at the transfer institution of their choice. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE).

To earn an associate in science degree with a major in professional and technical workplace skills, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all general education requirements as listed in the catalog.

Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>BUS-250</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG-168</td>
<td>Customer Service</td>
<td>0.5</td>
</tr>
<tr>
<td>BUSMG-174</td>
<td>Business Ethics</td>
<td>0.5</td>
</tr>
<tr>
<td>CIS-116</td>
<td>Microsoft Excel – Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>COMM-120</td>
<td>Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>COMSC-101</td>
<td>Computer Literacy</td>
<td>4</td>
</tr>
</tbody>
</table>

Complete all units from one of the following specializations:

- helpdesk and desktop support:
  - BUS-101 Business English                   | 3     |
  - CNT-104 IT Essentials (A+)                | 4     |

- project management support
  - CIS-180 Introduction to Project Management | 3     |
  - CIS-185 Project Management Tools          | 2     |

**plus at least 0-9 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS-295</td>
<td>Occupational Work Experience Education in BUS</td>
<td>2-4</td>
</tr>
<tr>
<td>BUS-296</td>
<td>Internship in Occupational Work Experience Education in BUS</td>
<td>2-4</td>
</tr>
<tr>
<td>WRKX-180</td>
<td>Internship in Occupational Work Experience Education</td>
<td>2-4</td>
</tr>
</tbody>
</table>

**total minimum units for the major** | 18     |

**Certificate of achievement**

**Advanced general business**

Students completing the program will be able to...

A. determine how a business decision maximizes the benefit and minimizes the risk for all entities involved.

B. explain the importance of the global environment and the role it plays in the overall success of business organizations.

C. explain group dynamics in developing and managing a team and work effectively in teams.

D. analyze and evaluate business situations in the major concentration area (i.e., real estate, wealth management, business marketing, advanced general business, management and leadership studies, and small business management/entrepreneurship), identify business problems, and develop solutions/plans of action.

E. apply ethical standards and best practices of social responsibility to business situation.

This curriculum is designed to expand general business knowledge and add depth and breadth in the areas of management and supervision, global business, and statistical arguments and solutions. The program provides development of general principles and skills applicable to all businesses and industries.

To earn the certificate of achievement in advanced general business, students must complete each course with a “C” grade or higher. All coursework required for the certificate must be completed within seven years of the certificate date.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS-109</td>
<td>Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS-250</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>BUS-294</td>
<td>Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG-120</td>
<td>Introduction to Management Studies</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 12 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS-116</td>
<td>Microsoft Excel – Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>Any BUS course not listed in the core requirements</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Any BUSAC course not listed in the core requirements</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Any BUSMG course not listed in the core requirements</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Any BUSMK course not listed in the core requirements</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Any RE course not listed in the core requirements</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**total minimum required units** | 24     |

**Certificate of achievement**

**Business-transfer**

Students completing the program will be able to...

A. communicate in a professional, concise, clear, and correct manner.

B. explain the functions of business financial operations and apply them to business case problems.

C. compare and contrast ethical approaches and social responsibility options in business situations.

D. evaluate an existing business and identify the business organization and key business procedures relevant to a specific problem using appropriate technology.

This curriculum prepares the student for entry into business-related professional programs or jobs that do not require degrees. Certificate requirements provide a strong general business foundation for employment in business administration, accounting, management, marketing, finance, international business, or other business-related area. Additionally, it completes most, if not all, of the undergraduate business major requirements for transfer should a student decide to transfer prior to completing all the requirements for the DVC associate in arts degree in business transfer; or decide to complete the lower-division general education requirements and transfer to a four-year institution at a later time. This certificate provides a core curriculum for employment in business or for the further study of business.

To earn a certificate of achievement in business transfer, students must complete each course used to meet a certificate requirement with a “C” grade or higher. All coursework required for the certificate must be completed within seven years of the certificate date.
required courses:
BUSAC-186 Financial Accounting.................................4
BUSAC-187 Managerial Accounting....................................4
ECON-220 Principles of Macroeconomics............................3
ECON-221 Principles of Microeconomics..............................3
plus at least 4 units from:
MATH-182 Calculus for Management, Life Science and Social Science I..........................4
MATH-192* Analytic Geometry and Calculus I......................5
plus at least 3 units from:
BUS-240* Business Statistics...........................................3
MATH 142* Elementary Statistics with Probability.................4
plus at least 3 units from:
BUS-109 Introduction to Business..................................3
BUS-294 Business Law..................................................3

total minimum required units 24

*The above courses have specific prerequisites. See course description for details.

Certificate of achievement

Business marketing

Students completing the program will be able to...

A. demonstrate knowledge of business operations, the business organization, and business procedures.
B. determine the demand for products and services offered by a firm and its competitors and identify potential customers.
C. develop pricing strategies with the goal of maximizing the firm's profits or share of the market while ensuring the firm's customers are satisfied.
D. participate in product development or monitor trends that indicate the need for new products and services.
E. identify and implement cost-effective distribution channels and promotional mixes.

This curriculum is designed to develop many aspects of strategic marketing, advertising, professional selling, retail merchandising, and emerging trends in social and interactive media. Market analysis is incorporated into the program to tap into customer data and consumer insights to develop ways to better connect with target audiences and formulate winning business strategies.

Students in the business marketing program can acquire a solid foundation in principles of marketing, business statistics, selling and sales management, integrated marketing communications, advertising principles, international business, consumer behavior, marketing research, Internet marketing, and ethics in marketing. Students become proficient in the marketing planning process, from goal setting to situation analysis and marketing strategy development to marketing implementation and control. Building marketing competencies prepares students for a job in a large organization, small business, or startup.

To earn the certificate of achievement in business marketing, students must complete each course with a “C” grade or higher. All coursework required for the certificate must be completed within five years of the certificate date.

required courses:
BUS-109 Introduction to Business..................................3
BUSMK-256 Marketing.................................................3
plus at least 6 units from:
BUS-240 Business Statistics...........................................3
BUS-250 Business Communications..................................3
BUSMK-185 Professional Selling........................................3
BUSMK-255 Advertising..................................................3
BUSMK-259 Digital Marketing Fundamentals.......................3
plus at least 4 units from:
BUS-295 Occupational Work Experience Education in BUS..................2-4
BUS-296 Internship in Occupational Work Experience Education in BUS. ..........2-4
BUSMK-260 Social Media Marketing..................................3
BUSMK-261 Digital Marketing Analytics.............................3
BUSMK-262 Content Marketing........................................3
BUSMK-263 Email Marketing..........................................2
BUSMK-264 Search Marketing..........................................2
BUSMK-298 Independent Study......................................0.5-3

total minimum required units 16

Certificate of achievement

Digital marketing

Students completing the program will be able to...

A. demonstrate knowledge of common digital marketing tactics, tools, and strategies used by business-to-consumer (B2C) and business-to-business (B2B) companies.
B. design an e-commerce program to build strong customer relationships and drive sales.
C. devise a content marketing strategy that creates a closer bond between the customer and the brand.
D. develop an effective search marketing strategy to drive organic traffic and paid searches.
E. create an integrated digital marketing campaign designed to achieve organizational goals and objectives.
F. measure the effectiveness of a digital marketing campaign using web analytics software.

The curriculum is designed to familiarize students with the essential digital marketing tools and techniques required to identify, cultivate, and manage customer relationships in today’s fast-paced digital environment. This career pathway program takes a detailed look at digital marketing, social media, web analytics, content strategy, video marketing, search engine optimization, email marketing, and e-business, among other course topics.
The program provides a solid foundation in all phases of digital marketing to prepare for work as social media managers, advertising and promotions managers, public relations specialists, marketing and media communications professionals, search marketing strategists, sales representatives, advertising sales agents, and marketing research analysts and marketing specialists. Some career options may require more than two years of college study. Students are advised to consult a counselor.

To earn the certificate of achievement in digital marketing, students must complete each course with a “C” grade or higher. All coursework required for the certificate must be completed within seven years of the certificate date.

Certificate of achievement

Management and leadership studies

Students completing the program will be able to...
A. integrate basic management theories into supervisory and management functions.
B. investigate current management practices and problems related to human behavior in organizations.
C. differentiate threshold issues involved in the legal, ethical, and social responsibilities of management.
D. summarize measures that can be taken by individuals and organizations to correct organizational problems.

This program benefits students preparing to become managers and supervisors, and it is also valuable for persons already holding these positions.

The management and leadership studies certificate provides career opportunities as an administrative analyst, office manager, small business owner, operations manager, program coordinator, human resources professional, facilities manager, organizational development specialist, branch manager, or shift supervisor.

To earn a certificate of achievement in management and leadership studies, students must complete each course used to meet a certificate requirement with a “C” grade or higher. All coursework required for the certificate must be completed within seven years of the certificate date.

required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS-109</td>
<td>Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS-294</td>
<td>Business Law</td>
<td>3</td>
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<td>BUSMG-120</td>
<td>Introduction to Management Studies</td>
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<td>plus at least 4 units from:</td>
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<tr>
<td>ARTDM-149</td>
<td>Fundamentals of Digital Video</td>
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<td>BUS-210</td>
<td>Introduction to e-Business</td>
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<td>BUS-294</td>
<td>Business Law</td>
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<td>BUSMG-120</td>
<td>Introduction to Management Studies</td>
<td>3</td>
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<tr>
<td>total minimum required units</td>
<td></td>
<td>18</td>
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</tbody>
</table>

Certificate of achievement

General business

Students completing the program will be able to...
A. determine how a business decision maximizes the benefit and minimizes the risk for all entities involved.
B. explain the importance of the global environment and the role it plays in the overall success of business organizations.
C. explain group dynamics in developing and managing a team and work effectively in teams.

This curriculum is designed to provide core business knowledge for obtaining entry-level employment in jobs requiring some general business skills. Course content emphasizes a survey of various business disciplines including marketing, finance and investments, small business/entrepreneurship, and real estate. Additionally, the curriculum develops skills in business communications, provides a background in general business law, and introduces management studies.

To earn the certificate of achievement in general business, students must complete each course with a “C” grade or higher. All coursework required for the certificate must be completed within seven years of the certificate date.

required courses:

<table>
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<th>Course Title</th>
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<tr>
<td>BUS-109</td>
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<tr>
<td>BUS-250</td>
<td>Business Communications</td>
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<tr>
<td>BUS-294</td>
<td>Business Law</td>
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<tr>
<td>BUSMG-120</td>
<td>Introduction to Management Studies</td>
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<td>total minimum required units</td>
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</table>
Certificate of achievement
Office professional
business information worker

Students completing the program will be able to...
A. apply oral and written communication best practices.
B. evaluate business situations using mathematics and software.
C. demonstrate competency in interpersonal and intrapersonal skills.
D. compile and organize business data using business software.

This certificate program prepares students for entry-level positions in small and large business offices requiring support staff such as receptionists, administrative assistants, and general clerical assistance.

Changes occur rapidly in the office information and technology environment; therefore, students should meet with an office professional certificate advisor in the business division to determine elective coursework that will assist them in reaching their personal and professional goals.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

All coursework required for the certificate must be completed within seven years of the certificate date.

required courses:

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
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<tbody>
<tr>
<td>BUS-101</td>
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<td>BUS-103</td>
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plus at least 3 units from:

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<th>Course</th>
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<td>BUSMG-168</td>
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<td>BUSMG-174</td>
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plus at least 8 units from:

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<td>CIS-116</td>
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<td>CIS-118</td>
<td>2</td>
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<td>COMSC-101</td>
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</table>

total minimum required units 23

Certificate of achievement
Professional and technical workplace skills

Program learning outcomes for the professional workplace skills:
A. communicate clearly in writing.
B. communicate clearly in meetings and oral presentations.
C. perform essential functions in Microsoft Excel.
D. use Microsoft Office suite applications proficiently (Outlook, PowerPoint, Word)
E. demonstrate professionalism in daily interactions.
F. deliver and receive feedback in a professional manner.
G. work collaboratively with colleagues and clients.

Program learning outcomes for the technical workplace skills:
Helpdesk and desktop support
A. identify, assemble, and disassemble the major components of a personal computer.
B. describe the basics of networking and security forensics.
C. diagnose and troubleshoot common hardware, software, and networking issues.
D. identify the basics of virtualization, desktop imaging, and deployment.
E. create basic business documents including letters, memos, and email messages.

Program learning outcomes for the technical workplace skills:
Project management support
A. utilize project management concepts, terminology, and processes.
B. use project management software to manage multifaceted projects.
C. define a project plan and develop diagrams and charts to illustrate enterprise structure, workflow, and scheduling.
D. demonstrate basic graphical user interface operations in a computer environment.
E. produce spreadsheets, documents, and presentations by using basic to advanced software operations.

The professional and technical workplace skills certificate of achievement program is designed in consultation with industry wide professionals to address changing workforce needs. Students complete a set of interdisciplinary core courses that deliver communication and fundamental workplace competencies and select a specialization in one of the following areas: helpdesk and desktop support or project management support. In addition, students have the option to participate in work experience opportunities that reinforce classroom learning. This certificate will provide robust preparation for a student interested in a career in technology in either of these job categories.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

Eligible DVC students have the option to complete this program in an accelerated format through the DVC Year Up program. See the college website for details.
required courses:  units
BUS-250 Business Communications ......................... 3
BUSMG-168 Customer Service .................................... 3
BUSMG-174 Business Ethics ...................................... 0.5
CIS-116 Microsoft Excel – Comprehensive.................. 2
COMM-120 Public Speaking .................................... 3
COMSC-101 Computer Literacy ................................ 4

complete all units from one of the following specializations:

helpdesk and desktop support:
BUS-101 Business English ...................................... 3
CNT-104 IT Essentials (A+) .................................. 4
or
project management support:
CIS-180 Introduction to Project Management .............. 3
CIS-185 Project Management Tools .......................... 2

plus at least 0-9 units from:
BUS-295 Occupational Work Experience
Education in BUS ................................................. 2-4
BUS-296 Internship in Occupational Work Experience
Education in BUS ................................................. 2-4
WRKX-180 Internship in Occupational Work Experience
Education ......................................................... 2-4

total minimum required units 18

Certificate of achievement
Real estate
Students completing the program will be able to...
A. explain the functions of real estate markets, real estate practices, and real estate institutions, and recommend choices for common real estate situations.
B. demonstrate how to calculate the time value of money and evaluate various financing alternatives for real estate investment strategies.
C. evaluate real estate development opportunities in the commercial real estate markets for residential, warehouse, retail, and industrial properties.
D. research and analyze specific case problems related to real estate investment and present solutions.

To earn a certificate of achievement in real estate, students must complete each course used to meet a certificate requirement with a “C” grade or higher. All coursework required for the certificate must be completed within seven years of the certificate date.

required courses:  units
RE-160 Real Estate Principles .................................. 3
RE-161 Real Estate Law ........................................... 3
RE-162 Real Estate Appraisal .................................. 3
RE-163 Real Estate Practice ................................... 3
RE-164 Real Estate Finance .................................... 3
RE-165 Real Estate Economics ................................. 3

plus at least 6 units from:
BUS-294 Business Law .......................................... 3
BUSAC-186 Financial Accounting ......................... 4
RE-166 Real Estate Escrow Procedures ..................... 3
RE-167 Real Estate Property Management ................. 3

Certificate of achievement
Small business management/entrepreneurship
Students completing the program will be able to...
A. describe the nature and characteristics of successful small business persons.
B. summarize the responsibilities of small business owners in selecting, motivating, training, and supervising employees.
C. define and give concrete examples of the “Competitive Advantage” concept that a small business must achieve in order to succeed.
D. construct a business plan and essential financial documents for a small business.

This program is designed to prepare students for planning, organizing, and operating a business in wholesaling, retailing, and technology or service trade. The main thrust of the program is on managerial decision making under conditions of uncertainty and fierce competition. Courses involve studying case histories of decision-making issues and using business and management games to simulate the complicated interrelationships of various businesses.

The small business management/entrepreneurship certificate provides a foundation of business competencies and management strategies that will enable students to succeed as an entrepreneur, small business owner, partner, manager, or inventor.

To earn a certificate of achievement in small business management/entrepreneurship, students must complete each course with a “C” grade or higher. All coursework required for the certificate must be completed within seven years of the certificate date.

required course:  units
BUSMG-120 Introduction to Management Studies .................. 3

plus at least 3 units from:
BUSMG-191 Small Business Management ........................ 3
BUSMG-192 Entrepreneurship and Venture Management ...... 3

plus at least 3 units from:
BUSAC-181 Applied Accounting .................................. 3
BUSAC-185 QuickBooks Accounting for Business I ........ 1.5
BUSAC-186 Financial Accounting ............................... 4
BUSAC-188 QuickBooks Accounting for Business II ....... 1.5

plus at least 3 units from:
BUSMK-256 Marketing ........................................... 3
BUSMK-259 Digital Marketing Fundamentals .................. 3
BUSMK-260 Social Media Marketing ......................... 3
A certificate requirement with a “C” grade or higher. To earn the certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. To earn a certificate of accomplishment in management and leadership studies, students must meet the certificate requirement with a “C” grade or higher.

This program benefits students preparing to become managers and supervisors and it is also valuable for persons already holding these positions.

The management and leadership students certificate of accomplishment provides career opportunities as an administrative analyst, office manager, small business owner, operations manager, program coordinator, human resources professional, facilities manager, organizational development specialist, branch manager, or shift supervisor.

To earn a certificate of accomplishment in management and leadership studies, students must complete each course used to meet a certificate requirement with a “C” grade or higher. All coursework required for the certificate must be completed within seven years of the certificate date.

Certificate of accomplishment
Cannabis entrepreneurship
Students completing the program will be able to...
A. identify and evaluate different sectors of the cannabis industry for a potential business including growth operations, manufacturing, dispensaries, and delivery operations.
B. describe the requirements for starting a business in the cannabis industry including industry specific regulations and laws.
C. construct a business plan and essential financial documents for a cannabis related business.
D. describe basic accounting and marketing knowledge to support a business.

This certificate will allow students to develop the business skills needed to start and run their own businesses in the legal cannabis industry. To earn the certificate of accomplishment, students must complete each of the required courses with a “C” grade or higher.

Certificate of accomplishment
Real estate salesperson
Students completing the program will be able to...
A. define and explain concepts and terminology relevant to real estate and real estate transactions.
B. compare and contrast the broker-agent and agent-client relationships; legal and fiduciary obligations.
C. structure real estate transactions that result in optimum property rights for buyers and sellers.

The courses listed in the real estate salesperson certificate of accomplishment will qualify and prepare a student to take the written examination for a real estate salesperson license. Upon successfully passing the examination and other California Bureau of Real Estate (CalBRE) requirements, a license will be approved by the CalBRE. This license is required to conduct real estate activities while under the supervision of a licensed broker. For additional information regarding the Real Estate Salesperson license, refer to http://www.dre.ca.gov.

To earn a certificate of accomplishment, students must complete each of the required courses with a “C” grade or higher. Certificate requirements may be completed by a combination of day and evening classes.

Certificate of accomplishment
Management and leadership studies
Students completing the program will be able to...
A. integrate basic management theories into supervisory and management functions.
B. investigate current management practices and problems related to human behavior in organizations.
C. differentiate threshold issues in the legal, ethical, and social responsibilities of management.
D. Summarize measures that can be taken by individuals and organizations to correct organizational problems.

required courses:

Certificate of accomplishment
Business

required courses:

Certificate of accomplishment
Real estate salesperson

required courses:

Certificate of accomplishment
Management and leadership studies

required courses:
Certificate of accomplishment
Small business management/entrepreneurship

Students completing the program will be able to...

A. describe the nature and characteristics of successful entrepreneurs.

B. summarize the responsibilities of entrepreneurs/small business owners in selecting, motivating, training, and supervising employees.

C. construct a business plan and essential financial documents for a small business or entrepreneurial venture.

This program is designed to prepare students for planning, organizing, and operating a small business or entrepreneurship venture. Courses involve those that will provide students with basic knowledge and skills in various business functional areas such as business management, marketing, accounting, and finance, as well as those needed in business planning.

The small business management/entrepreneurship certificate of accomplishment provides the basic foundation of business competencies and management strategies that will enable students to succeed as an entrepreneur, small business owner, partner, manager, or inventor.

To earn a certificate of accomplishment in small business management/entrepreneurship, students must complete each course with a "C" grade or higher. All coursework required for the certificate must be completed within seven years of the certificate date.

required courses: units

at least 3 units from:
BUSBG-191 Small Business Management .................. 3
BUSBG-192 Entrepreneurship and Venture Management ..... 3

plus at least 1.5 units from:
BUSAC-181 Applied Accounting................................. 3
BUSAC-185 QuickBooks Accounting for Business I ........ 1.5
BUSAC-186 Financial Accounting ............................. 4

plus at least 4.5 units from:
BUS-104 Exploring Careers in Business Education ........ 1.5
BUS-109 Introduction to Business...................... 3
BUS-209 International Business.......................... 3
BUS-210 Introduction to e-Business ..................... 3
BUS-295 Occupational Work Experience Education in BUS ......................................... 2-4
BUS-296 Internship in Occupational Work Experience Education in BUS ......................................... 2-4
BUS-298 Independent Study.................................. 0.5-3
BUSAC-188 QuickBooks Accounting for Business II .... 1.5
BUSBG-120 Introduction to Management Studies......... 3
BUSBG-256 Marketing........................................ 3
BUSBG-259 Digital Marketing Fundamentals ............. 3
BUSBG-260 Social Media Marketing ........................ 3

total minimum required units 9

BUS-101 Business English
3 units SC
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course presents the study of the English language from a business perspective. Grammar, punctuation, spelling, business vocabulary, sentence structure, and the structure and the creation of a variety of business documents will be examined. The processes and ethics of writing clearly and correctly in different business contexts will also be covered. CSU

BUS-103 Applied Business Mathematics
3 units SC
- 54 hours lecture/18 hours laboratory per term
- Advisory: College-level reading and writing are expected.

This course is an examination of key concepts and applications of mathematics to solve business problems. Topics include calculating percentages and commissions, trade and cash discounts, markups and markdowns, banking, payroll, taxes, insurance, simple and compound interest, inventory and turnover, depreciation, analysis of financial statements, international business mathematics applications, stocks and bonds, and annuities. CSU
BUS-104 Exploring Careers in Business Administration
1.5 units SC
- 18 hours lecture/22 hours laboratory per term
This course provides an overview of specializations within business administration including management, accounting, and marketing. Students explore these specializations through lectures and guest speakers from the business community. Students develop a business plan using current business practices such as teamwork, problem solving, and communication. This course is designed for students preparing to enter college and provides a substantive perspective of business administration as an academic major. CSU

BUS-109 Introduction to Business
3 units SC
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.
This survey course provides an introduction to the study of the modern business enterprise. Students will examine the role of business in a market economy, survey current business trends; evaluate the global, financial, social, cultural, and political environment in which businesses exist and operate; and discuss the importance of business ethics in every aspect of the business environment. The course will describe the evolution, formation, and management of businesses, and provide a basic overview of the functional areas of business. Legal, accounting, financial, and regulatory practices of the business enterprise will also be covered. C-ID BUS 110, CSU, UC

BUS-145 Business Spreadsheet Applications
2 units SC
- 27 hours lecture/27 hours laboratory per term
- Advisory: College-level reading and writing are expected.
- Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree. The laboratory (lab) hours for this course may be offered as face to face lab or online lab. See schedule of classes for specific requirements.
A business applications course, which uses a foundation of basic spreadsheet skills to emphasize the solving of business problems using a commercial spreadsheet program such as Excel. Business oriented cases and problems will be used to present and reinforce procedures for planning, designing, creating, and preparing worksheets. Preparation of business reports, incorporating graphs and database features, and time saving techniques will also be presented. Development of business problem-solving skills is emphasized. Recommended for employment preparation and upgrading of business skills. CSU

BUS-150 Topics in Business
3-4 units SC
- Variable hours
A supplemental course in business to provide a study of current concepts and problems in business and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

BUS-161 Personal Financial Management
3 units SC
- 54 hours lecture per term
- Advisory: BUS-103 and College-level reading and writing are expected.
This course introduces planning and managing individual finances. Topics include budgets and financial statements; managing income, taxes, checking, savings, investments, tax deferred, and retirement accounts; building and maintaining good credit reputation and scores; sources of financing or credit for major purchases, such as autos, homes, and other property; decision factors to consider when buying property, health, or life insurance; investing in real estate and securities; and college, retirement, and estate planning. CSU

BUS-209 International Business
3 units SC
- 54 hours lecture per term
- Advisory: BUS-109 and College-level reading and writing are expected.
This course presents an overview of the theories and practices of modern international business. The key functional areas related to global business, including international marketing, finance and management, as well as the political, social, economic and cultural factors that help shape and influence today’s international business environment will be examined. The course culminates with students developing a market entry strategy for a local business to a foreign market. CSU

BUS-210 Introduction to e-Business
3 units SC
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.
This course provides an introduction to the modern world of e-business and e-commerce. Topics include e-business models and strategy, e-commerce platforms, multi-channel marketing and advertising, electronic payments and digital currency, security risks as well as important ethical and legal issues in e-business and e-commerce. e-Business and e-commerce trends will also be discussed, including peer-to-peer commerce and on-demand service models, business-to-business models, e-marketplaces, global e-business infrastructure and supply chain management, as well as the roles of social networks and mobile platforms. CSU
BUS-240  Business Statistics  
3 units   SC  
• IGETC: 2A; CSU GE: B4; DVC GE: IB, IC  
• 54 hours lecture/18 hours laboratory per term  
• Prerequisite: Placement into BUS-240 or MATH-119 or MATH-119SP or intermediate algebra or equivalent.  
This course is an introduction to concepts, tools, methods and models employed in quantitative reasoning using the statistical method. Students are introduced to organizational, analytical and inference-making processes, using sample data to visually and numerically describe samples and make decisions applying inferential thinking deduction and induction. The course details how to estimate confidence intervals, test hypotheses and develop estimates and projections for inferential purposes in a variety of contexts and disciplines such as business, social science, biology, economics, and health science. Many different probability distributions are covered. Performing Analysis of Variance (ANOVA), estimating simple linear regressions, and making inference from such analysis is a major theme of this course. The use of spreadsheet-based statistical software to perform computational statistics using large-data sets is an important part of laboratory work. C-ID MATH 110, CSU, UC (credit limits may apply to UC - see counselor)

BUS-250  Business Communications  
3 units   SC  
• DVC GE: IB  
• 54 hours lecture per term  
• Advisory: BUS-101 and College-level reading and writing are expected.  
• Note: Credit by examination option available.  
This course presents the principles of effective and ethical communication in the creation of letters, memos, and emails. Written and oral reports for a variety of business situations are also covered. The course also explores planning, organizing, composing, and revising business documents, as well as the use of presentation software to create and deliver professional-level reports. CSU

BUS-261  Investments  
3 units   SC  
• 54 hours lecture per term  
• Advisory: BUS-109 or equivalent  
This course provides an overview of financial markets and financial assets such as stocks, bonds and mutual funds. The evaluation of different financial assets and selection of investment opportunities are discussed. The importance of research and analytical skills for better investment decision making is emphasized. CSU

BUS-294  Business Law  
3 units   SC  
• 54 hours lecture per term  
• Advisory: BUS-109 and College-level reading and writing are expected.  
This course presents a general overview of the specific areas of the legal environment that affect individuals and businesses with an emphasis on contracts, including the Uniform Commercial Code, Article 2. Legal history, civil procedure, constitutional law, torts, intellectual property, cyber law, criminal law, international law, labor and employment law, and agency will also be covered. C-ID BUS 125, CSU, UC

BUS-295  Occupational Work Experience Education in BUS  
2-4 units   SC  
• May be repeated eight times  
• Variable hours  
• Note: In order to enroll in BUS-295, students must be employed, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.  
BUS-295 is supervised employment that extends classroom learning to the job site and relates to the student’s chosen field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Each unit represents five hours of work per week or 75 hours work per term. Students may earn up to a total of 16 in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253, CSU

BUS-296  Internship in Occupational Work Experience Education in BUS  
2-4 units   SC  
• May be repeated eight times  
• Variable hours  
• Note: In order to enroll in the BUS-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.  
BUS-296 is a supervised internship in a skilled or professional level assignment in the student’s major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Each unit represents five hours of paid work or four hours of unpaid work per week or 75 hours of paid work or 60 hours of unpaid work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU
BUS-298 Independent Study
.5-3 units SC
- Variable hours
- Note: Submission of acceptable educational contract to Department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment.

BUS-299 Student Instructional Assistant
.5-3 units SC
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

BUSINESS ACCOUNTING – BUSAC

Charlie Shi, Dean
Business, Computer Science, and Culinary Arts Division

Possible career opportunities
Study in accounting prepares students for careers in bookkeeping, private and public accounting, auditing, tax preparation and administration, cost and managerial accounting, financial services, payroll, software systems, corporate governance, and financial investigation. Some career options require more than two years of college study.

Associate in science degree Accounting
Students completing the program will be able to...
A. construct basic accounting documents and solve case problems related to the accounting cycle utilizing appropriate technology.
B. analyze existing documents by verifying the accuracy of information for a company and performing necessary reconciliation.
C. evaluate financial data in a business environment and apply ethical business judgment for decision making.

This technical curriculum is designed to provide an opportunity for accounting students to achieve an associate in science degree in accounting after completing a comprehensive series of courses in the area of accounting. Completion of the courses in this program demonstrates commitment to the field of accounting, provides comprehensive preparation for employment in accounting-related occupations, and meets a portion of the educational requirements for the California CPA exam (For additional requirements please go to www.dca.ca.gov/cba).

This degree is not recommended for transfer students and DVC accounting students in this program who intend to transfer should consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are also advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE). General Education Option 1 (DVC General Education) does not meet requirements for most transfer institutions.

To earn an associate degree with a major in accounting, students must satisfactorily complete a minimum of sixty (60) units of degree applicable coursework with a grade point average of 2.0 (C) or higher. Certain courses may satisfy both major and general education requirements; however, the units are only counted once. All coursework required for the degree major must be completed within seven years of the degree date.

<table>
<thead>
<tr>
<th>major requirements:</th>
<th>units</th>
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</thead>
<tbody>
<tr>
<td>BUSAC-186 Financial Accounting</td>
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<tr>
<td>BUSAC-187 Managerial Accounting</td>
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<tr>
<td>CIS-116 Microsoft Excel – Comprehensive</td>
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<tr>
<td>BUS-240 Business Statistics</td>
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<td>BUS-250 Business Communications</td>
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<td>BUS-295 Occupational Work Experience</td>
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<td>BUSAC-182 Computer Income Tax Return Preparation - Individuals</td>
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<td>BUSAC-185 QuickBooks Accounting for Business I</td>
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<td>BUSAC-188 QuickBooks Accounting for Business II</td>
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<td>BUSAC-190 Payroll Accounting</td>
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<tr>
<td>BUS-294 Business Law</td>
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<td>BUSAC-282 Intermediate Accounting I</td>
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<td>BUSAC-283 Auditing</td>
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<td>BUSAC-284 Cost Accounting</td>
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<td>BUSAC-285 Federal Income Taxes – Individuals</td>
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<td>BUSAC-286 Governmental and Not-For-Profit Accounting</td>
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<tr>
<td>BUSAC-290 Financial Statement Analysis</td>
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<tr>
<td>BUSAC-292 Intermediate Accounting II</td>
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<td>BUSAC-293 Accounting Ethics and Accountants’ Professional Responsibilities</td>
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<td>BUSAC-294 Advanced Accounting</td>
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<tbody>
<tr>
<td>BUS-209 International Business</td>
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<td>BUS-240 Business Statistics</td>
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<td>BUS-250 Business Communications</td>
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<tr>
<td>BUSMG-191 Small Business Management</td>
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<tr>
<td>BUSMG-192 Entrepreneurship and Venture Management</td>
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</tbody>
</table>

**total minimum units for the major** 28
Certificate of achievement
Advanced accounting

Students completing the program will be able to...
A. produce accurate financial statements for a company and communicate a company’s financial position.
B. construct basic accounting documents and solve case problems related to the accounting cycle utilizing appropriate technology.
C. analyze existing documents by verifying the accuracy of information for a company and performing necessary reconciliation.
D. compare and contrast the financial information prepared for different types of business entities.

The certificate of achievement in advanced accounting builds on the curriculum in the general accounting certificate program and is designed to add technical depth and analytical skill-set development in the areas of financial accounting, auditing, cost accounting, individual income taxation, governmental and not-for-profit accounting, and corporate financial reporting for those students with a solid foundation in general accounting. Subjects in this program prepare students for higher-level accounting positions and for taking certification examinations in the field of accounting such as enrolled agent, certified fraud examiner, certified internal auditor, certified public accountant, or certified management accountant.

Students are required to obtain a “C” grade or higher in all required courses. At least 25 percent of the units must be completed at DVC. All coursework required for the certificate must be completed within seven years of the certificate date.

required courses:

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Units</th>
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<tbody>
<tr>
<td>BUSAC-186 Financial Accounting</td>
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<td>BUSAC-187 Managerial Accounting</td>
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<tr>
<td>CIS-116 Microsoft Excel – Comprehensive</td>
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plus at least 3 units from:

<table>
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<th>Units</th>
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<tr>
<td>BUS-240 Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BUS-250 Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>BUS-295 Occupational Work Experience Education in BUS</td>
<td>2-4</td>
</tr>
<tr>
<td>BUSAC-182 Computer Income Tax Return Preparation -</td>
<td></td>
</tr>
<tr>
<td>Individuals</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSAC-185 QuickBooks Accounting for Business I</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSAC-186 QuickBooks Accounting for Business II</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSAC-190 Payroll Accounting</td>
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</table>

plus at least 12 units from:

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Units</th>
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<tbody>
<tr>
<td>BUS-294 Business Law</td>
<td>3</td>
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<tr>
<td>BUSAC-282 Intermediate Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>BUSAC-283 Auditing</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC-284 Cost Accounting</td>
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<tr>
<td>BUSAC-285 Federal Income Taxes – Individuals</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC-286 Governmental and Not-For-Profit Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC-290 Financial Statement Analysis</td>
<td>4</td>
</tr>
<tr>
<td>BUSAC-292 Intermediate Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BUSAC-293 Accounting Ethics and Accountants’ Professional Responsibilities</td>
<td>4</td>
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<tr>
<td>BUSAC-294 Advanced Accounting</td>
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</tbody>
</table>

Certificate of achievement
Bookkeeping

Students completing the program will be able to...
A. enter basic accounting transactions into an accounting software program.
B. consolidate accounts on a monthly basis to track business income and expenses.
C. compare and contrast the financial information prepared for different types of business entities.

The certificate program in bookkeeping is designed to provide basic business knowledge for obtaining entry-level employment in jobs requiring bookkeeping and accounting skills. Course content emphasizes small business applications for both a service and merchandising business and includes a solid foundation in bookkeeping principles and the classifying and double-entry recording of financial transactions and preparation of the income statement and balance sheet.

Students are required to obtain a “C” grade or higher in all required courses. At least 25 percent of the units must be completed at DVC. All coursework required for the certificate must be completed within seven years of the certificate date.

required courses:

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>BUSAC-181 Applied Accounting</td>
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<tr>
<td>BUSAC-186 Financial Accounting</td>
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plus at least 9 units from:

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<tr>
<td>BUS-250 Business Communications</td>
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</tr>
<tr>
<td>BUSAC-190 Payroll Accounting</td>
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</tr>
<tr>
<td>CIS-116 Microsoft Excel – Comprehensive</td>
<td>2</td>
</tr>
</tbody>
</table>

total minimum required units 12
Certificate of achievement

General accounting

Students completing the program will be able to...

A. produce accurate financial statements for a company and communicate a company’s financial position.
B. construct basic accounting documents and solve case problems related to the accounting cycle utilizing appropriate technology.
C. analyze existing documents by verifying the accuracy of information for a company and performing necessary reconciliation.
D. compare and contrast the financial information prepared for different types of business entity.

This entry-level accounting certificate provides students with basic accounting and computer accounting coursework. Completion of the certificate will enable students to apply for entry-level positions in accounting.

Students are required to obtain a “C” grade or higher in all required courses. Certificate courses are offered in a combination of day, evening, weekend and online courses. At least 25 percent of the units must be completed at DVC. All coursework required for the certificate must be completed within seven years of the certificate date.

required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
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<tr>
<td>BUSAC-186</td>
<td>Financial Accounting</td>
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<td>BUSAC-187</td>
<td>Managerial Accounting</td>
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<tr>
<td>CIS-116</td>
<td>Microsoft Excel – Comprehensive</td>
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</table>

plus at least 3 units from:

<table>
<thead>
<tr>
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<tbody>
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<td>Payroll Accounting</td>
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</table>

total minimum required units 13

BUSAC-181 Applied Accounting
3 units SC

- 54 hours lecture/18 hours laboratory per term
- Advisory: BUS-103 and College-level reading and writing are expected.
- Note: This course is recommended as preparation for BUSAC-182. Credit by Examination option available.

This beginning accounting course presents a practical approach, emphasizing small business applications. Topics include the accounting cycle for a sole proprietorship; journals and ledgers; financial statements; adjusting, closing, and reversing entries; bank reconciliation; petty cash; payroll; payroll taxes; sales and purchases; and cash receipts and cash payments. An introduction to the use of an accounting software program is also covered. CSU

BUSAC-182 Computer Income Tax Return Preparation - Individuals
1.5 units SC

- 18 hours lecture/27 hours laboratory per term
- Advisory: BUSAC-285 and College-level reading and writing are expected.
- Note: May be repeated when software changes. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course presents tax software used to prepare income tax returns for an individual. Topics include the basic tax formula, filing status, exemptions, dependents and the procedures for creating a taxpayer file and processing income, deductions, credits, capital gains and losses, and business activities to produce a final tax return. CSU

BUSAC-185 QuickBooks Accounting for Business I
1.5 units SC

- 18 hours lecture/27 hours laboratory per term
- Advisory: BUSAC-181 and College-level reading and writing are expected.
- Note: Students may petition to repeat this course when software changes. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This introductory course presents the application of basic accounting knowledge and theory using QuickBooks software. Topics include sales, invoicing and receivables, payables and purchases, general accounting, financial statements, and end-of-period procedures for a service business. This course builds upon knowledge of bookkeeping principles. CSU

BUSAC-150 Topics in Business Accounting
.3-4 units SC
- Variable hours

A supplemental course in business accounting to provide a study of current concepts and problems in Business Accounting and related subdivisions. Specific topics will be announced in the schedule of classes. CSU
BUSAC-186  Financial Accounting  
4 units SC  
• 72 hours lecture per term  
• Advisory: College-level reading and writing are expected.  
• Note: Students seeking an introduction to bookkeeping techniques should register for BUSAC-181 - Applied Accounting.  
This course presents the theory, practices and procedures of accounting. The importance of accounting and the use of financial statements by investors, creditors, and others making financial, investment, or regulatory decisions will be examined. Topics include transactions reporting and the accounting cycle, accounting for cash, receivables, inventory, plant and intangible assets, long-term investments, time value of money, liabilities, stockholders' equity, an introduction to analyzing financial statements, and accounting ethics. The application of generally accepted accounting principles and international financial reporting standards will also be covered. C-ID ACCT 110, CSU, UC

BUSAC-187  Managerial Accounting  
4 units SC  
• 72 hours lecture per term  
• Prerequisite: BUSAC-186 or equivalent  
This course presents how managers use accounting information in decision-making, planning, directing operations, and controlling. The focus is on cost terms and concepts, cost behavior, cost structure and cost-volume-profit analysis. Issues relating to cost systems, cost control, profit planning, and performance analysis in manufacturing and service environments will also be covered. C-ID ACCT 120, CSU, UC

BUSAC-188  QuickBooks Accounting for Business II  
1.5 units SC  
• 18 hours lecture/27 hours laboratory per term  
• Advisory: BUSAC-185 and College-level reading and writing are expected.  
• Note: Students may petition to repeat this course when software changes. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree. This is an intermediate-level course for business using QuickBooks software. Focus is placed on developing skills to create a set of records for a merchandising business including sales and receivables, payables and purchases, and end-of-period procedures. Topics include payroll, payroll tax reporting and related preparation of employee earnings reports. CSU

BUSAC-190  Payroll Accounting  
1.5 units SC  
• 27 hours lecture per term  
• Advisory: College-level reading and writing are expected.  
This course presents accounting functions as related to payroll. Topics include wage calculation, employer and employee tax deductions, payroll processing, and required reporting. Employment legislation and tax laws that affect payroll will also be covered. CSU

BUSAC-282  Intermediate Accounting I  
4 units SC  
• 72 hours lecture per term  
• Prerequisite: BUSAC-186 or equivalent  
• Advisory: BUSAC-187 or equivalent  
This advanced financial accounting course builds on the material presented in BUSAC-186. Topics include accounting and reporting for assets, liabilities, and their associated financial impact on earnings. Current issues regarding financial statement preparation and interpretation will also be covered. CSU

BUSAC-283  Auditing  
3 units SC  
• 54 hours lecture/18 hours laboratory per term  
• Prerequisite: BUSAC-186 or equivalent  
• Advisory: BUSAC-187 or equivalent  
• Note: The laboratory (lab) hours for this course may be offered as face to face or online. See schedule of classes for specific requirements.  
This intermediate-level course presents the role and responsibility of Certified Public Accountants (CPA) in the audit of publicly traded and private companies. Emphasis is placed on verification of financial statements and internal control of accounting systems and cycles for publicly traded companies in the United States. Coverage focuses on the legal and ethical responsibilities of auditors as mandated by the Securities Acts of 1933 and 1934 and the Sarbanes Oxley Act of 2002. Topics include auditing standards, professional ethics, legal liability, responsibilities regarding fraud, internal control, audit plans, sampling techniques, auditing of the revenue cycle, auditing of cash and marketable securities, auditing of inventory and the acquisition/payment cycle, auditing of long-lived assets, auditing of debt obligations and stockholders' equity, audit reports, and other complex audit judgment issues. CSU
### BUSAC-284  Cost Accounting
3 units  SC  
- 54 hours lecture/18 hours laboratory per term  
- Prerequisite: BUSAC-187 or equivalent  
- Note: The laboratory (lab) hours for this course may be offered as face to face lab or online lab. See schedule of classes for specific requirements.

This advanced accounting course explores the accountant’s role in measuring, analyzing, and reporting financial and non-financial information to help managers make decisions that fulfill the goals of an organization. Emphasis is on determination, collection and analysis of cost information as it relates to planning, control, and decision making. Additional topics include costing systems, as well as cost allocation, inventory management, transfer pricing, capital budgeting, and the balanced scorecard. CSU

### BUSAC-285  Federal Income Taxes-Individuals
3 units  SC  
- 54 hours lecture/18 hours of laboratory per term  
- Advisory: BUSAC-186 and College-level reading and writing are expected.

This course concentrates on federal tax law for individuals and includes problem solving, perspectives on tax saving, and tax planning techniques. The Internal Revenue Code, regulations, rulings and court cases will be analyzed and applied. Introduction to tax preparation software is also included. CSU

### BUSAC-286  Governmental and Not-For-Profit Accounting
3 units  SC  
- 54 hours lecture/18 hours laboratory per term  
- Prerequisite: BUSAC-186 or equivalent  
- Advisory: BUSAC-187 or equivalent

This course presents the accounting practices used in governmental units, private not-for-profit organizations, colleges and universities, hospitals, and tax-exempt organizations. Basic characteristics of fund accounting, reporting objectives and standards, budgetary process, issues of reporting and disclosure will be covered. CSU

### BUSAC-289  Financial Statement Analysis
4 units  SC  
- 72 hours lecture per term  
- Prerequisite: BUSAC-282 or equivalent  
- Advisory: College-level reading and writing are expected.

This advanced accounting course explores the analysis of financial statements to evaluate past performance and predict the future performance of a company. Emphasis is placed on corporate financial reporting and the implications on businesses decisions through the examination of financial statements and disclosure examples. CSU

### BUSAC-292  Intermediate Accounting II
4 units  SC  
- 72 hours lecture per term  
- Prerequisite: BUSAC-186 or equivalent

This course presents advanced financial accounting principles that builds on the material in BUSAC-282. Topics include accounting for long-term liabilities, stockholders’ equity, investing assets, income taxes, leases, pensions, earnings per share, changes and error corrections, revenue recognition, and the statement of cash flows. CSU

### BUSAC-293  Accounting Ethics and Accountants’ Professional Responsibilities
4 units  SC  
- 72 hours lecture per term  
- Prerequisite: BUSAC-186 or equivalent

This course introduces ethical standards for accounting professionals with emphasis on contemporary issues, including social and ethical responsibilities. This course meets the three semester unit requirement in accounting ethics and accountants’ professional responsibilities for Certified Public Accountant (CPA) licensure. CSU

### BUSAC-294  Advanced Accounting
4 units  SC  
- 72 hours lecture per term  
- Prerequisite: BUSAC-292 or equivalent

This course presents advanced accounting principles that build on the material in BUSAC-292. Topics include sources of long term capital, funds statement, accounting for partnerships, consolidated financial statements, foreign currency risk, and other advanced accounting reporting requirements. CSU

### BUSAC-299  Student Instructional Assistant
.5-3 units  SC  
- Variable hours  
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU
BUSINESS ENTREPRENEURSHIP - BUSEN

Charlie Shi, Dean
Business, Computer Science, and Culinary Arts Division
Administration Building, 214

Associate in arts degree
Music industry entrepreneurship - See MUSX

Certificate of achievement
Cannabis entrepreneurship - See BUS
Food truck entrepreneurship - See CULN
Landscape design entrepreneurship - See HORT
Music industry entrepreneurship - See MUSX
Nursery and greenhouse entrepreneurship - See HORT

BUSEN-193 Cannabis Industry Entrepreneurship
3 units SC
• 54 hours lecture per term
This course is designed for students who want to become entrepreneurs and successfully launch a business venture in the cannabis industry. The process of successfully launching, managing, and growing an entrepreneurial firm, with an emphasis on opportunity recognition and feasibility analysis is addressed. Topics such as developing a relevant and effective business model, regulatory and legal framework, property rights, and venture financing are covered. Students develop a business plan to gain entrepreneurial hands-on experience. CSU

BUSINESS MANAGEMENT – BUSMG

Charlie Shi, Dean
Business, Computer Science, and Culinary Arts Division
Administration Building, 214

Certificates of achievement
Management and leadership studies - See BUS
Small business management/entrepreneurship - See BUS

Certificates of accomplishment
Management and leadership studies - See BUS
Small business management/entrepreneurship - See BUS

BUSMG-120 Introduction to Management Studies
3 units SC
• 54 hours lecture per term
• Advisory: BUS-109 and College-level reading and writing are expected.
This course introduces management theories and their application to various work environments. Topics include management principles and organizational planning, structuring, staffing, directing, and controlling. The legal, ethical, and social responsibilities of management will also be covered. CSU

BUSMG-121 Practices and Concepts of Supervision
3 units SC
• 54 hours lecture per term
• Advisories: College-level reading and writing are expected.
This course provides a real world approach to supervisory practices and concepts. Each of the management functions - planning, organizing, influencing, and controlling - will be explained from the standpoint of how each function relates in supervisory roles. Student participation includes a variety of supervisory exercises and case study discussions. CSU

BUSMG-131 Managing Diversity in the Workplace
3 units SC
• 54 hours lecture per term
• Advisories: BUS-109 and College-level reading and writing are expected.
This course explores issues relating to the management of workplace diversity, including individual, group, and cultural differences. How to recognize, understand, and adapt to these differences in order to create cohesive and productive work units will also be covered in this course. CSU

BUSMG-132 Human Resource Management
3 units SC
• 54 hours lecture per term
• Advisories: BUS-109 and College-level reading and writing are expected.
This course presents a comprehensive study of human resource management in organizations. Topics include human resource planning, recruitment and selection, training and development, and retention through compensation and benefits, performance appraisal, and career management. Values, legal and ethical issues, leadership and communication, conflict resolution, and organizational culture will also be covered. CSU
BUSMG-150  Topics in Management Studies  
.3-4 units SC  
• Variable hours
A supplemental course in business management to provide a study of current concepts and problems in business management. Specific topics will be announced in the schedule of classes. CSU

BUSMG-168  Customer Service  
.5 unit SC  
• 9 hours lecture per term
This course presents the competencies needed for high quality customer service, which include developing a joint purpose, showing compassion, and being generous and trustworthy with customers, co-workers, and external stakeholders. The relationship of customer service skills to career success will also be examined. CSU

BUSMG-174  Business Ethics  
.5 unit SC  
• 9 hours lecture per term
The course introduces the theory and practice of ethical decision making in the workplace. Topics include ethical theories, ethical dilemma resolution, social responsibility, ethics of whistle-blowing, and ethics and technology. CSU

BUSMG-191  Small Business Management  
3 units SC  
• 54 hours lecture per term  
• Advisory: BUS-103; BUS-109 and College-level reading and writing are expected.
This course is designed for students who want to start a small business or are involved in the ongoing management of an existing small business. Topics include ideation, profit planning, developing and marketing products, hiring and developing employees, managing a family-owned business, becoming a franchisee, and applying for funding sources such as a Small Business Administration (SBA) loan. Students will get practical experience in creating a small business by developing a comprehensive business plan. CSU

BUSMG-192  Entrepreneurship and Venture Management  
3 units SC  
• 54 hours lecture per term  
• Advisory: BUS-103, BUS-109 and College-level reading and writing are expected.
This course is designed for students who want to become entrepreneurs and successfully launch new business ventures. It covers the process of successfully launching, managing and growing an entrepreneurial firm, emphasizing opportunity recognition and feasibility analysis. Important topics such as developing an effective business model, protecting intellectual property and obtaining venture capital financing are presented. Students will get hands-on entrepreneurial experience by designing their own entrepreneurial venture and developing a business plan. CSU

BUSMG-226  Group Behavior and Leadership  
3 units SC  
• 54 hours lecture per term  
• Advisory: BUS-109 and College-level reading and writing are expected.
This course provides theoretical foundations and practical experiences with group behavior and leadership. Emphasis is placed on self-awareness in a group setting. The course includes the examination of workforce diversity, motivation, decision-making, and organizational politics and their impact on the proper functioning of a business organization. CSU

BUSINESS MARKETING - BUSMK

Charlie Shi, Dean  
Business, Computer Science, and Culinary Arts Division  
Administration Building, 214

Certificate of achievement  
Business marketing - see BUS  
Digital marketing - see BUS

BUSMK-150  Topics in Business Marketing  
.3-4 units SC  
• Variable hours
A supplemental course in business to provide a study of current concepts and problems in business marketing and related subdivisions. Specific topics will be announced in the schedule of classes. CSU
**BUSMK-158  Professional Selling**
3 units  SC
- 54 hours lecture per term
- Advisory: BUS-109 and College-level reading and writing are expected.

This course is an in-depth examination of the theory and practice of professional selling with a focus on the relationship selling process in business-to-consumer and business-to-business selling environments. Topics include the buying process, prospecting, acquiring sales knowledge, sales call planning, sales presentation methods, objection handling, and closing techniques. Motivating, compensating, training, and evaluating salespeople are also covered. CSU

**BUSMK-255  Advertising**
3 units  SC
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course provides an introduction to the role of advertising and promotion as an integral part of the marketing process. Historical perspectives, ethical considerations, economic effects, and regulatory aspects of advertising are discussed. Topics include consumer behavior patterns, target audience analysis, brand positioning, creative messaging, media strategies, and campaign planning, execution, and evaluation. CSU

**BUSMK-256  Marketing**
3 units  SC
- 54 hours lecture per term
- Advisory: BUS-109 or equivalent

This course is an introduction to marketing with an emphasis on creating and evaluating effective marketing campaigns. Real-world examples and case studies are used to develop contemporary marketing strategies--product, price, promotion, and distribution--with a focus on the customer and ethical practice. CSU

**BUSMK-258  Advertising and Gender**
3 units  SC
- 54 hours lecture per term
- Advisory: BUSMK-255 or equivalent, College-level reading and writing are expected.

This course examines gender stereotypes, sex appeals, and body image in advertising. The use of celebrities as endorsers, spokespersons, or brand symbols are also explored. Students will conduct content analysis of gender-role portrayals in print, television, and digital advertising. A special emphasis is placed on gender and ethics in advertising. CSU, UC

**BUSMK-259  Digital Marketing Fundamentals**
3 units  SC
- 54 hours lecture per term
- Advisory: BUSMK-255 or equivalent, College-level reading and writing are expected.

This course explores the rapidly evolving world of digital marketing and how it is reshaping the way businesses and brands engage their customers. A detailed understanding of digital marketing concepts, tools, tactics, and strategies will be covered. Students will also create an integrated digital marketing campaign. CSU

**BUSMK-260  Social Media Marketing**
3 units  SC
- 54 hours lecture per term
- Advisory: BUSMK-255 or equivalent, College-level reading and writing are expected.

This interactive course provides a thorough grounding in all facets of social media marketing. The development of a social media strategy, building a target audience profile, choosing appropriate social media platforms, crafting engaging social media content, and creating an effective social media marketing plan will be covered. Emphasis is placed on fostering effective collaboration, demonstrating tactical execution, and monitoring social media. CSU

**BUSMK-261  Digital Marketing Analytics**
3 units  SC
- 54 hours lecture per term
- Advisory: BUS-240 or equivalent, College-level reading and writing are expected.

This course applies analytical tools to translate business intelligence into structured content that helps firms improve Internet marketing results. Students will use various web-analytical software tools to compare search engine formats, social media use, geo-location analysis, and mobile digital analytics. Familiarity with strategic operations of web analytics and the technologies used in these business functions will be explored. CSU

**BUSMK-262  Content Marketing**
3 units  SC
- 54 hours lecture per term
- Advisory: BUSMK-255 or equivalent, College-level reading and writing are expected.

This course covers strategic approaches to content creation, management, and distribution for use across multiple platforms to help support an organization's brand. Developing a content marketing strategy and plan, creating compelling content, and monitoring content performance will be emphasized. CSU
BUSMK-263  Email Marketing
2 units  SC
• 36 hours lecture per term
• Advisory: BUSMK-255 or equivalent, College-level reading and writing are expected.
This course introduces email marketing principles and practices as well as the development and implementation of an email marketing strategy. Developing an email marketing campaign, building an email marketing list, choosing email marketing distribution software, writing appropriate email messages, and employing email marketing analytics are included. The course also emphasizes executing and monitoring an email campaign to achieve business objectives. CSU

BUSMK-264  Search Marketing
2 units  SC
• 36 hours lecture per term
• Advisory: BUSMK-255 or equivalent, College-level reading and writing are expected.
This course introduces search marketing and the critical role that it plays in an organization's digital marketing strategy and online presence. Search engine optimization (SEO), search engine marketing (SEM), and pay-per-click (PPC) advertising are also explored in depth. Topics include keyword research, on-page ranking factors, link building, SEO copywriting, site architecture, content optimization, and search marketing metrics. Students develop a search marketing campaign using performance indicators to evaluate the campaign's results. CSU

BUSMK-298  Independent Study
.5-3 units  SC
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office is required.
This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

BUSINESS REAL ESTATE – RE

Charlie Shi, Dean
Business, Computer Science, and Culinary Arts Division
Administration Building, 214

Certificate of achievement
Real estate - See BUS

Certificate of accomplishment
Real estate salesperson - See BUS

RE-150  Topics in Real Estate
.3-.4 units  SC
• Variable hours
A supplemental course in real estate to provide a study of current concepts and problems. Specific topics will be announced in the schedule of classes. CSU

RE-160  Real Estate Principles
3 units  SC
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
• Note: Applies toward the CA Board of Real Estate continuing education and licensing.
This course provides an introduction to the real estate profession. The course covers real and personal property acquisition, ownership, estates in real property, contracts, deeds, financing, taxes, property transfer, agency and other topics relevant to the transaction and transfer of property rights, especially within the context of California law. Persons preparing for the real estate salesperson's license examination through the California Board of Real Estate may find this course valuable, although the course is not specifically or solely designed as a pre-licensing course. CSU

RE-161  Real Estate Law
3 units  SC
• 54 hours lecture per term
• Advisory: RE-160 or valid CA RE license and College-level reading and writing are expected.
• Note: Applies toward the CA Board of Real Estate continuing education and licensing.
This course provides an overview of California law as it pertains to the practice of real estate, including rights to property ownership and management, agency, contracts, and application to real estate transfer. The course also covers conveyancing, probate proceedings, trust deeds, foreclosure, and recent federal and California legislation governing real estate transactions. CSU
RE-162  Real Estate Appraisal
3 units  SC
- 54 hours lecture per term
- Advisory: RE-160 or valid CA RE license and College-level reading and writing are expected.
- Note: Applies toward the CA Department of Real Estate educational requirements for real estate licenses.
This course covers real estate valuation concepts, methods, and models, with emphasis on residential property. Topics include definitions, concepts, and techniques of valuation, and the appraisal process, including the preparation of appraisal reports. CSU

RE-163  Real Estate Practice
3 units  SC
- 54 hours lecture per term
- Advisory: RE-160 or a valid California real estate license and College-level reading and writing are expected.
- Note: Applies toward the CA Board of Real Estate continuing education and licensing.
This course is a comprehensive overview of all legal, ethical, and professional aspects to a successful real estate services practice including techniques of prospecting, listing, selling, financing, drafting offers and purchase agreements, overseeing escrow, executing tax-efficient property exchanges, and managing leasehold estates and other property. CSU

RE-164  Real Estate Finance
3 units  SC
- 54 hours lecture per term
- Advisory: RE-160 or a valid California real estate license and College-level reading and writing are expected.
- Note: Applies toward the CA Board of Real Estate continuing education and licensing.
This course provides an overview of real estate finance, including lending policies, procedures and types of loans used to buy, build, refinance, or invest in real property. CSU

RE-165  Real Estate Economics
3 units  SC
- 54 hours lecture per term
- Advisory: RE-160 or a valid California real estate license and College-level reading and writing are expected.
- Note: Applies toward the CA Board of Real Estate continuing education and licensing.
This course provides an overview of economic concepts and theories as they apply to the functioning of real estate markets. Special attention is paid to the impact that the financial system and government institutions have on real estate value and return. CSU

RE-166  Real Estate Escrow Procedures
3 units  SC
- 54 hours lecture per term
- Advisory: RE-160 or a valid California real estate license and College-level reading and writing are expected.
- Note: Applies toward the CA Board of Real Estate continuing education and licensing.
This course provides an overview of the procedures required to complete a valid escrow in order to close a real estate transaction. Technical skills, legal aspects, ethical restrictions, interfacing with financing and real estate agents will be emphasized. Students are introduced to the procedures and practices from the perspective of both the escrow/title insurance company and the real estate licensee. CSU

CARER-100  College and Career Readiness I
1.5 units  SC
- 27 hours lecture per term
- Note: Credit by examination option available.
This course introduces career exploration and is designed to assist students in making career and post-secondary decisions. Topics will include self-exploration, career and life planning, job search skills, and decision-making strategies. CSU, UC (Credit limitations may apply to UC - see counselor.)
**CARER-101 College and Career Readiness II**

1.5 units SC

- 27 hours lecture per term
- Note: Credit by examination option available.

This course introduces college readiness and success skills. In addition, students will explore post-secondary education and career options, budget management, and job search basics. CSU, UC (Credit limitations may apply to UC - see counselor.)

**CARER-110 Career and Life Planning**

3 units SC

- CSU GE: E
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course presents research strategies for effective career and major choice selection. Students will use a variety of techniques to find, retrieve, and evaluate career planning information as well as career assessments to identify their preferred work values, interests, skills and personality traits. Focus is placed on the exploration of labor market needs, educational and employment requirements, and career ladders within given professions resulting in an effective educational and job search plan. Employability and interpersonal skills such as communication, critical thinking, creative problem solving, time management, self-esteem and professional confidence, emotional intelligence, conflict resolution, and effective collaboration are also addressed. CSU, UC (credit limits may apply to UC - see counselor)

**CARER-120 Career Assessment**

1 unit P/NP

- 18 hours lecture per term
- Note: Testing fee required. Not intended for students who have completed CARER-110

This course introduces student self-assessment inventories with the goal of identifying individual interests, values, skills, and personality types. Topics include self-exploration, researching college majors, and making the connections between values, interests, personality, and the career world. CSU

**CARER-130 Career and Major Exploration**

1 unit P/NP

- 18 hours lecture per term
- Advisory: CARER-120 or equivalent

This course introduces basic career planning and electronic resources that aid in the research of career and college major options. This course is intended for students who are undecided about their career and/or educational goals. CSU

**CARER-140 Job Search Strategies**

1 unit P/NP

- 18 hours lecture per term

This course is designed to prepare students for the employment search process. Identification of goals and job skills, how to complete an application, traditional and electronic cover letters and resumes, interviewing techniques, job market research and overview of employee and employer rights will be covered. Students will also identify and discuss the employability skills most commonly sought by employers. CSU

**CARER-150 Topics in Careers**

.3-4 units SC

- Variable hours

This course is designed to address topics in career and job search related subjects. Specific topics will be announced in the schedule of classes. CSU

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**CHEMISTRY – CHEM**

Charles Ramos, Dean
Sciences Division
Physical Sciences Building, Room 263

**Possible career opportunities**

Chemists identify and solve problems by applying logic, scientific thinking, and knowledge of natural laws. Chemistry majors work in educational settings and in government, nonprofit charities, or research foundations. Chemists work in manufacturing companies, cosmetic companies, environmental assessment firms, medical laboratories, petroleum companies and pharmaceutical companies. They also can become health administrators, and physicians (all specialties). Many careers require more than two years of college study.

**Certificate of achievement Chemistry**

Students completing the program will be able to...

A. apply the basic concepts of chemistry to predict chemical structure and trends in reactivity.

B. analyze and solve quantitative and qualitative problems in chemistry and explain results verbally or in writing.

C. integrate chemical principles into reaction mechanisms.

D. apply basic laboratory skills and techniques in general and organic chemistry to collect data and synthesize compounds.

E. analyze data and evaluate laboratory experimental results.

F. maintain a laboratory notebook.

Completion of the chemistry program prepares students for advanced study leading to careers in government, industry, or secondary-school teaching. The program also partially satisfies the entrance requirements for medical and dental schools. Careers include researcher, educator, laboratory technician, or chemical engineer.
This certificate includes the coursework that will prepare students who intend to transfer with a chemistry or related interdisciplinary major to a four-year institution. This certificate includes the General Chemistry and Organic Chemistry sequences.

To earn a certificate of achievement, students must complete the required courses with a “C” grade or higher. Course requirements are typically available in the day and evening for the General Chemistry sequence. For the Organic Chemistry sequence, CHEM 226 is only offered in fall terms, and CHEM 227 is only offered in spring term.

Students who intend to transfer to a four-year program should consult with a counselor regarding course and program requirements.

required courses:  units
CHEM-120  General College Chemistry I ..............................5
CHEM-121  General College Chemistry II .............................5
CHEM-226  Organic Chemistry I .........................................5
CHEM-227  Organic Chemistry II .........................................5

total minimum required units  20

Students who intend to transfer to a four-year program in chemistry should consult with a counselor regarding mathematics and science requirements listed below.

plus 0-8 units from:  units
PHYS-130  Physics for Scientists and Engineers A: Mechanics and Wave Motion.................................4
PHYS-230  Physics for Scientists and Engineers B: Heat and Electromagnetism ..................................4

plus 0-10 units from:  units
MATH-192  Analytic Geometry and Calculus I .........................5
MATH-193  Analytic Geometry and Calculus II ........................5

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CHEM-106  Chemistry for Non-Science Majors 4 units  SC
• IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
• 54 hours lecture/54 hours laboratory per term
• Prerequisite: Placement into MATH-121 or higher or MATH 085 or MATH-085SP or beginning algebra or equivalent
• Advisory: College-level reading and writing are expected.
• Note: This is not a preparatory course for other chemistry courses

This course is designed to develop scientific literacy for non-science majors and to meet the general education requirement for physical science with laboratory. The course places chemistry concepts in a practical context using qualitative and quantitative examples that are encountered in everyday life. Laboratory exercises include hands-on experiments related to concepts covered in lecture. C-ID CHEM 100, CSU, UC (credit limits may apply to UC - see counselor)

CHEM-107  Integrated Inorganic, Organic, and Biological Chemistry 5 units  SC
• IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
• 72 hours lecture/54 hours laboratory per term
• Prerequisite: Placement into MATH-121 or higher or MATH 085 or MATH-085SP or beginning algebra or equivalent
• Advisory: College-level reading and writing are expected.
• Note: This course does not fulfill the prerequisite to CHEM-120.

This course is an intensive survey of the fundamentals of chemistry, which explores and applies the topics of inorganic and organic chemistry to biochemistry. This course satisfies the requirements of nursing and other health-care programs that require one term of chemistry. CSU, UC (credit limits may apply to UC - see counselor)

CHEM-108  Introductory Chemistry 4 units  SC
• IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
• 54 hours lecture/54 hours laboratory per term
• Prerequisite: Placement into MATH-121 or higher or MATH 085 or MATH-085SP or beginning algebra or equivalent
• Advisory: College-level reading and writing are expected.

This course is an introduction to the experimental science of chemistry. Using mathematical word problems and chemical terms, the student will have an overview of inorganic chemistry. This course is appropriate for those that have no high school chemistry experience. This course serves as preparation for General Chemistry (CHEM-120/121) or the first course of a two-semester sequence (with CHEM-109) that satisfies the requirements of allied health programs such as nursing and dental hygiene that require one year of chemistry. C-ID CHEM 101, CSU, UC (credit limits may apply to UC - see counselor)

CHEM-109  Introduction to Organic and Biochemistry 4 units  SC
• IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
• 54 hours lecture/54 hours laboratory per term
• Prerequisite: CHEM-107 or CHEM-108 or CHEM-120 or equivalent
• Note: This is the second course of a two-semester sequence (with CHEM-109) that satisfies the requirements of allied health programs such as nursing and dental hygiene that require one year of chemistry.

This course provides a focused introduction to the chemistry of living things. Organic Chemistry is the study of carbon compounds that is linked to biochemistry, the chemical basis of life, through the relationship of molecular structure and function. C-ID CHEM 102, CSU, UC (credit limits may apply to UC - see counselor)
CHEM-120 General College Chemistry I
5 units LR
- IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
- 54 hours lecture/108 hours laboratory per term
- Prerequisite: CHEM-108 or score of 3, 4 or 5 on AP Chemistry Test or appropriate chemistry skill level demonstrated through Chemistry Diagnostic Test or equivalents; Placement into MATH-121 or higher; or MATH-119 or MATH 119SP or intermediate algebra or equivalent
- Advisory: College-level reading and writing are expected.

This course is the first semester of a two-semester sequence (CHEM-120 and CHEM-121) that covers the fundamentals of chemistry including atomic theory, chemical reactions, bonding, structure, stoichiometry, gases, solutions, thermochemistry, and chemical kinetics. Basic laboratory techniques are introduced including the preparation of standard solutions, titration, and the generation of calibration curves used in qualitative and quantitative analysis. Students will perform experiments safely, keep a laboratory notebook, and complete laboratory reports. C-ID CHEM 110, CHEM-120+121=C-ID CHEM 120S, CSU, UC

CHEM-121 General College Chemistry II
5 units LR
- IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
- 54 hours lecture/108 hours laboratory per term
- Prerequisite: CHEM-120 or equivalent

This course is the second semester of a two-semester sequence (CHEM-120 and CHEM-121) that covers gaseous and acid base equilibria, buffers, titration curves, solubility products, thermodynamics, electrochemistry, coordination complexes, nuclear chemistry, as well as qualitative and quantitative experiments. Laboratory work in this course will build upon techniques used in CHEM-120 and includes some independent experimental design. CHEM-120+121=C-ID CHEM 120S, CSU, UC

CHEM-150 Topics in Chemistry
.3-4 units SC
- Variable hours

A supplemental course in Chemistry to provide a study of current concepts and problems in Chemistry. Specific topics will be announced in the schedule of classes. CSU

CHEM-226 Organic Chemistry I
5 units LR
- IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
- 54 hours lecture/108 hours laboratory per term
- Prerequisite: CHEM-121 or equivalent

This course is the first semester of a two-semester sequence (CHEM-226 and CHEM-227) that covers structure and bonding, stereochemistry, conformational analysis, reaction mechanisms, and the nomenclature, physical properties, and reactions of various classes of organic compounds (alkanes, alkenes, alkynes, alkyl halides, alcohols, and ethers). Basic organic laboratory techniques are introduced and used in syntheses or other projects. Chemical safety, information retrieval and good lab practices are emphasized. A variety of laboratory instrumentation skills are developed including data collection and analysis using GC, IR and UV-Visible spectroscopy. C-ID CHEM 150, CHEM-226 + CHEM-227 = C-ID CHEM 160S, CSU, UC

CHEM-227 Organic Chemistry II
5 units LR
- IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
- 54 hours lecture/108 hours laboratory per term
- Prerequisite: CHEM-121 and CHEM-226 or equivalents

This course is a continuation of Chemistry 226. Topics include spectroscopy, additional reaction mechanisms, the nomenclature, physical properties, and reactions of other basic classes of compounds (aromatics, organometallics, aldehydes, ketones, carboxylic acids and their derivatives, and amines). The nature and reactions of multifunctional compounds and the structure and reactions of biochemical molecules (carbohydrates, lipids, amino acids, proteins and nucleic acids) are also discussed. Laboratory work includes hands-on spectroscopic techniques (i.e., NMR, IR), qualitative organic analysis, more advanced projects involving synthesis, and a literature research project using university-level chemical literature resources. CHEM-226 + CHEM-227 = C-ID 160S, CSU, UC

CHEM-298 Independent Study
.5-3 units SC
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU
CHEM-299  Student Instructional Assistant
.5-3 units  SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

CHINESE – CHIN

Janette Funaro, Dean
Arts and Communication Division

Possible career opportunities

The study of Chinese can open up opportunities in communications, foreign trade and banking, transportation, government, the Foreign Service, tourism, library services, teaching, professional translating, journalism, and all levels of education, including university teaching. Most foreign language careers require more than two years of study.

Associate in arts degree

Mandarin Chinese

Students completing the program will be able to...

A. communicate verbally in the target language with accurate pronunciation in meaningful situations present in both informal and formal contexts.

B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.

C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.

D. discuss, describe, and infer information from authentic texts in the target language.

E. demonstrate cultural appreciation by making (comparative) connections, on both an individual and societal level, between the target cultures and students’ own cultures.

F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

The associate in arts degree in Mandarin Chinese at DVC will provide students with skills in understanding, speaking, reading and writing Mandarin Chinese. The curriculum exposes students to Chinese culture and civilization and provides foundational skills in language that can apply to a broad range of international and domestic career opportunities and professions. The degree will provide lower division preparation for transfer to UC, CSU and other four-year colleges and universities to earn a bachelor's degree.

The DVC Mandarin Chinese major is intended for transfer. Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to baccalaureate-granting institutions of their choice are met. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE). Option 1 (DVC General Education) is appropriate for those students who do not intend to transfer. Students may not take a pass/no pass option for major courses and each of the major requirements must be completed with a “C” grade or higher.

Students must complete the 20 units of major requirements, which will provide students with the essential grammar of the language and culture of China.

Certificate of achievement

Mandarin Chinese

Students completing the program will be able to...

A. communicate verbally in the target language with accurate pronunciation in meaningful situations present in both informal and formal contexts.

B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.

C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.

D. discuss, describe, and infer information from authentic texts in the target language.

E. demonstrate cultural appreciation by making (comparative) connections, on both an individual and societal level, between the target cultures and students’ own cultures.

F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.
This certificate of achievement was created to give students the opportunity to show potential employers in this country and in other countries that the student has completed a certain number of courses in Chinese and prepares students with an intermediate to advanced knowledge of Chinese and familiarizes them with the culture of China and other Chinese-speaking countries.

This certificate of achievement provides students, prospective employers and others with documented evidence of persistence and academic accomplishment in the language. The certificate requires completion of 15 to 20 units from the following list of courses. Students may not take a credit/no credit option for required courses and each course used to meet a certificate requirement must be completed with a “C” grade or higher.

Complete at least 15 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIN 120</td>
<td>First Term Mandarin Chinese</td>
<td>5</td>
<td>IGETC: 6A; 90 hours lecture per term; Note: This course is equivalent to two years of high school study.</td>
</tr>
<tr>
<td>CHIN 121</td>
<td>Second Term Mandarin Chinese</td>
<td>5</td>
<td>IGETC: 3B, 6A; CSU GE: C2; DVC GE: III; 90 hours lecture per term; Prerequisite: CHIN-120 or two years of high school study or equivalent; Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.</td>
</tr>
<tr>
<td>CHIN 220</td>
<td>Third Term Mandarin Chinese</td>
<td>5</td>
<td>IGETC: 3B, 6A; CSU GE: C2; DVC GE: III; 90 hours lecture per term; Prerequisite: CHIN-220 or four years of high school study or equivalent; Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.</td>
</tr>
<tr>
<td>CHIN-221</td>
<td>Fourth Term Mandarin Chinese</td>
<td>5</td>
<td>IGETC: 3B, 6A; CSU GE: C2; DVC GE: III; 90 hours lecture per term; Prerequisite: CHIN-220 or four years of high school study or equivalent; Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.</td>
</tr>
</tbody>
</table>

Total minimum required units: 15

CHIN-150 Topics in Chinese
0.3-4 units SC
- Variable hours
A supplemental course in Chinese to provide a study of current concepts and problems in Chinese and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

CHIN-222 Third Term Mandarin Chinese
5 units SC
- IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
- 90 hours lecture per term
- Prerequisite: CHIN-121 or three years of high school study or equivalent
- Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the third term Chinese course in a sequence. Students will learn to develop fluency in understanding, speaking, reading and writing Chinese. New vocabulary, idiomatic expressions, and grammatical concepts are introduced. Selected readings about Chinese culture and literature will be explored. This course is taught entirely in Chinese, but students can choose either of the two Chinese written systems to develop their knowledge and ability. CSU, UC

CHIN-224 Fourth Term Mandarin Chinese
5 units SC
- IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
- 90 hours lecture per term
- Prerequisite: CHIN-220 or four years of high school study or equivalent
- Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the fourth term Chinese course in a sequence. Students will be able to develop fluency in all aspects of the Chinese language with particular attention paid to literary forms as reflected in the contemporary Chinese world. This course reviews grammar and develops advanced reading and writing skills in Chinese. Passages from Chinese literature and readings about Chinese culture will be studied. Computer skills in Chinese will be applied. Students may choose either of the two Chinese writing systems to develop their knowledge and ability. CSU, UC

CHIN-298 Independent Study
0.5-3 units SC
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU
CHIN-299  Student Instructional Assistant
.5-3 units SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

COMMUNICATION STUDIES – COMM

Janette Funaro, Dean
Arts and Communication Division

Associate in arts in communication studies for transfer

Students completing the program will be able to...
A. recognize the cultural, ethical, political, psychological and practical aspects of communication systems and models.
B. develop and present effective public presentations.
C. demonstrate an understanding of the role critical thinking plays in the effective analysis and development of messages.
D. demonstrate an understanding of interpersonal communication theory and practice the skills necessary for effective interpersonal interactions.
E. improve delivery skills when making public presentations.

The communication studies area views communicative behavior as central to human activity: to individual development, to interpersonal relationships, and to the functioning of political, economic, cultural, and social institutions. In addition, as effective verbal and nonverbal communication is a requirement for most jobs, the program prepares students for a wide variety of professions. Further, the program prepares students for careers in the fields of public relations, communication education, the performing arts, marketing, public relations, sales training and management. Additional careers in fields related to communication studies include salesperson, broadcaster, lawyer, tour guide, political campaign worker, teacher, customer service worker, public and international relations specialist, and negotiator/arbitrator.

The associate in arts in communication studies for transfer is intended for students who plan to complete a bachelor's degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.

In order to earn the degree, students must:
• Complete 60 CSU-transferable units.
• Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
• Complete a minimum of 18 units in the major.
• Attain a minimum grade point average (GPA) of 2.0.
• Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

major requirements:  units
COMM-120  Public Speaking ...............................................3
plus at least 6 units from:
COMM-123  Argumentation and Debate ..............................3
COMM-128  Interpersonal Communication ..........................3
COMM-130  Small Group Communication ...........................3
plus at least 6 units from:
any course not used above or:
COMM-121  Persuasion and Critical Thinking .....................3
COMM-125  Intercultural Communication ...........................3
COMM-148  Performance of Literature ...............................3
COMM-163*  Forensics - Speech and Debate .................1.5-4
COMM-180  Introduction to Communication Theory ...........3
JRNAL-110  Mass Media of Communication........................3
plus at least 3 units from:
any course not used in either group above, or:
COMM-124  Voice and Diction ..............................................3
JRNAL-120  Introduction to Newswriting and Reporting ....3

total minimum units for the major 18

*Note: A maximum of 3 units may be taken from this course
Certificate of achievement
Communication studies

Students completing the program will be able to...
A. create and present a well-structured persuasive presentation.
B. create and present a well-structured informative presentation.
C. be aware of and able to apply interpersonal conflict resolution methods.

To earn a certificate of achievement in communication studies, students must complete three core courses supplemented by seven restricted electives from which students select a minimum of three units to meet their individual educational and career goals. The certificate program courses also meet some of the requirements of the major for the associate in arts degree in communication studies for transfer at Diablo Valley College.

required courses: units
COMM-120 Public Speaking ...................................................3
COMM-121 Persuasion and Critical Thinking ............................3
COMM-128 Interpersonal Communication ................................3

plus at least 3 units from:
COMM-123 Argumentation and Debate ..................................3
COMM-124 Voice and Diction .................................................3
COMM-125 Intercultural Communication ................................3
COMM-130 Small Group Communication ...............................3
COMM-148 Performance of Literature ....................................3
COMM-155 Topics in Communication Studies ..........................3
COMM-163 Forensics - Speech and Debate ............................1.5-4
COMM-180 Introduction to Communication Theory ....................3
COMM-298 Independent Study ...........................................0.5-3

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COMM-120 Public Speaking
3 units SC
• IGETC: 1C; CSU GE: A1; DVC GE: IB
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.

In this course, students will prepare and present public speeches using the principles of effective communication. Emphasis is placed on speaking to inform, persuade, and special occasion speeches. Key principles covered include audience analysis, determining speech goals, organization, clarity, language, evidence, visual aids, and delivery. C-ID COMM 110, CSU, UC

COMM-121 Persuasion and Critical Thinking
3 units LR
• IGETC: 1B; CSU GE: A3; DVC GE: IB
• 54 hours lecture per term
• Prerequisite: ENGL-122 or equivalent

This course presents an introduction to the principles of reasoning and their application to the analysis and evaluation of political and marketplace communication. The integration of critical thinking principles with techniques of effective written and spoken argument will be emphasized. Topics will include the structure of argument, underlying assumptions, the quality of evidence used to support claims, the use of language, the discovery of formal and informational fallacies, and the effect of print and electronic media on argumentation. C-ID COMM 190, CSU, UC

COMM-123 Argumentation and Debate
3 units LR
• IGETC: 1C; CSU GE: A1, A3; DVC GE: IB
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.

This course presents the application of the principles of argumentation theory, including the analysis of propositions, issues, evidence, and reasoning, and applying them through critical thinking skills in debate. Students will participate in graded debates in class. C-ID COMM 120, CSU, UC

COMM-124 Voice and Diction
3 units SC
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.

This course focuses on the improvement of the vocal instrument for the speaker. Drills and exercises will address vocal strength, resonance, inflection, articulation, and quality. This course is intended for the general student, as well as communication, speech and drama majors. CSU, UC

COMM-125 Intercultural Communication
3 units SC
• IGETC: 4; CSU GE: D; DVC GE: IV
• 54 hours lecture per term

This course is an introduction to intercultural communication in domestic and/or global contexts. The course studies the influence of cultures, languages, and social patterns on how members of groups relate among themselves and with members of different ethnic and cultural groups. It teaches theory and knowledge of effective communication within and between cultures. Appreciation and comparison of communication of diverse groups is an important part of the course. C-ID COMM 150, CSU, UC
COMM-128 Interpersonal Communication
3 units SC
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course provides an introduction to the theory, basic principles, and methods of oral communication, with emphasis on improving speaking and listening skills within the context of interpersonal communication. Psychological, social, cultural, and linguistic factors which affect human interaction are emphasized. Attention will also be given to perception, listening, conflict resolution, relationship development and stages, and verbal and nonverbal communication. C-ID COMM 130, CSU, UC

COMM-130 Small Group Communication
3 units SC
- IGETC: 1C; CSU GE: A1; DVC GE: IB
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course is a study of communication theory and research applied to working in small groups. Emphasis will be on individual communication behaviors and group practices that create successful group work. Skill development includes leadership, oral communication and team work. C-ID COMM 140, CSU, UC

COMM-148 Performance of Literature
3 units SC
- CSU GE: C1
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course provides an introduction to performance studies. Emphasis is placed on the analysis, appreciation, and application of theories of interpretive performance of various forms of literature including poetry, prose, and drama. C-ID COMM 170, CSU, UC

COMM-155 Topics in Communication Studies
3-4 units SC
- Variable hours

A supplemental course in communication studies to provide a study of current concepts and problems in communication studies and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

COMM-163 Forensics - Speech and Debate
1.5-4 units SC
- May be repeated three times
- Variable hours
- Advisory: College-level reading and writing are expected.

This course prepares students to participate in intercollegiate speech and debate tournaments and/or community events. Students will research, write, and practice speeches. Students will perform speeches at competitive and/or community events. C-ID COMM 160B, CSU, UC

COMM-180 Introduction to Communication Theory
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term

This course is a survey of the discipline of communication studies with emphasis on multiple epistemological, theoretical, and methodological issues relevant to the systematic inquiry and pursuit of knowledge about human communication. Students will explore the basic history, assumptions, principles, processes, variables, methods, and specializations of human communication as an academic field of study. C-ID COMM 180, CSU, UC

COMM-298 Independent Study
.5-3 units SC
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office is required.

Students will conduct additional research, a special project, or learning activities in a specific discipline/subject area. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. (This course is not intended to replace an existing course.) CSU

COMM-299 Student Instructional Assistant
.5-3 units SC
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU
In order to obtain an associate in science degree, students must complete the courses required for the core certificate of achievement and a minimum of one area of technical specialization, and complete all general education requirements as listed in the Diablo Valley College catalog. To earn a degree, students must complete each course used to meet a major requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the major. Other electives and course substitutions not listed below are possible with department chairperson approval.

Students are limited to one associate in science degree regardless of the number of specializations completed. Multiple certificates may be awarded.

**major requirements:**

<table>
<thead>
<tr>
<th>core courses:</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS-115 Microsoft Word - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-116 Microsoft Excel - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-118 Microsoft PowerPoint - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>plus at least 2 units from:</td>
<td></td>
</tr>
<tr>
<td>CIS-100 Microsoft Windows - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-101 Apple Mac Operating System</td>
<td>2</td>
</tr>
<tr>
<td>plus at least 4 units from:</td>
<td></td>
</tr>
<tr>
<td>CIS-117 Microsoft Access - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-119 Microsoft Outlook - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-170 Networking for Non-IT Professionals</td>
<td>2</td>
</tr>
<tr>
<td>Core courses units subtotal</td>
<td>12</td>
</tr>
</tbody>
</table>

Choose one of the following four technical specialization areas:

**database management - required courses:**

| CIS-107 Introduction to Web Databases | 2 |
| CIS-117 Microsoft Access - Comprehensive | 2 |
| CIS-160 Introduction to MySQL | 2 |

**project management - required courses:**

| CIS-180 Introduction to Project Management | 3 |
| CIS-181 Project Management Fundamentals/PMI PMP Preparation | 3 |

**project management - recommended elective:**

| CIS-185 Project Management Tools | 2 |

**web graphics - required courses:**

| CIS-130 Adobe Photoshop Elements | 2 |
| CIS-132 Adobe Premiere Elements - Comprehensive | 2 |
| CIS-133 Developing Video Content for the Web | 2 |

**web technology - required courses:**

| CIS-105 Introduction to Web Design | 2 |
| CIS-106 Adobe Dreamweaver - Comprehensive | 2 |
| CIS-107 Introduction to Web Databases | 2 |

**web technology - recommended electives:**

| CIS-108 Introduction to WordPress | 2 |
| CIS-117 Microsoft Access - Comprehensive | 2 |
| CIS-120 iPhone and iPad App Development for Beginners | 2 |
| CIS-160 Introduction to MySQL | 2 |

**total minimum units for the major**

18
Certificate of achievement
Computer information systems - core

Students completing the program will be able to...

A. demonstrate basic graphical user interface operations in a computer environment.

B. produce spreadsheets, documents and presentations by using basic to advanced software operations.

The computer information systems (CIS) certificate of achievement in computer information systems-core prepares students for careers in business and government as information technologies and management workers.

Principal areas of study include computer software applications, web graphics and web technology, cloud-based systems, and database and project management. CIS coursework includes terminology and provides hands-on laboratory experience with operating and network systems. Stand-alone and internet-based applications are also covered.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening, during the day, and online.

**required courses:**

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<tr>
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<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>CIS-115</td>
<td>Microsoft Word - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-116</td>
<td>Microsoft Excel - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-118</td>
<td>Microsoft PowerPoint - Comprehensive</td>
<td>2</td>
</tr>
</tbody>
</table>

**plus at least 2 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS-100</td>
<td>Microsoft Windows - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-101</td>
<td>Apple Mac Operating System</td>
<td>2</td>
</tr>
</tbody>
</table>

**total minimum required units**

12

Certificate of achievement
Computer information systems - database management

Students completing the program will be able to...

A. demonstrate basic graphical user interface operations in a computer environment.

B. produce spreadsheets, documents and presentations by using basic to advanced software operations.

C. apply database syntax, properties, operators, and functions.

The computer information systems (CIS) certificate of achievement in computer information systems-database management prepares students for careers in business and government as information technologies and management workers.

Principal areas of study include computer software applications, web graphics and web technology, cloud-based systems, and database and project management. CIS coursework includes terminology and provides hands-on laboratory experience with operating and network systems. Stand-alone and internet-based applications are also covered.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening, during the day, and online.

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>CIS-107</td>
<td>Introduction to Web Databases</td>
<td>2</td>
</tr>
<tr>
<td>CIS-115</td>
<td>Microsoft Word - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-116</td>
<td>Microsoft Excel - Comprehensive</td>
<td>2</td>
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<tr>
<td>CIS-117</td>
<td>Microsoft Access - Comprehensive</td>
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</tr>
<tr>
<td>CIS-118</td>
<td>Microsoft PowerPoint - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-119</td>
<td>Microsoft Outlook - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-160</td>
<td>Introduction to MySQL</td>
<td>2</td>
</tr>
<tr>
<td>CIS-170</td>
<td>Networking for Non-IT Professionals</td>
<td>2</td>
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</tbody>
</table>

**plus at least 2 units from:**

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<tr>
<th>Course Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>CIS-100</td>
<td>Microsoft Windows - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-101</td>
<td>Apple Mac Operating System</td>
<td>2</td>
</tr>
</tbody>
</table>

**total minimum required units**

18

Certificate of achievement
Computer information systems - project management

Students completing the program will be able to...

A. demonstrate basic graphical user interface operations in a computer environment.

B. produce spreadsheets, documents and presentations by using basic to advanced software operations.

C. apply the principles of the Project Management Institute (PMI) processes of project management.

The computer information systems (CIS) certificate of achievement in computer information systems-project management prepares students for careers in business and government as information technologies and management workers.

Principal areas of study include computer software applications, web graphics and web technology, cloud-based systems, and database and project management. CIS coursework includes terminology and provides hands-on laboratory experience with operating and network systems. Stand-alone and internet-based applications are also covered.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening, during the day, and online.
Computer information systems

Principal areas of study include computer software applications, web technology, cloud-based systems, and database and project management. CIS coursework includes terminology and provides hands-on laboratory experience with operating and network systems. Stand-alone and internet-based applications are also covered.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening, during the day, and online.

**Certificate of achievement**

**Computer information systems - web technology**

Students completing the program will be able to...

A. demonstrate basic graphical user interface operations in a computer environment.
B. produce spreadsheets, documents and presentations by using basic to advanced software operations.
C. plan and design web pages.
D. able to prepare images for sharing and distribution.

The computer information systems (CIS) certificate of achievement in computer information systems-web technology prepares students for careers in business and government as information technologies and management workers.

Principal areas of study include computer software applications, web graphics and web technology, cloud-based systems, and database and project management. CIS coursework includes terminology and provides hands-on laboratory experience with operating and network systems. Stand-alone and internet-based applications are also covered.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening, during the day, and online.

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<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS-108</td>
<td>Introduction to Web Design</td>
<td>2</td>
</tr>
<tr>
<td>CIS-107</td>
<td>Introduction to Web Databases</td>
<td>2</td>
</tr>
<tr>
<td>CIS-106</td>
<td>Adobe Dreamweaver - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-105</td>
<td>Introduction to Web Design</td>
<td>2</td>
</tr>
<tr>
<td>CIS-115</td>
<td>Microsoft Word - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-116</td>
<td>Microsoft Excel - Comprehensive</td>
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</tr>
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</tr>
<tr>
<td>CIS-107</td>
<td>Introduction to Web Databases</td>
<td>2</td>
</tr>
<tr>
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</tr>
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<td>CIS-106</td>
<td>Adobe Dreamweaver - Comprehensive</td>
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</tr>
<tr>
<td>CIS-108</td>
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</tr>
<tr>
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<td>Microsoft Word - Comprehensive</td>
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</table>

**total minimum required units** 18

**web technology - recommended electives:**

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</thead>
<tbody>
<tr>
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<td>Introduction to Web Design</td>
<td>2</td>
</tr>
<tr>
<td>CIS-108</td>
<td>Introduction to WordPress</td>
<td>2</td>
</tr>
<tr>
<td>CIS-117</td>
<td>Microsoft Access - Comprehensive</td>
<td>2</td>
</tr>
<tr>
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<td>Microsoft Outlook - Comprehensive</td>
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<tr>
<td>CIS-107</td>
<td>Introduction to Web Databases</td>
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</tr>
</tbody>
</table>

**total minimum required units** 18
Certificate of accomplishment
Computer information systems - database management

Students completing the program will be able to...

A. demonstrate basic graphical user interface operations in a computer environment.
B. apply database syntax, properties, operators, and functions.

The computer information systems (CIS) certificate of accomplishment in computer information systems-database management prepares students for careers in business and government as information technologies and management workers.

Principal areas of study include computer software applications, web graphics and web technology, cloud-based systems, and database and project management. CIS coursework includes terminology and provides hands-on laboratory experience with operating and network systems. Stand-alone and internet-based applications are also covered.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening, during the day, and online.

required courses:  units
CIS-107 Introduction to Web Databases............................2
CIS-117 Microsoft Access - Comprehensive ....................2
CIS-160 Introduction to MySQL.........................................2

total minimum required units 6

Certificate of accomplishment
Computer information systems - project management

Students completing the program will be able to...

A. demonstrate basic graphical user interface operations in a computer environment.
B. apply the principles of the Project Management Institutes's (PMI) processes of project management.

The computer information systems (CIS) certificate of accomplishment in computer information systems-project management prepares students for careers in business and government as information technologies and management workers.

Principal areas of study include computer software applications, web graphics and web technology, cloud-based systems, and database and project management. CIS coursework includes terminology and provides hands-on laboratory experience with operating and network systems. Stand-alone and internet-based applications are also covered.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening, during the day, and online.

required courses:  units
CIS-180 Introduction to Project Management....................3
CIS-181 Project Management Fundamentals/
PMI PMP Preparation..................................................3

project management - recommended elective:
CIS-185 Project Management Tools.................................2

total minimum required units 6

Certificate of accomplishment
Computer information systems - web graphics

Students completing the program will be able to...

A. demonstrate basic graphical user interface operations in a computer environment.
B. able to prepare images for sharing and distribution.

The computer information systems (CIS) certificate of accomplishment in computer information systems-web graphics prepares students for careers in business and government as information technologies and management workers.

Principal areas of study include computer software applications, web graphics and web technology, cloud-based systems, and database and project management. CIS coursework includes terminology and provides hands-on laboratory experience with operating and network systems. Stand-alone and internet-based applications are also covered.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening, during the day, and online.

required courses:  units
CIS-130 Adobe Photoshop Elements ...............................2
CIS-132 Adobe Premiere Elements - Comprehensive ..........2
CIS-133 Developing Video Content for the Web .................2

total minimum required units 6

Certificate of accomplishment
Computer information systems - web technology

Students completing the program will be able to...

A. demonstrate basic graphical user interface operations in a computer environment.
B. plan and design web pages.

The computer information systems (CIS) certificate of accomplishment in computer information systems-web technology prepares students for careers in business and government as information technologies and management workers.

Principal areas of study include computer software applications, web graphics and web technology, cloud-based systems, and database and project management. CIS coursework includes terminology and provides hands-on laboratory experience with operating and network systems. Stand-alone and internet-based applications are also covered.
To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening, during the day, and online.

required courses:            units
CIS-105  Introduction to Web Design .........................2
CIS-106  Adobe Dreamweaver - Comprehensive ...............2
CIS-107  Introduction to Web Databases ....................2

total minimum required units  6

web technology - recommended electives:
CIS-108  Introduction to WordPress  ..........................2
CIS-117  Microsoft Access - Comprehensive ..................2
CIS-120  iPhone and iPad App Development for Beginners .................................................................2
CIS-160  Introduction to MySQL ..................................2

CIS-105  Introduction to Web Design
2 units  SC
• 36 hours lecture/18 hours laboratory per term
• Advisory: CIS-100 or CIS-101 or equivalent
• Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course presents fundamentals of the website development cycle. Topics will include basic web design concepts and processes used to design, organize, and maintain basic websites. Emphasis is placed on navigation, organization, presentation, and maintenance of websites. No previous web design experience is required. CSU

CIS-106  Adobe Dreamweaver - Comprehensive
2 units  SC
• 36 hours lecture/18 hours laboratory per term
• Advisory: CIS-100 or CIS-101 or equivalent
• Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course introduces the web development capabilities of Adobe Dreamweaver. This web authoring program is used for basic and professional web site development. Topics include planning, designing, creating, and troubleshooting web pages using the features of the software. No previous experience with this software is required. CSU

CIS-107  Introduction to Web Databases
2 units  SC
• 36 hours lecture/18 hours laboratory per term
• Advisory: CIS-100 or CIS-101 or equivalent
• Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course presents the fundamentals of database-driven web page development. Topics will include basic database configuration, the use of server-side tools to connect to a database, and the display and manipulation of database content over the web. CSU
CIS-108  Introduction to WordPress  
2 units  SC  
- 36 hours lecture/18 hours laboratory per term  
- Advisory: CIS-100 or CIS-101 or equivalent  
- Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.  

This course introduces students to WordPress. This easy to use software is used to create, organize, and maintain web sites. Emphasis is placed on installation, configuration, navigation, organization, presentation, and maintenance of web sites. No previous web design experience is required. CSU

CIS-117  Microsoft Access - Comprehensive  
2 units  SC  
- 36 hours lecture/18 hours laboratory per term  
- Advisory: CIS-100 or CIS-101 or equivalent  
- Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.  

This course presents the comprehensive functions of Microsoft Access, a powerful database program which is part of the Microsoft Office Suite. Topics include database design, queries, forms, and reports. Material relevant to the Microsoft certification examination will be covered. No previous experience with this software is required. CSU

CIS-115  Microsoft Word - Comprehensive  
2 units  SC  
- 36 hours lecture/18 hours laboratory per term  
- Advisory: CIS-100 or CIS-101 or equivalent  
- Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.  

This course presents the comprehensive functions of Microsoft Word, a powerful word processing program which is part of the Microsoft Office Suite. Topics include formatting and editing documents, forms, charts, and diagrams. Material relevant to the Microsoft certification examination will be covered. No previous experience with this software is required. CSU

CIS-116  Microsoft Excel - Comprehensive  
2 units  SC  
- 36 hours lecture/18 hours laboratory per term  
- Advisory: CIS-100 or CIS-101 or equivalent  
- Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.  

This course presents the comprehensive functions of Microsoft Excel, a powerful spreadsheet program which is part of the Microsoft Office Suite. Topics include work sheets, charts, formulas, functions, workbooks, and macros. Material relevant to the Microsoft certification examination will be covered. No previous experience with this software is required. CSU

CIS-118  Microsoft PowerPoint - Comprehensive  
2 units  SC  
- 36 hours lecture/18 hours laboratory per term  
- Advisory: CIS-100 or CIS-101 or equivalent  
- Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.  

This course presents the comprehensive functions of Microsoft PowerPoint, a powerful presentation program which is part of the Microsoft Office Suite. Topics include presentation development, special effects, slide shows, and the use of text, graphics, and multimedia. Material relevant to the Microsoft certification examination will be covered. No previous experience with this software is required. CSU

CIS-119  Microsoft Outlook - Comprehensive  
2 units  SC  
- 36 hours lecture/18 hours laboratory per term  
- Advisory: CIS-100 or CIS-101 or equivalent  
- Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.  

This course presents the comprehensive functions of Microsoft Outlook, a powerful email and personal information manager which is part of the Microsoft Office Suite. Topics include managing emails, contacts, calendars, and tasks. Material relevant to the Microsoft certification examination will be covered. No previous experience with this software is required. CSU
CIS-120  iPhone and iPad App Development for Beginners
2 units  SC
• 36 hours lecture/18 hours laboratory per term
• Advisory: CIS-100 or CIS-101 or equivalent
• Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course introduces students to application (app) development for iPhone and iPad devices. Essentials of iPhone and iPad app development including tools, frameworks, and concepts are covered. Hands-on exercises will be used to reinforce theory. No previous app development experience is required. Students will learn the essentials of iPhone and iPad app development: the tools, frameworks, and concepts. Hands-on exercises will be part of this course. CSU

CIS-130  Adobe Photoshop Elements
2 units  SC
• 36 hours lecture/18 hours laboratory per term
• Advisory: CIS-100 or CIS-101 or equivalent
• Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course presents the basics of Adobe Photoshop Elements. Topics include acquiring, organizing, fixing, enhancing, and sharing images. CSU

CIS-132  Adobe Premiere Elements - Comprehensive
2 units  SC
• 36 hours lecture/18 hours laboratory per term
• Advisory: CIS-100 or CIS-101 or equivalent
• Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course introduces students to Adobe Premiere Elements, a full-featured, video-editing program. This course covers how to turn video clips into a single movie, complete with color correction, effects, audio, and titles. Exporting videos to media and devices or online channels such as Facebook and YouTube will be addressed. CSU

CIS-133  Developing Video Content for the Web
2 units  SC
• 36 hours lecture/18 hours laboratory per term
• Advisory: CIS-100 or CIS-101 or equivalent
• Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course prepares students to produce digitally formatted videos and prepare them for use on the Internet. Topics include how to import digital video, create screen captures, edit, and produce video for distribution via online and other digital media. CSU

CIS-140  Introduction to Google Suite
2 units  SC
• 36 hours lecture/18 hours laboratory per term
This course covers the applications that comprise the Google Suite cloud tools. Students will use tools to create documents, spreadsheets, presentations, and web forms as well as collaborate in the cloud and connect with other users using chat and video conferencing technology. CSU

CIS-150  Topics in Computer Information Systems
.3-.4 units  SC
• Variable hours
A supplemental course in computer information systems to provide a study of current concepts and problems. Specific topics will be announced in the schedule of classes. CSU

CIS-160  Introduction to MySQL
2 units  SC
• 36 hours lecture/18 hours laboratory per term
• Advisory: CIS-100 or CIS-101 or equivalent
• Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course introduces students to the MySQL database program, which is used to create, organize, and maintain dynamic web sites. Emphasis is placed on table creation, queries, and database management. CSU
This course presents the basics of Small Office/Home Office (SOHO) networking. Topics include Internet connectivity, network design, network software, and network devices, such as hubs, switches, and routers. Emphasis is placed on connectivity, hardware, and implementation specifically designed for small office and home networking environments. CSU

This course introduces students to project management; topics include key concepts, terminology, principles, and processes. No previous experience with project management is required. CSU

This is an intermediate course on project management and builds on skills acquired in CIS-180. This course provides preparation for the internationally-recognized Project Management Institute (PMI) Project Management Professional (PMP) exam, which certifies skills in project management and product delivery. CSU

This course introduces students to the software tools, MS Visio and MS Project used in project management. The software is used to create, save, and publish flow charts, diagrams and task lists as well as to set up and assign project resources, track progress on tasks, organize and format project details, and publish project information. No previous experience with the software is required. CSU

Charlie Shi, Dean
Business, Computer Sciences, and Culinary Arts Division

Possible career opportunities
These CNT-courses prepare students for a career path in computer network technologies. These courses teach terminology and provide hands-on laboratory experience with operating systems and network devices. These courses begin to prepare the student for popular vendor certifications such as MCSE, MCSA, MSDBA, CCNA, CCNP, CCDA, CCDP, and copper/fiber cabling to name a few. The job titles of people employed in computer networking include: systems administrator, network administrator, network engineer, database administrator, LAN specialist and network designer.

Associate in science degree
Information and communication technology
Students completing the program will be able to...
A. terminate, install, and test copper and fiber.
B. troubleshoot wireless access points and connections.
C. install, configure, and troubleshoot hardware, operating systems, and software applications.
D. identify computer components to make informed decisions when purchasing computer hardware and software.
E. apply the fundamentals of good programming structure and good programming practices.
F. analyze and communicate problem specifications.
G. build a simple Ethernet network that includes end-devices and intermediary devices.
H. identify security issues with communications, email, web, remote access, and wireless technology.
I. differentiate between physical security, disaster recovery, and business continuity.
J. identify current network threats and ramifications.
K. troubleshoot threats and implement security methods against such threats.

This two-year associate in science degree program is intended to prepare the student for jobs in business and government as introductory positions such as network control specialist, computer system specialists, or specialist network control, entry-level help desk analyst, computer technician, to name a few. A graduate of this program will be able to sit for the Cisco Certified Network Associate (CCNA) exam, the CompTia A+ exam, the CompTia Net+ exam and other industry recognized exams depending on course selection. A graduate will have the required skills to install and configure local area networks that carry data, voice, and video communications, install, operate and maintain network services, routers, switches, and other network devices, resolve network communication problems, support and troubleshoot Personal Computers (PCs), work with a team and demonstrate desirable customer service and communication skills. NOTE: exact skills will depend on course selection.
DVC information and communication technology students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE). General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

To earn an associate in science degree with a major in information and communication technology, students must complete each course used to meet a major requirement with a “C” grade or higher and complete general education requirements as listed in the catalog. Degree requirements can be completed by attending classes in the day, the evening, or both. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**major requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNT-103 Voice, Video, and Network Cabling</td>
<td>2</td>
</tr>
<tr>
<td>CNT-104 IT Essentials (A+)</td>
<td>4</td>
</tr>
<tr>
<td>CNT-106 Introduction to Networks</td>
<td>3</td>
</tr>
<tr>
<td>COMSC-101 Computer Literacy</td>
<td>4</td>
</tr>
<tr>
<td>COMSC-110 Introduction to Programming</td>
<td>4</td>
</tr>
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</table>

plus at least 6 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS-250 Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>CNT-114 Microsoft Windows Operating System</td>
<td>3</td>
</tr>
<tr>
<td>CNT-120 Routing and Switching Essentials</td>
<td>3</td>
</tr>
<tr>
<td>CNT-140 Introduction to Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>CNT-148 Introduction to Cybersecurity:</td>
<td>4</td>
</tr>
<tr>
<td>CNT-149 Digital Forensics Fundamentals</td>
<td>3</td>
</tr>
</tbody>
</table>

plus at least 3 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>units</th>
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</thead>
<tbody>
<tr>
<td>BUS-240 Business Statistics</td>
<td>3</td>
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<tr>
<td>MATH-142 Elementary Statistics with Probability</td>
<td>4</td>
</tr>
<tr>
<td>MATH-144 Statway II</td>
<td>4</td>
</tr>
<tr>
<td>MATH-181 Finite Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-182 Calculus for Management, Life Science and Social Science I</td>
<td>4</td>
</tr>
<tr>
<td>MATH-191 Pre-Calculus</td>
<td>5</td>
</tr>
<tr>
<td>MATH-192 Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 26

---

### Certificate of achievement

**Information and communication technology**

Students completing the program will be able to...

A. terminate, install, and test copper and fiber.
B. troubleshoot wireless access points and connections.
C. install, configure, and troubleshoot hardware, operating systems, and software applications.
D. identify computer components to make informed decisions when purchasing computer hardware and software.
E. apply the fundamentals of good programming structure and good programming practices.
F. analyze and communicate problem specifications.
G. build a simple Ethernet network that includes end-devices and intermediary devices.
H. identify security issues with communications, email, web, remote access, and wireless technology.
I. differentiate between physical security, disaster recovery, and business continuity.
J. identify current network threats and ramifications.
K. troubleshoot threats and implement security methods against such threats.

This certificate of achievement program is intended to prepare the student for jobs in business and government as introductory positions such as network control specialist, computer system specialists, or specialist network control, entry-level help desk Analyst, computer technician, to name a few. A graduate of this program will be able to sit for the Cisco Certified Network Associate (CCNA) exam, the CompTia A+ exam, the CompTia Net+ exam and other industry recognized exams depending on course selection. A graduate will have the required skills to install and configure local area networks that carry data, voice, and video communications, install, operate and maintain network services, routers, switches, and other network devices, resolve network communication problems, support and troubleshoot Personal Computers (PCs), work with a team and demonstrate desirable customer service and communication skills. NOTE: exact skills will depend on course selection.

To earn a certificate of achievement in information and communication technology, students must complete each course used to meet a major requirement with a “C” grade or higher. Certificate requirements can be completed by attending classes in the day, evening, online, or a combination of those.

**major requirements:**

<table>
<thead>
<tr>
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<tr>
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<td>4</td>
</tr>
<tr>
<td>COMSC-110 Introduction to Programming</td>
<td>4</td>
</tr>
</tbody>
</table>

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Computer network technology
plus at least 6 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS-250</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>CNT-114</td>
<td>Microsoft Windows Operating System Essentials/Administration</td>
<td>3</td>
</tr>
<tr>
<td>CNT-120</td>
<td>Routing and Switching Essentials</td>
<td>3</td>
</tr>
<tr>
<td>CNT-140</td>
<td>Introduction to Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>CNT-148</td>
<td>Introduction to Cybersecurity:</td>
<td>3</td>
</tr>
<tr>
<td>CNT-149</td>
<td>Digital Forensics Fundamentals</td>
<td>3</td>
</tr>
</tbody>
</table>

plus at least 3 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
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</thead>
<tbody>
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</tr>
<tr>
<td>MATH-192</td>
<td>Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
</tbody>
</table>

**total minimum required units** 26

### Certificate of achievement

**Network cybersecurity**

Students completing the program will be able to...

A. identify computer components to make informed decisions when purchasing computer hardware and software.
B. build a simple Ethernet network that includes end-devices and intermediary devices.
C. identify and implement safeguards against common attacks.
D. identify security issues with communications, email, web, remote access, and wireless technology.
E. differentiate between physical security, disaster recovery, and business continuity.
F. demonstrate appropriate and ethical behavior and good work habits.
G. identify current network threats and ramifications.
H. troubleshoot threats and implement security methods against such threats.

This program prepares students for a variety of entry-level positions in IT network security and cybersecurity. This program builds on the foundation obtained after completing the network technology fundamentals certificate of achievement. Students completing this program can apply for jobs such as computer network support specialist, computer network defense analyst, computer network defense infrastructure support, network services, penetration tester, systems security analyst; to name a few. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

### Certificate of achievement

**Network technology fundamentals**

Students completing the program will be able to...

A. terminate, install, and test copper and fiber.
B. troubleshoot wireless access points and connections.
C. install, configure, and troubleshoot hardware, operating systems, and software applications.
D. identify computer components to make informed decisions when purchasing computer hardware and software.
E. build a simple ethernet network that includes end-devices and intermediary devices.

This program prepares students for a variety of entry level positions in IT networking and the beginning foundation for a student wanting to pursue a career in cyber defense, network forensics, network security and eventually cyber security. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>CNT-103</td>
<td>Voice, Video, and Network Cabling</td>
<td>2</td>
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</tr>
<tr>
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<td>Routing and Switching Essentials</td>
<td>3</td>
</tr>
<tr>
<td>COMSC-101</td>
<td>Computer Literacy</td>
<td>4</td>
</tr>
</tbody>
</table>

**total minimum required units** 19

### CNT-101 Exploring Cyber Safety

1 unit SC

- 13.5 hours lecture/13.5 hours laboratory per term
- Note: This course is open to all, but is particularly appropriate for students in 7th through 12th grade.

This course introduces cybersecurity career opportunities, cyber ethics, online safety, how computers work, and cyber threats. Topics include cybersecurity principles, virtual machines, basic Windows and Linux security policies, tools, account management, fundamental network connectivity, and security. CSU
CNT-102 Exploring Cyber Defense
1 unit SC
• 13.5 hours lecture/13.5 hours laboratory per term
• Advisory: CNT-101
• Note: This course is open to all, but is particularly appropriate for students in 7th through 12th grade.

This course builds on skills presented in CNT-101 and focuses on more advanced cybersecurity principles and skills needed to work with virtual machines. Emphasis is placed on security policies, tools, and account management of both Windows and Linux operating systems. The fundamentals of network connectivity and security are presented. CSU

CNT-103 Voice, Video, and Network Cabling
2 units SC
• 27 hours lecture/27 hours laboratory per term

This course presents the practical aspects of design, installation, testing, and troubleshooting cable carrying voice, data, video, and wireless signals. Successful completion of this course makes a student eligible to sit for the Fiber Optics Association (FOA) certification examination. CSU

CNT-104 IT Essentials (A+)
4 units SC
• 54 hours lecture/54 hours laboratory per term
• Advisory: COMSC-101 or equivalent
• Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course provides an introduction to the computer hardware and software skills needed to help meet the growing demand for entry-level IT professionals. The fundamentals of computer hardware and software as well as advanced concepts such as security, networking, and the responsibilities of an IT professional will be introduced. Preparation for CompTIA's A+ certification exam is provided. C-ID ITIS 110, CSU

CNT-106 Introduction to Networks
3 units SC
• 36 hours lecture/54 hours laboratory per term
• Advisory: COMSC-101 or equivalent
• Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. The course uses the Open Systems Interconnection (OSI) and Transmission Control Protocol (TCP) layered models to examine the nature and roles of protocols and services at the application, network, data link, and physical layers. The principles and structure of Internet Protocol (IP) addressing, and the fundamentals of Ethernet concepts, media, and operations are introduced. Students build simple Local Area Network (LAN) topologies by applying basic principles of cabling, performing basic configurations of network devices, including routers and switches, and implementing IP addressing schemes. This course is one of the three courses required to prepare for Cisco Certified Network Associate (CCNA) certification exam. C-ID ITIS 150, CSU

CNT-114 Microsoft Windows Operating System Essentials/Administration
3 units SC
• 45 hours lecture/27 hours laboratory per term
• Advisory: CNT-106 or equivalent; COMSC-101 or equivalent

This course is an introduction to Microsoft Windows server operating system and network support. Topics include user accounts, groups and group scopes, permissions, security, Active Directory terminology, optimizing Internet Protocol (IP) address allocation, utilities, and Web Services. CSU

CNT-120 Routing and Switching Essentials
3 units SC
• 36 hours lecture/54 hours laboratory per term
• Advisory: CNT-106 or equivalent
• Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course presents the architecture, components, and operations of routers and switches in a small network. Students configure and troubleshoot routers and switches for basic functionality and resolve common issues with wireless Local Area Networks (LANs) static routing, virtual LANs, and inter-VLAN (Virtual Local Area Network) routing in both IPv4 (Internet Protocol) and IPv6 networks. This course is one of the three courses required to prepare for Cisco Certified Network Associate (CCNA) certification exam. C-ID ITIS 151, CSU
CNT-125 Introduction to Virtualization Technology
3 units LR
• 45 hours lecture/27 hours laboratory per term
• Advisory: CNT-118 or equivalent
• Note: Students may petition to repeat when software and networking technologies are upgraded. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course presents an overview of the installation and configuration of both Microsoft and VMWare Virtualization Technologies. Topics include storage systems, business continuity, storage security and management, virtualization technology and concepts. Deployment and administration of various operating systems, Hyper-V, Virtual machine networks will also be covered. CSU

CNT-140 Introduction to Information Systems Security
4 units SC
• 54 hours lecture/54 hours laboratory per term
• Advisory: CNT-106 or equivalent; CNT-120 or equivalent
• Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course provides an introduction to the fundamental principles and topics of information technology security and risk management at the organizational level. Hardware, software, processes, communications, applications, and policies and procedures with respect to organizational cybersecurity and risk management are addressed. Preparation for the CompTIA Security+ certification exams is provided. C-ID ITIS 160, CSU

CNT-146 Internetworking Security
2 units SC
• 27 hours lecture/27 hours laboratory per term
• Advisory: CNT-140 or equivalent
• Note: Students may petition to repeat this course when software, hardware or certification requirements change. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course presents a study of network security principles as well as the tools and configurations required to secure a network. CSU

CNT-148 Introduction to Cybersecurity: Ethical Hacking
3 units LR
• 36 hours lecture/54 hours laboratory per term
• Advisory: CNT-114 and CNT-146 or equivalents
• Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course is intended to prepare students for the following certifications: AccessData Certified Examiner credential, Certified Information Systems Security Professional (CISSP), Cisco Certified Security Professional (CCSP), Security+, and Microsoft Security Certification. Students will analyze computers and networks for vulnerabilities, collect data, and preserve information for forensic investigation. Laws pertaining to computer and network forensic investigation will be presented and students will complete case studies on cyber attack investigations. C-ID ITIS 164, CSU

CNT-149 Digital Forensics Fundamentals
3 units SC
• 36 hours lecture/54 hours laboratory per term
• Advisory: CNT-140 or equivalent
• Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course introduces the methods used to properly conduct a computer forensics investigation. Topics include ethics, objectives of the International Association of Computer Investigative Specialists (IACIS) certification, computer forensics as a profession, the computer investigation process, operating systems boot processes and disk structures, data acquisition and analysis, technical writing, and computer forensics tools. C-ID ITIS 165, CSU

CNT-150 Topics in Computer Networking
.3-.4 units SC
• Variable hours

A supplemental course in computer networking to provide a study of current concepts and problems in networking. Specific topics will be announced in the schedule of classes. CSU
CNT-296 Internship in Occupational Work Experience Education in CNT

2-4 units SC
- May be repeated eight times
- Variable hours
- Note: In order to enroll in the CNT-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.

CNT-296 is a supervised internship in a skilled or professional level assignment in the student’s major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Each unit represents five hours of paid work or four hours of unpaid work per week or 75 hours of paid work or 60 hours of unpaid work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

COMPUTER SCIENCE – COMSC

Charlie Shi, Dean
Business, Computer Sciences, and Culinary Arts Division

The computer science department offers courses in three general areas, each targeted to serve students with specific needs:

1. General education students seeking a computer literacy course that will transfer to both CSU and UC campuses and/or provide hands-on instruction in the use of personal computer for classroom and research needs (COMSC-101)
2. Computer science transfer students planning to major in computer science or computer engineering at a four-year school (COMSC-110, 165, 200, 210, 255, 260)
3. Information systems (programming) professionals who are seeking to update their skills, (COMSC-120, 171, 172, 255, 256, 257, 275, 276)

Possible career opportunities
Study in computer science prepares students for careers in programming, computer operations, systems analysis and engineering, and web design, as well as artificial intelligence, robotics, and software engineering and development. Some career options require more than two years of college study.

Besides offering courses designed to meet lower-division requirements for a major in computer science, there is also a wide variety of courses covering current popular topics and new software development tools and languages. Such courses provide a path for working professionals to upgrade their skill-set and keep abreast with current technology.

Associate in science degree
Computer science

Students completing the program will be able to...

A. create computer programming solutions using either the C++ or Java programming language.
B. read and write programs written in x86 assembly language, and interface them with C++ programs.
C. effectively use either the C++ Standard Template Library or the Java util package to manage data structures in programs.
D. make the right choices of language, platform, data structures, and databases for a computer programming solution based on their knowledge of the elements of program design.

The associate in science in computer science is designed as a two-year curricular pathway that offers students a broad general education while integrating an in-depth study of computer science. Students will be prepared to assume entry-level positions in business and industry. Many of the courses are also applicable toward advanced levels of study. To earn a degree, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

major requirements:  units

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>COMSC-110 Introduction to Programming</td>
<td>4</td>
</tr>
<tr>
<td>COMSC-165 Advanced Programming with C and C++</td>
<td>4</td>
</tr>
<tr>
<td>COMSC-210 Program Design and Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>COMSC-260 Assembly Language Programming/</td>
<td></td>
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<tr>
<td>Computer Organization</td>
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<td>COMSC-200 Object Oriented Programming C++</td>
<td>4</td>
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<tr>
<td>COMSC-256 Advanced Java Programming</td>
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plus at least 4 units from:

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<th>Course</th>
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<td>COMSC-171</td>
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<td>COMSC-255</td>
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<td>COMSC-276</td>
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</table>

Results minimum units for the major 20

Students who intend to transfer to a four-year program in computer science should consult with a counselor regarding mathematics and science requirements listed below.

plus at 0-5 units from:

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<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
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<td>MATH-192 Analytic Geometry and Calculus I</td>
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</tr>
<tr>
<td>MATH-193 Analytic Geometry and Calculus II</td>
<td>5</td>
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<td>MATH-195 Discrete Mathematics</td>
<td>4</td>
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plus 0-8 units from:

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<tr>
<td>Mechanics and Wave Motion</td>
<td>4</td>
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<tr>
<td>PHYS-230 Physics for Engineers and Scientists B:</td>
<td></td>
</tr>
<tr>
<td>Heat and Electro-Magnetism</td>
<td>4</td>
</tr>
</tbody>
</table>
Certificate of achievement

Computer science - Advanced C++ programming

Students completing the program will be able to...
A. create computer programming solutions using C++ and OOP.
B. effectively apply inheritance and polymorphism in C++ class design.
C. “overload” common C++ operators for objects.

This program prepares students for a variety of programming positions and is especially suitable for students who have four-year degrees. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

required courses:  
COMSC-110 Introduction to Programming .......... 4
COMSC-165 Advanced Programming with C and C++ .... 4
COMSC-200 Object Oriented Programming C++ ........... 4

total minimum required units  12

Certificate of achievement

Computer science - Advanced Java programming

Students completing the program will be able to...
A. create computer programming solutions using Java and GUI.
B. write multithreaded Java programs.

This program prepares students for a variety of programming positions and is especially suitable for students who have four-year degrees. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

required courses:  
COMSC-110 Introduction to Programming .......... 4
COMSC-255 Programming with Java .................. 4
COMSC-256 Advanced Java Programming ............. 4

total minimum required units  12

Certificate of achievement

Computer science - Computer architecture

Students completing the program will be able to...
A. create computer programming solutions using C++.
B. read and write programs written in x86 assembly language, and interface them with C++ programs.

This program prepares students for a variety of programming positions and is especially suitable for students who have four-year degrees. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

required courses:  
COMSC-110 Introduction to Programming .......... 4
COMSC-165 Advanced Programming with C and C++ .... 4
COMSC-260 Assembly Language Programming/Computer Organization .......... 4

total minimum required units  12

Certificate of achievement

Computer science - Mobile and enterprise Java programming

Students completing the program will be able to...
A. create networked computer programming solutions using Java.
B. write Java programs involving sockets for TCP/IP network communications.
C. write Java programs involving Enterprise Java Beans.

This program prepares students for a variety of programming positions and is especially suitable for students who have four-year degrees. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

required courses:  
COMSC-110 Introduction to Programming .......... 4
COMSC-255 Programming with Java .................. 4
COMSC-257 Mobile Programming for Android Using Java .... 4

total minimum required units  12

Certificate of achievement

Computer science - Program design

Students completing the program will be able to...
A. create computer programming solutions using C++ and the STL.
B. write custom C++ template classes to create and manage data structures.
C. evaluate algorithmic efficiency and express in “big oh”.

This program prepares students for a variety of programming positions and is especially suitable for students who have four-year degrees. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

required courses:  
COMSC-110 Introduction to Programming .......... 4
COMSC-165 Advanced Programming with C and C++ .... 4
COMSC-210 Program Design and Data Structures ...... 4

total minimum required units  12
Certificate of achievement  
Computer science - Python programming

Students completing this program will be able to...
A. read and analyze programs written in Python.
B. write and code programs in Python.
C. create and develop medium-size applications in Python involving databases, networking, and graphics.

The Python programming language is best known for applications in data analytics and big data processing. Python is also popular in many other software application fields, including graphics, database, network programming, game development, embedded systems, and web and internet development. Organizations running networks on private and public clouds count on Python as a general-purpose solution to fulfill the development requirement of applications. The flexible nature of the language is driving the demand for trained Python programmers.

The certificate of achievement prepares students for jobs that require professional-level Python programming skills. In addition, Python programming skills also provide a good building block as an introduction to programming languages such as JavaScript, Perl, Ruby, and other programming languages.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

required courses: units
COMSC-140 Python Programming..........................3
COMSC-240 Advanced Python Programming..............3

plus at least 4 units from:
COMSC-110 Introduction to Programming..................4
COMSC-275 Introduction to Modern Web Programming
Using Python and JavaScript..............................4

plus at least 4 units from:
COMSC-165 Advanced Programming with C/C++...........4
COMSC-200 Object Oriented Programming C++............4
COMSC-255 Programming with Java.........................4
COMSC-276 Intermediate Web Programming Using PHP
and MySQL..................................................4

total minimum required units 14

Certificate of accomplishment  
Computer science - Python programming

Students completing this program will be able to...
A. read programs written in Python.
B. write programs in Python.
C. create and develop medium-size applications using Python.

The Python programming language is a very flexible language and is used in database, networking, web development, data analytics, and big data applications. The Python programming certificate of accomplishment will provide students with professional-level training and enhance employability in the above-mentioned fields.

To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

required courses: units
COMSC-140 Python Programming..........................3
COMSC-240 Advanced Python Programming..............3

COMSC-101 Computer Literacy  
4 units SC
• DVC GE: IB
• 54 hours lecture/54 hours laboratory per term
This introductory course in computer literacy covers the basics of computer hardware, software, and networking. Topics include local and cloud-based file management, productivity software for word processing, spreadsheets, databases, presentations, and home networks. An introduction to computer programming is also presented. CSU, UC

COMSC-110 Introduction to Programming  
4 units SC
• DVC GE: IB
• 54 hours lecture/54 hours laboratory per term
• Prerequisite: Placement into MATH-121 or higher or MATH-085 or MATH-085SP or beginning algebra or equivalent
• Advisory: COMSC-101 or equivalent
• Note: See schedule of classes for programming language presented. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.
This course introduces students to programming concepts emphasizing modular design and development of programs, coding style, documentation, debugging and testing. All control structures and data types of a commonly-used language are covered. C-ID COMP 112, C-ID ITIS 130. CSU, UC

COMSC-120 SQL Programming  
4 units SC
• 54 hours lecture/54 hours laboratory per term
• Advisory: COMSC-110 or ENGIN-135 or equivalent
• Note: Refer to class schedule for specific Oracle and SQLServer versions. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.
This course presents the creation and maintenance of databases and tables as well as the storage, retrieval and manipulation of data. Topics include both Oracle and Microsoft SQLServer. Structured Query Language (SQL) script that is common to both and product-specific variations are also covered. CSU
COMSC-140  Python Programming
3 units SC
• 45 hours lecture/27 hours laboratory per term
• Note: See schedule of classes for programming language presented. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course presents an introduction to the Python language. Topics covered include: primitive and collection data types, operators and statements, loops and branching, functions and variable spacing, modules and packages, object-oriented programming, file handling and exceptions, and an introduction to Graphical User Interface (GUI) programming. CSU, UC

COMSC-150  Topics in Computer Science
3-4 units SC
• Variable hours
• Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

A supplemental course in computer science to provide a study of current concepts and problems. Specific topics will be announced in the schedule of classes. CSU

COMSC-165  Advanced Programming with C and C++
4 units SC
• DVC GE: IB
• 54 hours lecture/54 hours laboratory per term
• Prerequisite: COMSC-110 or ENGIN-135 or equivalent

The course emphasizes programming techniques using C and C++ languages. The syntax of C is reviewed. Also covered are advanced topics such as string processing, pointers, links lists, queues, stacks, and dynamic memory allocation. C-ID COMP 122. CSU, UC

COMSC-171  Introduction to UNIX and Linux
2 units SC
• 27 hours lecture/27 hours laboratory per term

This is an introductory course in UNIX and Linux operating systems. This course covers scripting and the shell, access control, controlling processes, booting and shutting down, permissions, filesystems, utility programs, editors, usage of network services, storage, AWK scripting, and X Window graphics. CSU, UC

COMSC-172  UNIX and Linux Administration
2 units SC
• 27 hours lecture/27 hours laboratory per term
• Advisory: COMSC-171 or equivalent

This course presents the installation, configuration, and maintenance of UNIX or Linux systems. Topics include installation, booting, user management, hardware configuration, backup, package management, Transmission Control Protocol/Internet Protocol (TCP/IP) configuration, Dynamic Host Control Protocol (DHCP) servers configuration, Domain Name Server (DNS) server configuration, file server configuration, web server configuration, routing, packet filtering, and security. Course content will apply to all UNIX and Linux flavors. CSU

COMSC-200  Object Oriented Programming C++
4 units SC
• 54 hours lecture/54 hours laboratory per term
• Prerequisite: COMSC-165 or equivalent

This course presents the concepts and syntax of the C++ Language. Topics include inheritance, overloaded operators, overloaded default operators, virtual functions, memory management, and templates. CSU

COMSC-210  Program Design and Data Structures
4 units LR
• 54 hours lecture/54 hours laboratory per term
• Prerequisite: COMSC-165 or equivalent
• Advisory: COMSC-200 or equivalent

This course presents techniques relevant to program design and selection of data structures for larger programs. Topics include design techniques, effective use of recursion, algorithmic efficiency and O-notation, linked lists, binary trees, B-trees, graphs, sorting and searching techniques. Extensive programming of a variety of data structures is practiced. C-ID COMP 132, CSU, UC

COMSC-230  Discrete Mathematical Structures for Computer Science
3 units LR
• 54 hours lecture per term
• Prerequisite: COMSC-165, COMSC-140 or equivalent

This course introduces students to discrete mathematical structures and their applications in computer science. The course content includes functions, relations and sets, and propositional and predicate logic. Methods of proof, induction, fundamentals of counting, graphs, trees, and discrete probability are also covered. C-ID COMP 152. CSU, UC
COMSC-240  Advanced Python Programming  
3 units SC  
- 45 hours lecture/27 hours laboratory per term  
- Prerequisite: COMSC-140 or Equivalent.  
- Note: See schedule of classes for programming language presented. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.  
This advanced Python programming course is a continuation of COMSC-140, Python Programming, and is designed to prepare students for jobs as Python programmers. Regular expressions and classes are covered extensively along with elements of network programming such as File Transfer Protocol (FTP), web client, and web server. The course also covers graphics, database access, and Python extensions. CSU, UC

COMSC-255  Programming with Java  
4 units SC  
- DVC GE: IB  
- 54 hours lecture/54 hours laboratory per term  
- Advisory: COMSC-110 or equivalent  
This course emphasizes programming techniques using the Java programming language. The syntax and deployment of Java applications are reviewed. Advanced topics such as objects, classes, methods, Object Oriented Programming (OOP) principles, Graphical User Interface (GUI), Input/Output (I/O), data structures, applets, networking, and threads are covered. CSU, UC

COMSC-256  Advanced Java Programming  
4 units SC  
- 54 hours lecture/54 hours laboratory per term  
- Advisory: COMSC-255 or equivalent  
This course covers advanced topics in Java programming including multithreading, exception handling, serialization, reflection, model view controller architecture, java beans, servlets and database connectivity. CSU, UC

COMSC-257  Mobile Programming for Android Using Java  
4 units SC  
- 54 hours lecture/54 hours laboratory per term  
- Advisory: COMSC-255 or equivalent  
The course introduces Mobile programming concepts for the Android operating system using Java programming language. The Mobile programming topics covered include activities, services, broadcast receivers, content providers, telephony, text messaging, location services, fragments, user interface file, SQLite database, and Restful web services. CSU

COMSC-260  Assembly Language Programming/Computer Organization  
4 units SC  
- 54 hours lecture/54 hours laboratory per term  
- Prerequisite: COMSC-165 or equivalent  
This course covers the basics of machine architecture, machine language, assembly language, operating system interface, and interfacing with high level languages. Topics include data representation, instruction representation and execution, addressing, indexing, macros, subroutine linkages, storage and time efficiency issues, interrupt descriptor tables, virtual memory, cache memory, and dynamic address translation. C-ID COMP 142, CSU, UC

COMSC-275  Introduction to Modern Web Programming Using Python and Javascript  
4 units SC  
- 54 hours lecture/54 hours laboratory per term  
- Advisory: COMSC-110 or equivalent  
This introductory course presents the basic concepts and applications of web programming. The course uses the modern JavaScript on the client side and Python on the server side. It introduces the Python language and covers the basics of the JavaScript language as they apply to web programming. HTML (Hyper Text Markup Language) and CSS (Cascading Style Sheets) are also reviewed. CSU

COMSC-276  Intermediate Web Programming Using PHP and MySQL  
4 units SC  
- 54 hours lecture/54 hours laboratory per term  
- Advisory: COMSC-275 or equivalent  
This course presents the basic concepts and applications of server side web programming. PHP (Hypertext Preprocessor) is used as the server side programming language and MySQL as the database language. PHP language constructs are used to interface with the database. CSU

COMSC-277  Advanced Web Programming Using PHP  
4 units SC  
- 54 hours lecture/54 hours laboratory per term  
- Advisory: COMSC-275 or equivalent  
This is an advanced web programming course that presents advanced concepts and application of both client and server side programming. The JavaScript language as the client side and PHP (Hypertext Preprocessor) as the server side programming language and MySQL as the database will be used. CSU
COMSC-295  Occupational Work Experience
Education in COMSC
2-4 units  SC
• May be repeated eight times
• Variable hours
• Note: In order to enroll in COMSC-295, students must be employed, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.

COMSC-295 is supervised employment that extends classroom learning to the job site and relates to the student’s chosen field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Each unit represents five hours of work per week or 75 hours work per term. Students may earn up to a total of 16 in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

COMSC-296  Internship in Occupational Work
Experience Education in COMSC
2-4 units  SC
• May be repeated eight times
• Variable hours
• Note: In order to enroll in the COMSC-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.

COMSC-296 is a supervised internship in a skilled or professional level assignment in the student's major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Each unit represents five hours of paid work or four hours of unpaid work per week or 75 hours of paid work or 60 hours of unpaid work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

Construction – CONST

Despina Prapavessi, Dean
Mathematics and Engineering Division
Mathematics Building, Room 267

Possible career opportunities
Students completing a certificate in construction are qualified for positions in middle management in the building and construction inspection field, and in supervision for the construction industry.

Associate in science degree
Construction -
Construction and building inspection specialization
Students completing the program will be able to...
A. interpret the codes related to the construction industry.
B. identify code-compliant construction in buildings.
C. identify types of zoning used in a jurisdiction.
D. write knowledgeable correction notices.
E. apply construction terminology.
F. identify the effects of various governmental agencies involved in the construction industry on a construction project.
G. interpret blueprints and specifications.

Upon successful completion of the construction and building specialization, the student will have the necessary knowledge and skills for a career in building or construction inspection in the construction industry. This program is also valuable for those already employed in the field who wish to upgrade their skills.

To earn an associate in science degree with a major in construction, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all DVC general education requirements as listed in the catalog. A student is eligible for graduation with an associate in science degree after the satisfactory completion of one of three areas of specialization, general education requirements and degree-applicable elective coursework for a total of 60 units. Degree requirements can be completed by attending classes in the day, the evening, or both. Certain courses may satisfy both major and other general education requirements; however, the units are only counted once.

General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer. DVC construction students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE).

Students are limited to one associate in science degree in construction regardless of the number of specializations completed. Multiple certificates of achievement may be awarded.
Construction

**Construction and supervision and superintendency specialization**

Students completing the program will be able to...

A. estimate materials cost (quantity survey).
B. apply construction terminology.
C. schedule sequences of construction projects.
D. identify the effects of various governmental agencies involved in the construction industry on a construction project.
E. interpret blueprints and specifications.
F. utilize instruments used in surveying.

Upon successful completion of the construction and supervision and superintendency specialization, the student will have the necessary knowledge and skills for a career in building or construction inspection, or for supervision responsibilities in the construction industry. This program is also valuable for those already employed in the field who wish to upgrade their skills.

To earn an associate in science degree with a major in construction, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all DVC general education requirements as listed in the catalog. A student is eligible for graduation with an associate in science degree after the satisfactory completion of one of three areas of specialization, general education requirements and degree-applicable elective coursework for a total of 60 units. Degree requirements can be completed by attending classes in the day, the evening, or both. Certain courses may satisfy both major and other general education requirements; however, the units are only counted once.

General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer. DVC construction students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE). Students are limited to one associate in science degree in construction regardless of the number of specializations completed. Multiple certificates of achievement may be awarded.

**Construction management specialization**

Students completing the program will be able to...

A. estimate materials cost (quantity survey).
B. apply construction terminology.
C. schedule sequences of construction projects.
D. identify the effects of various governmental agencies involved in the construction industry on a construction project.
E. interpret blueprints and specifications.

Upon successful completion of the construction management specialization, the student will have the necessary knowledge and skills for a career in building or construction inspection, or for supervision responsibilities in the construction industry. This program is also valuable for those already employed in the field who wish to upgrade their skills.

To earn an associate in science degree with a major in construction, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all DVC general education requirements as listed in the catalog. A student is eligible for graduation with an associate in science degree after the satisfactory completion of one of three areas of specialization, general education requirements and degree-applicable elective coursework for a total of 60 units. Degree requirements can be completed by attending classes in the day, the evening, or both. Certain courses may satisfy both major and other general education requirements; however, the units are only counted once.
General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer. DVC construction students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE).

Students are limited to one associate in science degree in construction regardless of the number of specializations completed. Multiple certificates of achievement may be awarded.

**Associate in science degree**

**Pre-apprenticeship**

Students completing the program will be able to...

- interpret blueprints and specifications.
- apply construction terminology.
- use currently available basic personal protective equipment and be able to select appropriate equipment for a given environment.
- identify the most common sources of occupational injury and death.
- apply principles of job site safety.
- practice professional behavior on the construction site.
- demonstrate a clear understanding of many trades, interactions, interdependencies, and how the basic construction process flows from one trade to another.

This program prepares students for entry-level jobs in the building trades and/or entry into apprenticeship programs. Program content includes introduction to construction processes, occupational health and safety principles, and blueprint reading. In addition, the program provides contextualized math and English, physical education, a survey of trades, and college and workplace successes.

Upon completion of the program students will be able to directly enter the Northern California Laborers’ union, enter the Carpenters Training Committee for Northern California pre-apprenticeship program, or apply to a variety of apprenticeship programs, government agencies, and private-sector employers.

The associate in science degree requires eighteen units in the major, a minimum of units of general education units, and 18.5 elective units from a selection of degree applicable units. The certificate program courses also meet some of the requirements of other construction degrees and certificates. Students must complete each course used to meet a major requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the major. Students are advised that if they have previously completed equivalent or higher level English and/or math courses, these may be substituted for the requirements of the degree major. Many trades require documentation of at least one year of high school or one term of college algebra and higher levels of English and mathematics are highly recommended.

**Certificate of achievement**

**Construction and building inspection**

Students completing the program will be able to...

- interpret the codes related to the construction industry.
- identify code-compliant construction in buildings.
- identify types of zoning used in a jurisdiction.
- write knowledgeable correction notices.
- apply construction terminology.
- identify the effects of various governmental agencies involved in the construction industry on a construction project.
- interpret blueprints and specifications.

This program is designed to prepare students for a career in building or construction inspection, and it is also valuable for those already employed in the field who wish to upgrade their skills.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Certificate requirements can be completed by attending classes in the day, the evening, or both.
Certificate of achievement
Construction and supervision and superintendency

Students completing the program will be able to...
A. estimate materials cost (quantity survey).
B. apply construction terminology.
C. schedule sequences of construction projects.
D. identify the effects of various governmental agencies involved in the construction industry on a construction project.
E. interpret blueprints and specifications.
F. utilize instruments used in surveying.
G. demonstrate a clear understanding of many trades, interdependencies, and how the basic construction process flows from one trade to another.

This two-year program is designed to prepare students for positions in middle management or as technicians in the construction industry, working with a contractor, architect, engineer, or supplier and including such duties as material takeoff, estimating costs, purchasing, and timekeeping.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Certificate requirements can be completed by attending classes in the day, the evening, or both.

Certificate of achievement
Pre-apprenticeship

Students completing the program will be able to...
A. interpret blueprints and specifications.
B. apply construction terminology.
C. use currently available basic personal protective equipment and be able to select appropriate equipment for a given environment.
D. identify the most common sources of occupational injury and death.
E. apply principles of job site safety.
F. practice professional behavior on the construction site.
G. demonstrate a clear understanding of many trades, interdependencies, and how the basic construction process flows from one trade to another.
This program prepares students for entry-level jobs in the building trades and/or entry into apprenticeship programs. Program content includes introduction to construction processes, occupational health and safety principles, and blueprint reading. In addition, the program provides contextualized math and English, physical education, a survey of trades, and college and workplace success.

Upon completion of the program students will be able to directly enter the Northern California Laborers' union, enter the Carpenters Training Committee for Northern California pre-apprenticeship program, or apply to a variety of apprenticeship programs, government agencies, and private-sector employers.

The certificate of achievement requires completion of 21 The certificate of achievement requires completion of 20 units of study and certain courses also meet requirements of other construction degrees and certificates. Students must complete each course used to meet a certificate requirement with a “C” grade or higher. Students are advised that entry into apprenticeship programs can be highly competitive and that many trades require documentation of at least one year of high school or one term of college algebra. Completion of higher levels of English and mathematics than are required by the certificate are highly recommended. Students will enroll in CARER-140, CONST-105, CONST-135, CONST-215, and KNACT-120 as a cohort and complete these courses in one term.

This program prepares students for entry-level jobs in the building trades and/or entry into apprenticeship programs. Certain courses also meet requirements of other construction degrees and certificates. Students must complete each course with a “C” grade or higher.

<table>
<thead>
<tr>
<th>required courses:</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONST-110   Occupational Safety</td>
<td>2</td>
</tr>
<tr>
<td>CONST-114   Print Reading</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from*:</td>
<td></td>
</tr>
<tr>
<td>ENGL-096    Introduction to College Reading and Study Skills</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-097    Introduction to College Reading and Writing</td>
<td>5</td>
</tr>
<tr>
<td>ENGL-098    Introduction to College Writing</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from*:</td>
<td></td>
</tr>
<tr>
<td>MATH-092    Math for Trade Pre-Apprentices</td>
<td>4</td>
</tr>
<tr>
<td>MATH-119    Beginning and Intermediate Algebra</td>
<td>4</td>
</tr>
<tr>
<td>MATH-121    Plane Trigonometry</td>
<td>3</td>
</tr>
<tr>
<td>total minimum required units</td>
<td>11</td>
</tr>
</tbody>
</table>

*Higher level Math and English may be substituted for the certificate of accomplishment.

**Certificate of accomplishment**

**Pre-apprenticeship**

Students completing the program will be able to...

A. interpret blueprints and specifications.
B. apply construction terminology.
C. use currently available basic personal protective equipment and be able to select appropriate equipment for a given environment.
D. identify the most common sources of occupational injury and death.
E. apply principles of job site safety.
F. practice professional behavior on the construction site.
G. demonstrate a clear understanding of many trades, interactions, interdependencies, and how the basic construction process flows from one trade to another.
CONST-110  Occupational Safety  
2 units  SC  
• 36 hours lecture/18 hours laboratory per term  
• Note: Students meeting all course requirements will be eligible for a 30 hour OSHA Construction Safety Card. Students may petition to repeat when regulatory or industry standards change. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.  

This course covers the principles of health and safety in construction. Occupational Safety and Health Administration (OSHA) and Environmental Protection Agency (EPA) regulations and how they are applied to construction will be covered. CSU

CONST-114  Print Reading  
3 units  SC  
• 54 hours lecture per term  

This course presents the interpretation of construction documents, drawings, and specifications used in the building industry. Students are introduced to project plans for single and multi-family dwellings as well as mixed-use and light commercial. CSU

CONST-116  Plane Surveying  
4 units  SC  
• 54 hours lecture/54 hours laboratory per term  
• Prerequisite: MATH-121 or equivalent  
• Note: Same as ENGIN-140  

This course covers the principles and practices of surveying including measurement of distances, directions, elevations and measuring standards. An introduction to electronic measurements and calibration as well as systematic and random error analysis is presented. Students will use surveying instruments, perform Global Positioning System (GPS) measurements; and gain experience with map reading and mapping. CSU, UC

CONST-124  Construction Details and Specifications  
3 units  SC  
• 54 hours lecture per term  

This course presents the study of construction drawings and specifications for building systems. Details related to foundations, roofs, windows, doors, stairs, elevators, metal fabrications, and reinforced concrete are covered. The study of thermal and moisture protection, structural steel, wood-framed, and heavy-timber buildings and the interpretation and sketching of details is emphasized. CSU

CONST-135  Construction Processes: Residential  
4 units  SC  
• 54 hours lecture/54 hours laboratory per term  
• Note: Credit by examination option available.  

This course is an introduction to basic processes of the construction industry. Students will study light wood-frame construction and code requirements in residential construction. The areas of focus include quantity analysis, work activity sequencing, and scheduling. CSU

CONST-136  Construction Processes: Commercial  
4 units  SC  
• 54 hours lecture/54 hours laboratory per term  

This course is an overview of the processes of heavy construction including review of the working plans/drawings, construction sites, layout, substructures, superstructures made of concrete, steel, masonry, and wood. CSU

CONST-144  Materials of Construction  
3 units  SC  
• 54 hours lecture per term  

This course introduces the performance characteristics of construction materials. Testing concepts and procedures, basic properties of metals, concrete, timber, masonry, and roofing materials with an emphasis on construction applications will also be covered. CSU

CONST-150  Topics in Construction  
.3-.4 units  SC  
• Variable hours  

A supplemental course in construction designed to provide a study of current concepts and problems in construction. Specific topics to be announced in the schedule of classes. CSU

CONST-170  Fundamentals of Building Inspection  
3 units  SC  
• 54 hours lecture per term  

This course is focused on basic construction inspection procedures and the inspector’s legal responsibilities. Topics to be covered include inspecting structures, occupancy types, safety, and proper record keeping. CSU

CONST-180  California Building Codes for Disability Access  
3 units  SC  
• 54 hours lecture per term  

This course provides an overview of building codes as they relate to disability access. Federal and State statutes, regulations, and case law associated with disability will also be covered. CSU
CONST-181 Building Code Interpretation: Non-Structural
3 units SC
- 54 hours lecture per term
This course provides an overview of the legal requirements associated with building inspection. Nonstructural plan check review, and inspection procedures for commercial and industrial buildings will also be covered. CSU

CONST-182 Building Code Interpretation: Structural
3 units SC
- 54 hours lecture per term
- Advisory: MATH-085 or MATH-085SP or beginning algebra or equivalent
This course acquaints the student with legal requirements associated with building inspection. The development of code item checklists and structural plan reviews will also be covered. CSU

CONST-183 Title 24: Energy Conservation Codes
3 units SC
- 54 hours lecture per term
This course presents an overview of Title 24, Part 6 of the California Energy Regulation as it covers energy conservation and energy compliance codes. The focus of the course is on residential buildings which includes plan review, field inspection and Home Energy Rating System (HERS) verification during and after construction. Course work also includes energy projects, reviewing computer-generated energy compliance forms, case studies, and reviewing plan-checking procedures. CSU

CONST-191 Plumbing Code Interpretation
3 units SC
- 54 hours lecture per term
- Note: Students may petition to repeat when code changes. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.
This course covers the interpretation and application of codes and standards as they apply to the construction of plumbing systems. An overview of the California Plumbing Code and its application to residential and commercial construction will be covered. CSU

CONST-192 Mechanical Code Interpretation
3 units SC
- 54 hours lecture per term
This course acquaints students with legal requirements associated with building inspections. The California Mechanical Code and other standards as they apply to heating, ventilation, and refrigeration will also be discussed. CSU

CONST-215 Construction Job Site Training
2 units SC
- 9 hours lecture/81 hours laboratory per term
- Note: Job site experiences are scheduled off-campus. Students must provide transportation to and from job sites.
This course provides students with real job site experience in the construction trades. Students will participate as individuals and/or in group projects with organizations such as Habitat for Humanity and other community organizations. CSU

CONST-244 Estimating: Residential
3 units SC
- 54 hours lecture per term
- Advisory: CONST-114 or CONST-135 or equivalent
This course will present the procedures for estimating materials, labor costs, time management, and bidding strategies for residential construction projects. CSU

CONST-245 Estimating: Commercial
3 units SC
- 54 hours lecture per term
- Advisory: CONST-114 and CONST-136 or equivalents
This course will present the procedures for estimating materials, labor costs, time management, and bidding strategies for commercial construction projects. CSU

CONST-266 Electrical Codes: Articles 90-398
3 units SC
- 54 hours lecture per term
- Note: Same as ELECT-266. Students may petition to repeat when code changes. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.
This course covers the interpretation of the National Electrical Code (NEC) for general requirements, wiring and protection, wiring methods, and materials (articles 90-398). Safety installation practices will be presented. CSU

CONST-267 Electrical Codes: Articles 400-830
3 units SC
- 54 hours lecture per term
- Note: Same as ELECT-267. Students may petition to repeat when code changes. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.
This course covers the interpretation of the National Electrical Code (NEC) for equipment for general use, special occupancies and special equipment (Articles 400-830). Safety installation practices will be presented. CSU
CONST-273  Construction Management  3 units  SC  • 54 hours lecture per term
This course introduces administrative procedures, contracts, plans and specifications, schedules, diaries, inspections, report writing, estimating, cost management, safety, and other communication forms in the construction field. The different roles in construction management will also be discussed. CSU

CONST-276  Legal Aspects of the Construction Industry  3 units  SC  • 54 hours lecture per term
This course provides a summary of the legal implications of the duties and responsibilities of a construction supervisor, superintendent, and contractor. The emphasis is on the practical aspects of legal theories, codes, and cases that are applied to the construction industry. Attention will also be given to contracts and their interpretations. CSU

CONST-295  Occupational Work Experience Education in CONST  2-4 units  SC  • May be repeated eight times  • Variable hours  • Note: In order to enroll in CONST-295, students must be employed, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.
CONST-295 is supervised employment that extends classroom learning to the job site and relates to the student’s chosen field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Each unit represents 5 hours of work per week or 75 hours of work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5 Section 55253. CSU

CONST-298  Independent Study  .5-3 units  SC  • Variable hours  • Note: Submission of acceptable educational contract to department and Instruction Office is required.
This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

CONST-299  Student Instructional Assistant  .5-3 units  SC  • Variable hours  • Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

COUNSELING – COUNS
Emily Stone, Dean
Counseling Division
Student Services Center, Room 122

Possible career opportunities
Diablo Valley College’s counseling courses are designed to assist students in identifying educational and career goals, and enhancing their success through instruction in career and educational planning and student success strategies.

COUNS-075  Topics in College Readiness  .3-4 units  P/NP  • Non degree applicable  • Variable hours
A supplemental course in counseling to provide a study of current concepts and problems in counseling and related subdivisions. Specific topics will be announced in the schedule of classes.

COUNS-095  Educational Planning  .3 unit  P/NP  • Non degree applicable  • 6 hours lecture per term  • Limitation on Enrollment: Students must complete the Online Orientation and Online Placement process for math and English assessments prior to enrolling in this course.
This course provides an introduction to educational goal setting and course selection. Students will develop a plan to succeed in achieving their educational goal. Topics will include identification of interest area, educational and career goals, academic placement, counseling, and advising services.
COUNS-096  Orientation for Student-Athletes  
.3 unit  P/NP  
• Non degree applicable  
• 6 hours lecture per term  
• Limitation on enrollment: Students must complete the online orientation and math and English assessments prior to enrolling in this course.

This course provides an introduction to educational goal setting and course selection for student-athletes. Students will develop an education plan to succeed in achieving their educational and athletic goals. Topics include general college information, intercollegiate academic eligibility requirements and regulations, registration procedures, and student-athlete academic success strategies. Important college services for student-athletes will be emphasized.

COUNS-097  Educational Planning for DSS Students  
.3 unit  P/NP  
• Non degree applicable  
• 6 hours lecture per term  
• Note: Submit disability documentation to the DSS office in SSC-248 prior to registering for this course. Completion of English and mathematics assessment four days prior to this course will facilitate appropriate course selection.

This course provides an introduction to college for students with disabilities using course content tailored to meet the unique needs of this population. It will provide students in Disability Support Services (DSS) with a concrete plan for enrolling and succeeding in college. Topics include: an overview of DSS services and accommodations at Diablo Valley College (DVC), an explanation of the differences between high school and college, an overview of general information about certificate, associate degree and transfer pathways, and how to build a student educational plan.

COUNS-100  New Student Success Strategies  
1 unit  SC  
• 18 hours lecture per term

This course introduces new students to information, resources and skills necessary for college success. Topics will include educational opportunities, campus resources, study skills and strategies. The class also provides instruction in educational planning to reach certificate, degree and transfer goals. CSU, UC (Credit limitations may apply to UC - see counselor.)

COUNS-120  Student Success  
3 units  SC  
• CSU GE: E  
• 54 hours lecture per term  
• Advisory: College-level reading and writing are expected.

This course presents skills and strategies to succeed as a college student. Topics such as motivation and attitudes, time management, decision-making processes, goal-setting, critical thinking skills, study skills, and interpersonal communication will be explored. Students will evaluate their own skills and behaviors in relation to these topics and learn strategies to make meaningful choices about their education, career and personal goals. CSU, UC (credit limits may apply to UC - see counselor)

COUNS-125  Student Strategies for Happiness and Well-being  
3 units  SC  
• CSU GE: E  
• 54 hours lecture per term

This course will engage students in the study and application of current research related to happiness and well-being. Students will practice strategies for creating more happiness, well-being, and fulfillment in their lives. Topics include the biological, environmental, and behavioral influences on happiness, as well as the cultural dimensions of well-being, the role of emotional intelligence, mindfulness, gratitude, altruism/activism, optimism, purpose and other factors in the cultivation of happiness is emphasized. Students will also be introduced to campus and community services that address common college mental health challenges. CSU, UC (credit limits may apply to UC - see counselor)

COUNS-130  Transfer Planning  
1.5 units  SC  
• 27 hours lecture per term  
• Advisory: College-level reading and writing are expected.

This course presents an overview of the transfer admission requirements, application process, and procedures. Topics include transfer to private, public, in-state, and out-of-state colleges and universities, transfer admission programs, major preparation, and articulation agreements. A key component of this course includes applying research skills and strategies using a variety of techniques to find, retrieve, and evaluate transfer planning information to create a personal education plan. CSU
COUNS-140  Student Success for International Students

3 units SC
- CSU GE: E
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course presents skills and strategies to succeed as an international college student studying on a non-immigrant visa. Topics such as motivation and attitudes, time management, culture shock, decision-making processes, goal setting, critical thinking skills, study skills, interpersonal communication, and successfully navigating the U.S. education system will be explored. Students will evaluate their own skills and behaviors in relation to these topics and learn strategies to make meaningful choices about their education, career, and personal goals. CSU, UC

COUNS-150  Topics in Counseling

.3-.4 units SC
- Variable hours

A supplemental course designed to provide personal and social development skills related to academic issues. Specific topics will be announced in the schedule of classes. CSU

COUNS-155  Topics in Group Counseling

.3-.4 units SC
- Variable hours

An interpersonal experience designed to develop self-awareness and to increase understanding of and competence in interpersonal relationships. CSU

CULINARY ARTS – CULN

Charlie Shi Dean
Business, Computer Science, and Culinary Division

Possible career opportunities

The culinary arts program prepares you with a broad level of skill and provides professional training for employment as a restaurant chef, culinary supervisor, line cook, kitchen manager, food server, caterer, banquet chef, dining room manager, and school foodservice specialist.

The baking and pastry program provides professional training for employment as a baker or pastry chef in restaurants, hotels, resorts, bakeries, grocery food chains, cafes, hospitals, resorts, child care facilities, cafeterias, food preparation centers, and catering facilities. Career options include bakery production finisher, pastry decorator, caterer, baker assistant, bakery entrepreneur, and bakery/pastry chef.

The restaurant management program addresses all aspects of food and beverage operations and provides professional training to enter the restaurant field as a manager-trainee in a food service establishment. Career options include restaurant owner/operator, banquet manager, dining room manager, purchasing specialist, catering manager, and food entrepreneur. Some career options may require more than two years of college study.

Associate in science degree

Baking and pastry

Students completing the program will be able to...
A. identify equipment and utensils used in baking and discuss proper use and care.
B. discuss the properties and functions of various ingredients, and demonstrate proper scaling and measurement techniques.
C. explain and apply baking/pastry terms and procedures appropriately.
D. demonstrate current food service sanitation procedures.
E. select, organize, and analyze ingredients used in baking and pastry production.
F. select, recognize, and utilize equipment and tools used in baking and pastry production.
G. scale and measure ingredients properly.
H. produce a variety of bakery products using standard baking procedures and evaluate the products based of method, timing, appearance, texture, cell structure and overall eating quality.

DVC has been placing students in small and large bakeries, specialty pastry shops, catering and dessert preparation in restaurants for many years. Diablo Valley College's baking and pastry program offers an in-depth, hands-on learning curriculum where students gain both knowledge and experience through the program's technical facilities. In addition to training at the DVC facilities, students may gain experience working outside the college through an internship program. DVC's associate degree in baking and pastry is designed primarily for those students who desire to complete a two-year degree. General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer. Students who are interested in pursuing a management-focused program in hospitality should see a counselor and consider the General Education Requirements Options 2 or 3.

Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file in the Culinary Department Office by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. To earn an associate in science degree, students must complete each course used to meet a certificate requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the degree.

major requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>CULN-105</td>
<td>Kitchen Foundations</td>
<td>2</td>
</tr>
<tr>
<td>CULN-153</td>
<td>Safety and Sanitation</td>
<td>2</td>
</tr>
<tr>
<td>CULN-161</td>
<td>Baking Foundations</td>
<td>2</td>
</tr>
<tr>
<td>CULN-163</td>
<td>Science and Substitutes in Baking and Pastry......</td>
<td>2</td>
</tr>
<tr>
<td>CULN-181</td>
<td>Fundamental Techniques of Baking and Pastry......</td>
<td>5</td>
</tr>
<tr>
<td>CULN-185</td>
<td>Nutritional Guidelines in Food Preparation........</td>
<td>2</td>
</tr>
<tr>
<td>CULN-192</td>
<td>Purchasing Operations and Product Identification</td>
<td>1.5</td>
</tr>
<tr>
<td>CULN-193</td>
<td>Purchasing Operations and Systems Laboratory.....</td>
<td>1.5</td>
</tr>
<tr>
<td>CULN-209</td>
<td>Plated Seasonal Dessert</td>
<td>2</td>
</tr>
<tr>
<td>CULN-210</td>
<td>Artisan Bread</td>
<td>2</td>
</tr>
<tr>
<td>CULN-212</td>
<td>Candies, Chocolates, and Truffles</td>
<td>2</td>
</tr>
<tr>
<td>CULN-215</td>
<td>Decorative Confectionery Showpieces</td>
<td>1</td>
</tr>
<tr>
<td>CULN-281</td>
<td>Advanced Techniques of Baking and Pastry..........</td>
<td>5</td>
</tr>
</tbody>
</table>
plus at least 3 units from:
CULN-110 Orientation to Hospitality..........................3
CULN-129 Introduction to Urban Farming: Farm-to-Table...1
CULN-186 Sustainable Hospitality – Energy, Water and Waste..................................................1
CULN-195 Supervisory Management in Food Service......3
CULN-230A Culinary Competition I ...............................0.5
CULN-230B Culinary Competition II .............................0.5
CULN-235A Off-Campus Catering I .............................0.5-1
CULN-235B Off-Campus Catering II ............................0.5-1
CULN-240A On-Campus Catering I .............................0.5-1
CULN-240B On-Campus Catering II ............................0.5-1
CULN-240C On-Campus Catering III ...........................0.5-1
CULN-295 Occupational Work Experience Education in CULN....................................................2-4
CULN-296 Internship in Occupational Work Experience Education in CULN........................................2-4
CULN-298 Independent Study........................................2-3
CULN-299 Student Instructional Assistant.....................2-3
total minimum units for the major 33

Associate in science degree

Culinary arts

Students completing the program will be able to...
A. discuss the criteria for excellence in purchasing food, preparing food, and presenting food for service.
B. demonstrate teamwork in planning, purchasing, preparing and presenting food for service.
C. demonstrate and describe the differences in producing foods for large events vs. a la carte dining.
D. demonstrate the proper application of dry, moist, and combination cooking methods to a variety of food products.
E. demonstrate current food service sanitation procedures.
F. serve food according to professional industry standards.
G. calculate costs and apply procedures in order to run a cost effective food service establishment.
H. create menus that incorporate menu planning principles that maximize sales and profits.

Diablo Valley College’s culinary arts program offers an in-depth, hands-on learning curriculum where students gain both knowledge and experience in the program’s technical facilities. In addition to training at the DVC facilities, students may gain experience working outside the college through an internship program. DVC’s associate degree in culinary arts is designed primarily for those students who desire to complete a two-year degree. General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer. Students who are interested in pursuing a management-focused program in hospitality should see a counselor and consider the General Education Options 2 or 3.

Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file in the Culinary Department Office by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. To earn an associate in science degree, students must complete each course used to meet a certificate requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the degree.

plus at least 3 units from
CULN-110 Orientation to Hospitality..........................3
CULN-129 Introduction to Urban Farming: Farm-to-Table...1
CULN-186 Sustainable Hospitality – Energy, Water and Waste ..................................................1
CULN-195 Supervisory Management in Food Service......3
CULN-230A Culinary Competition I ...............................0.5
CULN-230B Culinary Competition II .............................0.5
CULN-235A Off-Campus Catering I .............................0.5-1
CULN-235B Off-Campus Catering II ............................0.5-1
CULN-240A On-Campus Catering I .............................0.5-1
CULN-240B On-Campus Catering II ............................0.5-1
CULN-240C On-Campus Catering III ...........................0.5-1
CULN-295 Occupational Work Experience Education in CULN....................................................2-4
CULN-296 Internship in Occupational Work Experience Education in CULN........................................2-4
CULN-298 Independent Study........................................2-3
CULN-299 Student Instructional Assistant.....................2-3
total minimum units for the major 34

Associate in science degree
Restaurant management

Students completing the program will be able to...
A. demonstrate proper service techniques used in the culinary industry.
B. demonstrate teamwork in planning, purchasing, preparing and presenting food for service.
C. explore opportunities available in California’s hospitality and culinary industry.
D. explain factors that determine quality food.
E. explain and list both the advantages and disadvantages comparing full service to buffet service.
F. demonstrate current food service sanitation procedures.
G. plan, organize, setup and serve special events for 50-150 guests.
H. calculate cost and apply procedures in order to run a cost effective food service establishment.
Diablo Valley College's restaurant management program offers an in-depth, hands-on learning curriculum where students gain both knowledge and experience through the program’s technical facilities. Restaurant management students work and learn in a fully equipped food production kitchen, a demonstration laboratory, a retail pastry shop and a restaurant that is open to the public. In addition to training at the DVC facilities, students may gain experience working outside the college through an internship program. DVC’s associate degree in restaurant management is geared primarily towards DVC’s culinary students desiring some additional management coursework. Students who are interested in pursuing a management-focused program in hospitality should expect to complete a four-year degree program at a university. These students should see a counselor or faculty advisor and consider the General Education Requirements Options 2 or 3. The associate degree in hospitality studies may be an appropriate program choice for students who wish to transfer to a university.

Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file in the Culinary Department Office by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. To earn an associate degree, students must complete each course used to meet a degree requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the degree.

**major requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSAC-181 Applied Accounting</td>
<td>3</td>
</tr>
<tr>
<td>CULN-105 Kitchen Foundations</td>
<td>2</td>
</tr>
<tr>
<td>CULN-120 Fundamentals of Cuisine</td>
<td>5</td>
</tr>
<tr>
<td>CULN-153 Safety and Sanitation</td>
<td>2</td>
</tr>
<tr>
<td>CULN-160 Fundamentals of Beverage, Wine and Spirits</td>
<td>3</td>
</tr>
<tr>
<td>CULN-161 Baking Foundations</td>
<td>2</td>
</tr>
<tr>
<td>CULN-192 Purchasing Operations and Product Identification</td>
<td>1.5</td>
</tr>
<tr>
<td>CULN-193 Purchasing Operations and Systems Laboratory</td>
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</tr>
<tr>
<td>CULN-195 Supervisory Management in Food Service</td>
<td>3</td>
</tr>
<tr>
<td>CULN-201 Principles of Food, Beverage, and Cost Controls</td>
<td>3</td>
</tr>
<tr>
<td>CULN-202 Fundamentals of Modern Restaurant</td>
<td>5</td>
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</tbody>
</table>

**plus at least 3 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>CULN-110 Orientation to Hospitality</td>
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</tr>
<tr>
<td>CULN-129 Introduction to Urban Farming: Farm-to-Table ...</td>
<td>1</td>
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<tr>
<td>CULN-186 Sustainable Hospitality - Energy, Water and Waste</td>
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<tr>
<td>CULN-230A Culinary Competition I</td>
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<td>CULN-230B Culinary Competition II</td>
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<tr>
<td>CULN-235A Off-Campus Catering I</td>
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<td>CULN-235B Off-Campus Catering II</td>
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<td>CULN-240A Off-Campus Catering II</td>
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<td>CULN-240B On-Campus Catering II</td>
<td>0.5-1</td>
</tr>
<tr>
<td>CULN-240C On-Campus Catering III</td>
<td>0.5-1</td>
</tr>
<tr>
<td>CULN-295 Occupational Work Experience Education in CULN</td>
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<tr>
<td>CULN-296 Internship in Occupational Work Experience Education in CULN</td>
<td>2-4</td>
</tr>
<tr>
<td>CULN-298 Independent Study</td>
<td>2-3</td>
</tr>
<tr>
<td>CULN-299 Student Instructional Assistant</td>
<td>2-3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 34

**Associate in science in hospitality management for transfer**

The associate in science in hospitality management for Transfer (AS-T) degree is intended to meet the lower division requirements for Hospitality majors (or similar majors) at a CSU campus that offers a hospitality management baccalaureate degree. This degree is designed for students interested in gaining the basic concepts of hospitality management and to prepare them for jobs with local and global hotels, restaurants, airlines, cruise lines, sports arenas, entertainment, and amusement parks. On completion, students are ready to transfer into hospitality management and related degree programs at a CSU.

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education-pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for oral communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60-unit requirement for an associate’s degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

**required course:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CULN-110 Orientation to Hospitality</td>
<td>3</td>
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**plus at least 8 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>CULN-120 Fundamentals of Cuisine</td>
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</tr>
<tr>
<td>CULN-153 Safety and Sanitation</td>
<td>2</td>
</tr>
<tr>
<td>CULN-201 Principles of Food, Beverage, and Cost Controls</td>
<td>3</td>
</tr>
<tr>
<td>ECON-221 Principles of Microeconomics</td>
<td>3</td>
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**plus at least 7 units from any course not used above or:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>BUSAC-186 Financial Accounting</td>
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</tr>
<tr>
<td>BUS-294 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUS-240 Business Statistics</td>
<td>3</td>
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<tr>
<td>MATH-142 Elementary Statistics with Probability</td>
<td>4</td>
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<tr>
<td>MATH-144 Statway II</td>
<td>4</td>
</tr>
<tr>
<td>PSYCH-101 Introduction to Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 18
Certificate of achievement
Baking and pastry

Students completing this program will be able to...

A. explain and apply baking/pastry terms and procedures appropriately.
B. select, organize, and analyze ingredients used in baking and pastry production.
C. select, recognize, and utilize equipment and tools used in baking and pastry production.
D. scale and measure ingredients properly.
E. Identify equipment and utensils in baking and discuss proper use and care.
F. discuss the properties and functions of various ingredients and demonstrate proper scaling and measurement techniques.
G. demonstrate current food service sanitation procedures.
H. produce a variety of bakery products using standard baking procedures and evaluate the products based on method, timing, appearance, texture, cell structure, and overall eating quality.

This in-depth training program prepares students for many entry-level positions in small and large bakeries, specialty pastry shops, dessert catering, and dessert preparation in restaurants. Our graduates enter the baking and pastry field and many have started their own businesses.

Culinary and food service students must have a current record of satisfactory tuberculosis TB screening on file in the Culinary Department Office by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Certificate requirements may only be completed by attending a combination of day and evening classes.

required courses: units
CULN-105 Kitchen Foundations ........................................2
CULN-153 Safety and Sanitation ...........................................2
CULN-161 Baking Foundations ...........................................2
CULN-163 Science and Substitutes in Baking and Pastry ...2
CULN-181 Fundamental Techniques of Baking and Pastry ......................................................5
CULN-185 Nutritional Guidelines in Food Preparation .........2
CULN-192 Purchasing Operations and Product Identification ..................................................1.5
CULN-193 Purchasing Operations and Systems Laboratory .......................................................1.5
CULN-209 Plated Seasonal Dessert ..........................................2
CULN-210 Artisan Bread ......................................................2
CULN-212 Candies, Chocolates, and Truffles .......................2
CULN-215 Decorative Confectionery Showpieces ................1
CULN-281 Advanced Techniques of Baking and Pastry ......5

plus at least 3 units from:
CULN-110 Orientation to Hospitality ........................................3
CULN-129 Introduction to Urban Farming: Farm-to-Table ...1
CULN-186 Sustainable Hospitality – Energy, Water and Waste ......................................................1
CULN-195 Supervisory Management in Food Service ........3
CULN-230A Culinary Competition I ......................................0.5
CULN-230B Culinary Competition II ....................................0.5
CULN-235A Off-Campus Catering I .....................................0.5-1
CULN-235B Off-Campus Catering II ....................................0.5-1
CULN-240A On-Campus Catering I .....................................0.5-1
CULN-240B On-Campus Catering II ....................................0.5-1
CULN-240C On-Campus Catering III ...................................0.5-1
CULN-295 Occupational Work Experience Education in CULN ................................................2-4
CULN-296 Internship in Occupational Work Experience Education in CULN ................................2-4
CULN-298 Independent Study .............................................2-3
CULN-299 Student Instructional Assistant .............................2-3

total minimum units for the major 33

Certificate of achievement
Culinary arts

Students completing this program will be able to...

A. discuss the criteria for excellence in purchasing food, preparing food, and presenting food for service.
B. demonstrate teamwork in planning, purchasing, preparing and presenting food for service.
C. demonstrate and describe the differences in producing foods for large events vs. a la carte dining.
D. demonstrate the proper application of dry, moist, and combination cooking methods to a variety of food products.
E. demonstrate current food service sanitation procedures.
F. serve food according to professional industry standards.
G. calculate costs and apply procedures in order to run a cost effective food service establishment.
H. create menus that incorporate menu planning principles that maximize sales and profits.

This in-depth, hands-on training program prepares students for a professional culinary career. Our certificate program is accredited by the American Culinary Federation Educational Institute, a national organization of professional chefs. Our graduates enter the culinary field and many have progressed to the position of executive chef.

Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file in the Culinary Department Office by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Certificate requirements may only be completed by attending a combination of day and evening classes.

required courses:
CULN-105 Kitchen Foundations ........................................2
CULN-153 Safety and Sanitation ...........................................2
CULN-161 Baking Foundations ...........................................2
CULN-163 Science and Substitutes in Baking and Pastry ...2
CULN-181 Fundamental Techniques of Baking and Pastry ......................................................5
CULN-185 Nutritional Guidelines in Food Preparation .........2
CULN-192 Purchasing Operations and Product Identification ..................................................1.5
CULN-193 Purchasing Operations and Systems Laboratory .......................................................1.5
CULN-209 Plated Seasonal Dessert ..........................................2
CULN-210 Artisan Bread ......................................................2
CULN-212 Candies, Chocolates, and Truffles .......................2
CULN-215 Decorative Confectionery Showpieces ................1
CULN-281 Advanced Techniques of Baking and Pastry ......5

plus at least 3 units from:
CULN-110 Orientation to Hospitality ........................................3
CULN-129 Introduction to Urban Farming: Farm-to-Table ...1
CULN-186 Sustainable Hospitality – Energy, Water and Waste ......................................................1
CULN-195 Supervisory Management in Food Service ........3
CULN-230A Culinary Competition I ......................................0.5
CULN-230B Culinary Competition II ....................................0.5
CULN-235A Off-Campus Catering I .....................................0.5-1
CULN-235B Off-Campus Catering II ....................................0.5-1
CULN-240A On-Campus Catering I .....................................0.5-1
CULN-240B On-Campus Catering II ....................................0.5-1
CULN-240C On-Campus Catering III ...................................0.5-1
CULN-295 Occupational Work Experience Education in CULN ................................................2-4
CULN-296 Internship in Occupational Work Experience Education in CULN ................................2-4
CULN-298 Independent Study .............................................2-3
CULN-299 Student Instructional Assistant .............................2-3

total minimum units for the major 33
Culinary arts

required courses:

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<tr>
<td>CULN-105</td>
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<td>CULN-120</td>
<td>Fundamentals of Cuisine</td>
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<td>Breakfast, Brunch, and Bistro Cuisine</td>
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<td>CULN-153</td>
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<td>Baking Foundations</td>
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<td>CULN-175</td>
<td>Protein Fabrication</td>
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<td>CULN-185</td>
<td>Nutritional Guidelines in Food Preparation</td>
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<td>CULN-193</td>
<td>Purchasing Operations and Systems</td>
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<tr>
<td>CULN-202</td>
<td>Fundamentals of Modern Restaurant</td>
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<tr>
<td>CULN-228</td>
<td>International Cuisines</td>
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plus at least 3 units from:

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<tr>
<td>CULN-110</td>
<td>Orientation to Hospitality</td>
<td>3</td>
</tr>
<tr>
<td>CULN-129</td>
<td>Introduction to Urban Farming: Farm-to-Table</td>
<td>1</td>
</tr>
<tr>
<td>CULN-186</td>
<td>Sustainable Hospitality – Energy, Water and Waste</td>
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<td>CULN-195</td>
<td>Supervisory Management in Food Service</td>
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</tr>
<tr>
<td>CULN-230A</td>
<td>Culinary Competition I</td>
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<td>CULN-230B</td>
<td>Culinary Competition II</td>
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<td>CULN-235B</td>
<td>Off-Campus Catering II</td>
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<tr>
<td>CULN-240A</td>
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<tr>
<td>CULN-299</td>
<td>Student Instructional Assistant</td>
<td>2-3</td>
</tr>
</tbody>
</table>

total minimum units for the major: 34

Certificate of achievement

Restaurant management

Students completing this program will be able to...

A. demonstrate proper management and service techniques used in the culinary industry.
B. demonstrate teamwork in planning, purchasing, preparing and presenting food for service.
C. explore opportunities available in California’s hospitality and culinary industry.
D. explain factors that determine quality food.
E. explain and list both the advantages and disadvantages comparing full service to buffet service.
F. demonstrate current food service sanitation procedures.
G. plan, organize, setup and serve special events for 50-150 guests.
H. calculate cost and apply procedures in order to run a cost-effective food service establishment.

Our in-depth, hands-on training program prepares students to begin their careers in restaurant management. Our graduates enter the hospitality industry and many progress to management positions.

Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file in the Culinary Department Office by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Certificate requirements may only be completed by attending a combination of day and evening classes.

required courses:

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<td>BUSAC-181</td>
<td>Applied Accounting</td>
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<td>CULN-105</td>
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<td>CULN-120</td>
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</tr>
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<td>CULN-153</td>
<td>Safety and Sanitation</td>
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<td>CULN-160</td>
<td>Fundamentals of Beverage, Wine and Spirits</td>
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<td>CULN-161</td>
<td>Baking Foundations</td>
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<tr>
<td>CULN-201</td>
<td>Principles of Food, Beverage, and Cost Controls</td>
<td>3</td>
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<td>CULN-202</td>
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<td>CULN-299</td>
<td>Student Instructional Assistant</td>
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</tr>
</tbody>
</table>

total minimum units for the major: 34

Note: DVC’s restaurant management certificate is geared primarily toward DVC’s culinary students desiring some additional management coursework. Students who are interested in pursuing a management-focused program in hospitality should expect to complete a four-year degree program at a university. See a counselor or faculty advisor and consider the associate degree in hospitality management for transfer.
Certificate of accomplishment

Baking and pastry foundations

Students completing this program will be able to...

A. select and explain the use of the appropriate kitchen equipment for specific kitchen tasks.
B. explain proper health and safety procedures in the kitchen environment.
C. identify critical control points during all food handling processes as a method to minimize the risk of food-borne illness.
D. demonstrate different types of baking methods.
E. identify and prepare artisan breads, candies and plated desserts.
F. demonstrate the following tasks: follow a standard recipe, use standard weights and measures, and perform basic skills with baking equipment.
G. describe properties and functions of various ingredients and interpret recipes and produce cookies, quick breads, pies, cakes, creams, custards and sauces, and meringues.

This training program prepares students for many entry-level positions in commercial bakery, specialty pastry shops, and catering businesses. This certificate of accomplishment is the first step in pursuing a certificate of achievement in baking and pastry, or restaurant management.

Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file in the Culinary Department Office by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Certificate requirements may only be completed by attending a combination of day and evening scheduled classes.

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<td>CULN-105</td>
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<td>CULN-181</td>
<td>Baking Foundations</td>
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<td>CULN-209</td>
<td>Plated Seasonal Dessert</td>
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<td>CULN-210</td>
<td>Artisan Bread</td>
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</tr>
<tr>
<td>CULN-212</td>
<td>Candies, Chocolates, and Truffles</td>
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</table>

total minimum units for the major 12

Certificate of accomplishment

Beverage management

Students completing this program will be able to...

A. select and explain the use of the appropriate kitchen equipment for specific kitchen tasks.
B. explain proper health and safety procedures in the kitchen environment.
C. identify critical control points during all food handling processes as a method to minimize the risk of food-borne illness.
D. demonstrate different types of beverage preparation methods.
E. identify and prepare hot and cold non-alcoholic beverages.
F. demonstrate the following tasks: follow a standard recipe, use standard weights and measures, and perform basic skills with beverage equipment.
G. discuss the basics of wine, including history and geographical distribution of wine production. Learn the pairing of wines with food and successful menu planning.
H. describe properties and functions of various ingredients and interpret recipes.

This training program prepares students for many entry-level positions in restaurants and coffee houses, specialty shops, and catering businesses. This certificate of accomplishment is the first step in pursuing a certificate of achievement in restaurant management.

Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file in the Culinary Department Office by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Certificate requirements may only be completed by attending a combination of day and evening scheduled classes.

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<tbody>
<tr>
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<td>CULN-153</td>
<td>Safety and Sanitation</td>
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<td>CULN-160</td>
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<td>Wine and Food Pairing</td>
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<td>CULN-201</td>
<td>Principles of Food, Beverage, and Cost Control</td>
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</table>

total minimum units for the major 12
Certificate of accomplishment
Catering operations
Students completing this program will be able to...

A. select and explain the use of the appropriate kitchen equipment for specific kitchen tasks.
B. explain proper health and safety procedures in the kitchen environment.
C. identify critical control points during all food handling processes as a method to minimize the risk of food-borne illness.
D. discuss event planning, price and cost controls, legal issues and equipment requirements for a variety of events such as banquets and plated events
E. Identify and prepare hot and cold non-alcoholic beverages.
F. demonstrate the following tasks: follow a standard recipe, use standard weights and measures, and perform basic skills with beverage equipment.
G. Discuss the basics of wine, including history and geographical distribution of wine production. Learn the pairing of wines with food and successful menu planning.

This training program provides an introduction to operating a catering business. This certificate of accomplishment is the first step in pursuing a certificate of achievement in culinary arts, baking and pastry, or restaurant management.

Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file in the Culinary Department Office by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Certificate requirements may only be completed by attending a combination of day and evening scheduled classes.

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<td>CULN-123</td>
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<td>Breakfast, Brunch, and Bistro Cuisine</td>
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<td>Garde Manger</td>
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<td>CULN-175</td>
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total minimum units for the major 12

plus 2 units from:

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<td>CULN-240C</td>
<td>On-Campus Catering III</td>
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Certificate of accomplishment
Culinary foundations
Students completing this program will be able to...

A. select and explain the use of the appropriate kitchen equipment for specific kitchen tasks.
B. explain proper health and safety procedures in the kitchen environment.
C. identify critical control points during all food handling processes as a method to minimize the risk of food-borne illness.
D. demonstrate different types of cooking and protein fabrication methods.
E. identify and prepare basic stocks, soups, and sauces.
F. demonstrate the following tasks: follow a standard recipe, use standard weights and measures, and perform basic skills with culinary equipment.
G. describe properties and functions of various ingredients and produce a variety of egg-based dishes, sandwiches, salads, casseroles, creams, cold and hot hors d’oeuvre, and appetizers.

This training program prepares students for many entry-level positions in commercial kitchens, specialty shops, and catering businesses. This certificate of accomplishment is the first step in pursuing a certificate of achievement in culinary arts or restaurant management.

Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file in the Culinary Department Office by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Certificate requirements may only be completed by attending a combination of day and evening scheduled classes.

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<td>Garde Manger</td>
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<td>CULN-153</td>
<td>Safety and Sanitation</td>
<td>2</td>
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<tr>
<td>CULN-175</td>
<td>Protein Fabrication</td>
<td>2</td>
</tr>
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</table>

total minimum units for the major 12
Certificate of accomplishment
Food truck entrepreneurship

Students completing this program will be able to...

A. create an operational plan for a mobile food business (vehicle, menu, permits).
B. locate and establish a commissary kitchen.
C. create a business plan for a mobile food business (permits, revenue, margin).
D. design a digital marketing plan for a mobile food business.
E. create a basic accounting setup to support a mobile food business.

This certificate program will provide students with specific information on owning, licensing/permitting, and operating a mobile food business in addition to exposure to fundamental accounting and marketing practices to support a business.

To earn a certificate of accomplishment students must complete each course used to meet a certificate requirement with a “C” grade or higher.

required courses:  units
CULN-105 Kitchen Foundations ............................................2
CULN-131 Food Truck Entrepreneur .....................................2
CULN-153 Safety and Sanitation ...........................................2

plus at least 3 units from:
BUSMG-191 Small Business Management .......................3
BUSMG-192 Entrepreneurship and Venture Management ......3

plus at least 3 units from:
BUSAC-185 QuickBooks Accounting for Business I ..........1.5
BUSAC-188 QuickBooks Accounting for Business II ..........1.5
BUSMK-259 Digital Marketing Fundamentals ....................3
BUSMK-260 Social Media Marketing ....................................3

total minimum units for the major  12

CULN-105 Kitchen Foundations
2 units SC
• 9 hours lecture/ 81 hours laboratory per term
• Advisory: CULN-153 or Equiv.
• Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting. Credit by Examination option available.

This course introduces students to the requirements of the culinary arts with an emphasis on hygiene, safety, kitchen equipment knowledge, culinary math, terminology, and basic knife skills. It is specifically designed for students with no familiarity with standard culinary protocols. CSU

CULN-110 Orientation to Hospitality
3 units SC
• 54 hours lecture per term
• Note: Credit by examination option available.

This course provides an introduction to career opportunities in food service, explores trade publications and professional organizations, and presents the basic organization and function of departments within hospitality and food service establishments. C-ID HOSP 100, CSU

CULN-120 Fundamentals of Cuisine
5 units SC
• 270 hours laboratory per term
• Prerequisite: CULN-105 or equivalent
• Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening and a California Food Handlers Certificate on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This course focuses on the practical development of fundamental student skills in knife, tool, and culinary equipment handling and introduces basic food preparation per American Culinary Federation (ACF) standards. Students will develop a working knowledge of laws and regulations relating to food safety, personal safety, and maintenance of proper sanitation in the kitchen. The emphasis is on professional skills required by quantity food service. C-ID HOSP 160, CSU

CULN-100 Exploring Careers in the Hospitality and Culinary Industry
1 unit  SC
• 18 hours lecture/20 hours laboratory per term
• Note: This course is open to all, but is particularly appropriate for high school students entering 10th, 11th or 12th grade in the fall term. Chef coat, hat, apron, tools and knives may be provided by college. Instructions will be sent to those enrolled prior to first class meeting.

This course will offer students an overview of current and emerging career opportunities in the hospitality industry. Topics include resume development, career exploration, industry site visits, and development of fundamental skills required in the hospitality industry. Hands-on practice through the preparation of healthy foods, integration of sustainable practices as they relate to the hospitality industry, and employability skills will be emphasized. CSU
CULN-123 Stocks, Soups, and Sauces
2 units SC
• 9 hours lecture/81 hours laboratory per term
• Prerequisite: CULN-105 or Equiv.
• Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the Culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms. See instructor at the first class meeting.

This course introduces the preparation of mother sauces, stocks, soups, classical sauces, contemporary sauces, accompaniments, and the pairing of sauces with a variety of foods. CSU

CULN-124 Breakfast, Brunch, and Bistro Cuisine
2 units SC
• 9 hours lecture/81 hours laboratory per term
• Prerequisite: CULN-105 or Equiv.
• Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This course presents a la minute cooking techniques including breakfast, brunch, and light and healthful cookery. Product preparations include eggs, sandwiches, quick breads, soups, and vegetable cookery. Standard presentations, recipe costing, and discussion of nutrition are explored. CSU

CULN-127 Garde Manger
2 units SC
• 9 hours lecture/81 hours laboratory per term
• Prerequisite: CULN-120 or Equiv.
• Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

A study of the artistic side of cold food preparation from basic garnishes to advanced forcemeat preparations such as galantines, pates and mousses with an emphasis on decorated platters and other preparations appropriate for buffet service. CSU

CULN-129 Introduction to Urban Farming: Farm-to-Table
1 unit SC
• 9 hours lecture/27 hours laboratory per term
• Note: Class meets off-campus at Rodger Ranch Urban Farm in Pleasant Hill.

This course introduces students to growing food for restaurants and is useful for anyone who wants to grow their own food. Topics include soil preparation, planting, and organic gardening and farming techniques. Nutrition, menu planning, cooking techniques as well as organic and sustainable practices are also covered. CSU

CULN-131 Food Truck Entrepreneur
2 units SC
• 36 hours lecture per term

This course is designed for entrepreneurs who plan to start a food truck business. The scope of the course is a comprehensive overview of the business of owning and operating a food truck. Topics will include business planning, funding, permitting, vehicles and equipment, maintenance, and legal issues as well as financial accounting. There will also be discussion of food production skills including menus, purchasing, preparation techniques, food safety, and regulations. This course does not include practical cooking skills. CSU

CULN-150 Topics in Culinary Arts
.3-4 units SC
• Variable hours
• Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

A supplemental course in culinary arts to provide a study of current concepts and problems in culinary arts and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

CULN-153 Safety and Sanitation
2 units SC
• 36 hours lecture per term
• Note: Credit by examination option available.

This course presents the principles of safety and sanitation and their application in food service operations. Effective personal hygiene habits and food handling practices for the protection of consumers are reinforced. This course prepares students for the National Restaurant Association Manager’s ServSafe Exam. C-ID HOSP 110, CSU
CULN-157 Safety and Sanitation Preparation and Examination
0.5 unit SC
- 9 hours lecture per term
- Prerequisite: CULN-153 or Equiv.

This course is a review of the basic principles of safety and sanitation as presented in CULN-153. Effective personal hygiene habits and food handling practices for the protection of consumers are reinforced. Preparation for successful completion of the National Restaurant Association's ServSafe Manager Certification Examination is emphasized. CSU

CULN-160 Fundamentals of Beverage, Wine, and Spirits
2 units SC
- 27 hours lecture/ 27 hours laboratory per term
- Advisory: College-level reading and writing are expected.

This course provides a comprehensive study of beverage service operations and control. Topics include basic production, types of beer, wine, and spirits, merchandising, and regulations concerning service of alcoholic and non-alcoholic beverages, including coffee and tea. CSU

CULN-161 Baking Foundations
2 units SC
- 9 hours lecture/ 81 hours laboratory per term
- Prerequisite: CULN-105 or Equiv.
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This course provides an applied and theoretical study of basic principles of commercial baking as practiced in hotels, restaurants and retail bakeries. CSU

CULN-163 Science and Substitutes in Baking and Pastry
2 units SC
- 9 hours lecture/ 81 hours laboratory per term
- Prerequisite: CULN-105 or Equiv.
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This course introduces the science of baking through developing an understanding of the principles of ingredients used in baking and pastry. Students experiment in order to learn about ingredients and how they change during the production of and interaction with other ingredients. CSU

CULN-175 Protein Fabrication
2 units SC
- 9 hours lecture/ 81 hours laboratory per term
- Prerequisite: CULN-105 or Equiv.
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This course provides students with a comprehensive overview of the meat identification process, including cuts, buying and ordering procedures, nutrition data, food safety and storage, and USDA grading standards. CSU

CULN-176 Sustainable Hospitality-Energy, Water and Waste
1 unit SC
- 18 hours lecture per term

This course provides current information on energy efficiency, water efficiency, and waste to ensure efficient, environmentally sustainable operations in food service. Students will practice decision-making regarding these issues based on science and economics to optimize sustainability and profitability. CSU
CULN-192  **Purchasing Operations and Product Identification**
1.5 units  SC  
• 81 hours laboratory per term  
• Prerequisite: CULN-105 or Equiv. 
• Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This course presents current practices in foodservice purchasing, receiving, storage, issuance, and documentation. This course is appropriate for entry-level students and presents product identification and evaluation, as well as the organization of a professional foodservice operation. CSU

CULN-193  **Purchasing Operations and Systems Laboratory**
1.5 units  SC  
• 81 hours laboratory by arrangement per term  
• Prerequisite CULN-105 or Equiv.  
• Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This course presents current practices in foodservice purchasing, receiving, storage, issuance, and documentation. This course is appropriate for entry-level students and presents purchasing and inventory systems, as well as the organization of a professional foodservice operation. CSU

CULN-195  **Supervisory Management in Food Service**
3 units  SC  
• 54 hours lecture per term  
• Advisory: College-level reading and writing are expected.

This course focuses on the application of management principles of supervision to specific business contexts within the food service industry. CSU

CULN-201  **Principles of Food, Beverage, and Cost Controls**
3 units  SC  
• 54 hours lecture per term  

This course presents the theories and techniques to manage food, beverage, labor, and other costs within a hospitality operation. Emphasis is placed on problem solving and applying cost control techniques to maximize profits while managing expenses. Topics include establishing standards, cost-volume-profit-analysis, forecasting, purchasing and storage controls, menu costing and pricing, theft prevention, and labor control. C-ID HOSP 120, CSU

CULN-202  **Fundamentals of Modern Restaurant**
5 units  SC  
• 270 hours laboratory per term  
• Prerequisite: CULN-120 Or Equiv.  
• Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This course focuses on the practical development of fundamental skills to produce and serve individual plates in a restaurant setting. Students have the opportunity to plan and develop menus focusing on techniques and flavors typical for the type of service being implemented. Dining room service techniques are practiced including rules and styles and basic supervisory skills of the front and back of the house are emphasized. CSU

CULN-209  **Plated Seasonal Dessert**
2 units  SC  
• 9 hours lecture/81 hours laboratory per term  
• Prerequisite: CULN-105 or Equiv.  
• Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This course introduces students to the theory and techniques used to produce a variety of basic pastries and desserts specific to the season for hotels, restaurants, wholesale, and retail bakeries/pastry shops. Plating techniques are described and practiced. CSU

CULN-210  **Artisan Bread**
2 units  SC  
• 9 hours lecture/81 hours laboratory per term  
• Prerequisite: CULN-105 or Equiv.  
• Advisory: CULN-161 or CULN-181 or Equiv.  
• Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary office by the beginning of classes. Students are required to supply their own equipment and uniforms. See instructor at the first class meeting.

This course introduces students to the theory and techniques used in the baking of artisan breads. Topics include the preparation, baking, and presentation of a variety of artisan breads. CSU
CULN-212  Candies, Chocolates, and Truffles  
2 units  SC  
- 9 hours lecture/81 hours laboratory per term  
- Prerequisite: CULN-105 or Equiv.  
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms. See instructor at the first class meeting.

This introduces students to the theory and techniques used to produce a variety of candies and chocolates specific to the confectionery industry. Topics include the preparation, formation, and presentation of a variety of candies and chocolates including brittle, toffees, meringues, truffles, and bonbons. CSU

CULN-215  Decorative Confectionary Showpieces  
1 unit  SC  
- 9 hours lecture/27 hours laboratory per term  
- Advisory: CULN-181 or equivalent  
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms. See instructor at the first class meeting.

This course presents theory and production techniques of advanced confectionery showpieces including: chocolate, marzipan, sugar, Isomalt, pastillage, and royal icing. CSU

CULN-216  Wine and Food Pairing  
2 units  SC  
- 9 hours lecture/81 hours laboratory per term  
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms. See instructor at the first class meeting.

This course presents the history and geographical distribution of wine production. The pairing of wines with food and menu planning will be emphasized. CSU

CULN-220  Advanced Cuisine  
5 units  SC  
- 270 hours laboratory per term  
- Prerequisite: CULN-120 or equivalent  
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening and a California Food Handlers Certificate on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This course builds on skills developed in the fundamentals of cuisine course (CULN-120), emphasizing preparation of individual plates. Seasonal cooking and market variations, healthy cooking, curing meats, preparing flavored oils and dressings, and composition of effective menu items are integrated into the food preparation activities. Students will develop basic supervisor and kitchen management skills. CSU

CULN-224  Catering Business and Operations  
2 units  SC  
- 36 hours lecture per term  

This course provides an introduction to operating a catering business. Topics discussed will include effective client relations, event planning, pricing and cost controls, legal issues, and equipment requirements. Menu planning for a variety of events such as banquets, and plated events will also be covered. CSU

CULN-228  International Cuisines  
2 units  SC  
- 9 hours lecture/81 hours laboratory per term  
- Prerequisite: CULN-105 or Equiv.  
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This course presents an introduction to cuisines from around the world. The importance of ethnic cuisines in today’s multi-cultural society and their significance and influence on North American culture will also be discussed. Students will prepare meals representing a wide variety of cuisines. CSU
Culinary arts

CULN-230A Culinary Competition I
.5 unit SC
- 27 hours laboratory by arrangement per term
- Prerequisite: CULN-120 (may be taken concurrently) or equivalent
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This course is an introduction to the skills required to participate in a variety of culinary competitions. Possible categories include hot and cold foods, buffet platters, desserts, decorated cakes, confectionery showpieces, and ice carvings. CSU

CULN-230B Culinary Competition II
.5 unit SC
- 27 hours laboratory by arrangement per term
- Prerequisite: CULN-230A or equivalent
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This course presents advanced application of skills required to participate in a variety of culinary competitions. Possible categories include hot and cold foods, buffet platters, desserts, decorated cakes, confectionery showpieces, and ice carvings. CSU

CULN-235A Off-Campus Catering I
.5-1 unit SC
- Variable hours
- Prerequisite: CULN-105 and CULN-153 or equivalents
- Advisory: CULN-120 or equivalent
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This open entry/open exit course is an introduction to fundamental catering applications. Students will cater various types of off-campus events such as breakfast, lunch, and dinner buffets and plated events, and hors d’oeuvres. CSU

CULN-235B Off-Campus Catering II
.5-1 unit SC
- Variable hours
- Prerequisite: CULN-235A or equivalent
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This open entry/open exit intermediate off-campus catering course includes skill development in specific catering preset, setup, service and breakdown techniques. Students participate as group leaders at catering events. Students will cater various types of off-campus events such as breakfast, lunch, and dinner buffets and plated events, and hors d’oeuvres. CSU

CULN-240A On-Campus Catering I
.5-1 unit P/NP
- Variable hours
- Prerequisite: CULN-105 and CULN-153 or equivalents
- Advisory: CULN-120 or equivalent
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This course is an introduction to fundamental catering applications. Students will cater various types of on-campus events such as breakfast, lunch, and dinner buffets and plated events, coffee breaks, and hors d’oeuvres. CSU

CULN-240B On-Campus Catering II
.5-1 unit P/NP
- Variable hours
- Prerequisite: CULN-240A or equivalent
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This intermediate on-campus catering course includes skill development in specific catering preset, setup, service and breakdown techniques. Students participate as group leaders at catering events and apply the fundamentals catering. Students will cater various types of on-campus events such as breakfast, lunch, and dinner buffets and plated events, coffee breaks, and hors d’oeuvres. CSU
CULN-240C  On-Campus Catering III
.5-1 unit  P/NP
- Variable hours
- Prerequisite: CULN-240B or equivalent
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This advanced on-campus catering course emphasizes skill development in effective client relations and event planning. Topics include comprehensive equipment requirements, setup plans, staff management, and service and breakdown techniques. CSU

CULN-281  Advanced Techniques of Baking and Pastry
5 units  SC
- 270 hours laboratory per term
- Prerequisite: CULN-181 or Equiv.
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This course presents both practical and theoretical study of advanced principles of commercial baked goods and pastry production. Students will have extensive hands-on experience in baking techniques to produce commercial quality products in quantity. CSU

CULN-295  Occupational Work Experience Education in CULN
2-4 units  SC
- May be repeated eight times
- Variable hours
- Note: In order to enroll in CULN-295, students must be employed, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.

CULN-296  Internship in Occupational Work Experience Education in CULN
2-4 units  SC
- May be repeated eight times
- Variable hours
- Note: In order to enroll in the CULN-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.

CULN-298  Independent Study
.5-3 units  SC
- Variable hours
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the Culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting. Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU
CULN-299  Student Instructional Assistant
.5-3 units SC
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor. Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

**Limitations on enrollment**

Effective fall term 2013, changes to the regulations that govern community college enrollments placed limitations on the number of courses that students may take in certain disciplines within the Contra Costa Community College District. The charts below indicate which Diablo Valley College (DVC) courses are assigned to groups of courses (“families”) for which limitations have been imposed. Certain courses within certain “families” may be repeated (see catalog description), however, students are limited to four enrollments within the family. Certain DVC courses are equivalent to courses at Los Medanos College and Contra Costa College. An enrollment in an equivalent course at one of those colleges will count toward the allowable four enrollments within the family.

NOTE: Diablo Valley College may offer experimental or topics courses. When appropriate, based on content, such courses will be assigned to a “family” and that enrollment will be counted as an experience within the “family”.

**Family: Ballet**
- KNDAN-110A Ballet Fundamentals I
- KNDAN-110B Ballet Fundamentals II
- DANCE-110A Ballet Fundamentals I
- DANCE-110B Ballet Fundamentals II
- DANCE-212 Ballet I
- DANCE-213 Ballet II
- DANCE-214 Ballet III
- DANCE-216 Pointe Technique

**Family: Jazz**
- KNDAN-120A Jazz Dance Fundamentals I
- KNDAN-120B Jazz Dance Fundamentals II
- DANCE-120A Jazz Dance Fundamentals I
- DANCE-120B Jazz Dance Fundamentals II
- DANCE-222 Jazz Dance I
- DANCE-223 Jazz Dance II
- DANCE-224 Jazz Dance III

**Family: Modern**
- KNDAN-130A Modern Dance Fundamentals I
- KNDAN-130B Modern Dance Fundamentals II
- DANCE-130A Modern Dance Fundamentals I
- DANCE-130B Modern Dance Fundamentals II
- DANCE-232 Modern Dance I
- DANCE-233 Modern Dance II
- DANCE-234 Modern Dance III

**DANCE – DANCE**

Janette Funaro, Dean
Arts and Communication Division

**Possible career opportunities**

Students who receive a degree in dance can not only pursue a career as a professional dancer in commercial dances onstage and in film, but they may also seek careers as dance therapists, dance instructors, or choreographers. Degree recipients can apply their knowledge of dance in areas such as arts administration, studio management, arts grant writing, and dance notators for dance companies.

**Associate in arts degree**

Dance

The Dance Department has placed this degree on INACTIVE status during the completion of necessary curriculum work. While the curriculum evaluation is underway, this degree has been removed from the catalog. Students entering in Fall 2022 will not have catalog rights to the degree. Students with catalog rights who are in progress to complete the degree are advised that courses will be offered to ensure requirements can be met during fall 2022, spring 2023, and fall 2023. Coursework transferred from other schools may also meet requirements for the degree and students can request course substitutions from the program lead. Any student in progress to complete this program should contact the Dance program lead or department chair for advisement or contact Counseling to explore other viable educational opportunities.
Family: Ballroom Dance
DANCE-164A Ballroom/Social Dance I
DANCE-164B Ballroom/Social Dance II
DANCE-166 Swing Dance
DANCE-168A Salsa and Latin Dance I
DANCE-168B Salsa and Latin Dance II
DANCE-169A Argentine Tango I
KNDAN-150A Argentine Tango
KNDAN-164A Ballroom/Social Dance I
KNDAN-164B Ballroom/Social Dance II
KNDAN-166 Swing Dance
KNDAN-168A Salsa and Latin Dance I
KNDAN-168B Salsa and Latin Dance II
KNDAN-169A Argentine Tango

Family: Tap
DANCE-160A Tap Dance I
DANCE-160B Tap Dance II
KNDAN-160A Tap Dance I
KNDAN-160B Tap Dance II

Family: Dance Production
DANCE-150A Dance Production II
DANCE-242 Repertory Dance Production I
DANCE-244 Repertory Dance Production II
DANCE-246 Dance Production I
DANCE-248 Dance Production II
DANCE-256 Dance Production Choreography

Family: Dance Performance
DANCE-150B Dance Production II - Tech Week
DANCE-243 Repertory Dance Production I - Tech Week
DANCE-245 Repertory Dance Production II - Tech Week
DANCE-247 Dance Production I - Tech Week
DANCE-249 Dance Production II - Tech Week
DANCE-257 Dance Production Choreography - Tech Week

Family: Dance Survey
DANCE-100 Introduction to Dance
KNDAN-100 Introduction to Dance
DANCE-162 Broadway Dance
DANCE-162A Broadway Dance I
KNDAN-162 Broadway Dance

Family: Urban Dance
DANCE-170A Hip-Hop and Urban Funk Dance I
DANCE-170B Hip-Hop and Urban Funk Dance II
KNDAN-150B Beginning Hip-Hop and Urban Funk
KNDAN-150C Intermediate Hip-Hop and Urban Funk
KNDAN-170A Hip-Hop and Urban Funk Dance I
KNDAN-170B Hip-Hop and Urban Funk Dance II

DANCE-100 Introduction to Dance
1 unit SC
• CSU GE: E
• 54 hours laboratory per term
• Note: Formerly KNDAN-100 (20-21)
This is an introductory dance course focusing on the development of coordination, rhythm, strength, flexibility, alignment, and basic dance movement combinations in a variety of genres. Basic musculoskeletal alignment, movement safety, and dance appreciation skills will also be covered. CSU, UC

DANCE-105A Pilates Mat Work I
1 unit SC
• CSU GE: E
• 54 hours laboratory per term
• Note: Formerly KNDAN-105A (20-21)
This is an activity course introducing basic mat exercises developed by Joseph Pilates focusing on intrinsic muscle groups. The class addresses individual needs, body alignment and core strength development, with emphasis placed on back and abdominal strengthening. CSU, UC (credit limits may apply to UC - see counselor)

DANCE-105B Pilates Mat Work II
1 unit SC
• CSU GE: E
• 54 hours laboratory per term
• Advisory: DANCE-105A or equivalent
• Note: Formerly KNDAN-105B (20-21)
This is an activity course introducing intermediate mat exercises developed by Joseph Pilates focusing on intrinsic muscle groups. The class addresses individual needs, body alignment and core strength development, with emphasis placed on back and abdominal strengthening as it relates to intermediate level exercises. CSU UC (credit limits may apply to UC - see counselor)

DANCE-110A Ballet Fundamentals I
1 unit SC
• CSU GE: E
• 54 hours laboratory per term
• Note: Formerly KNDAN-110A (20-21)
This is an introductory course in ballet techniques. This class will focus on ballet barre, center adagio, allegro work, and across-the-floor combinations. An introduction to the history of the genre and principles of ballet as an art form will also be included. CSU, UC
DANCE-110B  Ballet Fundamentals II  
1 unit  SC  
• CSU GE: E  
• 54 hours laboratory per term  
• Advisory: DANCE-110A or equivalent  
• Note: Formerly KNDAN-110B (20-21)  
This is a beginning class in classical ballet techniques. The focus is on beginning barre, beginning center adagio, allegro work, and beginning ballet movement combinations in the center. The course also explores the history of ballet and principles as a contemporary art form. CSU, UC  

DANCE-120A  Jazz Dance Fundamentals I  
1 unit  SC  
• CSU GE: E  
• 54 hours laboratory per term  
• Note: Formerly KNDAN-120A (20-21)  
This is an introductory course in jazz dance technique. The focus is on proper jazz dance alignment, center work and movement across the floor. Introduction to the history of jazz dance will also be covered. CSU, UC  

DANCE-120B  Jazz Dance Fundamentals II  
1 unit  SC  
• CSU GE: E  
• 54 hours laboratory per term  
• Advisory: DANCE-120A or equivalent  
• Note: Formerly KNDAN-120B (20-21)  
This is a beginning course in jazz dance technique. The focus is on proper jazz dance alignment, isaltations, and beginning jazz dance choreography. The evolution of jazz dance from African and Haitian dance to contemporary jazz dance technique will also be covered. CSU, UC  

DANCE-130A  Modern Dance Fundamentals I  
1 unit  SC  
• CSU GE: E  
• 54 hours laboratory per term  
• Note: Formerly KNDAN-130A (20-21)  
This is an introductory course in modern dance technique. The focus will be on the development of proper modern dance alignment, center work, and movement across the floor. An introduction to modern dance history is also included. CSU, UC  

DANCE-130B  Modern Dance Fundamentals II  
1 unit  SC  
• CSU GE: E  
• 54 hours laboratory per term  
• Advisory: DANCE-130A or equivalent  
• Note: Formerly KNDAN-130B (20-21)  
This is a course in beginning modern dance technique. The focus is on beginning modern dance alignment, center work, and modern dance movements across the floor. Current events that shape the history of modern dance in the United States and Europe are also covered. CSU, UC  

DANCE-150  Topics in Dance  
.3-4 units  SC  
• Variable hours  
A supplemental course in Dance to provide a study of current concepts and problems in dance. Specific topics will be announced in the schedule of classes. CSU  

DANCE-160A  Tap Dance I  
1 unit  SC  
• CSU GE: E  
• 54 hours laboratory per term  
• Note: Formerly KNDAN-160A (20-21)  
This is a beginning course in tap dance technique. The focus is on a wide range of tap dance styles. The cultural and historical aspects of this genre will also be studied. CSU, UC  

DANCE-160B  Tap Dance II  
1 unit  SC  
• CSU GE: E  
• 54 hours laboratory per term  
• Advisory: DANCE-160A or equivalent  
• Note: Formerly KNDAN-160B (20-21)  
This is an intermediate course in tap dance technique. The focus is on the introduction of intermediate tap dance steps and combinations. The contribution of tap dance to American art and culture will also be studied. CSU, UC  

DANCE-162A  Broadway Dance I  
1 unit  SC  
• CSU GE: E  
• 54 hours laboratory per term  
• Note: Formerly KNDAN-162 (20-21)  
This is a course in Broadway musical dance technique. Dance styles from a variety of Broadway genres, as well as audition techniques, will be covered. The history of dance in musical theater and its impact on American culture will also be discussed. CSU, UC  

DANCE-164A  Ballroom/Social Dance I  
1 unit  SC  
• CSU GE: E  
• 54 hours laboratory per term  
• Note: Formerly KNDAN-164A (20-21)  
This is a beginning level course in ballroom/social dance. The course focuses on the history, etiquette, fundamental techniques, and terminology of ballroom/social dances. A variety of dance styles will be practiced, including Fox-trot, Waltz, and Tango. A partner is not necessary as this course will incorporate dance footwork specific to leaders and followers. CSU, UC
DANCE-164B  Ballroom/Social Dance II  
1 unit  SC  
- CSU GE: E  
- 54 hours laboratory per term  
- Advisory: DANCE-164A or equivalent  
- Note: KNDAN-164B (20-21)

This is an intermediate course in ballroom/social dance. Focus is placed on intermediate techniques, terminology, and other elements, including rhythm, style, and expressions of various ballroom/social dances. A variety of dances will be practiced, including Fox-trot, Waltz, Swing, and Tango. Other dances may also be presented. Complex techniques, patterns, terminology, and rhythms will be explored as well as music history and the development of a variety of ballroom/social dances. A partner is not required. CSU, UC

DANCE-166  Swing Dance  
1 unit  SC  
- CSU GE: E  
- 54 hours laboratory per term  
- Note: Formerly KNDAN-166 (20-21)

This is an introductory course in Swing dances. The techniques, terminology, steps, patterns, rhythms, music and history of the various Swing dances will be covered. This is a social dance class, but a partner is not required. CSU, UC

DANCE-168A  Salsa and Latin Dance I  
1 unit  SC  
- CSU GE: E  
- 54 hours laboratory per term  
- Note: Formerly KNDAN-168A (20-21)

This is an introductory course in the Latin dances, including Salsa. The techniques, terminology, steps, patterns, rhythms, music, history and development of a variety of Latin dances will be explored. This is a social dance class but a partner is not required. CSU, UC

DANCE-168B  Salsa and Latin Dance II  
1 unit  SC  
- CSU GE: E  
- 54 hours laboratory per term  
- Advisory: DANCE-168A or equivalent  
- Note: Formerly KNDAN-168B (20-21)

This is an intermediate level course in the Latin dances including Salsa. Complex techniques, patterns, terminology and rhythms will be explored as well as music history and the development of a variety of Latin dances. CSU, UC

DANCE-169A  Argentine Tango I  
1 unit  SC  
- CSU GE: E  
- 54 hours laboratory per term  
- Note: Formerly KNDAN-169A (20-21)

This dance activity course focuses on the fundamentals of Argentine Tango and relates the varied and complex rhythms of the music to the movements that are unique to this dance. CSU, UC

DANCE-170A  Hip-Hop and Urban Funk Dance I  
1 unit  SC  
- CSU GE: E  
- 54 hours laboratory per term  
- Note: Formerly KNDAN-170A (20-21)

This is a beginning course in hip-hop and funk dance technique. Topics will include the history of hip-hop and funk dance technique, its ethnic influences, historical events, and how these dance styles have come to reflect the diversity of America and its impact on popular dance. CSU, UC

DANCE-170B  Hip-Hop and Urban Funk Dance II  
1 unit  SC  
- CSU GE: E  
- 54 hours laboratory per term  
- Advisory: DANCE-170A or equivalent  
- Note: Formerly KNDAN-170B (20-21)

This is an intermediate course in hip-hop and funk dance technique. This course is designed to increase skill in movement, vocabulary, and technique including complex footwork, polyrhythmic movements, and the ability to improvise in a cipher. Similarities and differences of various popular/social dance styles in the United States will also be presented. CSU, UC

DANCE-200  Dance Appreciation  
3 units  SC  
- IGETC: 3A; CSU GE: C1; DVC GE: III  
- 54 hours lecture per term

This course is an introduction to the experience of watching dance with an appreciation of its technical, stylistic, expressive, social, and historical aspects. The cultural relevance of dance, the role of dance to the individual, and its importance in contemporary and historical society will also be discussed. CSU, UC

DANCE-201  Critical Thinking in Western Culture  
Dance History: 20th Century to Present  
3 units  SC  
- IGETC: 3A; CSU GE: C1; DVC GE: III  
- 54 hours lecture per term  
- Prerequisite: ENGL-122 or equivalent

This course presents the role of dance in Western culture from the beginning of the 20th century through the present day as it is used to create and mediate meaning through performance. Emphasis is placed on understanding and using principals of inductive and deductive reasoning as well as on evaluation and creation of argument, persuasion, and criticism of visual culture topics from both visual, performative, and textual sources. Historic styles and movements of dance including the Diaghilev period of Ballet and the development of modern dance are discussed, emphasizing their influence on present-day ballet, modern, and contemporary dance practice. CSU, UC
DANCE-205 Music Theory for Dancers
2 units SC
- 18 hours lecture/54 hours laboratory per term
This is an introductory course in music and its relationship to dance and dancers. Compositional elements of music and their application to choreography and dance performance are practiced. CSU, UC

DANCE-212 Ballet I
1 unit SC
- 54 hours laboratory per term
- Advisory: DANCE-110A or equivalent
This is an intermediate course in ballet dance. The focus is on intermediate ballet barre, center adagio, allegro work, and across-the-floor combinations. The history of classical ballet works and their influence on the ballet dancer and current ballet styles are also covered. CSU, UC

DANCE-213 Ballet II
1 unit SC
- 54 hours laboratory per term
- Prerequisite: DANCE-212 or equivalent
This is an advanced course in ballet dance. The focus is on advanced ballet barre, center adagio, allegro work, and across-the-floor combinations. Basic choreographic principles as they relate to ballet are also presented. CSU, UC

DANCE-214 Ballet III
1 unit SC
- 54 hours laboratory per term
- Prerequisite: DANCE-213 or equivalent
This is an advanced/pre-professional course in ballet dance. It will focus on advanced ballet barre, center adagio, allegro work, and across-the-floor combinations at the pre-professional level. Classical ballet variations and basic pas de deux techniques as they relate to classical ballet are practiced. CSU, UC

DANCE-216 Pointe Technique
1 unit SC
- 54 hours laboratory per term
- Prerequisite: DANCE-212 or DANCE-110A or equivalent
This is a course in classical ballet training through the application of pointe technique. The class will focus on line, musicality, sequences, strength and grace as they relate to pointe technique. The historical origins of the pointe shoe, pointe work, conceptual principles of pointe ballet as an art form, and the anatomical structure of the lower extremities are also presented. CSU, UC

DANCE-222 Jazz Dance I
1 unit SC
- 54 hours laboratory per term
- Advisory: DANCE-120A or equivalent
This is an intermediate course in jazz dance. The focus is on contemporary, lyrical, hip-hop and broadway styles. The history of jazz dance on stage, in movies and videos, and its influence on the jazz dancer and current jazz dance styles are also covered. CSU, UC

DANCE-223 Jazz Dance II
1 unit SC
- 54 hours laboratory per term
- Prerequisite: DANCE-222 or equivalent
This is an advanced course in jazz dance. The focus is on advanced jazz dance technique from contemporary, lyrical, hip-hop, and broadway styles. Choreographic principles as they relate to jazz dance are also covered. CSU, UC

DANCE-224 Jazz Dance III
1 unit SC
- 54 hours laboratory per term
- Prerequisite: DANCE-223 or equivalent
This is an advanced/pre-professional course in jazz dance. The focus is on advanced jazz dance technique from contemporary, lyrical, hip-hop and broadway styles utilizing pre-professional dance performance skills. Choreographic principles as they relate to jazz dance to enhance performance potential are also covered. CSU, UC

DANCE-232 Modern Dance I
1 unit SC
- 54 hours laboratory per term
- Advisory: DANCE-130A or equivalent
This is an intermediate course in modern dance. The focus is on intermediate axial and locomotor movements, styles from early modern, post-modern, and contemporary modern innovators. The history of modern dance and its influence on the modern dancer and current modern dance styles are also covered. CSU, UC

DANCE-233 Modern Dance II
1 unit SC
- 54 hours laboratory per term
- Prerequisite: DANCE-232 or equivalent
This is an advanced course in modern dance. The focus is on advanced axial and locomotor movements and styles from early modern, post-modern, and contemporary modern innovators. Choreographic principles related to modern dance are also covered. CSU, UC
DANCE-234 Modern Dance III
1 unit SC
- 54 hours laboratory per term
- Prerequisite: DANCE-233 or equivalent
This is an advanced/pre-professional course in modern dance. The focus is on advanced performance level axial and locomotor movements and styles from early modern, post-modern, and contemporary modern innovators with an emphasis on pre-professional performance quality. Choreographic principles related to modern dance that enhance performance potential are also covered. CSU, UC

DANCE-242 Repertory Dance Production I
1 unit SC
- 54 hours laboratory by arrangement per term
- Co-requisite: DANCE-243 or equivalent
This course prepares students for a dance performance. The emphasis is on the mastery of faculty-choreographed compositions to be presented to a live audience in a professional theater space. CSU, UC

DANCE-243 Repertory Dance Production I - Tech Week
.5 unit SC
- 36 hours laboratory by arrangement per term
- Co-requisite: DANCE-242 or equivalent
Students will participate in a dance performance of faculty-choreographed compositions for a live audience in a professional theater space. CSU, UC

DANCE-244 Repertory Dance Production II
1 unit SC
- 54 hours laboratory by arrangement per term
- Prerequisite: DANCE-242 or equivalent
- Co-requisite: DANCE-245 or equivalent
This course prepares the experienced dancer for a dance performance. The emphasis is on the mastery of intermediate level faculty-choreographed compositions to be presented to a live audience in a professional theater space. CSU, UC

DANCE-245 Repertory Dance Production II - Tech Week
.5 unit SC
- 36 hours laboratory by arrangement per term
- Co-requisite: DANCE-244 or equivalent
This is a dance performance course for the experienced dance student. Students will participate in a dance performance of original student-choreographed compositions for a live audience in a professional theater space. CSU, UC

DANCE-246 Dance Production I
1.5 units SC
- 72 hours laboratory per term
- Co-requisite: DANCE-247 or equivalent
This course prepares students for a dance performance. The emphasis is on the mastery of student-choreographed compositions to be presented to a live audience in a professional theater space. Students will also participate in the technical and business aspects of the production. CSU, UC

DANCE-247 Dance Production I - Tech Week
.5 unit SC
- 36 hours laboratory by arrangement per term
- Co-requisite: DANCE-246 or equivalent
Students will participate in a dance performance of student-choreographed compositions for a live audience in a professional theater space. CSU, UC

DANCE-248 Dance Production II
1.5 units SC
- 72 hours laboratory per term
- Prerequisite: DANCE-246 or equivalent
- Co-requisite: DANCE-249 or equivalent
This course prepares the experienced dance student for a dance performance. The emphasis is on the mastery of student-choreographed compositions to be presented to a live audience in a professional theater space. Students will also participate in the technical and business aspects of the production. CSU, UC

DANCE-249 Dance Production II - Tech Week
.5 unit SC
- 36 hours laboratory by arrangement per term
- Co-requisite: DANCE-248 or equivalent
This is a dance performance course for the experienced dancer. Students will participate in a dance performance of original student-choreographed compositions for a live audience in a professional theater space. CSU, UC

DANCE-250 Dance Choreography
2 units SC
- 18 hours lecture/54 hours laboratory per term
- Formerly DANCE-240
This course provides an introduction to principles of choreography. Dance movement phrasing, spatial design and relationships, rhythm, theme and development, concert, solo and group work will be presented. Critical evaluation of choreographic dance components through analysis and presentation in the classroom will also be discussed. CSU, UC
DANCE-256 Dance Production Choreography
1.5 units SC
• 72 hours laboratory per term
• Prerequisite: DANCE-246 and DANCE-250 or equivalents
• Co-requisite: DANCE-257 or equivalent
This is a dance production class with an emphasis on experiential learning by choreographing, staging and rehearsing a student-choreographed dance production. It includes the application of choreographic theory and technique with emphasis on dance as a performing art and participation in the technical and business aspects of a student production.
CSU, UC

DANCE-257 Dance Production Choreography - Tech Week
.5 unit SC
• 36 hours laboratory by arrangement per term
• Co-requisite: DANCE-256 or equivalent
This is a dance performance course focusing on the role of the choreographer in the presentation of an original dance composition presented to a live audience in a professional theater space. The emphasis is on staging techniques, incorporation of technical theater elements, and performance development. A final dance concert performance of the student’s original choreography culminates the term’s work.
CSU, UC

DANCE-299 Student Instructional Assistant
.5-3 units SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

DENTAL ASSISTING – DENTL
Charles Ramos, Dean
Sciences Division
Physical Sciences Building, Room 263

Possible career opportunities
The Diablo Valley College dental assisting program prepares students to work as an essential member of the dental team. Employment opportunities for the graduates include: chairside assistant, front office administrator, x-ray technician for dental radiation laboratories, agent for dental insurance companies, or laboratory technician for dental laboratories. The DVC dental assisting program is approved by the Dental Board of California and accredited by the Commission on Dental Accreditation of the American Dental Association. Upon graduation, students are eligible to take state and national board examinations to become a licensed Registered Dental Assistant in California (RDA) and a Certified Dental Assistant (CDA).

Associate in science degree
Dental assisting
Students completing the program will be able to...
A. act as a member of the dental health team and apply professional, ethical and legal principles while functioning in the role of the Registered Dental Assistant (RDA).
B. assume responsibility for prevention of disease transmission utilizing universal precautions in the work environment to protect those entrusted to their care.
C. show competence in skills as described in the current California Dental Practice Act. Said professional should perform with a balance of professionalism and sensitivity characteristic of genuine compassionate care.
D. exhibit knowledge necessary for successful completion of the California Registered Dental Assistant’s Examination and the National Certified Dental Assistant’s Examination.
E. apply critical thinking and self-assessment skills to enhance learning, research, patient care, professional growth, and continued competency.
F. integrate and apply health literacy and culturally competent communication skills to oral health care services, academic endeavors, community projects, and professional activities.

The required dental assisting program classes are taught during the day; however, the general education courses required for the certificate or degree may be taken in the evening or at an alternate location.
The 10-month program is scheduled to begin in summer with program completion in the following spring. The program includes classroom instruction as well as clinical experience in the DVC community clinic and various externship rotations.
The Dental Assisting Program is limited to 24 students. Applicants must submit high school transcripts conferring graduation or equivalent to the DVC Admissions and Records Office, and successfully pass DENTL-120 Orientation to the Dental Assisting Program to be considered.

Dental assisting students must submit the following to the Dental Programs Department by the beginning of classes: (1) CPR/BLS certification for Health Care Providers; (2) current immunizations/titers; (3) proof of satisfactory tuberculosis (TB) screening; (4) current physical examination; (5) background check; and (6) passing certified drug test.

To earn an associate in science degree with a major in dental assisting, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all general education requirements as listed in the catalog. Certain courses may satisfy both major and other general education requirements; however, the units are only counted once.

**program prerequisite:**

DENTL-120 Overview of Dental Assisting .......................... 0.3

**major requirements:**

DENHY-124 Dental Radiography ...................................... 3
DENTL-160 Infection Control and California Dental Practice Act ................................................. 3
DENTL-171 Oral and Facial Anatomy and Pathology .......... 3.5
DENTL-173 Dental Assisting Chairside Skills ..................... 3
DENTL-174 Dental Operative and Laboratory Materials ........ 3
DENTL-176 Anatomy, Physiology, Medical Emergencies, and Pharmacology ............................................. 2
DENTL-180 Dental Office Management .................................. 3
DENTL-182 Dental Radiography Laboratory ...................... 0.5
DENTL-183 Advanced Chairside ...................................... 5
DENTL-184 Transition to Dental Assisting Professional ..... 7
ENGL-122 First-Year College Writing and Reading .................. 3

Note: It is strongly recommended to complete ENGL-122 prior to entering the dental assisting program.

**total minimum required units** 36.3

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**DENTL-110 Introduction to the Dental Profession**

1 units P/NP

- 18 hours lecture per term
- Advisory: College-level reading and writing are expected
- Note: This course is open to all students

This course provides an overview of the dental professions, with special emphasis on assisting and hygiene concepts. Content is designed to be helpful to students considering applying to dental assisting or dental hygiene programs. CSU

**DENTL-120 Overview of Dental Assisting**

.3 unit P/NP

- 6 hours lecture/3 hours laboratory per term
- Advisory: College-level reading and writing are expected
- Note: Students who complete this course with a (P) grade (75% or higher) will be eligible for selection by lottery for admission into the dental assisting program. Students must submit an official high school diploma or equivalent if they are selected to be a part of the program starting in August. Please see the catalog or website for program information.

This course is designed for all students interested in enrolling into the dental assisting program. The orientation course provides the student with detailed enrollment information and the health protocol standards for dental assisting students. Emphasis is placed on career pathways of dental assistants, professionalism, and dental assisting organizations. Guidelines from the California Dental Practice Act rules and regulations are presented in relationship to the dental assistant, registered dental assistant, and the registered dental assistant in extended functions. An overview of dental terminology, introduction to clinical instrumentation skills, and areas of planning and time management for the dental assisting student are covered. CSU
DENTL-150  Topics in Dental Assisting
3-4 units  SC
• Variable hours
A supplemental course in dental assisting to provide a study of current concepts and methods in dental assisting and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

DENTL-160  Infection Control and California Dental Practice Act
3 units  LR
• 36 hours lecture/54 hours laboratory per term
• Prerequisite: DENTL-120 or equivalent
• Advisory: College-level reading and writing are expected
• Limitation on enrollment: Acceptance into the DVC Dental Assisting program, including current TB clearance, hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certificate (Basic Life Support for Healthcare Provider with AED).
• Formerly DENTL-175 (22-23)
This course introduces the student to microbiology, infectious diseases, immunity, infection control in the dental office, agencies concerned with disease control, OSHA standards and guidelines, and hazard communication management. CSU

DENTL-171  Oral and Facial Anatomy and Pathology
3.5 units  LR
• 54 hours lecture/36 hours laboratory per term
• Prerequisite: DENTL-120 or equivalent
• Limitation on enrollment: Acceptance into the DVC Dental Assisting program, including current TB clearance, hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certificate (Basic Life Support for Healthcare Provider with AED).
• Advisory: College-level reading and writing are expected
This course introduces students to head and neck anatomy, embryology, histology, dentition, morphology and oral pathology. Emphasis is placed on the teeth, their supporting structures. CSU

DENTL-173  Dental Assisting Chairside Skills
3 units  LR
• 36 hours lecture/54 hours laboratory per term
• Prerequisite: DENTL-120 or equivalent
• Limitation on enrollment: Acceptance into the DVC Dental Assisting program, including current TB clearance, hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certificate (Basic Life Support for Healthcare Provider with AED).
• Advisory: College-level reading and writing are expected.
Students will be introduced to the principles of chairside assisting. Emphasis is to be placed on operative procedures, which include chairside responsibilities, instrument identification, tray setups, four-handed techniques, and sequences of general dentistry procedures. Identification, care and maintenance of the operator and equipment will also be presented. CSU

DENTL-174  Dental Operative and Laboratory Materials
3 units  LR
• 36 hours lecture/54 hours laboratory per term
• Prerequisite: DENTL-120 or equivalent
• Limitation on enrollment: Acceptance into the DVC Dental Assisting program, including current TB clearance, hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certificate (Basic Life Support for Healthcare Provider with AED).
• Advisory: College-level reading and writing are expected.
This course introduces students to the study, characteristics, safe manipulation, and use of dental materials, laboratory equipment and instruments in operative and restorative dentistry. Emphasis is placed on infection control, safety standards, and hazard control protocols. CSU

DENTL-176  Anatomy, Physiology, Medical Emergencies, and Pharmacology
2 units  LR
• 36 hours lecture per term
• Prerequisite: DENTL-120 or equivalent
• Limitation on enrollment: Acceptance into the DVC Dental Assisting program, including current TB clearance, hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certificate (Basic Life Support for Healthcare Provider with AED).
• Advisory: College-level reading and writing are expected.
• Formerly DENTL-181 (22-23)
This course prepares students to assist in the management of medical and dental emergencies, including review of legal and ethical responsibilities. General anatomy and physiology are introduced. Pathology of the hard and soft tissues of the oral cavity and function of pharmacology are also covered. CSU

DENTL-180  Dental Office Management
3 units  LR
• 54 hours lecture per term
• Prerequisite: DENTL-120 or equivalent
• Limitation on enrollment: Acceptance into the DVC Dental Assisting program, including current TB clearance, hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certificate (Basic Life Support for Healthcare Provider with AED).
• Advisory: College-level reading and writing are expected.
This course covers front office management duties in the dental profession. These duties include dental staff management and interaction, patient management, written communication, telecommunication, bookkeeping/financial transactions, dental office documents, dental insurance, appointment management systems, dental software, recall systems, inventory systems, and supply ordering. Dental jurisprudence, related ethical concerns, and HIPAA compliance are presented in this course. CSU
**DENTL-182 Dental Radiography Laboratory**

0.5 unit LR
- 27 hours laboratory per term
- Prerequisite: DENHY-124 or equivalent
- Limitation of enrollment: Acceptance to the DVC Dental Assisting program, including current TB clearance, hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certificate (Basic Life Support for Healthcare Provider with AED).
- Advisory: College-level reading and writing are expected.

This course emphasizes patient management, radiation safety and infection control procedures in accordance with Occupational and Safety and Health Administration (OSHA) and Center For Disease Control (CDC) guidelines and regulations from the California Dental Practice Act (DPA). The laboratory and clinical experiences will allow students to enhance the efficiency and quality of their radiographic techniques. Students will perform, evaluate, and interpret various types of intra-oral and extra-oral radiographs using advanced principles and practices of dental radiography with emphasis on technique and diagnostic quality of dental x-rays. CSU

**DENTL-183 Advanced Chairside**

5 units LR
- 54 hours lecture/108 hours laboratory per term
- Prerequisite: DENTL-173 or equivalent
- Limitation of enrollment: Acceptance to the DVC Dental Assisting program, including current TB clearance, hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certificate (Basic Life Support for Healthcare Provider with AED).
- Advisory: College-level reading and writing are expected.

This course presents instruction in assisting and instrumentation for the following dental specialties: orthodontics, endodontics, periodontics, pediatric dentistry, prosthodontics, oral maxillofacial surgery, and public health. The theory and practice of coronal polishing and dental sealants are included. Completion of a dental health community service project is required. CSU

**DENTL-184 Transition to Dental Assisting Professional**

7 units LR
- 18 hours lecture/320 hours laboratory per term
- Prerequisite: DENTL-174 or equivalent
- Limitation of enrollment: Acceptance to the DVC Dental Assisting program, including current TB Clearance, hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certificate (Basic Life Support for Healthcare Provider with AED).
- Advisory: College-level reading and writing are expected.

This course offers students supervised clinical experience in an externship environment. Students will provide chairside dental assisting in general practice, and specialty clinics. Course will discuss steps for licensure, RDA Exam Preparation and Professional Characteristics of a Dental Assistant. CSU

**DENTL-299 Student Instructional Assistant**

0.5-3 units SC
- Variable hours
- Note: Applications must be approved through the Instruction Office.
- Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

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**DENTAL HYGIENE – DENHY**

Charles Ramos, Dean
Science Division
Physical Sciences Building, Room 263

**Possible career opportunities**

The Diablo Valley College (DVC) dental hygiene program prepares students to work as an essential member of the dental team. The dental hygiene program provides an excellent path for those interested in a variety of positions in the dental field. Working in a private dental office continues to be the primary place of employment for dental hygienists. For today’s dental hygiene professional, there are many other career pathways to explore including providing dental hygiene services for patients in hospitals, nursing homes, and public health clinics.

With additional education, dental hygienists can choose to pursue a teaching career in dental education programs, a career in research, public advocacy, or as a sales representative for an oral healthcare company.

**Associate in science degree**

**Dental hygiene**

Students completing the program will be able to...

A. synthesize knowledge from all branches of learning to provide preventative, educational, collaborative, and therapeutic dental hygiene care for individuals and groups in a variety of settings.

B. develop a desire and ability to provide dental hygiene care applying the highest morale, ethical and legal principals including those outlined by the American Dental Hygienists’ Association and the American Dental Association.

C. function in the professional dental hygiene roles of the clinician, health promoter/educator and change agent.

D. develop and maintain professional competence founded in evidence based decision-making and continued education while promoting personal and professional growth.

E. promote client and community satisfaction with the quality of the dental hygiene education and care process provided by the program.
The dental hygiene curriculum requires two consecutive academic years including Summer. The program includes classroom, clinical, and laboratory instruction as well as hands-on experience providing dental hygiene services in the DVC Dental Programs Community Clinic. The dental hygiene program is accredited by the American Dental Association Commission on Dental Accreditation (CODA) and approved by the Dental Hygiene Board of California (DHBC).

Entrance into the dental hygiene program is highly competitive with enrollment limited to 20 students. To be eligible, students must complete the specified prerequisite courses prior to submitting an application. Applications for acceptance to the dental hygiene program are generally accepted in January through mid-February for entrance during the following summer term.

Once accepted into the program, students must pass the orientation course DENHY-101 and submit the following to the Dental Programs Department by the beginning of fall classes: (1) CPR/BLS certification for Health Care Providers; (2) current immunizations/titers; (3) proof of satisfactory tuberculosis (TB) screening; (4) current physical examination; (5) passing background check; and (6) passing drug test.

Students must achieve a “C” grade or higher in each course used to meet program requirements. The dental hygiene program classes are taught during the day; however, the general education and prerequisite courses may be offered in the evening. For more information and an application packet visit the DVC dental hygiene website.

**major requirements:**

**program prerequisites or equivalents:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>BIOSC-139*</td>
<td>Human Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-140*</td>
<td>Human Physiology</td>
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<tr>
<td>CHEM-108*</td>
<td>Introductory Chemistry</td>
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<td>CHEM-109*</td>
<td>Introduction to Organic and Biochemistry</td>
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<tr>
<td>ENGL-122</td>
<td>First-Year College Writing and Reading</td>
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<td>or</td>
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<tr>
<td>ENGL-122A</td>
<td>First-Year College Composition and Reading</td>
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<td>or</td>
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<tr>
<td>NUTRI-160*</td>
<td>Nutrition: Science and Applications</td>
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<tr>
<td>SOCIO-120**</td>
<td>Introduction to Sociology</td>
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<td><strong>plus at least 4 units from:</strong></td>
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<tr>
<td>BIOSC-119*</td>
<td>Fundamentals of Microbiology</td>
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<tr>
<td>BIOSC-146*</td>
<td>Principles of Microbiology</td>
<td>5</td>
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<td><strong>plus at least 4 units from:</strong></td>
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<tr>
<td>MATH-135***</td>
<td>College Algebra</td>
<td>4</td>
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<tr>
<td>MATH-135SSP</td>
<td>College Algebra - Self-Paced</td>
<td>4</td>
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<tr>
<td>MATH-142***</td>
<td>Elementary Statistics with Probability</td>
<td>4</td>
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<tr>
<td><strong>plus at least 3 units from:</strong></td>
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<tr>
<td>COMM-120**</td>
<td>Public Speaking</td>
<td>3</td>
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<td>COMM-130**</td>
<td>Small Group Communication</td>
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<td><strong>plus at least 3 units from:</strong></td>
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<td>PSYCH-101**</td>
<td>Introduction to Psychology</td>
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<tr>
<td>PSYCH-122**</td>
<td>Psychology in Modern Life</td>
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</table>

**All overall GPA of 3.0 or higher in science, English, and communication studies is required for program admission.**

**Science courses must have been completed within the past seven years.**

**Course substitutions for general education requirements require department chair approval. See a counselor or program advisor.**

**Higher-level math courses are accepted without need for course substitution.**

**total minimum required units - program prerequisites**

**program requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>DENHY-101</td>
<td>Dental Hygiene Orientation</td>
<td>0.5</td>
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<tr>
<td>DENHY-120</td>
<td>Introduction to Dental Hygiene: Theory, Process of Care and Practice</td>
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<tr>
<td>DENHY-121</td>
<td>Introduction to Comprehensive Clinical Dental Hygiene Care</td>
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<tr>
<td>DENHY-122</td>
<td>Clinical Dental Hygiene</td>
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<tr>
<td>DENHY-123</td>
<td>Oral Health Care Education</td>
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<tr>
<td>DENHY-124</td>
<td>Dental Radiography</td>
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</tr>
<tr>
<td>DENHY-125</td>
<td>Head and Neck Anatomy, Histology, and Embryology</td>
<td>4</td>
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<tr>
<td>DENHY-126</td>
<td>Dental Morphology</td>
<td>2</td>
</tr>
<tr>
<td>DENHY-127</td>
<td>Infection Control: Theory and Practice</td>
<td>2.5</td>
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<tr>
<td>DENHY-128</td>
<td>Periodontics for the Dental Hygienist</td>
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<td>DENTAL-129</td>
<td>Contemporary Dental Materials for the Dental Hygienist</td>
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<tr>
<td>DENHY-131</td>
<td>Expanded Functions for the Dental Hygienist</td>
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<tr>
<td>DENHY-133</td>
<td>Behavioral Foundations and Communication Skills</td>
<td>1</td>
</tr>
<tr>
<td>DENHY-134</td>
<td>Evaluation of Scientific Research</td>
<td>2</td>
</tr>
<tr>
<td>DENHY-135</td>
<td>Pharmacology for the Dental Hygienist</td>
<td>3</td>
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<tr>
<td>DENHY-136</td>
<td>Dental Hygiene Care of Patients with Special Needs</td>
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<tr>
<td>DENHY-219</td>
<td>Pathology</td>
<td>2</td>
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<tr>
<td>DENHY-223</td>
<td>Ethics, Jurisprudence, and Practice Management</td>
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<tr>
<td>DENHY-225</td>
<td>Community Oral Health</td>
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<td>DENHY-226</td>
<td>Community Oral Health Service Learning</td>
<td>1.5</td>
</tr>
<tr>
<td>DENHY-227</td>
<td>Advanced Periodontics and Dental Hygiene Topics</td>
<td>2</td>
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<td>DENHY-230</td>
<td>Advanced Clinical Dental Hygiene Care</td>
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<tr>
<td>DENHY-231</td>
<td>Advanced Clinical Dental Hygiene Care</td>
<td>5.5</td>
</tr>
<tr>
<td>DENHY-290</td>
<td>Transitioning from Student to Dental Professional</td>
<td>1</td>
</tr>
</tbody>
</table>

**total minimum required units - program**

**total minimum required units - program and program prerequisites**

**NOTE:** DVC GE Area IB and III must also be completed to satisfy associate degree requirements.
The following courses are open only to those accepted into the dental hygiene program.

DENHY-101 Dental Hygiene Orientation
0.5 unit LR
- 6 hours lecture
- Prerequisite: DENHY-101 or equivalent
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program
- 54 hours lecture/168 hours laboratory per term

This course is designed to provide an overview of dental hygiene curriculum. Time and financial commitments necessary to be successful in the dental hygiene program will be emphasized. CSU

DENHY-120 Introduction to Dental Hygiene:
Theory, Process of Care and Practice
1 unit LR
- 18 hours lecture per term
- Prerequisite: DENHY-101 or equivalent
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program includes current TB clearance, hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certificate (Basic life support for healthcare provider with automated external defibrillator [AED])

This course provides an introduction to the evolving profession of dental hygiene and focuses on the conceptual framework for dental hygiene and the process of care for the promotion of oral health and wellness. Topics include the history of the dental hygiene profession, institutional accreditation and individual licensing, current dental health trends, health promotion strategies and electronic portfolio development. CSU

DENHY-121 Introduction to Comprehensive Clinical Dental Hygiene Care
5.5 units LR
- 54 hours lecture
- Prerequisite: DENHY-101 or equivalent
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, Tetanus vaccination, malpractice insurance, and current CPR certificate (Basic Life Support for Healthcare Provider with Automated External Defibrillator [AED]). Certified background check and negative drug test required as a condition of enrollment in this course.

This course provides an introduction to the application of the dental hygiene process of care guided by the human needs conceptual model. The course includes clinical experiences focusing on assessment procedures related to comprehensive dental hygiene care. Instrumentation skill development with an emphasis on safety for the client as well as the clinician will also be addressed. CSU

DENHY-122 Clinical Dental Hygiene
6 units LR
- 54 hours lecture/168 hours laboratory per term
- Prerequisite: DENHY-121 or equivalent
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course provides an introduction to clinical dental hygiene practice. Instruction and experiences will emphasize client assessments, dental hygiene diagnosis, treatment planning, implementation, and evaluation of dental hygiene care. Application of knowledge, critical thinking, and basic clinical skills acquired in previous dental hygiene courses will be emphasized. CSU

DENHY-123 Oral Health Care Education
2 units LR
- 36 hours lecture per term
- Prerequisite: DENHY-101 and NUTRI-160 or equivalents
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course provides an introduction to the principles, theory, and practice of oral hygiene care. The focus is to develop educational techniques and technical skills that can be used to assist individuals and groups in becoming integrally involved in their dental/oral care. CSU

DENHY-124 Dental Radiography
3 units LR
- 36 hours lecture/54 hours laboratory per term
- Prerequisite: DENHY-101 or DENTL-120 or equivalent
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Assisting or Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course examines the fundamentals of dental radiography. Topics include history, principles, legal considerations, and radiation safety. Clinical applications include exposure techniques, film processing, mounting and interpreting dental radiographs and identifying errors in technique and their methods of correction. CSU
DENHY-125  Head and Neck Anatomy, Histology, and Embryology
4 units  LR
• 54 hours lecture/54 hours laboratory per term
• Prerequisite: DENHY-101, BIOSC-139 and BIOSC-140 or equivalents
• Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course provides an introduction to the structure and functions of the head and neck with special attention given to the oral cavity. General micro-anatomy of the tissue and the embryological development of the head and neck are covered. CSU

DENHY-126  Dental Morphology
2 units  LR
• 36 hours lecture per term
• Prerequisite: DENHY-101 or equivalent
• Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course provides an introduction to the structures and forms of the human dentition. Aspects related to dental hygiene care such as root morphology, restorative charting, occlusion and dental anomalies are emphasized. CSU

DENHY-127  Infection Control: Theory and Practice
2.5 units  LR
• 36 hours lecture/27 hours laboratory per term
• Prerequisite: DENHY-101 and BIOSC-119 or BIOSC-146 or equivalents
• Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course provides an overview of the prevention of disease and disease transmission in the dental environment. Infection control principles, protocols, Center For Disease Control (CDC) and Occupational Safety and Health Administration (OSHA) recommendations/regulations are presented. CSU

DENHY-128  Periodontics for the Dental Hygienist
2 units  LR
• 36 hours lecture per term
• Prerequisite: DENHY-101 or equivalent
• Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course presents a structured study of the discipline of periodontics with a focus on the biological, behavioral and clinical aspects of the periodontal diseases. Topics include normal vs. diseased periodontal structures, etiology, risk factors, classification, and epidemiology. Students will apply periodontal assessment techniques leading to the development of appropriate strategies for planning preventative care, initial treatment and maintenance procedures for the periodontal diseases. Students are introduced to evidence-based decision making as they apply course content to simulated cases. CSU

DENHY-129  Contemporary Dental Materials for the Dental Hygienist
1.5 units  LR
• 18 hours lecture/36 hours laboratory per term
• Prerequisite: DENHY-101 or equivalent
• Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course presents the fundamentals of dental materials. Basic science, behavior and manipulation of dental materials in a framework that enables adaptation to the rapidly evolving array of new dental materials and techniques in the professional arena will be covered. CSU

DENHY-131  Expanded Functions for the Dental Hygienist
2 units  LR
• 18 hours lecture/54 hours laboratory per term
• Prerequisite: DENHY-127 or equivalent; CHEM-108 and CHEM-109 or equivalent
• Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course presents dental hygiene advanced clinical functions including clinical practice in administration of local anesthetics, topical anesthetic agents, nitrous oxide/oxygen analgesia and soft tissue curettage. CSU
DENHY-133 Behavioral Foundations and Communications Skills
1 unit LR
• 18 hours lecture per term
• Prerequisite: DENHY-101 or equivalent

This course introduces students to principles drawn from the behavioral sciences to guide dental hygienist-client communication. The basic components of the communication process, verbal and nonverbal communication, therapeutic and non-therapeutic communication techniques, listening skills, major theories of motivation, and the interrelationship between teaching, learning, and communication will be covered. Focus is on the modification of teaching, learning, and communication techniques appropriate for clients throughout the life span and development of abilities to interact with all members of our multicultural society. CSU

DENHY-134 Evaluation of Scientific Research
2 units LR
• 36 hours lecture per term
• Prerequisite: DENHY-120 and ENGL-122 or equivalents
• Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course is designed to familiarize the student with scientific research methodology and skills to critically review, evaluate and interpret scientific research and professional literature. CSU

DENHY-135 Pharmacology for the Dental Hygienist
3 units LR
• 54 hours lecture per term
• Prerequisite: DENHY-101 or equivalent
• Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course introduces the discipline of pharmacology. The focus is on categorizing drugs by therapeutic use and understanding the physiologic basis for drug action and interaction. Client case scenarios are introduced to allow students to apply course content to simulated clinical situations. CSU

DENHY-136 Dental Hygiene Care for Clients with Special Needs
1 unit LR
• 18 hours lecture per term
• Prerequisite: DENHY-101 or equivalent
• Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course focuses on goals, principles, and treatment modification of comprehensive dental hygiene care for clients with special needs. CSU

DENHY-150 Topics in Dental Hygiene
3-4 units LR
• Variable hours
• Prerequisite: DENHY-101 or equivalent
• Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course is a supplemental class in dental hygiene to provide a study of current concepts and problems in dental hygiene and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

DENHY-219 Pathology
2 units LR
• 36 hours lecture per term
• Prerequisite: DENHY-120 or equivalent
• Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course provides an introduction to the principles of general and oral pathology. The focus is to gain skill in recognizing pathologic conditions and to develop an understanding of disease mechanisms, the diagnostic process, referral, and treatment options. CSU
DENHY-223 Ethics, Jurisprudence, and Practice Management
2 units LR
- 36 hours lecture per term
- Prerequisite: DENHY-120 or equivalent
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course examines jurisprudence, ethics, and practice management as these concepts relate to dental hygiene care and the dental profession. The importance of professional conduct, continuous quality improvement, self-assessment and peer evaluation are emphasized. Management and leadership skills essential for dental hygienists to participate in the practice management and administration of a dental hygiene practice will be covered. CSU

DENHY-225 Community Oral Health
1 unit LR
- 18 hours lecture per term
- Prerequisite: DENHY-120 or equivalent

This course is designed to focus on oral health promotion and disease prevention for a variety of populations with diverse oral health needs. It provides students with an introduction to the dental care delivery system and the significant social, political, cultural and economic forces directing the system. CSU

DENHY-226 Community Oral Health Service Learning
1.5 unit LR
- 18 hours lecture/27 hours laboratory by arrangement per term
- Prerequisite: DENHY-134 and DENHY-225 or equivalents
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course provides an introduction to service-learning experiences related to the study of oral health promotion and disease prevention for groups of people. The process of community health program development including assessment, planning, implementation and evaluation will be emphasized. CSU

DENHY-227 Advanced Periodontics and Dental Hygiene Topics
2 units LR
- 36 hours lecture per term
- Prerequisite: DENHY-120 or equivalent
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course presents advanced concepts of dental hygiene theory, comprehensive dental hygiene assessment, and treatment planning. Topics will include evidence-based decision making, powered instrumentation, dental hypersensitivity, periodontal pharmacology/chemotherapies to control disease activity, advanced instrumentation techniques and root morphology, sharpening skills, periodontal/restorative relationships, evolving technology for evaluation of oral lesions, and practice with comprehensive dental hygiene treatment planning. CSU

DENHY-230 Advanced Clinical Dental Hygiene Care I
5 units LR
- 18 hours lecture/224 hours laboratory per term
- Prerequisite: DENHY-120 and DENHY-127 or equivalents
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course continues and expands development of dental hygiene skills in preventive therapy, oral prophylaxis, periodontal initial preparation, periodontal maintenance therapy, scaling and root debridement procedures, pain control and gingival curettage as well as adjunct therapeutic skills. Dental hygiene assessment (diagnostic) and dental hygiene care planning skills will continue to be developed leading to clinical competency. Techniques in the use and interpretation of radiographs, infection control and office procedures will be developed. CSU
DENHY-231 Advanced Clinical Dental Hygiene Care II
5.5 units LR
- 18 hours lecture/256 hours laboratory per term
- Prerequisite: DENHY-120 and DENHY-127 or equivalents
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course is a continuation of the advanced clinical dental hygiene care course designed to lead toward the achievement of entry level clinical competence in preventive oral health care, oral prophylaxis, initial therapy and supportive periodontal therapy. Students will become entry level competent in scaling and debridement procedures, administration of local anesthetics and nitrous-oxide sedation, and gingival curettage as well as adjunct therapeutic skills such as the local placement of antimicrobial agents. Dental hygiene assessment, diagnosis (based on human need theory) and dental hygiene care planning skills will be refined. Techniques in use and interpretation of radiographs, infection control and time management will be further developed. CSU

DENHY-290 Transitioning from Student to Dental Professional
1 unit SC
- 18 hours lecture per term
- Prerequisite: DENHY-120 or DENTL-181 or equivalent
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Assisting or Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course will prepare students to transition into professional practice in dentistry. Marketing skills, resume and portfolio preparation, interviewing techniques, methods of compensation, malpractice insurance, and navigating licensure applications are emphasized. CSU

DENHY-298 Independent Study
.5-3 units SC
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

DENHY-299 Student Instructional Assistant
.5-3 units SC
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

DRAMA - DRAMA
Janette Funaro, Dean
Arts and Communication Division

Possible career opportunities
Most careers related to theatre require education beyond the associate degree, however, an understanding and mastery of technical theatre skills provides some preparation for work in local community and professional theatre. Possible career options include: set designer, model builder, makeup artist, lighting designer, stage manager, scenic artist, set builder, set carpenter, set painter, stage technician, sound technician, prop maker, and lighting operator.

Associate in arts degree
Drama

Students completing the program (acting emphasis) will be able to:
A. analyze the important impact of historical and current acting training techniques in the American theater.
B. demonstrate professional acting techniques and character development.
C. analyze the sociological, political, and economic factors that have impacted American theater throughout history.
D. demonstrate correct audition techniques for stage.

Students completing the program (musical theater emphasis) will be able to:
A. recognize the importance of musical theater in the history and tradition of American Theater.
B. demonstrate advanced musicality with a variety of vocal techniques.
C. analyze the sociological, political and economic factors that have impacted musical theater throughout history.
D. demonstrate the ability to integrate singing, dancing, and acting in the context of a musical theater scene, song, or production.
E. demonstrate professional musical theater audition skills.
The associate of art degree in drama is a two-year course of study that prepares students for transfer to four-year drama programs and professional training schools, as well as entry level opportunities in community and professional theater. To prepare students for this competitive field, the associate of art degree in drama offers students two areas of specialization from which to choose: Acting or Musical Theater. Intensive, hands-on experience is gained through coursework and supporting drama productions presented in the Performing Arts Center and the Arena Theater.

Completion of a B.A. or B.F.A. in theater arts can lead to professional careers in acting, musical theater, technical theater, directing, and design.

Students completing the associate of art degree in drama will be well prepared for both the competitive process of gaining entrance into an advanced course of study in drama at a four year or professional training school, and successfully working as an actor.

Students who intend to transfer to a four-year program are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE).

To earn this degree, students must complete the core major requirements as indicated and select an area of specialization. Students must complete each course used to meet a major requirement with a “C” grade or higher and complete general education requirements as listed in the catalog.

**major requirements:**

- **DRAMA-122** Beginning Principles of Acting .......................... 3
- **DRAMA-123** Intermediate Principles of Acting ...................... 3
- **DRAMA-200** Introduction to Technical Theater .......................... 3
- **DRAMA-201** Technical Theater Laboratory .............................. 1

**plus at least 3 units from:**

- **DRAMA-139** Introduction to Theater ..................................... 3
- **DRAMA-142** Multicultural Perspectives in American Theater .......................... 3

**acting emphasis**

**required course:**

- **DRAMA 127** Auditioning Techniques .................................. 3

**plus at least 6 units from:**

- **COMM-124** Voice and Diction ........................................... 3
- **DRAMA-114** Script Analysis .................................................. 3
- **DRAMA-124** Advanced Principles of Acting ............................ 6
- **DRAMA-125** Advanced Styles in Scene Study: From Shakespeare to Shaw ........................................... 6
- **DRAMA-127** Auditioning and Preparation for the Camera ........................................... 3
- **DRAMA-130** Principles of Directing ........................................ 3
- **DRAMA-150** Children’s Theater ............................................. 3

**plus at least 2 units from:**

- **DRAMA 202** Stage Production-Technical Theater ..................... 1-2
- **DRAMA 270** Stage Production .................................................. 1-2

**total minimum units for the major**

**24**

**musical theater emphasis**

**required course:**

- **DRAMA-170** Introduction to Musical Theater .......................... 3
- **DRAMA-171** Musical Theater II .............................................. 3

**plus at least 3 units from:**

- **COMM-124** Voice and Diction ........................................... 3
- **DANCE-160A** Tap Dance I ....................................................... 1
- **DANCE-162A** Broadway Dance I ........................................... 1
- **DRAMA-150** Children’s Theater ............................................. 3
- **DRAMA-127** Auditioning Techniques ..................................... 3
- **DRAMA-124** Advanced Principles of Acting ............................ 6
- **DRAMA-125** Advanced Styles in Scene Study: From Shakespeare to Shaw ........................................... 6
- **MUSIC-166** Chamber Singers .............................................. 1-2
- **MUSIC-170** Applied Voice Training ....................................... 1

**plus at least 2 units from:**

- **DRAMA-275** Musical Theater Production ............................... 1-2
- **DRAMA-202** Fundamentals of Stage Production-Technical Theater .................................................. 1-2

**total minimum units for the major**

**24**

**Associate in arts degree**

**Technical theater**

Students completing the program will be able to...

A. exhibit the unique collaborative skills necessary to participate in a theater community.

B. develop the basic skills required in the craft of theater.

C. demonstrate the ability to articulate the creative process of theatrical tasks.

The associate degree program in technical theater prepares students for an entry-level career in community and professional theater. Based on the principle of total immersion in the theater, students are engaged in every technical aspect of bringing the live theater experience to the audience. Intensive, hands-on experience is gained through supporting drama productions presented in the DVC laboratories, the Performing Arts Center and the Arena Theater, or as interns at local and regional theaters. Careers may include backstage crew, scene shop technician, scenic painter, property artisan, theater electrician, costume technician, makeup technician, sound/projection artisan, or stage manager.

To earn an associate in arts degree, students must complete each course used to meet a major requirement with a “C” grade or higher. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**major requirements:**

- **DRAMA-111** Introduction to Lighting Design .......................... 3
- **DRAMA-112** Introduction to Stage Makeup .............................. 3
- **DRAMA-122** Basic Principles of Acting .................................. 3
- **DRAMA-200** Introduction to Technical Theater .......................... 3
- **DRAMA-201** Technical Theater Laboratory .............................. 1-2

**plus at least 2 units from:**

- **DRAMA-202** Fundamentals of Stage Production-Technical Theater .................................................. 1-2

**total minimum units for the major**

**24**

**plus at least 2 units from:**

- **DRAMA-295** Occupational Work Experience .......................... 2-4
- **DRAMA-296** Internship in Occupational Work Experience Education in DRAMA ........................................... 2-4
plus at least 6 units from:

ART-102 Introduction to Three-Dimensional Design and Sculpture ......................... 3
ART-105 Introduction to Drawing .................................................... 3
ART-107 Figure Drawing I ......................................................... 3
ART-138 Sculpture I .............................................................. 3
ARCHI-119 Introduction to Technical Drawing ........................................ 3
ARCHI-126 Computer Aided Design and Drafting ........................................ 3
ARTDM-149 Fundamentals of Digital Video ........................................ 3
COMM-124 Voice and Diction ......................................................... 3
DRAMA-113 Introduction to Costume Design ........................................ 3
DRAMA-114 Script Analysis .......................................................... 3
DRAMA-130 Principles of Directing .................................................. 3
DRAMA-139 Introduction to Theater ................................................... 3
DRAMA-142 Multicultural Perspectives in American Theater ................................ 2
DRAMA-150 Children’s Theater ....................................................... 3
DRAMA-170 Introduction to Musical Theater .......................................... 3
DRAMA-275 Musical Theater Production ............................................. 1-2
DRAMA-299 Student Instructional Assistant ........................................ 0.5-3
ENGTIC-119 Introduction to Technical Drawing ....................................... 3
MUSX-120 Live Sound ..................................................................... 3
SOCIO-122 Critical Thinking about Social and Cultural Issues ......................... 3

total minimum units for the major 23

Associate in Arts in Theater Arts for Transfer

Students completing the program will be able to...

A. demonstrate skill in performing or creating a production.
B. analyze historical and contemporary theatrical literature.

The associate in arts in theater arts for transfer (AA-T) at Diablo Valley College prepares students to move into a program at a CSU university leading to a baccalaureate degree in theater arts. Completion of a B.A. in theater arts can lead to professional careers in acting, technical theater, stage management, stage direction, and design. In addition, many students find the completion of a theater arts degree a complementary preparation for careers in education, law, communications, and psychology.

The associate in arts in theater arts for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education-pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for oral communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Students must complete each course used to meet a major requirement with a “C” grade or higher. Some courses in the major satisfy both major and CSU GE/IGETC general education requirements; however, the units are only counted once toward the 60-unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

major requirements: 23 units

DRAMA-122 Basic Principles of Acting ........................................ 3
DRAMA-139 Introduction to Theater .............................................. 3

plus at least 3 units from:

DRAMA-201 Technical Theater Laboratory .................................... 1-2*
DRAMA-270 Stage Production ..................................................... 1-2*

plus at least 9 units from:

DRAMA-111 Introduction to Lighting Design .................................... 3
DRAMA-112 Introduction to Stage Makeup ....................................... 3
DRAMA-113 Introduction to Costume Design ................................... 3
DRAMA-123 Intermediate Principles of Acting .................................. 3
DRAMA-200 Introduction to Technical Theater .................................. 3

or, if not used above:

DRAMA-201 Technical Theater Laboratory .................................... 1-2*
DRAMA-270 Stage Production ..................................................... 1-2*

*Note: a maximum of 3 units may be taken from each of these courses.

Certificate of Achievement

Acting

Students completing the program will be able to...

A. analyze the important impact of historical and current acting training techniques in the American theater.
B. demonstrate professional acting techniques and character development.
C. analyze the sociological, political, and economic factors that have impacted American theater throughout history.
D. demonstrate correct audition techniques for stage.

The certificate of achievement in acting prepares students for transfer to four-year drama programs and professional training schools, as well as entry level opportunities as an actor in community and professional theater. To prepare students for this competitive field, the certificate of achievement in acting offers students intensive, hands-on experience through course work and supporting drama productions presented in the performing arts center and the arena theater.
A certificate of achievement in acting provides a solid foundation to prepare students for transfer as a drama or theater arts major, and can lead to professional careers in acting, musical theater, technical theater, directing, and design.

Students completing the certificate of achievement in acting will be well prepared for both the competitive process of gaining entrance into an advanced course of study in drama or theater arts at a four year or professional training school, and successfully working as an actor in the theater.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available during the day, evening, and online.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>DRAMA-122</td>
<td>Beginning Principles of Acting</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-123</td>
<td>Intermediate Principles of Acting</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-127</td>
<td>Auditioning Techniques</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-200</td>
<td>Introduction to Technical Theater</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-201</td>
<td>Technical Theater Laboratory</td>
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**plus at least 3 units from:**

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<thead>
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<tbody>
<tr>
<td>DRAMA-139</td>
<td>Introduction to Theater</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-142</td>
<td>Multicultural Perspectives in American Theater</td>
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**plus at least 6 units from:**

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</thead>
<tbody>
<tr>
<td>COMM-124</td>
<td>Voice and Diction</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-114</td>
<td>Script Analysis</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-124</td>
<td>Advanced Principles of Acting</td>
<td>6</td>
</tr>
<tr>
<td>DRAMA-125</td>
<td>Advanced Styles in Scene Study: From Shakespeare to Shaw</td>
<td>6</td>
</tr>
<tr>
<td>DRAMA-130</td>
<td>Principles of Directing</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-150</td>
<td>Children's Theater</td>
<td>3</td>
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**plus at least 2 units from:**

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<tbody>
<tr>
<td>DRAMA-202</td>
<td>Stage Production-Technical Theater</td>
<td>1-2</td>
</tr>
<tr>
<td>DRAMA-270</td>
<td>Stage Production</td>
<td>1-2</td>
</tr>
</tbody>
</table>

**total minimum required units 24**

### Certificate of achievement

#### Musical theater

Students completing the program will be able to...

A. recognize the importance of musical theater in the history and tradition of American Theater.

B. demonstrate advanced musicality with a variety of vocal techniques.

C. analyze the sociological, political and economic factors that have impacted musical theater throughout history.

D. demonstrate the ability to integrate singing, dancing, and acting in the context of a musical theater scene, song, or production.

E. demonstrate professional musical theater audition skills.

The certificate of achievement in musical theater prepares students for transfer to four-year musical theater programs and professional training schools, as well as entry level opportunities as a musical theater actor in community and professional theater. To prepare students for this competitive field, the certificate of achievement in musical theater offers students intensive, hands-on experience through course work and supporting musical theater drama productions presented in the performing arts center and the arena theater.

A certificate of achievement in musical theater provides a solid foundation to prepare students for transfer as a musical theater or drama major, and can lead to professional careers in acting, musical theater, technical theater, directing, choreography, and design.

Students completing the certificate of achievement in musical theater will be well prepared for both the competitive process of gaining entrance into an advanced course of study in musical theater or drama at a four year or professional training school, and successfully working as an actor in musical theater.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available during the day, evening, and online.

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<tr>
<td>DRAMA-123</td>
<td>Intermediate Principles of Acting</td>
<td>3</td>
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<tr>
<td>DRAMA-170</td>
<td>Introduction to Musical Theater</td>
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<tr>
<td>DRAMA-171</td>
<td>Musical Theater I</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-200</td>
<td>Introduction to Technical Theater</td>
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<tr>
<td>DRAMA-201</td>
<td>Technical Theater Laboratory</td>
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**plus at least 3 units from:**

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<tr>
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<tbody>
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<td>DRAMA-139</td>
<td>Introduction to Theater</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-142</td>
<td>Multicultural Perspectives in American Theater</td>
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<tbody>
<tr>
<td>COMM-124</td>
<td>Voice and Diction</td>
<td>3</td>
</tr>
<tr>
<td>DANCE-160A</td>
<td>Tap Dance I</td>
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<tr>
<td>DANCE-162A</td>
<td>Broadway Dance I</td>
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<tr>
<td>DRAMA-124</td>
<td>Advanced Principles of Acting</td>
<td>6</td>
</tr>
<tr>
<td>DRAMA-125</td>
<td>Advanced Styles in Scene Study: From Shakespeare to Shaw</td>
<td>6</td>
</tr>
<tr>
<td>DRAMA-127</td>
<td>Auditioning Techniques</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-150</td>
<td>Children's Theater</td>
<td>3</td>
</tr>
<tr>
<td>MUSIC-166</td>
<td>Chamber Singers</td>
<td>1-2</td>
</tr>
<tr>
<td>MUSIC-170</td>
<td>Applied Voice Training</td>
<td>1</td>
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</table>

**plus at least 2 units from:**

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<tbody>
<tr>
<td>DRAMA-202</td>
<td>Fundamentals of Stage Production-Technical Theater</td>
<td>1-2</td>
</tr>
<tr>
<td>DRAMA-275</td>
<td>Musical Theater Production</td>
<td>1-2</td>
</tr>
</tbody>
</table>

**total minimum required units 24**
Certificate of achievement

Technical theater

Students completing the program will be able to...

A. exhibit the unique collaborative skills necessary to participate in a theater community.
B. develop the basic skills required in the craft of theater.
C. demonstrate the ability to articulate the creative process of theatrical tasks.

The certificate of achievement program in technical theater prepares students for an entry-level career in community and professional theater. Based on the principle of total immersion in the theater, students are engaged in every technical aspect of bringing the live theater experience to the audience. Intensive, hands-on experience is gained through supporting drama productions presented in the DVC laboratories, the Performing Arts Center and the Arena Theater, or as interns at local and regional theaters. Careers may include backstage crew, scene shop technician, scenic painter, property artisan, theater electrician, costume technician, makeup technician, sound/projection artisan, or stage manager.

To earn a certificate of achievement, students must complete each course used to meet a major requirement with a “C” grade or higher.

required courses: units
DRAMA-111 Introduction to Lighting Design ......................... 3
DRAMA-112 Introduction to Stage Makeup .......................... 3
DRAMA-122 Basic Principles of Acting ................................. 3
DRAMA-200 Introduction to Technical Theater ..................... 3
DRAMA-201 Technical Theater Laboratory ............................ 1-2

plus at least 2 units from:
DRAMA-202 Fundamentals of Stage Production-Technical Theater .......................... 1-2

plus at least 2 units from:
DRAMA-295 Occupational Work Experience Education in DRAMA .......................... 2-4
DRAMA-296 Internship in Occupational Work Experience Education in DRAMA .......................... 2-4

total minimum required units 17

Limitations on enrollment

Effective fall term 2013, changes to the regulations that govern community college enrollments placed limitations on the number of courses that students may take in certain disciplines within the Contra Costa Community College District. The charts below indicate which Diablo Valley College (DVC) courses are assigned to groups of courses (“families”) for which limitations have been imposed. Certain courses within certain “families” may be repeated (see catalog description), however, students are limited to four enrollments within the family. Certain DVC courses are equivalent to courses at Los Medanos College and Contra Costa College. An enrollment in an equivalent course at one of those colleges will count toward the allowable four enrollments within the family.

NOTE: Diablo Valley College may offer experimental or topics courses. When appropriate, based on content, such courses will be assigned to a “family” and that enrollment will be counted as an experience within the “family”.

DRAMA

Family: Acting
DRAMA-122 Basic Principles of Acting
DRAMA-123 Intermediate Principles of Acting
DRAMA-124 Advanced Principles of Acting
DRAMA-125 Advanced Styles in Scene Study: From Shakespeare to Shaw
DRAMA-155SC Stage Conflict
DRAMA-155SH Solving Shakespeare
DRAMA-155TH Theater for Social Change
DRAMA-155XX Advanced Acting Styles in Early Modern Theater

Family: Audition
DRAMA-126 Audition and Preparation for the Camera
DRAMA-127 Audition Techniques
DRAMA-128 Auditioning and Preparation for the Camera II
DRAMA-129 Theatre Festival Competition
DRAMA-155KC KCAC Theater Fest Competition

Family: Directing
DRAMA-130 Principles of Directing
DRAMA-230 Directing Projects
DRAMA-155AC Directing the One-Act
DRAMA-155DV Devised Theater
DRAMA-155DY Directing Yourself – Creating Original Work for the Stage

Family: Musical Theater
DRAMA-150 Children’s Theater
DRAMA-170 Introduction to Musical Theater I
DRAMA-155MT Musical Theater
DRAMA-155MO Monsters and Fairtales – The Evolution of Children’s Theater
DRAMA-155VA Acting in Musicals
Family: Performance Acting
DRAMA-270 Stage Production
DRAMA-155GP From Stage to Silver Screen: Great Productions of the 20th Century

Family: Performance - Musical Theater
DRAMA-275 Musical Theater Production

Family: Production/Technical Theater
DRAMA-201 Technical Theater Laboratory
DRAMA-202 Fundamentals of Stage Production - Technical Theater
DRAMA-260 Technical Theater Practicum

DRAMA-111 Introduction to Lighting Design
3 units SC
• 54 hours lecture per term
This course will present the theory and techniques of stage lighting including the function of lighting equipment, the operation of basic dimmer systems, and the creation of lighting designs for selected scenes from plays. C-ID THTR 173, CSU, UC

DRAMA-112 Introduction to Stage Makeup
3 units SC
• 54 hours lecture per term
This course presents the study the aesthetics, materials, and procedures of stage makeup. Corrective makeup, aging techniques, makeups which are inline with a play’s given circumstances, character makeup applications, makeups which accurately depict historical eras and cultural demands, and abstract/linear makeup design projects will be covered. C-ID THTR 175, CSU, UC

DRAMA-113 Introduction to Costume Design
3 units SC
• 36 hours lecture/27 hours laboratory/27 hours laboratory by arrangement per term
This course is an introduction to theatrical costume design. Topics include beginning construction theories, techniques, basic applications and practices. Various fabrics, basic patterning, wardrobe plotting, and historical styles will be covered. C-ID THTR 174, CSU, UC

DRAMA-114 Script Analysis
3 units SC
• IGETC: 3A; CSU GE: C1; DVC GE: III
• 54 hours lecture per term
This course explores the analysis of play scripts. Consideration is given to the historical and cultural context of various kinds of scripts, the bearing of technological change on the way script is understood, genre and form, narrative and plot analysis, linguistic analysis, interpreting stage directions, and identification of main themes. C-ID THTR 114, CSU, UC

DRAMA-122 Basic Principles of Acting
3 units SC
• CSU GE: C1
• 54 hours lecture per term
This course focuses on beginning acting fundamentals with an emphasis on the important elements necessary for scene study and the heightening and focusing of physical and vocal energy. Students will practice incorporating movement, memorization, vocal techniques, and character work for the stage. C-ID THTR 151, CSU, UC

DRAMA-123 Intermediate Principles of Acting
3 units SC
• 54 hours lecture per term
• Advisory: DRAMA-122 or equivalent
This course builds on the basic acting skills from DRAMA-122. The focus is on more complex elements in scene study, character development, and developing heightened physical and vocal energies. Students will practice personalization techniques for application in class and performance. C-ID THTR 152, CSU, UC

DRAMA-124 Advanced Principles of Acting
6 units SC
• Prerequisite: DRAMA-123 or equivalent
• Limitation on enrollment: Audition required; see schedule of classes for specific days and times.
This course is a study of advanced acting with extensive focus on selected scenes from contemporary realism. The course covers an organic approach to acting based on the principles of Constantin Stanislavski. Special emphasis is placed on script analysis, personalization, and intensive listening and receptivity work with partners. CSU, UC

DRAMA-125 Advanced Styles in Scene Study: From Shakespeare to Shaw
6 units SC
• 108 hours lecture per term
• Prerequisite: DRAMA-124 or equivalent
• Limitation on enrollment: Audition required; see schedule of classes for specific days and times.
This course applies the skills and techniques learned in DRAMA-124 to a range of different theatrical genres and styles. Students will analyze, prepare, and perform scenes from a wide variety of historical periods and genres, which may include: Classical, Restoration, Theater of the Absurd, and Early Modernism. This course will help the serious drama student prepare for a career in the competitive, professional theater. CSU, UC
DRAMA-126  Auditioning and Preparation for the Camera
3 units SC
- 54 hours lecture per term
- Advisory: DRAMA-123 or equivalent
This course covers practical training and experience in auditioning and working on camera for the actor. Close attention will be paid to adapting acting techniques that have special application to working in television and film. CSU

DRAMA-127  Auditioning Techniques
3 units SC
- 54 hours lecture per term
- Advisory: DRAMA-122 or equivalent
This course covers the elements and techniques of auditioning. Topics include monologue selection and styles, cold reading, actor's preparation, research, resume development, and practical application of acting techniques for audition purposes. Students will also prepare for college, community and professional theater auditions and create a portfolio of audition material. CSU

DRAMA-128  Auditioning and Preparation for the Camera II
3 units SC
- 54 hours lecture per term
- Prerequisite: DRAMA-126 or equivalent
- Advisory: DRAMA-123 or equivalent
This course will continue to build skills learned in DRAMA-126 utilizing more advanced techniques for auditioning for television and film. Students will use scripts from a variety of film and television styles, explore techniques such as: script analysis for camera work, continuity of takes, hitting a mark, finding and working in key light, and using various frame sizes such as long, medium, and close-up shots. This course will also examine the business side of the film and television industry with emphasis on auditioning, talent agents, casting directors, and demo reels. CSU

DRAMA-129  Theatre Festival Competition
2 units SC
- May be repeated three times
- 14 hours lecture/40 hours laboratory by arrangement per term
- Limitation on enrollment: Audition/interview required; see schedule of classes for specific days and times.
- Note: Portions of this class are held off-campus and require travel, often out-of-state. Enrollment may be selective. Priority may be given to students who have taken core drama classes, are involved in productions, and/or have received Irene Ryan nominations or Meritorious Awards.
This course prepares students to audition and present their work at the Kennedy Center American College Theater Festival (KCACTF). Students will compete at the regional and national levels for scholarships, internships, and work related experiences in the fields of technical theatre, stage management, directing, playwriting, dramaturgy, and acting. CSU

DRAMA-130  Principles of Directing
3 units SC
- 54 hours lecture per term
- Advisory: DRAMA-123 or equivalent; DRAMA-230 (concurrent enrollment) or equivalent; College-level reading and writing are expected.
This course covers the function of the stage director; the preparation of a play script from the first reading through casting, rehearsals, and performance. Emphasis will be placed on theory of directing as well as on its practical application for the stage. CSU

DRAMA-139  Introduction to Theater
3 units SC
- IGETC: 3A; CSU GE: C1; DVC GE: III
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.
This introductory course surveys the roles of actors, directors, playwrights, and designers in the development of theatrical works. The multiple disciplines of theater throughout history are examined. It will also cover the origins of theater, dramatic structure, the audience and theater performance spaces. C-ID THTR 111, CSU, UC

DRAMA-142  Multicultural Perspectives in American Theater
3 units SC
- IGETC: 3A; CSU GE: C1, C2; DVC GE: III
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.
This course will explore and evaluate contemporary dramatic literature (1965-present) of Native-American, African-American, Asian-Pacific American, Latinx/Chicanx, Arab American, and LGBTQ cultures. The historical as well as the cultural and social conditions in which these plays developed will also be examined. CSU

DRAMA-150  Children's Theater
3 units SC
- CSU GE: C1
- 54 hours lecture per term
This is a course in the theory, principle, and practice of children's theater. It features the creation of a series of scenes or a full-length children's theater work using dialogue, singing, and dancing, with emphasis on techniques used in performance for a young audience. Students will explore the roles of performers, designers, and dramaturges in the creation of contemporary theater for children. CSU
DRAMA-155   Topics in Drama
.3-4 units SC
• Variable hours
A supplemental course in drama to provide a study of current concepts, problems, and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

DRAMA-157   Topics in Technical Theater
.3-4 units SC
• Variable hours
A supplemental course in technical theater to provide a study of current concepts, problems, and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

DRAMA-170   Introduction to Musical Theater
3 units SC
• 54 hours lecture per term
• Advisory: MUSIC-170 or equivalent
This course develops performance skills combining singing, dancing, and acting in the presentation of scenes from musical theater. Students will learn and integrate acting, movement, and singing skills to create a believable character on stage. Rehearsal and performance techniques for a wide variety of musical theater styles and historical periods will be covered. CSU, UC

DRAMA-171   Musical Theater II
3 units SC
• 54 hours lecture per term
• Prerequisite: DRAMA-170 or equivalent
• Advisory: DRAMA-123 or equivalent
This course is a study of advanced musical theater with extensive focus on selected scenes and songs from the musical theater genre. The course continues to develop skills and techniques learned in DRAMA-170, with emphasis on singing, acting, blocking, and choreographed dance movement. Students will analyze and prepare musical theater material including ballads, up-tempo, duets, trios, and group songs, and will continue to introduce students to a body of musical theater literature, composers, lyricists, and librettists. CSU, UC

DRAMA-200   Introduction to Technical Theater
3 units SC
• 54 hours lecture per term
• Co-requisite: DRAMA-201 or equivalent
This course provides a theoretical as well as a practical overview of the elements of technical theater. Safety precautions, stage management, stage design, scenery, lighting, sound, acting, make-up, and costuming are among the topics to be presented. The course will also cover possible job opportunities in technical theater. C-ID THTR 171, CSU, UC

DRAMA-201 Technical Theater Laboratory
1-2 units SC
• Variable hours
• Co-requisite: DRAMA 200 or equivalent (may be taken concurrently)
• Note: This is a variable unit course with hours by arrangement. Students must complete 54 hours for 1.0 unit or 108 for 2.0 units.
This course covers the practical applications of technical theater including stage management, stage design, scenery construction, painting for the stage, properties, lighting, sound, make-up, and costuming. Students will obtain hands-on experience working on main stage productions, arena productions, and student-directed projects. Safety procedures for working in the shop and on stage performances are emphasized. C-ID THTR 192, CSU, UC

DRAMA-202   Fundamentals of Stage Production - Technical Theater
1-2 units SC
• May be repeated three times
• Variable hours
• Limitation on Enrollment: Interview required. Specific days and times are announced in the Schedule of Classes.
This is an open entry/open exit course where students participate in a technical theater capacity in a faculty directed stage production. Technical theater students are introduced to participating in a full length production in a variety of ways: working with sets, sound, lighting, painting, costume, stage management, and props. Students will be introduced to professional rehearsal and performance standards. All projects culminate in public performance. The organization and function of the technical staff, the structure of the physical theater, and job opportunities in technical theater will also be discussed. CSU, UC

DRAMA-230   Directing Projects
1-2 units SC
• Variable hours
• Advisory: Concurrent enrollment in DRAMA-130 or equivalent; College-level reading and writing are expected.
This course provides students the opportunity to practice skills learned in DRAMA-130. Students will prepare and direct a scene or one act from script selection through performance. Students will cast, rehearse, and stage a variety of scenes or one acts; projects may culminate in limited public performance. Emphasis is placed on the director-actor relationship and creating effective staging. CSU, UC

DRAMA-260   Technical Theater Practicum
1-2 units SC
• May be repeated three times
• Variable hours
• Limitation on enrollment: Interview with instructor and student director required. Specific days and times are announced in the Schedule of Classes.
• Advisory: DRAMA-200 and 201 or equivalent
• Note: This is an open-entry, open-exit course.
This course allows technical theater students to receive practical experience through participation in student-directed projects. CSU, UC
DRAMA-270   Stage Production  
1-2 units SC  
- May be repeated three times  
- Variable hours  
- Limitations on Enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.  
- Advisory: DRAMA-122 or equivalent  
This is an open entry/open exit course. After audition and evaluation the students participate in a full-length stage production, with emphasis on rehearsal, character development and collaborative production techniques. All projects will culminate in public performance. C-ID THTR 191, CSU, UC

DRAMA-275   Musical Theater Production  
1-2 units SC  
- May be repeated three times  
- Variable hours  
- Limitation on Enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.  
This is an open entry/open exit course where students participate in a faculty directed musical theater stage production, with emphasis on the combination of singing, dancing, and acting. Musical Theater Production will focus on how to use musicality, song, and dance, to embody emotional life for performance on stage in a musical theater production. Students will be introduced to professional rehearsal and performance standards. All projects culminate in public performance. CSU, UC

DRAMA-295   Occupational Work Experience Education in DRAMA  
2-4 units SC  
- May be repeated eight times  
- Variable hours  
- Note: In order to enroll in DRAMA-295, students must be employed, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.  
DRAMA-295 is supervised employment that extends classroom learning to the job site and relates to the student’s chosen field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Each unit represents five hours of work per week or 75 hours work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

DRAMA-296   Internship in Occupational Work Experience Education in DRAMA  
2-4 units SC  
- May be repeated eight times  
- Variable hours  
- Note: In order to enroll in the DRAMA-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.  
DRAMA-296 is a supervised internship in a skilled or professional level assignment in the student’s major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Each unit represents five hours of paid work or four hours of unpaid work per week or 75 hours of paid work or 60 hours of unpaid work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

DRAMA-298   Independent Study  
.5-3 units SC  
- Variable hours  
- Note: Submission of acceptable educational contract to department and Instruction Office is required.  
This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

DRAMA-299   Student Instructional Assistant  
.5-3 units SC  
- Variable hours  
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.  
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU
Early childhood education

**EARLY CHILDHOOD EDUCATION - ECE**

Obed Vazquez, Dean  
Social Sciences Division  
Faculty Office Building, Room 136

**Possible career opportunities**

Early childhood educators focus on children from zero to age five. Some of the positions held by early childhood professionals are: classroom aide, ECE teacher, site supervisor, program director, child care provider, adult educator of families and other professionals, resource and referral professional, social service worker, youth and family service worker, camp counselor, recreation leader, foster care provider, mental health paraprofessional, or child advocate.

**Associate in science degree**

**Early childhood education**

Students completing this program will be able to...

A. identify developmentally appropriate activities for infants, toddlers and preschool age children.
B. analyze the psychological, physical and cognitive influences on child development.
C. apply the professional code of ethics.
D. evaluate strategies to maximize the health, safety and nutrition of children in early childhood education programs.
E. create a developmentally appropriate integrated curriculum.
F. assess how socializing agents impact the lives of children and families.
G. apply the principles of anti-bias pedagogy.
H. apply observation and assessments to create appropriate environments.
I. apply positive guidance skills with young children.
J. apply constructivist theory and intentional teaching methodologies to teacher-child interactions.

The associate in science program in early childhood education is designed as a two-year curricular pathway that offers students a broad general education while integrating an in-depth study in child development and theory, principles and practices in early care and education. The early childhood education program prepares students for various careers working directly with children, families and other adults in the early childhood profession.

To earn a degree, students must complete each of the courses required for the major with a “C” grade or higher and complete general education requirements as listed in the catalog. Attending classes in the day, the evening or both can complete degree requirements.

**major requirements:**

<table>
<thead>
<tr>
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<th>Units</th>
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<td>3</td>
</tr>
<tr>
<td>ECE-124</td>
<td>Child Development and Psychology</td>
<td>3</td>
</tr>
<tr>
<td>ECE-125</td>
<td>Principles and Practices of Early Childhood Education</td>
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<td>Health, Safety, and Nutrition for the Young Child</td>
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<td>Diversity in Early Childhood Education</td>
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</tr>
<tr>
<td>ECE-249</td>
<td>Observation and Assessment in the Classroom</td>
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</tr>
<tr>
<td>ECE-250</td>
<td>Practicum in Early Childhood Education</td>
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**total minimum units for the major** 29

**recommended degree electives:**

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<td>ECE-231</td>
<td>Infant and Toddler Development</td>
<td>3</td>
</tr>
<tr>
<td>ECE-237</td>
<td>Current Topics in Early Childhood Education</td>
<td>0.5-3</td>
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<tr>
<td>ECE-240</td>
<td>Language and Literacy for the Young Child</td>
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<td>Science and Mathematics for Early Childhood Education</td>
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<td>ECE-251</td>
<td>Administration I: Programs in Early Childhood Education</td>
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<td>Administration II: Personnel and Leadership in ECE</td>
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<td>Adult Supervision and Mentoring in Early Childhood Classrooms</td>
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<td>Children with Special Needs</td>
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</tr>
<tr>
<td>ECE-298</td>
<td>Independent Study</td>
<td>0.5-3</td>
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**Associate in science in early childhood education for transfer**

Students completing this program will be able to...

A. identify developmentally appropriate activities for infants, toddlers and preschool age children.
B. analyze the psychological, physical and cognitive influences on child development.
C. apply the professional code of ethics.
D. evaluate strategies to maximize the health, safety and nutrition of children in early childhood education programs.
E. create a developmentally appropriate integrated curriculum.
F. assess how socializing agents impact the lives of children and families.
G. apply the principles of anti-bias pedagogy.
H. apply observation and assessments to create appropriate environments.
I. apply positive guidance skills with young children.
The associate in science in early childhood education for transfer is a 60 unit degree program designed to prepare students to transfer and study child development, human development, and early childhood education. Students will be prepared to take upper division courses in their first semester after transferring. Typically, students who complete this program will be able to complete their upper division coursework in only two additional years. In addition to preparation for transfer, this degree also prepares students for various careers working directly with children, families and other adults in the early childhood profession. Upon completion of this program, students will be eligible to apply for the Teacher level permit on the Child Development Permit Matrix from the State of California Commission on Teacher Credentialing. Students will complete lower division courses in child growth and development, principles and practices in early childhood education, curriculum, observation, assessment, child/family/community relationships, diversity, health and safety, and a culminating student teaching practicum.

The associate in science in early childhood education for transfer is intended for students who plan to complete a bachelor's degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major. In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSU GE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

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<td>ECE-250</td>
<td>Practicum in Early Childhood Education</td>
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</tr>
</tbody>
</table>

total minimum units for the major 26

Certificate of achievement

Early childhood education - Associate teacher

Students completing the program will be able to...

A. create a developmentally appropriate integrated curriculum.
B. analyze the psychological, physical, and cognitive influences on child development.
C. identify the principles and ideas of the Early Childhood Education profession.
D. assess how socializing agents and culture impacts the lives of children and families

This certificate meets the education requirements for the associate teacher level of the Child Development Permit Matrix issued by the State of California Commission on Teacher Credentialing and Community Care Licensing, Title 22 requirements for a fully qualified teacher. After meeting additional experience requirements, graduates are qualified to apply for a Child Development Permit, which is required to work in federal and state funded programs for children aged 0-5.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Attending classes in the day, the evening, or both can complete certificate requirements.

required courses:

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<td>Child, Family, and Community</td>
<td>3</td>
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</tbody>
</table>

total minimum required units 12
Early childhood education

Certificate of achievement  
Early childhood education - Basic

Students completing this program will be able to...

A. identify developmentally appropriate activities for infants, toddlers and preschool age children.
B. analyze the psychological, physical and cognitive influences on child development.
C. apply the professional code of ethics.
D. evaluate strategies to maximize the health, safety and nutrition of children in early childhood education programs.
E. create a developmentally appropriate integrated curriculum.
F. assess how socializing agents impact the lives of children and families.
G. apply the principles of anti-bias pedagogy.
H. apply observation and assessment to create appropriate environments.
I. apply positive guidance skills with young children.
J. apply constructivist theory and intentional teaching methodologies to teacher child interactions.

This certificate prepares students to meet the demands of today’s childcare centers, preschool programs, and nursery schools. The certificate meets the California State Department of Social Services, Community Care Licensing Title 22, and Division 12 requirements for a fully qualified teacher. The early childhood education basic certificate is an alternative certificate to the California State Matrix and to the child development certificate.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Attending classes in the day, the evening, or both can complete certificate requirements.

required courses:  

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<td>ECE-250</td>
<td>Practicum in Early Childhood Education</td>
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</table>

**total minimum required units**  29

Certificate of achievement  
Early childhood education - Master teacher

Students completing this program will be able to...

A. create a developmentally appropriate integrated curriculum.
B. analyze the psychological, physical and cognitive influences on child development.
C. identify and apply the principles and ideals of the Early Childhood Education profession.
D. assess how socializing agents and culture impact the lives of children and families.
E. evaluate strategies to maximize the health, safety and nutrition of children in early childhood education programs.
F. apply the principles of anti-bias pedagogy.
G. implement the observe, plan, document, reflect and assess cycle for curriculum planning.
H. develop positive relationships and responsive interactions with young children.
I. demonstrate techniques for guiding adults working with young children.
J. demonstration of knowledge in a specialization area.
K. apply constructivist theory and intentional teaching methodologies to teacher child interactions.

This early childhood education certificate meets the education requirements for the master teacher level of the Child Development Permit Matrix issued by the State of California Commission on Teacher Credentialing. After meeting additional experience requirements and a fingerprint clearance, graduates are qualified to apply for a Child Development Permit from the California Commission on Teacher Credentialing, which is required to work in federal and state funded programs for children aged 0-5.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Attending classes in the day, the evening, or both can complete certificate requirements.

required courses:  

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</tr>
<tr>
<td>ECE-253</td>
<td>Adult Supervision and Mentoring in Early Childhood Classrooms</td>
<td>2</td>
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</table>

plus at least 6 units in any one of these areas of concentration:
Early childhood education

**creative expression**

- **ECE-237**  Current Topics in Early Childhood Education .......................... 0.5-3
- **ECE-242**  Music, Dance, and Drama for the Young Child ............................... 1
- **ECE-243**  Creative Art for the Young Child ................................. 1

*or one course from:*

- **ART-155**  Ceramic Sculpture I ......................................................... 3
- **ART-160**  Photography I ................................................................. 3
- **DRAMA-150**  Children’s Theater ......................................................... 3
- **DANCE-100**  Introduction to Dance ................................................... 1
- **DANCE-110A**  Ballet Fundamentals I ................................................... 1
- **DANCE-130A**  Modern Dance Fundamentals I ........................................ 1
- **DANCE-160A**  Tap Dance I ................................................................. 1
- **MUSIC-112**  America’s Music – A Multicultural Perspective .... 3
- **MUSIC-150**  Beginning Piano I .......................................................... 1
- **MUSIC-151**  Beginning Piano II .......................................................... 1
- **MUSIC-160**  Beginning Guitar ............................................................ 1
- **MUSIC-171**  Jazz and Popular Solo Voice ............................................. 1
- **MUSIC-262**  Intermediate Guitar ......................................................... 1

**curriculum**

- **ECE-237**  Current Topics in Early Childhood Education .......................... 0.5-3
- **ECE-240**  Language and Literacy for the Young Child .... 3
- **ECE-241**  Science and Mathematics for Early Childhood Education .......................... 3
- **ECE-242**  Music, Dance, and Drama for the Young Child .... 1
- **ECE-243**  Creative Art for the Young Child ........................................... 1
- **ECE-244**  Circle Time Activities .......................................................... 1

**infants and toddlers**

- **ECE-230**  Developmentally Appropriate Practice for Infants and Toddlers .................. 3
- **ECE-231**  Infant and Toddler Development ............................................. 3

**language and literature**

- **ECE 237**  Current Topics in Early Childhood Education .......................... 0.5-3
- **ECE-240**  Language and Literacy for the Young Child .... 3
- **ENGL-177**  Children’s Literature ......................................................... 3
- **LT-111**  Storytelling .......................................................... 2

**science and math**

- **ECE-237**  Current Topics in Early Childhood Education .......................... 0.5-3
- **ECE-241**  Science and Mathematics for Early Childhood Education .......................... 3

*Note: Two ECE-237 courses in this category are required*

**sign language**

- **SIGN-280**  American Sign Language (ASL) I .......................................... 3
- **SIGN-281**  American Sign Language (ASL) II ........................................ 3
- **SIGN-282**  American Sign Language (ASL) III ........................................ 3
- **SIGN-283**  American Sign Language (ASL) IV ........................................ 3

**special needs**

- **ECE-129**  Strategies for Working with Challenging Behaviors .......................... 3
- **ECE-269**  Children with Special Needs ................................................. 3
- **EDUSP-101**  Introduction to Disabilities .............................................. 3
- **EDUSP-102**  Historical Perspectives of Disabilities and the Law .......................... 3
- **EDUSP-103**  Classroom Strategies for the Special Education Paraeducator ......................... 3
- **SIGN-280**  American Sign Language (ASL) I ........................................... 3
- **SIGN-281**  American Sign Language (ASL) II ........................................... 3
- **SIGN-282**  American Sign Language (ASL) III ......................................... 3
- **SIGN-283**  American Sign Language (ASL) IV ....................................... 3

*plus at least 16 units from:

**general education courses** ................................................................. 16

At least 3 units in each of these 4 subject areas: English (only one course from English 116, 117, 117A, or 118 can be used); Math/Science; Humanities (may not use History courses); Social Sciences (may not use ECE courses). CLEP or AP exams may not be used to meet the GE subject area unit requirements.

**total minimum required units** 53

*Topics for ECE-237 vary. Please contact the Early Childhood Education Department to verify if a specific ECE-237 course meets the requirements for a particular area of specialization.*

**Certificate of achievement**

**Early childhood education - Site supervisor**

Students completing this program will be able to...

A. create a developmentally appropriate integrated curriculum.
B. analyze the psychological, physical and cognitive influences on child development.
C. identify and apply the principles and ideas of the Early Childhood Education Profession.
D. assess how socializing agents and culture impact the lives of children and families.
E. evaluate strategies to maximize the health, safety and nutrition of children in early childhood education programs.
F. develop techniques which will create sensitivity for various biases.
G. implement the observe, plan, document, reflect and assess cycle for curriculum planning.
H. develop positive relationships and responsive interactions with young children.
I. demonstrate techniques for guiding adults working with young children.
J. examine theory and methodology for effective supervision.
K. apply ethical codes and licensing standards to practices and policies.
L. identify business requirements for children’s centers.
M. examine theory and methodology for effective supervision.
N. demonstrate knowledge in specialization area.
Early childhood education

This early childhood education certificate meets the education requirements for the site supervisor level of the Child Development Permit Matrix issued by the State of California Commission on Teacher Credentialing. After meeting additional experience requirements and a fingerprint clearance, graduates are qualified to apply for a Child Development Permit from the California Commission on Teaching Credentialing, which is required to work in federal and state funded programs for children aged 0-5.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Attending classes in the day, evening, or both can complete certificate requirements.

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<td>2</td>
</tr>
</tbody>
</table>

**suggested elective courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE-100</td>
<td>Essential Life Skills of Childhood</td>
<td>1-3</td>
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<tr>
<td>ECE-101</td>
<td>Media and the Developing Child</td>
<td>1-3</td>
</tr>
<tr>
<td>ECE-102</td>
<td>Childhood and Nature</td>
<td>1-3</td>
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<tr>
<td>ECE-103</td>
<td>Brain Development in Childhood</td>
<td>1-3</td>
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<tr>
<td>ECE-104</td>
<td>Cultural Influences on the Developing Child</td>
<td>1-3</td>
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<tr>
<td>ECE-105</td>
<td>Emotional Intelligence and the Developing Child</td>
<td>1-3</td>
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<tr>
<td>ECE-106</td>
<td>Child Behavior: Is This Normal?</td>
<td>1-3</td>
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<tr>
<td>ECE-110</td>
<td>Current Issues in Child Development</td>
<td>1-3</td>
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<tr>
<td>ECE-111</td>
<td>Current Issues in Child Cognitive Development</td>
<td>1-3</td>
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<tr>
<td>ECE-112</td>
<td>Current Issues in Child Physical Development</td>
<td>1-3</td>
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<tr>
<td>ECE-113</td>
<td>Play and the Developing Child</td>
<td>1-3</td>
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<tr>
<td>ECE-114</td>
<td>Current Issues in Child Personality Development</td>
<td>1-3</td>
</tr>
<tr>
<td>ECE-126</td>
<td>Health, Safety, and Nutrition for the Young Child</td>
<td>3</td>
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<tr>
<td>ECE-129</td>
<td>Strategies for Working with Challenging Behaviors</td>
<td>3</td>
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<tr>
<td>ECE-230</td>
<td>Developmentally Appropriate Practice for Infants and Toddlers</td>
<td>3</td>
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<tr>
<td>ECE-231</td>
<td>Infant and Toddler Development</td>
<td>3</td>
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<tr>
<td>ECE-269</td>
<td>Children with Special Needs</td>
<td>3</td>
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</tbody>
</table>

**plus at least 16 units from:**

<table>
<thead>
<tr>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Courses</td>
<td>16</td>
</tr>
</tbody>
</table>

At least 3 units in each of these 4 subject areas: English (only one course from English 116, 117, 117A, or 118 can be used); Math/Science; Humanities (may not use History courses); Social Sciences (may not use ECE courses). CLEP or AP exams may not be used to meet the GE subject area unit requirements.

**total minimum required units** 60

Certificate of achievement

**Early childhood education - Teacher**

Students completing the program will be able to...

A. identify developmentally appropriate activities for infants, toddlers and preschool age children.
B. analyze the psychological, physical and cognitive influences on child development.
C. apply the professional code of ethics.
D. evaluate strategies to maximize the health, safety and nutrition of children in early childhood education programs.
E. create a developmentally appropriate integrated curriculum.
F. assess how socializing agents impact the lives of children and families.
G. apply the principles of anti-bias pedagogy.
H. apply observation and assessments to create appropriate environments.
I. apply positive guidance skills with young children.
J. apply constructivist theory and intentional teaching methodologies to teacher child interactions.

This early childhood education certificate meets the education requirements for the teacher level of the Child Development Permit Matrix issued by the State of California Commission on Teacher Credentialing. After meeting additional experience requirements and a fingerprint clearance, graduates are qualified to apply for a Child Development Permit from the California Commission on Teacher Credentialing, which is required to work in federal and state funded programs for children aged 0-5.
To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Attending classes in the day, the evening, or both can complete certificate requirements.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>ECE-123</td>
<td>Introduction to Curriculum in Early Childhood    Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE-124</td>
<td>Child Development and Psychology</td>
<td>3</td>
</tr>
<tr>
<td>ECE-125</td>
<td>Principles and Practices of Early Childhood      Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE-126</td>
<td>Health, Safety and Nutrition for the Young Child</td>
<td>3</td>
</tr>
<tr>
<td>ECE-128</td>
<td>Advanced Curriculum Development in ECE</td>
<td>3</td>
</tr>
<tr>
<td>ECE-130</td>
<td>Child, Family, and Community</td>
<td>3</td>
</tr>
<tr>
<td>ECE-144</td>
<td>Diversity in Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE-249</td>
<td>Observation and Assessment in the Classroom</td>
<td>4</td>
</tr>
<tr>
<td>ECE-250</td>
<td>Practicum in Early Childhood Education</td>
<td>4</td>
</tr>
</tbody>
</table>

Plus at least 16 units from:

- **general education courses:** 16

At least 3 units in each of these 4 subject areas: English (only one course from English 116, 117, 117A, or 118 can be used); Math/Science; Humanities (may not use History courses); Social Sciences (may not use ECE courses). CLEP or AP exams may not be used to meet the GE subject area unit requirements.

**total minimum required units** 45

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**ECE-101 Media and the Developing Child**

1-3 units  P/NP

- *Variable hours*
- *Note: One unit: lecture only. Two units: lecture plus three laboratory hours per week. Three units: lecture plus six hours per week. Participation in the Developmental Children’s Center Laboratory School or approved off-campus mentor site is required for laboratory hours. All students enrolled in laboratory must have a negative TB test and verified immunizations against pertussis, measles and influenza (waiver allowed for influenza).*

This class investigates popular media and implications for the developing child. Focus is on the impact of media on personality, cognition, social attributes and health. Strategies for assessing media and using them effectively will be explored. CSU

**ECE-102 Childhood and Nature**

1-3 units  P/NP

- *Variable hours*
- *Note: One unit: lecture only. Two units: lecture plus three laboratory hours per week. Three units: lecture plus six hours per week. Participation in the Developmental Children’s Center Laboratory School or approved off-campus mentor site is required for laboratory hours. All students enrolled in laboratory must have a negative TB test and verified immunizations against pertussis, measles and influenza (waiver allowed for influenza).*

This course explores the vital role of children’s ongoing experiences with nature as a basis for creativity, problem solving, critical thinking and physical and emotional well-being. Multiple resources and practical hands-on activities that support child-nature connections are introduced. CSU

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**ECE-100 Essential Life Skills of Childhood**

1-3 units  P/NP

- *Variable hours*
- *Note: One unit: lecture only. Two units: lecture plus three laboratory hours per week. Three units: lecture plus six hours per week. Participation in the Developmental Children’s Center Laboratory School or approved off-campus mentor site is required for laboratory hours. All students enrolled in laboratory must have a negative TB test and verified immunizations against pertussis, measles and influenza (waiver allowed for influenza).*

This course explores essential life skills developed during childhood that make a lifelong difference in our ability to learn, communicate and cope with challenges. Drawing from research in child development and neuroscience, this course outlines practical ways people working with children can foster these skills in young children. CSU

**ECE-103 Brain Development in Childhood**

1-3 units  P/NP

- *Variable hours*
- *Note: One unit: 18 hours lecture only. Two units: 18 hours lecture plus three laboratory hours per week. Three units: 18 hours lecture plus six laboratory hours per week. Participation in the Developmental Children’s Center Laboratory School or approved off-campus mentor site is required for laboratory hours. All students enrolled in laboratory must have a negative TB test and verified immunizations against pertussis, measles and influenza (waiver allowed for influenza).*

This class studies the neurological connections that form in a child’s brain during pregnancy and early childhood and the long-term effects of environmental factors during these formative years. Topics range from the connections between the brain and emotional regulation to the complexity of language acquisition. CSU
ECE-104  Cultural Influences on the Developing Child
1-3 units  P/NP
• Variable hours
• Note: One unit: lecture only. Two units: lecture plus three laboratory hours per week. Three units: lecture plus six hours per week. Participation in the developmental children’s Center Laboratory School or approved off-campus mentor site is required for laboratory hours. All students enrolled in laboratory must have a negative TB test and verified immunizations against pertussis, measles and influenza (waiver allowed for influenza).
This course explores personality development in young children within the context of culture. The interacting forces that shape personality are discussed. Focus is on the role of caregivers in supporting optimal social-emotional development in young children. CSU

ECE-105  Emotional Intelligence and the Developing Child
1-3 units  P/NP
• Variable hours
• Note: One unit: lecture only. Two units: lecture plus three laboratory hours per week. Three units: lecture plus six hours per week. Participation in the Developmental Children’s Center Laboratory School or approved off-campus mentor site is required for laboratory hours. All students enrolled in laboratory must have a negative TB test and verified immunizations against pertussis, measles and influenza (waiver allowed for influenza).
This course explores the development of children’s emotional intelligence. The interacting forces that shape emotional intelligence are discussed. Focus is on the role of caregivers in supporting optimal emotional intelligence development in young children. CSU

ECE-106  Child Behavior: Is This Normal?
1-3 units  P/NP
• Variable hours
• Note: One unit: lecture only. Two units: lecture plus three laboratory hours per week. Three units: lecture plus six hours per week. Participation in the Developmental Children’s Center Laboratory School or approved off-campus mentor site is required for laboratory hours. All students enrolled in laboratory must have a negative TB test and verified immunizations against pertussis, measles and influenza (waiver allowed for influenza).
This course explores a broad range of behaviors in young children. Child development information, resources, and suggestions for addressing specific behavior issues will be presented. CSU

ECE-110  Current Issues in Child Development
1-3 units  P/NP
• Variable hours
• Note: One unit: lecture only. Two units: lecture plus three laboratory hours per week. Three units: lecture plus six hours per week. All students enrolled in laboratory units must have a negative TB test and verified immunizations against pertussis, measles and influenza (waiver allowed for influenza). Participation in the Developmental Children’s Center Laboratory School or approved off-campus mentor site is required for two or three units.
This course presents an in-depth investigation into current research, theories, and issues in the study of child development. The emphasis is on analyzing current and ongoing research along with contemporary trends. Specific current issues will be announced in the schedule of classes. CSU

ECE-111  Current Issues in Child Cognitive Development
1-3 units  P/NP
• Variable hours
• Note: One unit: lecture only. Two units: lecture plus three laboratory hours per week. Three units: lecture plus six hours per week. All students enrolled in laboratory units must have a negative TB test and verified immunizations against pertussis, measles and influenza (waiver allowed for influenza). Participation in the Developmental Children’s Center Laboratory School or approved off-campus mentor site is required for two or three units.
This course presents an in-depth investigation into current research, theories, and issues in the study of cognitive development. Emphasis is placed on understanding how children’s thinking develops and evaluation of major theories and explanations for intellectual growth. Both classic findings and state-of-the-art research are reviewed and applied to contemporary issues related to children’s cognitive and language development. CSU

ECE-112  Current Issues in Child Physical Development
1-3 units  P/NP
• Variable hours
• Note: One unit: lecture only. Two units: lecture plus three laboratory hours per week. Three units: lecture plus six hours per week. All students enrolled in laboratory units must have a negative TB test and verify immunizations against pertussis, measles and influenza (waiver allowed for influenza). Participation in the Developmental Children’s Center Laboratory School or approved off-campus mentor site is required for two or three units.
This course presents an in-depth investigation into current research, theories, and issues related to physical development of young children. It examines the essential nature of physical play for children’s development and learning. Issues that impact physical development will be investigated along with resources and practical hand-on developmentally appropriate experiences. CSU
ECE-113  Play and the Developing Child  
1-3 units P/NP  
• Variable hours  
• Note: One unit: lecture only. Two units: lecture plus three laboratory hours per week. Three units: lecture plus six hours per week. All students enrolling in laboratory units must have a negative TB test and verified immunizations against pertussis, measles and influenza (waiver allowed for influenza). Participation in the Developmental Children’s Center Laboratory School or approved off-campus mentor site is required for two or three units.  
This class presents an in-depth investigation into current research and theories on the role of play as a significant factor in human success and happiness. Why children play, what they learn through play and how toys facilitate play and broaden development are discussed. Focus is on current research on play and its profound implications for child development and parenting, for education and social policy, and for multiple aspects of the future of our society. CSU

ECE-114  Current Issues in Child Personality Development  
1-3 units P/NP  
• Variable hours  
• Note: One unit: lecture only. Two units: lecture plus three laboratory hours per week. Three units: lecture plus six hours per week. All students enrolling in laboratory units must have a negative TB test and verified immunizations against pertussis, measles and influenza (waiver allowed for influenza). Participation in the Developmental Children’s Center Laboratory School or approved off-campus mentor site is required for two or three units.  
This course presents an in-depth investigation in current research, theories, and issues in the study of personality development. The emphasis is on analyzing current and ongoing research along with contemporary trends. CSU

ECE-123  Introduction to Curriculum in Early Childhood Education  
3 units SC  
• 54 hours lecture per term  
• Advisory: ECE-124 or equivalent, College-level reading and writing are expected.  
• Note: Meets the Department of Social Services licensing requirement for DSS III Program and Curriculum Development  
This course presents developmentally appropriate curriculum and environments for young children. Teaching and curriculum development strategies based on theoretical frameworks, observation, and assessment are explored. There is an emphasis on the teacher’s role in supporting child development and learning across the curriculum. C-ID ECE 130, CSU

ECE-124  Child Development and Psychology  
3 units SC  
• IGETC: 4; CSU GE: D, E; DVC GE: IV  
• 54 hours lecture per term  
• Advisory: College-level reading and writing are expected.  
• Note: Meets the Department of Social Services licensing requirement for DSS I Child/Human Growth and Development  
This course examines the major physical, psychosocial, and cognitive/language developmental milestones for children, both typical and atypical, from conception through adolescence. Emphasis is placed on interactions between maturational processes and environmental factors. Students will observe children, evaluate individual differences, and analyze characteristics of development at various stages according to developmental theories. C-ID CDEV 100, CSU, UC

ECE-125  Principles and Practices of Early Childhood Education  
3 units SC  
• 54 hours lecture per term  
• Advisory: College-level reading and writing are expected.  
• Note: Meets the Department of Social Services licensing requirement for DSS III, Program and Curriculum Development  
This course examines the principles of developmentally appropriate practices as applied to early childhood education settings. The history and philosophy of early childhood education, the ethics of professional practices, and orientation to careers working with children are included. Emphasis is placed on types of programs, learning environments, the key role of relationships, constructive adult-child interactions, and teaching strategies supporting the development of all children. C-ID ECE 120, CSU

ECE-126  Health, Safety, and Nutrition for the Young Child  
3 units SC  
• 54 hours lecture per term  
• Advisory: College-level reading and writing are expected.  
• Note: Meets the Department of Social Services licensing requirement for DSS VII, Health and Safety  
This course presents an Introduction to the laws, regulations, standards, policies and procedures, and early childhood curriculum related to child health, safety and nutrition. The key components that ensure physical and mental health, along with safety for both children and staff will be identified along with the importance of collaboration with families and health professionals. Emphasis will include the integration of the concepts into everyday planning and program development for all children. C-ID ECE 220, CSU
ECE-128  **Advanced Curriculum Development in ECE**  
3 units  SC  
- 54 hours lecture per term  
- Co-requisite: ECE 124 or equivalent (may be taken previously)  
- Advisory: ECE-123 or equivalents, College-level reading and writing are expected.  
- Note: Meets the State Department of Social Services licensing requirement for DSS III, Program and Curriculum Development

This advanced course will focus on new trends, approaches and techniques in early childhood education curriculum. Students will explore and practice various early childhood education curriculum approaches. CSU

ECE-129  **Strategies for Working with Challenging Behaviors**  
3 units  SC  
- 54 hours lecture per term  
- Advisory: ECE-124 or equivalent, College-level reading and writing are expected.  
- Note: Meets the State Department of Social Services licensing requirement for DSS III, Program and Curriculum Development. This course can be applied to professional development units for Child Development Permit holders as well as pre-school, transitional kindergarten, and early-primary teachers.

This course examines developmentally appropriate behaviors, challenging behaviors, and the various influences that effect how young children respond in a variety of situations. Topics include analysis of children’s behaviors and strategies to support social competency. CSU

ECE-130  **Child, Family, and Community**  
3 units  SC  
- CSU GE: D  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.  
- Note: Meets the State Department of Social Services licensing requirements for DSS II, Child, Family, and Community

This course presents an examination of societal influences and the role of collaboration between family, community, and schools in supporting children’s development. Community resources supporting children and their families within their cultures and communities are introduced. C-ID CDEV 110, CSU

ECE-144  **Diversity in Early Childhood Education**  
3 units  SC  
- CSU GE: D  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.  
- Note: Meets the State Department of Social Services licensing requirement for DSS III, Program and Curriculum Development

This course examines the impact of various societal influences on the development of children’s social identity. Developmentally appropriate, inclusive, and anti-bias approaches are discussed. Self-examination and reflection on issues related to social identity, stereotypes, and bias will also be emphasized. C-ID ECE 230, CSU

ECE-230  **Developmentally Appropriate Practice for Infants and Toddlers**  
3 units  SC  
- 54 hours lecture per term  
- Advisory: ECE-124 or equivalents, College-level reading and writing are expected.  
- Note: Meets the State Department of Social Services licensing requirement for DSS IV, Infant Care and Development

This course applies current theory and research to the care and education of infants and toddlers in group settings. It examines essential policies, principles and practices that lead to quality care and developmentally appropriate curriculum for children birth to 36 months, including elements of responsive environments and collaboration with families. CSU

ECE-231  **Infant and Toddler Development**  
3 units  SC  
- 54 hours lecture per term  
- Advisory: ECE-124 or equivalent, College-level reading and writing are expected.

This course studies the physical, cognitive, linguistic, social, and emotional development and growth of infants and toddlers. Students will apply current research and developmental theory to infant and toddler behavior. Emphasis is placed on the role of the family and relationships. CSU

ECE-237  **Current Topics in Early Childhood Education**  
.5-3 units  SC  
- Variable hours  
- Advisory: College-level reading and writing are expected.  
- Note: Meets the State Department of Social Services licensing requirement for DSS III, Program and Curriculum Development, if taken for 3 units, and the course is a curriculum course

A supplemental course in child development to provide a study of current concepts and problems in the major theories of child development including their philosophical bases, their techniques and their materials and related subdivisions. Specific topics will be announced in the schedule of classes. CSU
ECE-240  Language and Literacy for the Young Child
3 units  SC
• 54 hours lecture per term
This course is an introduction to young children’s literature, emergent literacy and the development of speech and language during infancy and early childhood. Students will explore teaching techniques which promote language, literacy and literature for the young child. Approaches to reading books, storytelling, story writing, etc. will be introduced and practiced. CSU

ECE-241  Science and Mathematics for Early Childhood Education
3 units  SC
• 54 hours lecture per term
• Note: Meets the State Department of Social Services licensing requirement for DSS III, Program and Curriculum Development
This course explores how science, mathematics, the physical and the natural world are integrated into early childhood education curricula. Students will create science and math experiences, select appropriate materials, and learn specific scientific and mathematical techniques for working with young children. The course focuses on tapping into children’s natural curiosity by utilizing observation, reasoning skills, inquiry and hands-on, playful experiences. CSU

ECE-242  Music, Dance, and Drama for the Young Child
1 unit  SC
• 18 hours lecture per term
• Note: Meets the State Department of Social Services licensing requirement for DSS III, Program and Curriculum Development. This course can be applied to professional development units for Child Development Permit holders, as well as pre-school, transitional kindergarten, and early-primary teachers.
The course presents an introduction to the performing arts domain of the California Preschool Learning Foundations and Frameworks including the strands of music, dance, and drama throughout the curriculum will be explored. CSU

ECE-243  Creative Art for the Young Child
1 unit  SC
• 18 hours lecture per term
• Advisory: College-level reading and writing are expected.
• Note: Meets the State Department of Social Services licensing requirement for DSS III, Program and Curriculum Development. This course can be applied to professional development units for Child Development Permit holders, as well as pre-school, transitional kindergarten, and early-primary teachers.
This course presents an introduction to the visual arts domain of the California Preschool Learning Foundations and Frameworks. The developmental stages of children’s artistic expression and practical strategies for exploring creative art mediums with young children will be covered. CSU

ECE-244  Circle Time Activities
1 unit  SC
• 18 hours lecture per term
This course is designed to present the value of circle or group time for young children. Written materials, demonstrations, lecture and discussions, and sharing of student experiences are utilized to teach practical and theoretical application of songs, stories, games, finger plays and other circle time activities. CSU

ECE-249  Observation and Assessment in the ECE Classroom
4 units  SC
• 54 hours lecture/54 hours laboratory by arrangement per term
• Prerequisite: ECE-124
• Advisory: ECE-125 (may be taken concurrently) or equivalent. College-level reading and writing are expected.
• Note: Required negative TB test and verify immunizations against Pertussis, measles and influenza (waiver allowed for influenza) to participate in laborator work at DVC Children’s Center or approved mentor site. Meets the State Department of Social Services licensing requirement for DSS III, Program and Curriculum Development.
This course focuses on the appropriate use of assessment and observation strategies to document development, growth, play and learning in early childhood education settings. Students will utilize practical classroom experiences to apply a variety of observation methodologies including, child portfolios, recording strategies, rating systems, and multiple assessment tools. Students will explore the connections between developmental theory and practical usage of reflective observation in the DVC Children’s Center or an approved mentor site. C-ID ECE 200, CSU
ECE-250  Practicum in Early Childhood Education  
4 units  SC  
- 36 hours lecture/108 hours laboratory by arrangement per term  
- Prerequisite: ECE-123, ECE-124, ECE-125, ECE-249 or equivalents  
- Advisory: College-level reading and writing are expected.  
- Note: Required negative TB test and verify immunizations against pertussis, measles and influenza (waiver allowed for influenza) to participate in lab work. Meets the State department of Social Services licensing requirement for DSS III, Program and Curriculum Development.  

This course provides a supervised practicum study of developmentally appropriate early childhood teaching competencies. Students will utilize practical classroom experiences to make connections between theory and practice, develop professional behaviors, and build a comprehensive understanding of children and families from diverse backgrounds. Child centered, play-oriented approaches to teaching, learning, and assessment; and knowledge of curriculum content areas will be emphasized. Student will design, implement, and evaluate learning activities and environments. C-ID ECE 210, CSU

ECE-251  Administration I: Programs in Early Childhood Education  
3 units  SC  
- 54 hours lecture per term  
- Prerequisite: ECE-124 or equivalent  
- Note: Meets the State Department of Social Services licensing requirement for DSS VI, Supervision and Administration  

This course presents an introduction to the administration of early childhood programs (ECE). Topics include program types, budget, management, regulations, laws, development and implementation of policies and procedures. Administrative tools, philosophies, and techniques needed to organize, open, and operate an early care and education program will be examined. CSU

ECE-252  Administration II: Personnel and Leadership in ECE  
3 units  SC  
- 54 hours lecture per term  
- Advisory: ECE-251 or equivalent, College-level reading and writing are expected.  
- Note: Meets the State Department of Social Services licensing requirement for DSS VI, Supervision and Administration  

This course provides an overview of effective strategies for personnel management and leadership in early care and education settings. Focus is on the human relations aspects of successful administration. Topics include legal and ethical responsibilities, supervision techniques, professional development, and reflective practices for a diverse and inclusive early care and education program. CSU

ECE-253  Adult Supervision and Mentoring in Early Childhood Classrooms  
2 units  SC  
- 36 hours lecture per term  
- Advisory: ECE-124, ECE-125, ECE-130, and ECE-250 or equivalents, College-level reading and writing are expected.  

This course is a study of the methods and principles of supervising student teachers, assistant teachers, volunteers and other adults in early childhood education settings. Emphasis is on the roles and development of early childhood professionals as mentors and leaders. CSU

ECE-254  Language and Literacy for the Young Child  
1 unit  SC  
- 18 hours lecture per term  
- Advisory: College-level reading and writing are expected.  
- Note: This course can be applied to professional development units for Child Development Permit holders as well as pre-school, transitional kindergarten, and early-primary teachers  

This course presents an introduction to children’s literature, emergent literacy, and the development of speech and language during infancy and early childhood. The language and literacy development domain of the California Preschool Learning Foundations and Frameworks, including the strands of listening, speaking, reading, and writing will be introduced. Students will explore teaching techniques which promote language and literacy. CSU

ECE-255  English Learners in Early Childhood Classroom Settings  
1 unit  SC  
- 18 hours lecture per term  
- Advisory: ENGL-122 or equivalent  
- Note: This course can be applied to professional development units for Child Development Permit holders, as well as pre-school, transitional kindergarten, and early-primary teachers.  

This course presents an introduction to the English language learners domain of the California Preschool Learning Foundations and Frameworks, including strands of listening, speaking, reading and writing. Principles and practices for supporting English language development in second language learners are presented. CSU

ECE-259  Children with Special Needs  
3 units  SC  
- 54 hours lecture per term  
- Advisory: ECE-124 or equivalent, College-level reading and writing are expected.  

This course provides an introduction to the variations in development of children with special needs, as well as the resulting impact on families, and will focus on the years between birth through aged eight. An overview of historical and societal influences, laws relating to children with special needs, and the identification and referral process will also be discussed. CSU
ECE-295  Occupational Work Experience Education in ECE  
2-4 units SC  
• May be repeated eight times  
• Variable hours  
• Note: In order to enroll in ECE-295, students must be employed, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.  
ECE-295 is supervised employment that extends classroom learning to the job site and relates to the student’s chosen field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Each unit represents five hours of work per week or 75 hours work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5 Section 55253. CSU

ECE-296  Internship in Occupational Work Experience Education in ECE  
2-4 units SC  
• May be repeated eight times  
• Variable hours  
• Note: In order to enroll in the ECE-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.  
ECE-296 is a supervised internship in a skilled or professional level assignment in the student’s major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Each unit represents five hours of paid work or four hours of unpaid work per week or 75 hours of paid work or 60 hours of unpaid work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

ECE-298  Independent Study  
.5-3 units SC  
• Variable hours  
• Note: Submission of an acceptable educational contract to department and Instruction Office is required.  
This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

ECE-299  Student Instructional Assistant  
.5-3 units SC  
• Variable hours  
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.  
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

ECONOMICS – ECON
Obed Vazquez, Dean
Social Sciences Division
Faculty Office Building, Room 136

Possible career opportunities
Economics is a basic component for a career in law, management, sales, banking, health care industry, utility industry, consulting, statistical analysis, finance, and government. Most career options require more than two years of college study.

Associate in arts in economics for transfer
Students completing the program will be able to...  
A. apply economic theories and economic reasoning to real life situations.  
B. use analytical techniques to measure economic conditions related to the individual, business firms, industries, and economic systems.  
C. explain the role that households, business organizations, governments, and the international sector, play in free markets, command economies, and mixed economies.  
D. evaluate the objectives, limitations, and mechanics of regulation, taxation, tariffs, quotas, and monetary and fiscal policies.  
E. use quantitative methodology to measure economic outcomes.  

The associate in arts in economics for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.
Economics

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education-Breadth pattern (CSU GE-Breadth); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
- Complete a minimum of 18 units in the major
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of C or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Students must complete each course used to meet a major requirement with a “C” grade or higher. Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

major requirements: units
ECON-220 Principles of Macroeconomics ......................... 3
ECON-221 Principles of Microeconomics .......................... 3

plus at least 3 units from:
BUS-240 Business Statistics ............................................ 3
MATH-142 Elementary Statistics with Probability ............... 4

plus at least 4 units from:
MATH-182 Calculus for Management, Life Science and Social Science I .................................................. 4
MATH-192 Analytic Geometry and Calculus I ................... 5

plus at least 3 units from:
BUS-294 Business Law .................................................. 3
BUSAC-186 Financial Accounting .................................... 4
BUSAC-187 Managerial Accounting ................................. 4
MATH-181 Finite Mathematics ........................................ 3
MATH-193 Analytic Geometry and Calculus II ..................... 5

plus at least 3 units from any course above not already used or:
ECON-101 Economics of Public Issues ............................. 3
ECON-200 Introduction to Economics ............................... 3
MATH-194 Linear Algebra ............................................. 3
MATH-292 Analytic Geometry and Calculus III .................. 5

total minimum units for the major 19

ECON-101 Economics of Public Issues
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course examines economic aspects of selected current public issues such as price controls, crime, education, poverty, pollution, international trade, and taxes. It will analyze the role of economics as a social science in understanding causes of and policies for dealing with current public issues. CSU, UC (credit limits may apply to UC - see counselor)

ECON-200 Introduction to Economics
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course is an overview of the basic principles of economics, including both microeconomics and macroeconomics. Concepts such as market supply and demand, market structures, resource markets, economic growth, and business cycles, fiscal policy, and the national debt, the Federal Reserve System, monetary policy, and international trade are introduced. CSU, UC (credit limits may apply to UC - see counselor)

ECON-210 Economic Justice
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College level reading and writing are expected

This course will present the principles and theories of justice and their economic applications. Students will examine economic systems and evaluate how these systems can either promote or obstruct the pursuit of justice. Using economic theory and analysis, students will critically evaluate contemporary issues through a justice lens. The historical contexts behind these issues will be explored as well as interdisciplinary connections with fields such as public policy, political science, sociology, and social justice. CSU, UC
ECON-220 Principles of Macroeconomics
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Prerequisite: Placement into MATH-121 or higher or MATH-119 or MATH 119SP or intermediate algebra or equivalent
- Advisory: College-level reading and writing are expected.

This course provides an introduction to fundamental economic principles that recur throughout economics such as scarcity, opportunity cost, marginal decision making and the gains from trade. Macroeconomics focuses on broad economic aggregates such as total output, employment, the price level and the rate of economic growth. The course also examines fiscal and monetary policies and institutions, and applies macroeconomic theories to current economic issues. C-ID ECON 202, CSU, UC

ECON-221 Principles of Microeconomics
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Prerequisite: Placement into MATH-121 or higher or MATH-119 or MATH 119SP or intermediate algebra or equivalent
- Advisory: College-level reading and writing are expected.

This course provides an introduction to fundamental microeconomic principles. Topics include a detailed study of the market mechanism, the elasticity properties of the demand and supply curves, how individuals make decisions about consumption and labor supply, how firms make decisions about how and how much to produce, and why some goods do not lend themselves to private production. The course also examines types of market structure and current economic issues. C-ID ECON-201, CSU, UC

ECON-255 Topics in Economics
.3-4 units SC
- Variable hours

A supplemental course in economics to provide a study of current concepts and problems in economics and related substantive areas. Specific topics will be announced in the schedule of classes. CSU

ECON-298 Independent Study
.5-3 units SC
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

ECON-299 Student Instructional Assistant
.5-3 units SC
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

EDUCATION – EDUC

Obed Vazquez, Dean
Social Sciences Division
Faculty Office Building, Room 136

Possible career opportunities
There are two types of credentials for teaching in the public schools in California. One type is the Multiple Subjects Credential for teachers in a self-contained classroom, which generally means teaching in grades K-6 or K-8. The other is the Single Subject Credential for teachers responsible for only one subject, which in general is preparation for teaching high school (grades 9-12). Both career options require a baccalaureate degree at a minimum.

Preparation for teaching may be useful for students who also wish to pursue careers in human resources, counseling, communication studies, recreation administration, social welfare, and corporate training.

Associate in arts in elementary teacher education for transfer
Students completing this program will be able to...
A. analyze models and methods of effective teaching, especially in relation to the needs of a diverse student body.
B. examine the physical, cognitive/language, social-emotional milestones in school age children.
C. understand and analyze how concepts of mathematics, English and language arts, social studies, visual and performing arts and science apply to teaching at an elementary level.

The associate in arts in elementary teacher education for transfer is an interdisciplinary program which meets state guidelines in order to prepare students to begin their path toward becoming elementary school teachers. Students majoring in elementary teacher education develop critical thinking, problem solving, and written and verbal communication skills. As elementary teacher education majors, students have learning opportunities that are relevant to many types of careers working with children and parents including special education, elementary education, and social work. This major provides early field work experience working with children in an elementary school.
Education

The associate in arts in elementary teacher education for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major. The associate in arts in elementary teacher education for transfer is consistent with the mission of the community college to assist students in achieving a seamless transfer to the CSU system.

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system, or those students who do not intend to transfer.

Students must complete each course used to meet a major requirement with a “C” grade or higher. Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

**major requirements:**

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>BIOSC-102</td>
<td>Fundamentals of Biological Science with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>COMM-120</td>
<td>Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>ECE-124</td>
<td>Child Development and Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC-120</td>
<td>Introduction to Teaching in Elementary Schools</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-122</td>
<td>First-Year College Writing and Reading</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-123</td>
<td>Critical Thinking: Writing about Literature</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-135</td>
<td>World Regional Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-130</td>
<td>Earth Science</td>
<td>4</td>
</tr>
<tr>
<td>HIST-120</td>
<td>History of the United States before 1865</td>
<td>3</td>
</tr>
<tr>
<td>HIST-180</td>
<td>World History to 1500</td>
<td>3</td>
</tr>
<tr>
<td>MATH-125</td>
<td>Mathematical Concepts for Elementary School Teachers</td>
<td>3</td>
</tr>
<tr>
<td>PHYS-110</td>
<td>Elementary Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS-111</td>
<td>Physics Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>POLSC-121</td>
<td>Introduction to United States Government</td>
<td>3</td>
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</table>

**at least 4 units from:**

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<th>Units</th>
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<tr>
<td>CHEM-106</td>
<td>Chemistry for Non-Science Majors</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-108</td>
<td>Introductory Chemistry</td>
<td>4</td>
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</tbody>
</table>

**at least 3 units from:**

<table>
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<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>COMM-121</td>
<td>Persuasion and Critical Thinking</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-126</td>
<td>Critical Thinking: Writing about Non-Fiction</td>
<td>3</td>
</tr>
<tr>
<td>HIST-122</td>
<td>Critical Reasoning in History</td>
<td>3</td>
</tr>
<tr>
<td>PHILO-130</td>
<td>Logic and Critical Thinking</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH-145</td>
<td>Critical Thinking in Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO-122</td>
<td>Critical Thinking About Social and Cultural Issues</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 3 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANCE-201</td>
<td>Critical Thinking in Western Culture Dance History: 20th Century to Present</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-139</td>
<td>Introduction to Theater</td>
<td>3</td>
</tr>
<tr>
<td>MUSIC-110</td>
<td>Music Appreciation</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 52

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**EDUC-120 Introduction to Teaching in Elementary Schools**

3 units LR

- 36 hours lecture/54 hours laboratory by arrangement per term
- Limitations on enrollment: Students are required to provide evidence of a current TB clearance and background check prior to the start of class. Students are responsible for any fees incurred.
- Advisory: ENGL-122 or equivalent
- Note: Credit by examination option available

This course introduces students to the concepts and issues related to teaching diverse learners in today’s contemporary schools, pre-kindergarten through grade twelve. Topics include teaching as a profession and career, historical and philosophical foundations of the United States’ education system, contemporary educational issues, California’s content standards and frameworks, and teacher performance standards. In addition to lecture, this course requires structured fieldwork in public school elementary classrooms that represent California’s diverse student population, and includes cooperation with at least one carefully selected and campus-approved certificated classroom teacher. C-ID EDUC 200, CSU, UC
EDUCATION – SPECIAL EDUCATION – EDUSP

Emily Stone, Dean
Student Services Center, Room 122

Possible career opportunities
Students who earn a special education paraeducator/instructional assistant certificate of achievement or degree are prepared for entry-level employment assisting students and individuals with disabilities in education and rehabilitation settings.

Associate in arts degree
Special education paraeducator/instructional assistant
Students completing this program will be able to...
A. analyze state and federal legislation pertaining to general and special education.
B. use a variety of instruction strategies and materials that respect individual differences.
C. understand how culture affects relationships among children, families, and schooling.

The associate in arts degree in special education paraeducator/instructional assistant is designed as a two-year curricular pathway that offers students a broad general education while integrating an in-depth study of the skills and knowledge required to work with people with various disabilities in a variety of educational and related rehabilitation settings. The courses are intended to introduce students to career opportunities in special education or other disability-related fields, and can provide preparation for transfer to four-year institutions to continue their course of study in general education and special education. Classes are designed to serve working individuals wishing to improve their skills and professional growth.

To earn a degree, students must complete each course used to meet a major requirement with a “C” grade or higher. Required courses are available in the evening and during the day. Certain courses may satisfy both a major and a graduation requirement; however, the units are only counted once. Students who intend to transfer to a four-year program in education/teacher preparation should consult with a counselor regarding specific requirements.

major requirements:  units
EDUSP-101 Introduction to Disabilities ................................................. 3
EDUSP-102 Historical Perspectives of Disabilities and the Law .................... 3
EDUSP-103 Classroom Strategies for the Special Education Paraeducator ............ 3
PSYCH-122 Psychology in Modern Life ................................................. 3

plus at least 6 units from:
EDUSP-295 Occupational Work Experience Education in EDUSP ................. 2-4
EDUSP-296 Internship in Occupational Work Experience Education in EDUSP .... 2-4

Certificate of achievement
Special education fundamentals
Students completing this program will be able to...
A. analyze state and federal legislation pertaining to general and special education.
B. use a variety of instructional strategies and materials that respect individual differences.
C. demonstrate an understanding of how culture affects relationships among children, families, and schooling.

This entry-level program prepares students with practical skills and knowledge to work with people with disabilities in a variety of educational and rehabilitation settings. Additionally, the courses are intended to introduce students to career opportunities in special education or other disability-related fields, and can provide preparation for transfer to four-year institutions to continue a course of study in general education and special education. Classes are designed to serve working individuals wishing to improve their skills and professional growth. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and during the day.

required courses:  units
EDUSP-101 Introduction to Disabilities ................................................. 3
EDUSP-102 Historical Perspectives of Disabilities and the Law .................... 3
EDUSP-103 Classroom Strategies for the Special Education Paraeducator ......... 3
ECE-124 Child Development and Psychology ........................................ 3

total minimum required units  12
Certificate of achievement
Special education paraeducator/instructional assistant

Students completing the program will be able to...
A. analyze state and federal legislation pertaining to general and special education.
B. use a variety of instruction strategies and materials that respect individual differences.
C. demonstrate and understanding of how culture affects relationships among children, families, and schooling.

This entry-level program prepares students with practical skills and knowledge to work with people with disabilities in a variety of educational and rehabilitation settings. Additionally, the courses are intended to introduce students to career opportunities in special education or other disability related fields, and can provide preparation for transfer to four-year institutions to continue a course of study in general education and special education. Classes are designed to serve working individuals wishing to improve their applied skills and professional growth.

To earn a certificate of achievement, students must complete each courses used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and during the day.

required courses:

- ECE-124 Child Development and Psychology ................. 3 units
- EDUSP-101 Introduction to Disabilities .............................. 3
- EDUSP-102 Historical Perspectives of Disabilities and the Law ................................................................. 3
- EDUSP-103 Classroom Strategies for the Special Education Paraeducator ........................................ 3

plus at least 6 units from:
- ECE-125 Principles and Practices of Early Childhood Education ................................................................. 3
- ECE-129 Strategies for Working with Challenging Behaviors ................................................................. 3
- ECE-130 Child, Family, and Community ................................................................. 3
- ECE-269 Children with Special Needs ................................................................. 3
- EDUC-120 Introduction to Teaching in Elementary Schools ................................................................. 3
- SIGN-280 American Sign Language (ASL) I ................................................................. 3

total minimum required units 18

EDUSP-101 Introduction to Disabilities
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course examines the historical and cultural context of disability issues and integrates international perspectives on the changing roles of people with disabilities. The legal and functional definitions of physical, communicative, sensory, psychological, neurological, and developmental disabilities will be covered. Acquired versus congenital disabilities will be differentiated, and all forms of chronic/progressive illnesses will be explored. CSU, UC

EDUSP-102 Historical Perspectives of Disabilities and the Law
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course examines the legal rights of people with disabilities, beginning with historical roots of the disability movement in the United States. The evolution of legislation governing access to education for people with disabilities will be emphasized. CSU, UC

EDUSP-103 Classroom Strategies for the Special Education Paraeducator
3 units SC
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course explores the basic principles of pragmatic pro-social skills strategies used by the special education para-professional within the educational workplace. Emphasis is placed on effective communication techniques that facilitate and manage appropriate student behavior and learning. CSU

EDUSP-295 Occupational Work Experience
Education in EDUSP
2-4 units SC
- May be repeated eight times
- Variable hours
- Note: In order to enroll in EDUSP-295, students must be employed, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.

EDUSP-295 is supervised employment that extends classroom learning to the job site and relates to the student’s chosen field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Each unit represents five hours of work per week or 75 hours work per term. Students may earn up to a total of 16 in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU
EDUSP-296 Internship in Occupational Work Experience Education in EDUSP

2-4 units SC
- May be repeated eight times
- Variable hours
- Note: In order to enroll in the EDUSP-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.

EDUSP-296 is a supervised internship in a skilled or professional level assignment in the student’s major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Each unit represents five hours of paid work or four hours of unpaid work per week or 75 hours of paid work or 60 hours of unpaid work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

Electrical/electronics technology

Despina Prapavessi, Dean
Mathematics and Engineering Division
Mathematics Building, Room 267

Possible career opportunities
The types of jobs and careers involving electrical/electronics include: electrical, medical, industrial, and commercial electronic programmable logic controller systems; computers; consumer products; radio and television; instrumentation; communications; automotive and others.

Associate in science degree Electrical/electronics technology
Students completing the program will be able to...
A. identify common electrical circuit components and their use.
B. solve AC and DC circuits for voltage, current, resistance, power, and other parameters.
C. operate and understand common laboratory instruments used in the analysis, construction, and troubleshooting of AC and DC circuits.
D. apply specific sections of the national electrical code to electrical systems.

This program prepares students for jobs installing, repairing, maintaining and servicing electrical and electronics equipment. Electrical/electronics jobs are found in the fields of electrical, medical, industrial, commercial systems, programmable logic controller systems, automotive, communications and others. The following courses are part of the Electricians Trainee Program and approved by the Division of Apprenticeship Standards: ELECT-120, 121, 130, 220, 230, 266, 267, 271, ELTRN-210 and CNT-103.

Selected courses may meet some of the lower division requirements for bachelor of science programs in engineering technology and industrial technology at certain California State University campuses and private technical colleges. Consult with electronics department faculty and college counselors for more information.

To earn an associate in science with a major in electricity/electronics, students must complete each course used to meet a major requirement with a “C” grade or higher, maintain an overall GPA of 2.5 or higher in the coursework required for the major and complete general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

required courses:

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<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>ELECT-266</td>
<td>3</td>
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<tr>
<td>Elect. Codes: Articles 90-398</td>
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<td>plus at least 4 units from:</td>
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<tr>
<td>ELECT-120</td>
<td>4</td>
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<tr>
<td>Direct Current Circuits</td>
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<td>ELTRN-120</td>
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<td>Direct Current Circuits</td>
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<td>plus at least 4 units from:</td>
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<td>ELECT-121</td>
<td>4</td>
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<tr>
<td>Alternating Current Circuits</td>
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<td>ELTRN-121</td>
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<td>plus at least 12 units from:</td>
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<td>ELECT-130</td>
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<td>Motor and Motor Controllers</td>
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<td>ELECT-220</td>
<td>2</td>
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<tr>
<td>Circuit Diagnosis and Analysis: Troubleshooting</td>
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<td>ELECT-230</td>
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<tr>
<td>Electro-Mechanical Equipment</td>
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<td>ELECT-271</td>
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<tr>
<td>Programmable Logic Controllers</td>
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<tr>
<td>ELTRN-210</td>
<td>4</td>
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<tr>
<td>Linear Circuits</td>
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<td>plus at least 3 units from any course not used above, or:</td>
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<tr>
<td>CNT-103</td>
<td>2</td>
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<tr>
<td>Voice, Video and Network Cabling</td>
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<td>CONST-110</td>
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<td>Occupational Safety</td>
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<td>ELECT-267</td>
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<td>ELTRN-107</td>
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<td>Introduction to Robotics</td>
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<tr>
<td>Electronics I</td>
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total minimum units for the major 26
Certificate of achievement  
Electrical/electronics technology  
Students completing the program will be able to...  
A. identify common electrical circuit components and their use.  
B. solve AC and DC circuits for voltage, current, resistance, power, and other parameters.  
C. operate and understand common laboratory instruments used in the analysis, construction, and troubleshooting of AC and DC circuits.  
D. apply specific sections of the national electrical code to electrical systems.  

This program prepares students for jobs installing, repairing, maintaining and servicing electrical and electronics equipment. Electrical/electronics jobs are found in the fields of electrical, medical, industrial, commercial systems, programmable logic controller systems, automotive, communications and others. The following courses are part of the Electricians Trainee Program and approved by the Division of Apprenticeship Standards: ELECT-120, 121, 130, 220, 230, 266, 267, 271, ELTRN-210 and CNT-103.  

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate.  

required courses:  
ELECT-266  Electrical Codes: Articles 90-398.........................3  
plus at least 4 units from:  
ELECT-120  Direct Current Circuits ......................................4  
ELTRN-120  Direct Current Circuits .....................................4  
plus at least 4 units from:  
ELECT-121  Alternating Current Circuits ..............................4  
ELTRN-121  Alternating Current Circuits ..............................4  
plus at least 12 units from:  
ELECT-130  Motors and Motor Controllers ............................4  
ELECT-220  Circuit Diagnosis and Analysis: Troubleshooting ........................................2  
ELECT-230  Electro-Mechanical Equipment ............................2  
ELECT-271  Programmable Logic Controllers .......................4  
ELTRN-210  Linear Circuits ................................................4  
plus at least 3 units from any course not used above, or:  
CNT-103  Voice, Video and Network Cabling.........................2  
CONST-110  Occupational Safety........................................2  
ELECT-267  Electrical Codes: Articles 400-830.......................3  
ELTRN-107  Introduction to Robotics..................................2  
ELTRN-116  Electronics I..................................................3  


Certificate of accomplishment  
Electrical/electronics technology  
Students completing the program will be able to...  
A. identify common electrical circuit components and their use.  
B. solve AC and DC circuits for voltage, current, resistance, power, and other parameters.  
C. operate and understand common laboratory instruments used in the analysis, construction, and troubleshooting of AC and DC circuits.  
D. apply specific sections of the national electrical code to electrical systems.  

To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate.  

required courses:  
ELECT-266  Electrical Codes: Articles 90-398.........................3  
plus at least 4 units from:  
ELECT-120  Direct Current Circuits ......................................4  
ELTRN-120  Direct Current Circuits .....................................4  
plus at least 4 units from:  
ELECT-121  Alternating Current Circuits ..............................4  
ELTRN-121  Alternating Current Circuits ..............................4  


total minimum required units  26

ELECT-110  Survey of Electricity  
2 units  SC  
- 27 hours lecture/27 hours laboratory per term  
- Advisory: MATH-085 or equivalent  
- Note: This course does not meet a requirement of the electronics/electricity degree or certificate. Credit by examination option available.  

This is a survey course in electrical concepts, components, systems, and equipment. Ohm’s and Kirchhoff’s laws are used to calculate and measure resistance, voltage, amperage, and power in circuits. AC components, such as coils, transformers, capacitors, and motors are also covered. Students will build and measure circuits and everyday electrical devices using both digital and analog equipment with an emphasis on practical aspects of circuits and components. CSU
ELECT-120  Direct Current Circuits
4 units LR
- 54 hours lecture/54 hours laboratory per term
- Note: This course is approved by the Division of Apprenticeship Standards in the electrician trainee pro-
gram.
This course introduces scientific principles and hands-on applications of direct current (DC) electricity, focusing on measurement and diagnosis of series, parallel, and combination circuits. These fundamental knowledge and skills are necessary for those planning careers and/or further study in electronics, electricity, or related fields, such as heating, ventilation, and air conditioning (HVAC), building systems, industrial maintenance, electrical/electronics (EE) technology, and energy systems. CSU

ELECT-121  Alternating Current Circuits
4 units LR
- 54 hours lecture/54 hours laboratory per term
- Advisory: ELECT-120 or equivalent
- Note: This course is approved by the Division of Apprenticeship Standards in the electrician trainee pro-
gram.
This course is an in-depth study of the theory and application of alternating current (AC) including series, parallel, and combination resistive/inductive (RL), resistive/capacitive (RC), and resistive/inductive/capacative (RLC) circuits. Students will construct, measure, and analyze circuits using computer simulation and actual components with signal generators and oscilloscopes. CSU

ELECT-130  Motors and Motor Controllers
4 units SC
- 54 hours lecture/54 hours laboratory per term
- Advisory: ELECT-120 or equivalent
This course introduces the function, operation, and characteristics of various types of direct current, alternating current, single phase, and three phase motors. The course will explore the basic principles and practices of electric motor control including electro-mechanical and solid state digital devices, ladder logic, standard circuits, starters, transformers, relays, timers, and other devices. CSU

ELECT-150  Topics in Electricity
.3-4 units SC
- Variable hours
A supplemental course in electricity designed to provide a study of current concepts and problems in electricity. Specific topics will be announced in the schedule of classes. CSU

ELECT-220  Circuit Diagnosis and Analysis: Troubleshooting
2 units SC
- 27 hours lecture/27 hours laboratory per term
- Prerequisite: ELECT-120 or equivalent
- Advisory: ELECT-121 or equivalent
This course presents troubleshooting of electro-mechanical systems and sub-systems for various machines and equipment used in residences, commercial buildings, and industrial complexes. Emphasis is placed on developing skills in reading and understanding diagrams in conjunction with proper troubleshooting procedures. Several types of dia-
grams will be examined during this course including block, pictorial, single-line, ladder, wiring, terminal, schematic, and esterline. CSU

ELECT-230  Electro-Mechanical Equipment
2 units SC
- 27 hours lecture/27 hours laboratory per term
- Prerequisite: ELECT-120 or equivalent
- Advisory: ELECT-121 or equivalent
This course presents the identification, installation, opera-
tion, and maintenance of residential/commercial/industrial systems and components. The focus is on electrical components and systems, which are related to interface devices such as mechanical, hydraulic, and pneumatic systems and their controllers. CSU

ELECT-266  Electrical Codes: Articles 90-398
3 units SC
- 54 hours lecture per term
- Note: Same as CONST-266. Students may petition to repeat when code changes. Only the first course com-
pleted will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.
This course covers the interpretation of the National Electrical Code (NEC) for general requirements, wiring and protection, wiring methods, and materials (articles 90-398). Safety installation practices will be presented. CSU

ELECT-267  Electrical Codes: Article 400-830
3 units SC
- 54 hours lecture per term
- Note: Same as CONST-267. Students may petition to repeat when code changes. Only the first course com-
pleted will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.
This course covers the interpretation of the National Electrical Code (NEC) for equipment for general use, special occupancies, and special equipment (articles 400-830). Safety installation practices will be presented. CSU
ELECT-271  Programmable Logic Controllers
4 units LR
• 54 hours lecture/54 hours laboratory per term
• Advisory: ELECT-120 or equivalent
This course introduces the fundamentals of Programmable Logic Controllers (PLCs) and associated programs, which are used in industrial, commercial, and process applications. Students will program, maintain, troubleshoot, and modify PLCs and controlled systems. Software interfaces will be used to write, enter, and execute PLC applications. CSU

ELECT-299  Student Instructional Assistant
.5-3 units SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

ELTRN-107  Introduction to Robotics
2 units SC
• 27 hours lecture/27 hours laboratory per term
• Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree. Credit by examination option available.
This course introduces the science and technology involved in robotic systems. Beyond basic science, topics include input and output devices and programmable controllers and programming coding. Working independently or in teams, students will design and build circuits and kinematic structures that sense and interact with their environment. Using simple programming languages, students will work with a variety of microprocessors, including Arduino, Parallax, VEX, Lego, and others. This course prepares students for more advanced studies in robotics and related technologies, such as those used in building controls systems and industrial applications. CSU

ELTRN-116  Electronics I
3 units SC
• 45 hours lecture/27 hours laboratory per term
• Note: Credit by examination option available.
This course is an overview of electronic circuit fundamentals and devices. Students will construct, analyze, verify, and troubleshoot common electronic circuits using appropriate techniques and test equipment. CSU

ELTRN-120  Direct Current Circuits
4 units LR
• 54 hours lecture/54 hours laboratory per term
This course introduces the scientific principles and hands-on applications of direct current (DC) electricity. Topics include measurement and diagnosis of series, parallel, combination circuits, basic DC industrial control circuits, and commercial and residential circuits. In laboratory, students will use basic electrical test instruments and participate in building and software simulation of electrical circuits. CSU

ELTRN-121  Alternating Current Circuits
4 units LR
• 54 hours lecture/54 hours laboratory per term
• Advisory: ELTRN-120 or equivalent
This course is a continuation of ELTRN-120 and presents an in-depth study of alternating current (AC) circuits involving capacitance and inductance. Topics include resistor-inductor (RL), resistor-capacitor (RC), resistor-inductor-capacitor (RLC), and resonant circuits, three phase circuits and computer-simulated circuits. In laboratory, students will apply the principles of AC circuitry to real life applications. CSU

ELTRN-150  Topics in Electronics
.3-4 units SC
• Variable hours
A supplemental course in electronics to provide a study of current concepts and problems in electronics and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

ELTRN-210  Linear Circuits
4 units LR
• 54 hours lecture/54 hours laboratory per term
• Advisory: ELECT-121 or equivalent
• Note: This course is part of the Electrician Trainee Program approved by the Division of Apprenticeship Standards
A study of operational amplifiers, timers, phase-locked loops, and other active devices. Includes analysis and design of basic circuits such as active filters and analog communication circuits. Also includes related laboratory experience. CSU
ELTRN-299 Student Instructional Assistant

.5-3 units SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

ENERGY SYSTEMS – ENSYS

Despina Prapavessi, Dean
Mathematics and Engineering Division
Mathematics Building, Room 267

Possible career opportunities
An area of increasing job opportunities is in the various fields of alternate or renewable energy. This includes areas related to solar photovoltaics, solar water heating, wind energy systems, biodiesel and biofuels, biomass, fuel cells and related hydrogen energy devices and other small technologies. Most of the jobs in these areas are involved with the installation, design or maintenance of these systems. Most of these areas require skills in electricity, science, and math.

Associate in science degree
Energy systems
Students completing the program will be able to...
A. identify, measure, and analyze the major energy uses in typical businesses operations, focusing beyond the building and into processes.
B. demonstrate the electrical and energy systems skills to successfully interact with builders, architects, engineers, and constructors and advise on building and systems energy use.
C. design medium complexity solar photovoltaic or other energy system for medium size commercial buildings and processes.

This program provides students with a broad view of energy and energy systems and specific skills for those planning on entering the field designing, installing, servicing/repairing and maintaining renewable/sustainable energy systems. This includes wind energy, biodiesel and biofuels, biomass, fuel cells, hydrogen, and other technologies.

To earn an associate in science degree, students must complete each course used to meet a major requirement with a “C” grade or higher, maintain an overall GPA of 2.5 or higher in the coursework required for the major and complete general education requirements as listed in the catalog.

major requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENSYS-120 Introduction to Energy Systems</td>
<td>3</td>
</tr>
<tr>
<td>ENSYS-125 Building Envelope and Systems</td>
<td>3</td>
</tr>
<tr>
<td>ENSYS-130 Photovoltaic Systems Design and Installation</td>
<td>2</td>
</tr>
<tr>
<td>ENSYS-230 Advanced Photovoltaic Systems</td>
<td>2</td>
</tr>
</tbody>
</table>

plus at least 4 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELECT-120 Direct Current Circuits</td>
<td>4</td>
</tr>
<tr>
<td>ELTRN-120 Direct Current Circuits</td>
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</table>

plus at least 12 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>ARCHI-207 Environmental Control Systems</td>
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</tr>
<tr>
<td>CONST-110 Occupational Safety</td>
<td>2</td>
</tr>
<tr>
<td>CONST-183 Title 24: Energy Conservation Codes</td>
<td>3</td>
</tr>
<tr>
<td>ELECT-121 Alternating Current Circuits</td>
<td>4</td>
</tr>
<tr>
<td>ELECT-266 Electrical Codes: Articles 90-398</td>
<td>3</td>
</tr>
<tr>
<td>ELECT-267 Electrical Codes: Articles 400-830</td>
<td>3</td>
</tr>
</tbody>
</table>

total minimum required units 26

Certificate of achievement
Energy systems
Students completing the program will be able to...
A. identify, measure, and analyze the major energy uses in typical businesses operations, focusing beyond the building and into processes.
B. demonstrate the electrical and energy systems skills to successfully interact with builders, architects, engineers, and constructors and advise on building and systems energy use.
C. design medium complexity solar photovoltaic or other energy system for medium size commercial buildings and processes.

This program provides students with a broad view of energy and energy systems and specific skills for those planning on entering the field designing, installing, servicing/repairing and maintaining renewable/sustainable energy systems. This includes wind energy, biodiesel and biofuels, biomass, fuel cells, hydrogen, and other technologies.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate.

required courses:

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>ENSYS-120 Introduction to Energy Systems</td>
<td>3</td>
</tr>
<tr>
<td>ENSYS-125 Building Envelope and Systems</td>
<td>3</td>
</tr>
<tr>
<td>ENSYS-130 Photovoltaic Systems Design and Installation</td>
<td>2</td>
</tr>
<tr>
<td>ENSYS-230 Advanced Photovoltaic Systems</td>
<td>2</td>
</tr>
</tbody>
</table>
Energy systems

plus at least 4 units from:
ENSYS-120 Introduction to Energy Systems ..........................3
ENSYS-125 Building Envelope and Systems ..........................3
ENSYS-130 Photovoltaic Systems Design and Installation .................2
ENSYS-230 Advanced Photovoltaic Systems ................................2
plus at least 4 units from:
ENSYS-120 Introduction to Energy Systems ..........................3
ENSYS-125 Building Envelope and Systems ..........................3
ENSYS-130 Photovoltaic Systems Design and Installation .................2
ENSYS-230 Advanced Photovoltaic Systems ................................2

Certificate of accomplishment

Energy systems

Students completing the program will be able to...
A. identify, measure, and analyze the major energy uses in typical businesses operations, focusing beyond the building and into processes.
B. demonstrate the electrical and energy systems skills to successfully interact with builders, architects, engineers, and constructors and advise on building and systems energy use.
C. design medium complexity solar photovoltaic or other energy system for medium size commercial buildings and processes.

This program provides students with a broad view of energy, energy systems, and specific entry-level skills for those planning on entering the field of installing, servicing/repairing, and maintaining renewable/sustainable energy systems with a focus on photovoltaic systems. Technologies include wind energy, biodiesel and biofuels, biomass, fuel cells, hydrogen, and other technologies.

To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate.

required courses:  units
ENSYS-120 Introduction to Energy Systems ..........................3
ENSYS-125 Building Envelope and Systems ..........................3
ENSYS-130 Photovoltaic Systems Design and Installation .................2
ENSYS-230 Advanced Photovoltaic Systems ................................2

plus at least 4 units from:
ENSYS-120 Introduction to Energy Systems ..........................3
ENSYS-125 Building Envelope and Systems ..........................3
ENSYS-130 Photovoltaic Systems Design and Installation .................2
ENSYS-230 Advanced Photovoltaic Systems ................................2

This course provides an introduction to energy and energy conversion systems and examines issues related to the sustainability of each system. Renewable energy sources, such as hydro, wind, and solar as well as geothermal, fuel cells, and nuclear are examined. The use and impacts of traditional energy resources such as fuels, wood, coal, oil, and natural gas are also discussed. Energy policy, efficiency, conservation, storage, climate change, and demand side management are also examined. CSU

ENSYS-120 Introduction to Energy Systems
3 units SC
- 45 hours lecture/27 hours laboratory per term
This course provides an introduction to energy and energy conversion systems and examines issues related to the sustainability of each system. Renewable energy sources, such as hydro, wind, and solar as well as geothermal, fuel cells, and nuclear are examined. The use and impacts of traditional energy resources such as fuels, wood, coal, oil, and natural gas are also discussed. Energy policy, efficiency, conservation, storage, climate change, and demand side management are also examined. CSU

ENSYS-125 Building Envelope and Systems
3 units SC
- 45 hours lecture/27 hours laboratory per term
- Advisory: ENSYS-120 or Equiv. and MATH-085 or MATH-085SP or beginning algebra or equivalents
This course provides an introduction to buildings and building systems, including the envelope and major electro-mechanical equipment used in the building. Students will gain knowledge of and experience with various strategies and tools used to measure and analyze building energy use such as infrared thermography, duct and envelope leak testers, light and sound meters, energy analysis programs. Mitigation strategies to save energy and improve occupancy health are emphasized. CSU

ENSYS-130 Photovoltaic Systems Design and Installation
2 units SC
- 36 hours lecture/18 hours laboratory per term
This course presents an introduction to the theory, application, installation, and operation of photovoltaic systems. Topics include performance of solar site evaluations, calculation of electrical loads, sizing panel arrays, and techniques for installation of photovoltaic systems. This course is approved by the North American Board of Certified Energy Practitioners (NABCEP) and upon completion of the course, students will be eligible to sit for the Photovoltaic Systems Associate certification exam. CSU

ENSYS-150 Topics in Energy Systems
3-4 units SC
- Variable hours
A supplemental course in energy systems that provides a study of current concepts and practices in energy systems and related subdivisions. Specific topics will be announced in the schedule of classes. CSU
ENSYS-230  Advanced Photovoltaic Systems  
2 units SC  
- 27 hours lecture/27 hours laboratory per term  
- Advisory: ENSYS-130 or equivalent  
This course presents intermediate and advanced theories and skills for photovoltaic systems. Topics include installation, maintenance, evaluation, troubleshooting, and repair of commercial photovoltaic systems, including application of all applicable codes. CSU

ENSYS-299  Student Instructional Assistant  
.5-3 units SC  
- Variable hours  
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.  
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

ENGINEERING – ENGIN  
Despina Prapavessi, Dean  
Mathematics and Engineering Division  
Mathematics Building, Room 267

Possible career opportunities  
The engineering transfer program prepares students to enter four-year engineering schools as juniors. Upon completion of the B.S., students can become electrical, civil, mechanical, chemical, materials, aerospace or industrial engineers.

Associate in science degree  
Civil engineering  
Students completing the program will be able to...  
A. apply the skills and knowledge acquired to analyze issues, solve problems, and critically evaluate a proposal or a process.  
B. use appropriate quantitative tools to answer scientific questions, represent data, and document scientific findings.  
C. demonstrate effective communication with fellow team members, the public, and members of the scientific community, using written, oral, and visual communication methods.  
D. safely and appropriately use standard laboratory or field equipment to make precise and reliable measurements.  
E. analyze the internal forces and moments in statically determinate structures.

The associate in science degree in civil engineering (ASCE) is offered to prepare students to transfer to a four-year institution in the civil engineering major.

The graduates of this program will be able to apply the basic principles of civil engineering to a variety of technical projects related to the design, construction, managing and sustaining of a wide range of developments such as structural systems, buildings, highways, waterways, lifelines, and infrastructures.

The DVC ASCE degree is intended for transfer. Degree requirements at four-year programs differ from institution to institution, so students wishing to transfer to a particular four-year program must consult with a counselor regarding specific major requirements of a particular university program. Additionally, students are advised that other courses in math, physics and chemistry may be required and that engineering courses have science and math prerequisites. It is recommended that the students contact the counseling office for advisement regarding appropriate sequencing. Finally, the ASCE is a high-unit major; students are advised to meet with a counselor to determine appropriate general education courses to complete their degree requirements.

To earn an ASCE degree students must complete each course used to meet a major requirement with a “C-” grade or higher and complete general education requirements as listed in the catalog. Major requirements may be taken only on a “for grade” basis. Certain courses may satisfy both major and general education requirements; however the units are only counted once.

major requirements:  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
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<tbody>
<tr>
<td>CHEM-120*</td>
<td>General College Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>ENGIN-110</td>
<td>Introduction to Engineering</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN-120</td>
<td>Engineering Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN-230*</td>
<td>Introduction to Circuits and Devices</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-240*</td>
<td>Properties of Engineering Materials</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-255*</td>
<td>Statics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-192*</td>
<td>Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>MATH-193*</td>
<td>Analytic Geometry and Calculus II</td>
<td>5</td>
</tr>
<tr>
<td>MATH-292*</td>
<td>Analytic Geometry and Calculus III</td>
<td>5</td>
</tr>
<tr>
<td>MATH-294*</td>
<td>Differential Equations</td>
<td>5</td>
</tr>
<tr>
<td>PHYS-130*</td>
<td>Physics for Engineers and Scientists A: Mechanics and Wave Motion</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-230*</td>
<td>Physics for Engineers and Scientists B: Heat and Electro-magnetism</td>
<td>4</td>
</tr>
</tbody>
</table>

plus at least 3 units from:  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGIN-135</td>
<td>Programming for Scientists and Engineers</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-136*</td>
<td>Computer Programming for Engineers Using MATLAB</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-140*</td>
<td>Plane Surveying</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-257*</td>
<td>Statics and Strength of Materials</td>
<td>3</td>
</tr>
</tbody>
</table>

total minimum units for the major 53  

*These courses have prerequisites. See a counselor for program sequence.
Associate in science degree
Electrical engineering and computer engineering

Students completing the program will be able to...

A. apply analysis tools and computer tools in problem solving.
B. identify interdisciplinary aspects of engineering projects.
C. apply software engineering principles and procedures.
D. do computer algorithm development using C and C++ techniques.
E. understand the operation and control of electrical measuring equipment.
F. use computer programming skills to develop software for automation, decision making and control of equipment.
G. develop test software for evaluation of digital circuits.
H. analyze the operation of small scale digital and analog circuits.
I. design simple operational amplifier circuits.
J. demonstrate knowledge of magnetism and its applications in the design of transformers and actuators.
K. assemble and test digital and analog circuits from circuit diagrams.

The associate degree program in electrical engineering and computer engineering (EECE) prepares the students for a career in the EECE field or to transfer to a four-year degree program. Graduates entering the workforce will be able to perform the tasks typically expected of an assistant engineer. Students who intend to transfer are advised to select general education Option 2 (IGETC) or Option 3 (CSU GE). General education option 1 (DVC general education) is appropriate for students who do not intend to transfer.

Most core requirement courses have math and science prerequisites. Students must see a counselor for planning appropriate coursework sequence.

To earn an associate degree in electrical engineering and computer engineering, students must complete the core requirements with a "C" grade or higher. Students must also complete general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirement; however the units are only counted once.

### Major Requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM-120*</td>
<td>General College Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>COMSC-165*</td>
<td>Advanced Programming with C and C++</td>
<td>4</td>
</tr>
<tr>
<td>COMSC-210*</td>
<td>Program Design and Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-110</td>
<td>Introduction to Engineering</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN-230*</td>
<td>Introduction to Circuits and Devices</td>
<td>4</td>
</tr>
<tr>
<td>MATH-192*</td>
<td>Analytic Geometry and Calculus I</td>
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<td>MATH-294*</td>
<td>Differential Equations</td>
<td>5</td>
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<tr>
<td>PHYS-130*</td>
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</tr>
<tr>
<td>PHYS-230*</td>
<td>Physics for Engineers and Scientists B: Heat and Electro-Magnetism</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-231*</td>
<td>Physics for Engineers and Scientists C: Optics and Modern Physics</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-120</td>
<td>Engineering Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN-121</td>
<td>Engineering Drawing/Descriptive Geometry</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN-135</td>
<td>Programming for Scientists and Engineers</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-136*</td>
<td>Computer Programming for Engineers Using MATLAB</td>
<td>4</td>
</tr>
<tr>
<td>ENGTC-126</td>
<td>Computer Aided Design and Drafting - Auto CAD</td>
<td>3</td>
</tr>
<tr>
<td>MATH-194*</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH-195*</td>
<td>Discrete Mathematics</td>
<td>4</td>
</tr>
</tbody>
</table>

**Total Minimum Units for the Major:** 55

*Certain courses required for this degree have prerequisite coursework that could add additional units.

Associate in science degree
Mechanical engineering

Students completing the program will be able to...

A. apply the skills and knowledge acquired to analyze issues, solve problems, and critically evaluate a proposal or a process.
B. use appropriate quantitative tools to answer scientific questions, represent data, and document scientific findings.
C. demonstrate effective communication with fellow team members, the public, and members of the scientific community, using written, oral, and visual communication methods.
D. safely and appropriately use standard laboratory or field equipment to make precise and reliable measurements.

The associate in science degree in mechanical engineering (ASME) is designed to prepare mechanical engineering students for transfer to a four-year institution. This program enables graduates to apply basic engineering principles and technical skills in support of engineers engaged in the design and development phases of a wide variety of projects involving mechanical systems.
The DVC ASME degree is intended for transfer. Degree requirements at four-year programs differ from institution to institution, so students wishing to transfer to a particular four-year program must consult with a counselor regarding specific major requirements of a particular university program. Additionally, students are advised that other courses in math, physics and chemistry may be required and that engineering courses have science and math prerequisites. It is recommended that the students contact the counseling office for advisement regarding appropriate sequencing. Finally, the ASME is a high-unit major; students are advised to meet with a counselor to determine appropriate general education courses to complete their degree requirements.

To earn an ASME degree students must complete each required course for the major with a “C” grade or higher and complete all the requirements as listed in the catalog. Major requirements may be taken only on a “for grade” basis. Certain courses may satisfy both major and general education requirements; however the units are only counted once.

**major requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM-120</td>
<td>General College Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>ENGIN-110</td>
<td>Introduction to Engineering</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN-120</td>
<td>Engineering Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN-240*</td>
<td>Properties of Engineering Materials</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-255*</td>
<td>Statics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-192*</td>
<td>Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>MATH-193*</td>
<td>Analytic Geometry and Calculus II</td>
<td>5</td>
</tr>
<tr>
<td>MATH-292*</td>
<td>Analytic Geometry and Calculus III</td>
<td>5</td>
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<tr>
<td>MATH-294*</td>
<td>Differential Equations</td>
<td>5</td>
</tr>
<tr>
<td>PHYS-130*</td>
<td>Physics for Engineers and Scientists A: Mechanics and Wave Motion</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-230*</td>
<td>Physics for Engineers and Scientists B: Heat and Electro-magnetism</td>
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</table>

*plus at least 3 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGIN-135</td>
<td>Programming for Scientists and Engineers</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-136*</td>
<td>Computer Programming for Engineers Using MATLAB</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-257*</td>
<td>Statics and Strength of Materials</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 53

*These courses have prerequisites. See counselor for program sequence.

**ENGIN-110 Introduction to Engineering**

3 units SC

- 36 hours lecture/72 hours laboratory per term
- Advisory: College-level reading and writing are expected.
- Note: Credit by examination option available.

This course is an introduction to different engineering disciplines and careers, the role of an engineer in society, engineering ethics, the engineering approach to problem-solving, engineering design process and project development, engineering analysis, concurrent engineering, and application of computers in engineering including design and presentation tools. The emphasis is on hands-on creative problem-solving, teamwork, and effective communication. Students will develop design, analysis, and computer skills through work on projects drawn from various engineering majors. C-ID ENGR 110, CSU, UC

**ENGIN-120 Engineering Drawing**

3 units SC

- 36 hours lecture/72 hours laboratory per term
- Advisory: MATH-114 and ENGIN-119 or equivalents

This course presents modern drafting using board techniques as well as computer aided design (CAD) principles. Orthographic, oblique, and perspective projection of objects and visualization of the object from projected views are emphasized. Other topics include relationships of points, lines, and planes as well as auxiliary views, dimensioning, tolerancing, threads and fasteners. During the CAD part of the course, students use solid modeling techniques and methods to produce working drawings from CAD solids. CSU, UC

**ENGIN-121 Engineering Drawing/Descriptive Geometry**

3 units LR

- 36 hours lecture/72 hours laboratory per term
- Advisory: ENGIN-120 or equivalent and MATH-121 or equivalent (may be taken concurrently)

This course covers space relationships of points, lines, and surfaces. Double auxiliaries, curved and warped surfaces, intersections, developments and vector analysis are presented in relation to solving problems. Three-dimensional (3D) computer aided drafting (CAD) systems and solid modeling for civil engineering and mechanical engineering problems are also introduced. CSU, UC

**ENGIN-130 Energy, Society, and the Environment**

3 units SC

- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected. MATH-085 or MATH-085SP or beginning algebra or equivalent

This course presents an introduction to the sources, uses, economics, and environmental impacts of energy in contemporary society. The role of non-renewable and renewable energy systems and technologies in creating and maintaining sustainable energy systems is emphasized. CSU, UC
ENGIN-131 Technology and Society
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course explores the interrelationships between technology and the social sciences. Specifically, the course investigates the societal factors that impact technology (historical, political, economic, ethical and environmental), and the ways in which technology affects society (language, art, music, psychology and sociology). This course is appropriate for students in both technical and non-technical majors. CSU, UC

ENGIN-135 Programming for Scientists and Engineers
4 units LR
- 54 hours lecture/54 hours laboratory per term
- Prerequisite: MATH-192 (may be taken concurrently) or equivalent
- Advisory: College-level reading and writing are expected.

This course presents an introduction to programming in C/C++ for engineers and scientists. Topics include flowcharts, algorithm design principles, algebraic operations, decision making, loops, records, data structures, file input output operations and linked lists. Students will apply programming principles of numerical methods in science and engineering. CSU, UC

ENGIN-136 Computer Programming for Engineers Using MATLAB
4 units LR
- 54 hours lecture/54 hours laboratory per term
- Prerequisite: MATH-192 or equivalent
- Advisory: MATH-193 (may be taken concurrently) or equivalent

The methods of problem solving and data visualization in engineering and science using the MATLAB programming language will be introduced. Topics include numerical integration and differentiation, solution of systems of equations, regression, roots of equations and solution of differential equations. Programming with functions, local and global variables, file input and output, data formatting, induction, iteration, recursion, and elements of object oriented programming will also be covered. C-ID ENGR 220, CSU, UC

ENGIN-140 Plane Surveying
4 units SC
- 54 hours lecture/54 hours laboratory per term
- Prerequisite: MATH-121 or equivalent
- Note: Same as CONST-116

This course covers the principles and practices of surveying including measurement of distances, directions, elevations and measuring standards. An introduction to electronic measurements and calibration as well as systematic and random-error analysis is presented. Students will use surveying instruments, perform Global Positioning System (GPS) measurements, and gain experience with map reading and mapping. CSU, UC

ENGIN-140 Topics in Engineering
.3-4 units SC
- Variable hours

A supplemental course in engineering designed to provide a study of the current concepts and problems in engineering. Specific topics will be announced in the schedule of classes. CSU

ENGIN-210 Thermodynamics
3 units LR
- 54 hours lecture/18 hours laboratory per term
- Prerequisite: CHEM-120 and PHYS-230 or equivalents

This course introduces the fundamentals of energy storage, thermophysical properties of liquids and gases, and the basic principles of thermodynamics. The course focuses on application of the concepts to various areas of engineering related to energy conversion and air conditioning. The use of computing tools that facilitate problem solving, design analysis, and parametric studies in thermodynamics will be integrated throughout the course. CSU, UC

ENGIN-230 Introduction to Circuits and Devices
4 units LR
- 54 hours lecture/54 hours laboratory per term
- Prerequisite: MATH-193 or equivalent and PHYS-230 or equivalent
- Advisory: College-level reading and writing are expected.

The course covers the subjects of electrical quantities, Ohm’s law, Kirchoff’s network theorems, AC and DC circuit analysis, transient and steady state response of circuits, digital circuits, solid state devices, magnetism and magnetic circuits. C-ID ENGR 260 L, CSU, UC
ENGIN-240 Properties of Engineering Materials
4 units LR
• 54 hours lecture/72 hours laboratory per term
• Prerequisite: CHEM-120 and PHYS-130 or equivalents
This course is a study of properties of engineering materials as related to their atomic, microscopic, and macroscopic structures. The application of the basic principles of physics and chemistry to the engineering properties of materials will be covered. Special emphasis will be devoted to the relation between microstructure and the mechanical properties of metals, concrete, polymers, and ceramics, and the electrical properties of semiconducting materials. C-ID ENGR 140B, CSU, UC

ENGIN-255 Statics
3 units LR
• 54 hours lecture per term
• Prerequisite: PHYS-130 or equivalent and MATH-193 or equivalent
• Advisory: ENGIN-135 or ENGIN-136 or equivalents
This course covers equilibrium of rigid bodies, structures, beams, flexible cables and fluids under concentrated and distributed forces. The application of the method of sections and free-body diagrams to solve truss problems as well as shear diagrams and bending diagrams and their application to forces in beams, are covered. Wedges, screws, bearings, brakes and other problems involving friction are examined. Virtual work and potential energy methods in the determination of equilibrium conditions in machines and structures are discussed. C-ID ENGR 130, CSU, UC

ENGIN-257 Statics and Strength of Materials
3 units LR
• 54 hours lecture/18 hours lab per term
• Prerequisite: PHYS-130 and MATH-193 or equivalents
• Advisory: MATH-194 or equivalent
This course is a study of mechanics and strength of materials, including equilibrium of particles and rigid bodies, analysis of truss and frame structures, concepts of stress and strain, linear elastic materials, axially-loaded structural elements, torsion in circular and hollow shafts, and shear and moment diagrams in beams. Deflection of beams, buckling of columns and energy methods are also discussed. CSU, UC

ENGIN-298 Independent Study
.5-3 units SC
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office is required.
This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

ENGIN-299 Student Instructional Assistant
.5-3 units SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU
Associate in science degree
Civil design drafting technology

Students completing the program will be able to...
A. use technical drafting principles to develop technical drawings.
B. interpret construction blueprints.
C. use geometric construction and descriptive geometry to solve geometric problems.
D. create 2-dimensional and 3-dimensional computer aided drawings (CAD).
E. interpret global positioning data.
F. measure land forms using ground surveying equipment.
G. apply trigonometry to math problems.
H. apply the basic laws of physics to everyday situations.

The associate in science degree in civil design drafting technology provides students with the technical and analytical skills needed for employment in the field of civil engineering drafting. Through both academic and laboratory study students gain the practical skills needed for entry into the job market. For example, civil drafters may work on plans for major construction projects such as dams, roads, bridges, and sewage systems; or prepare, interpret and revise topographic and/or relief maps using computer-aided-drafting (CAD).

To earn the degree, students must complete each course used to meet a major requirement with a "C" grade or higher and complete general education requirements as listed in the catalog. Students who wish to transfer should consult with program faculty and college counselors to ensure that the requirements for transfer to appropriate institutions are met. Certain courses may satisfy both major and general education requirements for transfer to appropriate institutions are met. Engineering technicians may work as computer-aided design drafters, engineering aides, land surveyors, field assistants, planning technicians and technical sales people.

Possible career opportunities
Career options in engineering technology include civil engineering technicians, surveying and mapping technicians (cartography), architectural and civil drafters, and mechanical engineering technicians. Engineering technicians may work as computer-aided design drafters, engineering aides, land surveyors, field assistants, planning technicians and technical sales people.

Associate in science degree
Machining for mechanical engineering technology

Students completing the program will be able to...
A. read the drawing for an object and visualize the geometry.
B. choose the correct manufacturing method for the object.
C. manufacture an object from a given drawing using machine tools.
D. use algebra, spreadsheets and measurement data to produce QC statistics.
E. verify that products meet the design criteria.
F. design and prototype mechanical parts under the supervision of engineers.
G. use computer integrated manufacturing (CIM) and computer numerical control (CNC) software for automation of manufacturing.

The associate of science degree in machining for mechanical engineering technology is offered to prepare students with the required aptitude and skills to enter the workforce as entry-level machinists, tool and die makers, or mold makers. Students will be prepared for careers that are highly in demand for aerospace, medical, electronic, high tech, and automotive and transport industries. Graduates of this program will be well equipped to continue their career advancement as engineers, product developers, prototype/model builders, production machinist, or electro-mechanical maintenance and repair specialists.
Students completing this program will develop familiarity with lathes, mills, drill presses, and precision measuring. They will also be introduced to the concepts of computer numerical control (CNC) machines and 3D (additive) manufacturing processes, geometric dimension and tolerance (GD&T), and modern technical drawing (CAD) techniques.

The DVC machining for mechanical engineering technology major is not intended for transfer. Option 1 (DVC General Education) is advised for students who do not intend to transfer. Students who intend to transfer to a four-year baccalaureate program should consult with a counselor regarding specific major preparation requirements at the transfer institution of their choice. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE).

Students must complete each of the courses required for the major with a “C” grade or higher. Students may not take a pass/no pass option for major courses. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**major requirements:**

- **ENGT-119** Introduction to Technical Drawing ........................................ 3
- **ENGT-126** Computer Aided Design and Drafting- AutoCAD ........................................ 3
- **ENGT-129** Product Design I Using Solidworks ........................................ 3
- **ENGT-160** Introduction to Industrial and Manufacturing Engineering ........................................ 3
- **ENGT-162** Geometric Dimensioning and Tolerancing ........................................ 1
- **ENGT-165** Machining and Manufacturing I ........................................ 3
- **ENGT-166** Machining and Manufacturing II ........................................ 3
- **ENGT-168** Introduction to Computer Numerical Control ........................................ 3

plus at least 3 units from:

- **ENGT-111** Mathematics for Technicians ........................................ 3
- **MATH-119** Beginning and Intermediate Algebra ........................................ 4
- **MATH-121** Plane Trigonometry ........................................ 3
- **MATH-191** Pre-Calculus ........................................ 5
- **MATH-192** Analytic Geometry and Calculus I ........................................ 5

**total minimum units for the major** 25

**Associate in science degree**

**mTECH - Industrial maintenance machinist/mechanic**

Students completing the program will be able to...

A. discuss the role of the industrial maintenance machinist/mechanic in shop and field maintenance safety.
B. interpret blueprints and technical drawings for parts manufacturing and maintenance repair operations
C. grind high speed steel tool bits for general purpose turning and threading.
D. cut multiple lead and acme threads on a lathe.
E. use the vertical milling machine to drill holes, index, bore hole to a specified diameter and depth, mill surfaces and edges, and use an indicator to reference work.
F. replace a single mechanical seal in a centrifugal pump.
G. align a pump shaft to a motor to a specified tolerance.

This program prepares students for jobs in the manufacturing industry including industrial machinery mechanics, maintenance specialists or technicians, and machinery maintenance workers in industries including chemical, refinery, and public works. These jobs involve repairing, installing, adjusting, or maintaining industrial production and processing machinery or refinery and pipeline distribution systems. The labor market for these high-wage occupations in the Bay Area is strong.

Graduates of this program will gain skills and knowledge in areas that include machining, industrial hydraulics and pneumatics, shop and field maintenance, basic electricity, technical drawing, basic drafting, and applied mathematics. Students are advised to meet with a counselor or program advisor to develop an educational plan that meets their needs.

The DVC mTECH major is not intended for transfer. Option 1 (DVC General Education) is advised for students who do not intend to transfer. Students who intend to transfer to a four-year baccalaureate program should consult with a counselor regarding specific major preparation requirements at the transfer institution of their choice. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE).

Students must complete each of the courses required for the major with a “C” grade or higher. Students may not take a pass/no pass option for major courses. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**major requirements:**

- **MATH-119** Beginning and Intermediate Algebra ........................................ 4
- **MATH-121** Plane Trigonometry ........................................ 3
- **MATH-191** Pre-Calculus ........................................ 5
- **MATH-192** Analytic Geometry and Calculus I ........................................ 5

**total minimum units for the major** 19
Certificate of achievement
Civil design drafting technology

Students completing the program will be able to...
A. use technical drafting principles to develop technical drawings.
B. interpret construction blueprints.
C. use geometric construction and descriptive geometry to solve geometric problems.
D. create 2-dimensional and 3-dimensional computer aided drawings (CAD).
E. interpret global positioning data.
F. measure land forms using ground surveying equipment.
G. apply trigonometry to math problems.
H. apply the basic laws of physics to everyday situations.

This certificate program prepares students for an entry level job as a civil drafter. Drafters work under the supervision of civil or structural engineers, architects, and/or surveyors as support staff in jobs requiring them to prepare, interpret, and revise technical drawings, or gather and categorize field data. Engineering technicians work as support staff in field, laboratory and/or office environments.

To earn a certificate of achievement, students must complete each of the required courses with a “C” grade or higher. Some courses are not offered every term so please consult with the program director for assistance in scheduling classes.

required courses: units
CONST-114 Print Reading.................................3
ENGIN-121* Engineering Drawing/Descriptive Geometry.................................3
PHYS-110 Elementary Physics.................................3

plus at least 3 units from:
ENGT-111 Mathematics for Technicians.................................3
MATH-121 Plane Trigonometry.................................3
MATH-191 Pre-Calculus.................................5

plus at least 3 units from:
ARCH-119 Introduction to Technical Drawing.................................3
ENGT-119 Introduction to Technical Drawing.................................3

plus at least 3 units from:
ARCH-126 Computer Aided Design and Drafting - AutoCAD.................................3
ENGT-126 Computer Aided Design and Drafting - AutoCAD.................................3

plus at least 3 units from:

plus at least 3 units from:
GEOG-124 Thinking and Communicating Geospatially.................................3
GEOG-129 Field Data Acquisition and Management.................................3

plus at least 6 units from:
CONST-116* Plane Surveying.................................4
ENGIN-140* Plane Surveying.................................4
ENGT-123 Principles of Civil Drafting.................................3
GEOG-125 Introduction to Geographic Information Systems (GIS).................................3
GEOG-126 Advanced Geographic Information Systems.................................3
GEOG-160 Introduction to Remote Sensing.................................4
GEOG-162 Map Design and Visualization.................................3

total minimum required units 30

*Certain courses required for this certificate have recommended or prerequisite coursework that could add additional units.

Certificate of achievement
Civil drafting, CAD

Students completing the program will be able to...
A. apply civil drafting principles to interpret and develop civil engineering maps.
B. interpret construction blueprints.
C. create 2-dimensional and 3-dimensional computer aided drawings (CAD).
D. interpret global positioning data.
E. measure land forms using ground surveying equipment.
F. use general computer software such as Microsoft Word and Excel.
G. apply trigonometry to math problems.

This certificate program prepares students for further study or an entry-level training position in jobs requiring them to prepare and revise technical drawings used in civil engineering and surveying.

To earn a certificate of achievement, students must complete each of the required courses with a “C” grade or higher. Some courses are not offered every term so please consult with the program director for assistance in scheduling classes.

required courses: units
CONST-114 Print Reading.................................3
ENGT-111 Mathematics for Technicians.................................3
MATH-121* Plane Trigonometry.................................3

plus at least 3 units from:
ARCH-119 Introduction to Technical Drawing.................................3
ENGT-119 Introduction to Technical Drawing.................................3

plus at least 3 units from:
ARCH-126 Computer Aided Design and Drafting - AutoCAD.................................3
ENGT-126 Computer Aided Design and Drafting - AutoCAD.................................3

plus at least 3 units from:

plus at least 3 units from:
GEOG-124 Thinking and Communicating Geospatially.................................3
GEOG-129 Field Data Acquisition and Management.................................3
Students completing this program will be able to...

A. analyze markets, marketing strategy, the marketing environment, and the marketing mix variables of product, price, promotion, and distribution.
B. work within a team of diverse industry professionals to establish and meet design criteria.
C. develop detailed technical drawings of a product.
D. determine the most efficient and responsible manufacturing method for products.
E. manufacture an object from a given drawing using machine tools.
F. prototype an object from a given technical drawing or three-dimensional CAD model.
G. design and prototype mechanical parts under the supervision of engineers.
H. use computer integrated manufacturing (CIM) and computer numerical control (CNC) software for automation of manufacturing.

Diablo Valley College’s (DVC) industrial design program addresses the workforce needs of the design and manufacturing sector with the design for manufacturing (D4m) certificate of achievement. The program courses provide current digital fabrication skills, while providing a foundation of traditional manufacturing. Students will also learn the design process and rapid prototyping techniques required by the field of industrial design as well as business marketing skills.

Graduates of the design for manufacturing (D4m) program may be employed in jobs that include production occupations, engineering occupations, assemblers and fabricators, engineering technicians, computer-controlled machine operators, rapid prototyping for product design, and within research and development (R&D) fields. Students will gain the skills necessary to create 3D CAD models, program computer numerical control (CNC) manufacturing equipment, and operate traditional machinery such as lathes, mills, drill presses, and precision measuring devices. Students completing this program will also be candidates for a broad range of manufacturing and corporate jobs requiring a combination of technical knowledge and the skills needed to collaborate between marketing, design, engineering, and manufacturing.

The design for manufacturing (D4m) certificate of achievement program shares coursework with both the machining and mechanical engineering technology and industrial design certificate programs. To earn the certificate of achievement, students must complete each of the courses required for the major with a “C” grade or higher.

Devised courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGTC-119 Introduction to Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-128 Fusion 360 for Design and Prototyping</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-165 Machining and Manufacturing I</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-168 Introduction to Computer Numerical Control</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-268 CNC Machining and Manufacturing</td>
<td>3</td>
</tr>
<tr>
<td>IDSNG-120 Introduction to Industrial and Product Design</td>
<td>3</td>
</tr>
<tr>
<td>IDSNG-121 Industrial and Product Design Foundations</td>
<td>3</td>
</tr>
<tr>
<td>IDSNG-137 Digital Fabrication and Prototyping</td>
<td>3</td>
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</tbody>
</table>

plus at least 2 units from:
- IDSNG-105 Assembly and Fabrication Workshop 2
- IDSNG-107 Furniture Design Studio 2

plus at least 3 units from:
- BUSM-K Marketing 3
- ENGTC-129 Product Design I Using SolidWorks 3

plus at least 3 units from:
- IDSNG-220 Soft Goods Product Design Studio 4
- IDSNG-221 Transportation Design Studio 4

Certificate of achievement – Industrial automation and robotics

Students completing this program will be able to...

A. program robots to perform or simulate industrial applications.
B. identify, measure, and analyze series, parallel, and series-parallel circuits mathematically and experimentally.
C. measure, analyze, and troubleshoot equipment problems.
D. program the programmable logic controllers to control output devices based on sensor inputs.
E. solve series, parallel, and series-parallel AC circuits for voltage, current, impedance, and phase angle.
F. describe the quality assurance procedure that might be used to verify the part is conforming to specification.
G. demonstrate competence in principles and operation of basic hydraulic systems; use flow meters and pressure gauges to measure valves and make adjustments.
H. diagnose and troubleshoot mechanical systems.
I. use currently available basic personal protective equipment and be able to select appropriate equipment for a given environment.

This program prepares students for jobs in the robotic industry related to the diagnostics, repair, maintenance, and integration of complex equipment. Robotic jobs can be found within the fields of research and development (R&D), manufacturing, industrial production, distribution logistics, and the biomedical and medical industries. Disciplines of study include, programmable logic controllers (PLC), motors and controllers, direct and alternate current circuits, hydraulic and pneumatic systems, and industrial robotic applications.
Today’s advanced manufacturing industries, distribution centers, and medical research facilities are increasingly dependent on robotic systems to provide highly accurate and uninterrupted throughput. With this inherent dependence on highly complex equipment, specialized robotic technicians are highly sought after and are increasingly employed within these facilities. DVC’s industrial automation and robotics graduates will provide highly qualified robotic technicians who can problem solve for a variety of technical diagnostic areas.

DVC’s students will utilize state of the art equipment needed to integrate robotic equipment into advanced production and specialty systems. Courses will introduce the basic operations of robotic equipment and autonomous systems, with an emphasis on hydraulics and pneumatics, electronics, and programmable logic controllers (PLC). Students will also learn how to practice safety within high-tech facilities as they troubleshoot and repair electromechanical systems and components. An emphasis on quality control standards and production system efficiencies is inclusive.

Graduates of this program will gain skills and knowledge in areas that include industrial hydraulics and pneumatics, electricity and electronics, machine repair, shop and field maintenance, and operational robotic programming.

To earn a certificate of achievement, students must complete each of the required courses with a “C” grade or higher.

required courses:  units
ELECT-120  Direct Current Circuits ...........................................4
ELECT-130  Motors and Motor Controllers .................................4
ELECT-271  Programmable Logic Controllers ..........................4
ELTRN-121  Alternating Current Circuits .................................4
ENGTC-160  Introduction to Industrial and Manufacturing ....
ENGTC-175  Hydraulic and Pneumatic Systems and ...........
Components .........................................................3
ENGTC-176  Mechanical Systems and Components .................3
ENGTC-180  Applications for Industrial Robotics .................3
ELTRN-107  Introduction to Robotics ................................2

plus at least 2 units from:
CONST-110  Occupational Safety ..................................2
ENGTC-165  Machining and Manufacturing I ........................3

total minimum required units 32

Certificate of achievement
Machining for mechanical engineering technology

Students completing the program will be able to:
A. read the drawing for an object and visualize the geometry.
B. choose the correct manufacturing method for the object.
C. manufacture an object from a given drawing using machine tools.
D. use algebra, spreadsheets and measurement data to produce QC statistics.
E. verify that products meet the design criteria.
F. design and prototype mechanical parts under the supervision of engineers.
G. use computer integrated manufacturing (CIM) and computer numerical control (CNC) software for automation of manufacturing.

The certificate of achievement in machining for mechanical engineering technology is offered to prepare students with the required aptitude and skills to enter the workforce as entry-level machinists, tool and die makers, or mold makers. Students will be prepared for careers that are highly in demand for aerospace, medical, electronic, high tech, and automotive and transport industries. Graduates of this program will be well equipped to continue their career advancement as engineers, product developers, prototype/model builders, production machinist, or electro-mechanical maintenance and repair specialists.

Students completing this program will develop familiarity with lathes, mills, drill presses, and precision measuring. They will also be introduced to the concepts of computer numerical control (CNC) machines and 3D (additive) manufacturing processes, geometric dimension and tolerance (GD&T), and modern technical drawing (CAD) techniques.

Students must complete each of the courses required for the certificate with a “C” grade or higher. Students may not take a pass/no pass option for required courses.

required courses:  units
ENGTC-119  Introduction to Technical Drawing .......................3
ENGTC-126  Computer Aided Design and Drafting-AutoCAD ..3
ENGTC-129  Product Design I Using Solidworks .................3
ENGTC-160  Introduction to Industrial and Manufacturing Engineering .................3
ENGTC-162  Geometric Dimensioning and Tolerancing ..........1
ENGTC-165  Machining and Manufacturing I .....................3
ENGTC-166  Machining and Manufacturing II ....................3
ENGTC-168  Introduction to Computer Numerical Control...3

plus at least 3 units from:
ENGTC-111  Mathematics for Technicians .........................3
MATH-119  Beginning and Intermediate Algebra ..................4
MATH-121  Plane Trigonometry .........................................3
MATH-191  Pre-Calculus ..................................................5
MATH-192  Analytic Geometry and Calculus I ....................5

total minimum required units 25

Certificate of achievement
mTECH - Industrial maintenance machinist/mechanic

Students completing the program will be able to:
A. discuss the role of the industrial maintenance machinist/mechanic in shop and field maintenance safety.
B. interpret blueprints and technical drawings for parts manufacturing and maintenance repair operations.
C. grind high speed steel tool bits for general purpose turning and threading.
D. cut multiple lead and acme threads on a lathe.
E. use the vertical milling machine to drill holes, index, bore hole to a specified diameter and depth, mill surfaces and edges, and use an indicator to reference work.
F. replace a single mechanical seal in a centrifugal pump.
G. align a pump shaft to a motor to a specified tolerance.
This program prepares students for jobs in the manufacturing industry including industrial machinery mechanics, maintenance specialists or technicians, and machinery maintenance workers in industries including chemical, refining, and public works. These jobs involve repairing, installing, adjusting, or maintaining industrial production and processing machinery or refinery and pipeline distribution systems. The labor market for these high-wage occupations in the Bay Area is strong.

Graduates of this program will gain skills and knowledge in areas that include machining, industrial hydraulics and pneumatics, shop and field maintenance, basic electricity, technical drawing, basic drafting, and applied mathematics. Students are advised to meet with a counselor or program advisor to develop an educational plan that meets their needs.

Students must complete each course used to meet a program requirement with a “C” grade or higher. Students may not take a pass/no pass option for certificate courses.

required courses:

- CONST-110 Occupational Safety ..................................... 2
- ELECT-110 Survey of Electricity ..................................... 2
- ENGTC-119 Introduction to Technical Drawing ..................... 3
- ENGTC-165 Machining and Manufacturing I .......................... 3
- ENGTC-166 Machining and Manufacturing II .......................... 3
- ENGTC-175 Hydraulic and Pneumatic Systems and Components ................................................. 3
-ENGTC-176 Mechanical Systems and Components .................. 3

plus 0-5 units from:

- ENGTC-111 Mathematics for Technicians .......................... 3
- MATH-119 Beginning and Intermediate Algebra ....................... 4
- MATH-121 Plane Trigonometry ............................................. 3
- MATH-191 Pre-Calculus ...................................................... 5
- MATH-192 Analytic Geometry and Calculus I ......................... 5

total minimum required units 19

Certificate of accomplishment

Computer aided drafting and digital media for architecture, industrial design and engineering

Students completing the program will be able to...

A. create 2-dimensional and 3-dimensional computer aided drawings (CAD).
B. interpret construction blueprints and architectural plans.
C. calculate data collected from land surveying.
D. interpret simple technical drawings.
E. construct 3-Dimensional models using parametric software.

Drafters make drawings and plans to specify dimensions, materials and processes used in the making of a final product. These drawings are guidelines for the workers who will actually build or make whatever is being produced. Drafters also make drawings from blueprints, engineering sketches, photos and other sources which show how parts and other objects work, their relation to one another, and how they will be put together. Drafters create drawings and plans to specify dimensions, materials and processes for the finished product. Such drawings and plans provide guidance to those working to complete the finished product. Drafters also render drawings from blueprints, sketches, photos and other sources which show the interplay of components and their relationships to one another, and to provide guidance for final assembly.

To earn a certificate of accomplishment, students must complete each of the required courses with a “C” grade or higher. Some courses are not offered every term. Consult with the program director for assistance in scheduling classes.

required courses:

- complete 3 units from:
  - ARCHI-126 Computer Aided Design and Drafting - AutoCAD .................................................. 3
  - ENGTC-126 Computer Aided Design and Drafting - AutoCAD .................................................. 3

plus at least 3 units from:


plus at least 3 units from:

- ARCHI-119 Introduction to Technical Drawing ..................... 3
- ARCHI-120 Introduction to Architecture and Environmental Design .................................................. 3
- CONST-114 Print Reading .................................................. 3
- ENGTC-119 Introduction to Technical Drawing ..................... 3

plus at least 3 units from:

- ARCHI-135 Digital Tools for Design ................................. 3
- ARCHI-136 Digital Tools for Architecture ............................. 3
- ARTDM-160 3D Modeling and Animation I ............................ 3
- ENGTC-129 Product Design I Using SolidWorks ..................... 3
- GEOG-125 Introduction to Geographic Information Systems (GIS) .................................................. 3
- IDSGN-120 Introduction to Industrial and Product Design .................. 3

total minimum required units 12
Certificate of accomplishment
Pre-engineering technology

Students completing the program will be able to...
A. develop technical drawings with detailed dimensions using hand drafting line work and lettering.
B. create 2-dimensional computer aided design (CAD) drawings and 3-dimensional computer models.
C. safely operate hand and power tools.
D. use measuring devices to calculate and verify tolerances for metal, wood, and plastics parts.
E. apply prototyping techniques for engineering, product design, and manufacturing.

The certificate of accomplishment in pre-engineering technology provides students with the foundation of skills required to pursue a degree or certificate in mTECH (industrial machine maintenance), manufacturing, industrial design, or electro-mechanical. The courses provide students with skills in technical drawing, computer aided design (CAD), and traditional shop tools. Students create detailed product specifications and gain knowledge required to safely operate shop tools. Concepts in technical drawing, computer-aided design, and hand drafting will be inclusive. In addition, students use a variety of measuring devices and safely operate traditional machinery including drills, saws and mechanical tools. Completion of the foundation courses and prepare students to transition into technical design, rapid prototyping, computer numerical control (CNC) machining and manufacturing.

To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate.

required courses: 

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGTC-119</td>
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<tr>
<td>ENGTC-126</td>
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</tr>
<tr>
<td>IDSGN-105</td>
<td>2</td>
</tr>
<tr>
<td>total minimum required units</td>
<td>8</td>
</tr>
</tbody>
</table>

Certificate of accomplishment
Rapid prototyping and 3D printing

Students completing the program will be able to...
A. prototype and fabricate a variety of components in various materials.
B. model components and parts in a 3D modeling and manufacturing software package.
C. develop detailed technical drawings of a product.
D. determine the most efficient and responsible manufacturing method for the product.
E. prototype an object from a given technical drawing or three-dimensional CAD model.
F. design and prototype mechanical parts under the supervision of engineers.
G. use computer integrated manufacturing (CIM) and computer numerical control (CNC) software for automation of manufacturing.

The certificate of accomplishment provides foundation skills for 3D printing and operating computer numerical control (CNC) devices that are required for fabrication and prototyping. The Rapid Prototyping and 3D Printing courses provide students with the experience in the latest 3D CAD modeling and CAM programming software and hardware. Students use Rapid Prototyping and 3D Printing techniques inherent to the field of industrial design and advanced manufacturing. Students completing this program will also be candidates for a broad range of jobs that require a combination of technical knowledge and the skills needed to collaborate between marketing, design, engineering, and manufacturing.

The Rapid Prototyping and 3D Printing certificate of accomplishment is not intended for transfer, rather, it has been developed to increase skills for employment and as a segue into DVC’s D4m (Design for Manufacturing) certificate of achievement.

To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

two units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>IDSGN-105 Assembly and Fabrication Workshop</td>
<td>2</td>
</tr>
<tr>
<td>IDSGN-107 Furniture Design Studio</td>
<td>2</td>
</tr>
</tbody>
</table>

plus at least 3 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGTC-128 Fusion 360 Modeling and Prototyping</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-129 Introduction to SolidWorks</td>
<td>3</td>
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</table>

plus at least 3 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGTC-168 Introduction to Computer Numerical Control</td>
<td>3</td>
</tr>
<tr>
<td>IDSGN-137 Digital Fabrication and Prototyping</td>
<td>3</td>
</tr>
</tbody>
</table>

total minimum required units = 8
Certificate of accomplishment
Robotics

Students completing the program will be able to...

A. program robots to perform or simulate industrial applications.
B. identify, measure, and analyze series, parallel, and series-parallel circuits mathematically and experimentally.
C. diagnose and troubleshoot mechanical systems.
D. demonstrate competence in principles and operation of basic hydraulic systems; use flow meters and pressure gauges to measure valves and make adjustments.

This certificate of accomplishment prepares students with foundational skills related to jobs in the robotic industry that include operating, diagnostics, and repair. Robotics jobs can be found within the fields of research and development (R&D), advanced manufacturing, industrial production, distribution logistics, and the biomedical industries. Disciplines of study may include programming, motors and controllers, direct current circuits, hydraulic and pneumatic systems, mechanical systems and components, and applications for industrial robotics. The labor market for these high-wage occupations in the Bay Area is strong.

Today’s advanced manufacturing industries, distribution centers, and medical research facilities are increasingly dependent on robotic systems to provide highly accurate and uninterrupted throughput. With the dependence on highly complex equipment, specialized robotic operators and technicians are required within these facilities. This certificate of accomplishment will prepare graduates to problem solve for a variety of technical applications with an emphasis on industrial machinery, electronics, and programming. Students will also learn how to practice safety within high-tech facilities.

To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

two units from:
ELTRN-107 Introduction to Robotics ..................................................3
ENGTC-180 Applications for Industrial Robotics ..............................3

plus at least 2 units from:
ELECT-110 Survey of Electricity .........................................................2
ELECT-120 Direct Current Circuits ......................................................4

plus at least 3 units from:
ENGTC-175 Hydraulic and Pneumatic Systems and Components ..........3
ENGTC-176 Mechanical Systems and Components ..........................3

Total minimum required units 8

ENGTC-111 Mathematics for Technicians
3 units LR
- DVC GE: IC
- 54 hours lecture per term
- Prerequisite: Placement into MATH-121 or higher or MATH-085 or MATH-085SP or beginning algebra or equivalent

This course is a study of mathematical topics used for technical applications in the workplace. Topics include an introduction to units of measurement, mathematical operations with application to technical problems, algebraic operations and concepts in geometry and trigonometry. An introduction to coordinate spaces and systems and their application to technical problems in the field are also covered. The calculation of surface areas and volumes are presented in context with problems encountered in technical and design fields. CSU

ENGTC-119 Introduction to Technical Drawing
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Note: Same as ARCHI-119. For students with no previous drafting experience. Credit by examination option available.

This course presents an introduction to technical drawing. Topics include technical lettering and line work, geometric constructions, sketching and shape description, orthographic projection, dimensioning, section views, and auxiliary views. Students will gain experience using computers to produce technical drawings, utilizing 3D modeling and orthographic computer aided design (CAD) drafting. An introduction to computer numerical control (CNC) prototyping and 3D printing is also covered. CSU, UC (credit limits may apply to UC - see counselor)

ENGTC-123 Principles of Civil Drafting
3 units LR
- 36 hours lecture/72 hours laboratory per term
- Advisory: ENGTC-111 (may be taken concurrently), ENGTC-119 and ENGTC-126 or equivalents

Introduction to civil drafting as it relates to topographic maps and charts. Course covers reading, interpreting and constructing a variety of maps used for civil engineering such as surveyor maps, plat and plot maps, and aerial maps. Students will use both manual and computer methods for drafting of maps. CSU
Engineering technology

**ENGTC-126  Computer Aided Design and Drafting - AutoCAD**

3 units SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: ENGTC-119 or ARCHI-119 or equivalent
- Note: Same as ARCHI-126. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree. Credit by examination option available.

This introductory course covers the fundamentals of AutoCAD, and its application to the creation of technical drawings. Hands-on training utilizing a comprehensive overview of the software package and its applications to technical drafting is emphasized. CSU, UC (credit limits may apply to UC - see counselor)

**ENGTC-128  Fusion 360 for Design and Prototyping**

3 units SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: ENGTC-119 or ARCHI-119 or equivalent
- Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course introduces Autodesk’s Fusion 360 software as related to the product design process and rapid prototyping. The course covers a broad range of topics related to the software’s features that include: 3D modeling, 2D documentation, rendering, animation, generative design, additive (3D Printing), and subtractive fabrication (CNC milling). Students will use the cloud-based software from step-by-step lessons and project-based instruction. Previous experience with Fusion 360 or 3D CAD modeling software is not required. CSU

**ENGTC-129  Product Design I Using SolidWorks**

3 units SC
- 36 hours lecture/72 hours laboratory per term
- Advisory: ARCHI-119 or ENGTC-119 or equivalent
- Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree. Credit by examination option available.

This course introduces students to product design using SolidWorks. Students use the functions of SolidWorks and apply these functions within the product design process. CSU

**ENGTC-160  Introduction to Industrial and Manufacturing Engineering**

3 units LR
- 54 hours lecture per term

This course presents the methods and processes involved in the manufacturing of a variety of products in various materials. Topics include an introduction to various materials and their properties, types of machinery used in manufacturing, methods of casting and shaping materials along with other industrial and technical processes. An introductory overview of engineering drawing standards and quality assurance is also covered. CSU, UC

**ENGTC-162  Geometric Dimensioning and Tolerancing**

1 unit LR
- 9 hours lecture/27 hours laboratory per term
- Advisory: ENGTC-111 or equivalent

This course will present the principles of geometric dimensioning and tolerancing (GDT). Topics include GDT symbols, datum planes, material conditions, orientation, location, profile and runout tolerances. Laboratory assignments emphasize measurement using granite tables and pin and height gauges. CSU, UC

**ENGTC-165  Machining and Manufacturing I**

3 units LR
- 36 hours lecture/72 hours laboratory per term
- Advisory: ENGTC-119 or ARCHI-119 or equivalent

This course introduces practical and theoretical aspects of machine tool processes. Topics include basic blueprint interpretation, use of hand tools, measuring instruments and gauges, layout, inspection techniques and metals identification. Setup and operation of drill presses, band saw, grinders, lathes, milling, and computer-numerical control (CNC) machines will also be covered. CSU

**ENGTC-166  Machining and Manufacturing II**

3 units LR
- 36 hours lecture/72 hours laboratory per term
- Prerequisite: ENGTC-165 or equivalent

This course introduces practical and theoretical aspects of advanced machine tool processes, focusing on lathe and vertical milling machine operations. Topics include precision measuring and inspection practices, surface grinding, special work holding devices, and mechanical hardware. An introduction to Geometric Dimensioning and Tolerancing (GDT) and properties of materials associated with machinability, heat treating and hardness testing is provided. CSU
ENGTC-168 Introduction to Computer Numerical Control
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Advisory: ENGIN-120 or equivalent
• Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course introduces students to Computer Numerical Control (CNC) machining. Students will learn the techniques of developing and programming cutting tool paths and movements using three-dimensional CAD models and working drawings. Instruction will cover the use of Computer Integrated Manufacturing package (CIM) software and visualization of cutting operations. Topics will also include setup and operation of CNC equipment for manufacturing. CSU

ENGTC-175 Hydraulic and Pneumatic Systems and Components
3 units SC
• 18 hours lecture/108 hours laboratory per term
This course covers the practical and theoretical aspects of hydraulic and pneumatic systems. Topics include concepts, theory and common systems, components and devices. The laboratory emphasizes hands-on exercises in operation, maintenance and mechanical skills. CSU

ENGTC-176 Mechanical Systems and Components
3 units SC
• 18 hours lecture/108 hours laboratory per term
This course covers mechanical systems with an emphasis on mechanical drives, flexible belt drives, lubrication, bearings, vibration, and rotating equipment. Topics include operation, maintenance and repair of mechanical systems, and components used in a variety of industrial occupations. CSU

ENGTC-180 Applications for Industrial Robotics
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Prerequisite: ELTRN-107 or equivalent
• Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course introduces applied robotics and automation through the examination of principles of controller hardware, systems interface, and programming structure. Students will practice the skills needed to operate and control robotic devices. Students also develop autonomous systems and robotic operations within industrial applications that include research and development (R&D), advanced manufacturing, distribution logistics, and the biomedical and medical fields. CSU

ENGTC-185 Intermediate Computer Numerical Control (CNC)
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Advisory: ENGIN-120 or equivalent
• Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course continues the development and programming of CNC machines. Students will learn to program and operate CNC machines, and will be introduced to advanced programming techniques. CSU, UC (credit limits may apply to UC - see counselor)

ENGTC-190 Advanced Numerical Control (CNC) Programming
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Advisory: ENGIN-120 or equivalent
• Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course covers advanced programming techniques for CNC machines, including the use of computer-aided design (CAD) and computer-aided manufacturing (CAM) software. Students will learn to design and program complex parts and toolpaths for CNC machining. CSU

ENGTC-226 Computer Aided Drafting Design, Advanced Concepts - AutoCAD
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Advisory: ENGIN-120 or equivalent and ENGT-168 or equivalent
• Note: Same as ARCHI-226. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course covers the concepts and applications of constructing digital three-dimensional (3D) models and photo-realistic renderings for presentation using AutoCAD. Advanced techniques for surface, wireframe and solid modeling will be presented. Students will explore lighting, materials mapping, and rendering as they apply to architecture, engineering and industrial design. Other software may be presented. CSU, UC (credit limits may apply to UC - see counselor)
ENGLISH – ENGL

James Noel, Dean
English Division

Possible career opportunities
Career options that are available through the study of English include: advertising copy writer, columnist, editor, information specialist, interpreter, lawyer, lexicographer, legislative assistant, publisher, researcher, teacher, technical writer, and writing consultant. Some career options may require more than two years of college study.

Associate in arts degree
English

Students completing the program will be able to...
A. demonstrate knowledge of and familiarity with the methods of interpreting literature across genres.
B. assess, evaluate, and analyze ideas expressed in text or in spoken language.
C. create (write or present) coherent arguments that evidence clear prose and synthesize diverse bodies of knowledge.
D. conceptualize, write, workshop, present for feedback, revise and edit an original text.

The English major at Diablo Valley College (DVC) offers students the opportunity to prepare for a broad range of professions through the study of language, literature, and composition, as well as the opportunity to transfer to UC, CSU, and other four-year colleges and universities to earn a bachelor’s degree. The English major curriculum at DVC hones a student’s critical thinking, reasoning, and communication skills as it also prepares students pursuing careers in law, government, business, entertainment (film, television, and theater), advertising, writing, editing, and education.

DVC’s English major consists of 21 units of study. Students are required to take 6 units of core reading and composition courses, where they will develop their ability to craft clear prose through writing, reading, and research. In addition, students are required to complete 9 units of core genre and survey courses, and 6 units of specialized literature and writing courses, thereby developing individual interests and breadth of knowledge.

The DVC English major is intended for transfer. Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE). Option 1 (DVC General Education) is not generally advised.

To earn an associate in arts degree with a major in English, students must complete each course used to meet a major requirement with a “C” grade or higher, maintain an overall GPA of 2.5 or higher in the coursework required for the major and complete general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

major requirements: 

Group 1: Core reading and composition courses
complete at least 6 units from:
ENGL-122* First-Year College Writing and Reading .................3
ENGL-123* Critical Thinking: Writing about Literature ..........3
ENGL-126* Critical Thinking: Writing about Non-Fiction ........3

Group 2: Core genre
complete at least 3 units from:
ENGL-150 Introduction to Literature ..................................3
ENGL-151 The Short Story ..................................................3
ENGL-153 Contemporary Poetry .........................................3
ENGL-180 Drama and Performance as Literature .................3

Group 3: Core survey
complete at least 6 units from:
ENGL-154 Shakespeare and His World ................................3
ENGL-252* Survey of Early English Literature ....................3
ENGL-253* Survey of Late English Literature ......................3
ENGL-262* Survey of Early American Literature .................3
ENGL-263* Survey of Late American Literature .....................3
ENGL-272* Survey of Early World Literature ......................3
ENGL-273* Survey of Late World Literature .........................3

Group 4: electives - Specialized literature and writing
complete at least 6 units from:
ENGL-150 Introduction to Literature ..................................3
ENGL-151 The Short Story ..................................................3
ENGL-153 Contemporary Poetry .........................................3
ENGL-154 Shakespeare and His World ................................3
ENGL-252* Survey of Early English Literature ....................3
ENGL-253* Survey of Late English Literature ......................3
ENGL-262* Survey of Early American Literature .................3
ENGL-263* Survey of Late American Literature .....................3
ENGL-272* Survey of Early World Literature ......................3
ENGL-273* Survey of Late World Literature .........................3

Total minimum units for the major 21

*The above courses have specific prerequisites. See course description for details.
Associate in arts in English for transfer

Students completing the program will be able to...

A. demonstrate knowledge of and familiarity with the methods of interpreting literature across genres.

B. assess, evaluate, and analyze ideas expressed in text or in spoken language.

C. create (write or present) coherent arguments that evidence clear prose and synthesize diverse bodies of knowledge.

D. conceptualize, write, workshop, present for feedback, revise and edit an original text.

The English major at Diablo Valley College (DVC) offers students the opportunity to prepare for a broad range of professions through the study of language, literature, and composition, as well as the opportunity to transfer to UC, CSU, and other four-year colleges and universities to earn a bachelor’s degree. The English major curriculum at DVC hones a student’s critical thinking, reasoning, and communication skills as it also prepares students pursuing careers in law, government, business, entertainment (film, television, and theater), advertising, writing, editing, and education.

The associate in arts in English for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE); OR the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area I C requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSU GE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

major requirements:  

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<td>ENGL-123</td>
<td>Critical Thinking: Writing about Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-126</td>
<td>Critical Thinking: Writing about Non-Fiction</td>
<td>3</td>
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plus at least 6 units from:

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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ENGL-252</td>
<td>Survey of Early English Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-253</td>
<td>Survey of Late English Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-262</td>
<td>Survey of Early American Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-263</td>
<td>Survey of Late American Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-272</td>
<td>Survey of Early World Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-273</td>
<td>Survey of Late World Literature</td>
<td>3</td>
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plus at least 3 units from:

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<th>Course Title</th>
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<td>3</td>
</tr>
<tr>
<td>ENGL-150</td>
<td>Introduction to Literature</td>
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<td>ENGL-154</td>
<td>Shakespeare and His World</td>
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<td>ENGL-162</td>
<td>Language, Literature, and Culture</td>
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<td>ENGL-163</td>
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<td>ENGL-166</td>
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<td>ENGL-167</td>
<td>Latin American Literature</td>
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<td>ENGL-168</td>
<td>Multiethnic Literatures of the United States</td>
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<td>ENGL-170</td>
<td>World Mythology</td>
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<td>ENGL-175</td>
<td>Science Fiction and Fantasy Literature</td>
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<td>ENGL-222</td>
<td>Multi-Genre Creative Writing</td>
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<td>ENGL-223</td>
<td>Short Story Writing</td>
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<td>ENGL-224</td>
<td>Poetry Writing</td>
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<tr>
<td>ENGL-225</td>
<td>Creative Nonfiction Writing</td>
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plus at least 3 units from:

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>ENGL-140</td>
<td>Tutor Training</td>
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<td>ENGL-151</td>
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<td>ENGL-152</td>
<td>Film as Literature</td>
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<td>ENGL-153</td>
<td>Contemporary Poetry</td>
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<td>ENGL-164</td>
<td>Native American Literatures</td>
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<td>ENGL-172</td>
<td>The Bible as Literature</td>
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<tr>
<td>ENGL-173</td>
<td>Queer Literature Across Cultures</td>
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<td>ENGL-176</td>
<td>The Graphic Novel as Literature</td>
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<tr>
<td>ENGL-177</td>
<td>Children’s Literature</td>
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<tr>
<td>ENGL-178</td>
<td>Young Adult Literature</td>
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<tr>
<td>ENGL-180</td>
<td>Drama and Performance as Literature</td>
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<tr>
<td>ENGL-190</td>
<td>Multicultural Literature by American Women</td>
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</tr>
<tr>
<td>JRNAL-120</td>
<td>Introduction to Newswriting and Reporting</td>
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**total minimum units for the major** 18
Certificate of competency
Skills for college success

Students completing this program will be able to...
A. use reading strategies to read and comprehend college-level texts, analyzing them for the central idea and basic organizational structure.
B. analyze college-level readings and integrate the ideas meaningfully into formal writing assignments.
C. incorporate appropriate structure and organization in their own writing.
D. structure well-organized essays that have a focused thesis and developed and well-supported paragraphs with appropriate transitional elements, and which are relatively free of sentence-level errors.
E. incorporate college success techniques into their learning behaviors (e.g. utilizing campus resources, managing stress, developing note-taking and summarizing skills, reflecting on personal student-learning processes).
F. perform arithmetic operations with real numbers and fractions.
G. integrate vocabulary with mathematical notations and computations that relate to graphs.
H. develop study habits that promote success in mathemetics, such as the use of reading and metacognitive strategies to improve understanding and performance.
I. solve problems and think critically.

This noncredit program is a concise and focused foundation for English and math basics, along with the “studenting skills” necessary for college success. ENGL-091NC is designed for students to build successful academic habits and strengthen their reading and writing skills in preparation for taking transfer-level courses. The course gives students the opportunity to practice the reading, writing, and critical-thinking skills that will serve as a foundation in transfer-level composition and reading classes. Additionally, the course emphasizes strategies for academic success and familiarizes students with campus resources and support.

required courses:  units
ENGL-091NCEnglish Skills for Success - Noncredit...............0

and at least one of the following courses:
MATH-002NC Fundamental Math Skills for the
  Statistics Pathway - Noncredit .........................0
MATH-003NC Fundamental Math Skills for Business and
  STEM Pathways - Noncredit .............................0

  total minimum required units 0

ENGL-090 English in a Minute: Bridge to College English
2 units  SC
  • Non degree applicable
  • 36 hours lecture per term
This course is designed for students to build successful academic habits and strengthen their reading and writing skills in preparation for taking transfer-level courses. The course gives students the opportunity to practice the reading, writing, and critical-thinking skills that will serve as a foundation in transfer-level composition and reading classes. Additionally, the course emphasizes strategies for academic success and familiarizes students with campus resources and support.

ENGL-091NC English Skills for Success - Noncredit
0 units  SC
  • 24 hours lecture per term
This noncredit course is a concise and focused foundation for reading and writing in college, along with the “studenting skills” necessary for college success. This course is designed for students to build successful academic habits and strengthen their English skills in preparation for taking transfer-level courses. Strategies for academic success along with campus resources and support services will be covered.

ENGL-093 Sentence Structure and Punctuation
1 unit  P/NP
  • Non degree applicable
  • 9 hours lecture/27 hours laboratory per term
This course focuses specifically on developing skills in sentence structure and punctuation and is especially appropriate for students enrolled in other basic skills English courses.

ENGL-095 Studies in Reading and Writing
.5-5 units  SC
  • Non degree applicable
  • Variable hours
A supplemental course in reading and writing to provide a study of current concepts and problems in reading, writing, and related substantive areas. Specific topics will be announced in the schedule of classes.
ENGL-096  Introduction to College Reading and Study Skills
3 units  SC
• Non degree applicable
• 54 hours lecture/18 hours laboratory per term
• Note: ESL students are strongly encouraged to follow the ESL assessment process. ESL-096A is recommended for ESL students.

This course introduces students to academic culture and the common practices of academic reading, including reading strategies, annotation, summary, quoting, and response. Students will practice identifying themes and relationships between key ideas and distinguishing between main points and supporting details. A primary aim is to increase students’ reading fluency and to develop their ability to comprehend, interpret, and write about what they read. Students will also build their vocabularies and become familiar with study skills and campus resources that foster academic success.

ENGL-097  Introduction to College Reading and Writing
5 units  SC
• Non degree applicable
• 90 hours lecture per term

This course provides an integrated approach to reading and writing, preparing students for college-level work and transfer-level English. Students will be introduced to academic culture and to the practices associated with both academic reading and writing. The course presents a variety of methods for interacting with, comprehending, and responding to texts, which serve as a foundation for the course. The course also emphasizes critical thinking, the development of writing skills, and the writing process. Vocabulary development, study skills and campus resources are also covered.

ENGL-098  Introduction to College Writing
3 units  SC
• Non degree applicable
• 54 hours lecture/18 hours laboratory per term
• Note: ESL students are strongly encouraged to follow the ESL assessment process. ESL-098A is recommended for ESL students.

This course introduces students to academic culture and the common practices of academic writing, including the writing process, essay structure, organization, and idea and paragraph development. Students will compose thesis-driven, coherent essays for an academic audience. A variety of college-level texts serve as the foundation for class discussion and student writing. Students will also study grammar in the context of their own writing.

ENGL-099  English Grammar and Usage
3 units  SC
• Non degree applicable
• 54 hours lecture per term

This course is designed for native speakers wishing to better understand the rules of written academic English. The course offers instruction on fundamental rules of grammar (including mechanics, syntax and usage), especially those rules most challenging to native speakers. The course also explores connections between grammar, meaning, and style. Students will practice not only identifying and correcting grammar related errors in the context of their own writing, but also making the stylistic choices that best express their ideas and the relationships between them.

ENGL-116  College Reading Development
3 units  SC
• 54 hours lecture per term
• Advisory: ENGL-096 or reading/writing assessment process or equivalent
• Note: Only one of ENGL-116, 117, 118 or ESL-117A may be applied to the units required for the associate degree.

This course presents strategies for reading college-level materials. Students will practice methods of interacting with what they read in order to increase appreciation and comprehension. Topics include text analysis, flexible approaches to reading, vocabulary development, and study skills.

ENGL-117  Integrated College Reading and Writing Development
5 units  SC
• 90 hours lecture per term
• Advisory: ENGL-096 and ENGL-098 or equivalent
• Note: This course is equivalent to the completion of ENGL-116 and ENGL-118 or ESL-117A. Only one of ENGL-116, 117, 118 or ESL-117A may be applied to the units required for the associate degree.

This course provides an integrated approach to reading and writing for those students who have been assessed into ENGL-117 or both ENGL-116 and 118. It provides the necessary preparation for ENGL-122, transfer-level English. Students will prepare for college-level work; practice critical reading, writing, and thinking skills; and improve their vocabulary and study skills. Students will actively engage with their peers, read and interact with a variety of texts, and complete both formal and informal writing assignments connected to these readings. The central focus throughout the course will be on the ways reading and writing inform each other.
ENGL-118 College Writing Development  
3 units SC  
- 54 hours lecture per term  
- Advisory: ENGL-098 or reading/writing assessment process or equivalent  
- Note: Only one of ENGL-116, 117, 118 or ESL-117A may be applied to the units required for the associate degree.

This course is designed to help students express their ideas in college-level expository essays. Through continual practice of the writing process, students will improve their fluency and ease developing ideas for composing, organizing, and revising essays. In addition, students will analyze a variety of texts, using them as a stimulus for class discussion and as models for their own writing. This course also covers grammar in the context of students’ own writing.

ENGL-120 First-Year College Writing and Reading Support  
2 units SC  
- 36 hours lecture per term  
- Co-requisite: ENGL-122 or equivalent

English 120 is a support course for students who place into English 122 with the requirement or recommendation of additional support. The course offers students opportunities to practice the college-level reading, writing, research, and critical-thinking skills introduced in English 122. Additionally, the course will emphasize study skills, reflection, and other practices that promote success in both English 122 and other college classes.

ENGL-120A First-Year College English Support for Multilingual Students  
2 units SC  
- Non-degree applicable  
- 36 hours lecture per term  
- Co-requisite: ENGL-122A or equivalent

This course is designed for multilingual students who do not speak English as their primary language. The course is designed to increase students’ awareness of both American academic norms and the campus resources that foster student success. The course also gives students practice observing their own and others’ writing, strengthening their linguistic monitors, and using editing strategies to develop accurate, meaningful, and appropriate usage of linguistic forms in written expression. Reading strategies and grammar concepts specific to the needs of advanced multilingual students will also be addressed.

ENGL-121 Year-Long First-Year College Writing and Reading, Part I  
3 units LR  
- 54 hours lecture per term  
- Prerequisite: Placement into ENGL-122; or ENGL-122L; or ENGL-117; or ENGL-117A; or ENGL-116 and 118; or assessment process. Or Equivalent  
- Note: Successful completion of both courses is equivalent to taking and passing any of the following: ENGL-122, ENGL-122L, ENGL-122A, or ENGL-122AL. The successful completion of both ENGL-121 and ENGL-122X is required to meet the transfer-level English requirements satisfied by ENGL-122, ENGL-122L, ENGL-122A, or ENGL-122AL. Students who do not successfully complete both ENGL-121 and ENGL-122X will not get credit for transfer-level English.

ENGL-121 is the first part of a two-course series (followed by ENGL-122X) that covers the content of ENGL-122L (First-Year College Writing and Reading with Additional Support). The year-long sequence is designed for students who prefer to have more time to practice and master the reading and writing skills and academic habits required for success in First-Year College Composition and Reading. The first part of the sequence, ENGL-121, focuses on the practice of reading and writing at the college level, while also offering support, including effective reading, writing, and critical-thinking strategies. The course also encourages students to apply disciplined thought to language in order to comprehend and analyze college-level readings and to compose college-level essays that are coherent, detailed, and free of serious error. In their essays, students will use a variety of types of support, including primary and secondary research, and will employ varied rhetorical strategies used by accomplished writers. Students must pass ENGL-121 in order to move on to the second part of the sequence, ENGL-122X. ENGL-121 + ENGL-122X = C-ID ENGL 100. CSU

ENGL-122 First-Year College Writing and Reading  
3 units LR  
- IGETC: 1A; CSU GE: A2; DVC GE: IA  
- 54 hours lecture per term  
- Prerequisite: Placement into ENGL-122; or ENGL-117; or ESL-117A; or ENGL-116 and 118; or ENGL-120 (may be taken concurrently with ENGL-122); or assessment process. Or Equiv.

This course focuses on the reading and writing process, including strategies for analyzing college-level readings and composing college-level essays that are coherent, developed, free of serious error, as well as employ various rhetorical strategies and integrate outside sources. C-ID ENGL 100, CSU, UC (credit limits may apply to UC - see counselor)
**ENGL-122A  First-Year College English for Multilingual Students**

3 units LR
- IGETC: 1A; CSU GE: A2; DVC GE: IA
- 54 hours lecture per term
- Prerequisite: Placement into ENGL-122A; or ENGL-117; or ESL-117A; or ENGL-116 and 118; or ENGL-120A (may be taken concurrently with ENGL-122A); or assessment process or equivalent.

This course is designed for multilingual students who do not speak English as their primary language. This course engages multilingual students regularly in the writing and reading process with a substantial amount of college-level reading. Multilingual students will apply disciplined thought to language in order to comprehend and analyze college-level readings and to compose college-level essays that are coherent, detailed, and free of serious error. Multilingual students will use a variety of types of support including primary and secondary research. Multilingual students will employ varied rhetorical strategies used by accomplished writers. C-ID ENGL 100, CSU, UC (credit limits may apply to UC - see counselor)

**ENGL-122AM  First-Year College English with Support for Multilingual Students**

4 units LR
- IGETC: 1A; CSU GE: A2; DVC GE: IA
- 72 hours lecture per term
- Prerequisite: Placement into ENGL-122A; or placement into ENGL-122; or ESL-117A; or ENGL-117; or ENGL-116 and 118; or assessment process or equivalent.

This course is designed for multilingual students who do not speak English as their primary language. The course is for those who are ready for transfer-level reading, writing, and speaking. The course focuses on the analysis of college-level readings and composition of college-level essays that are coherent, detailed, and free from serious error. Rhetorical strategies, research, strengthening linguistic monitors, American academic norms, and the reading and grammar concepts specific to the needs of multilingual students at this level are emphasized. C-ID ENGL 100, CSU, UC (credit limits may apply to UC and CSU - see counselor)

**ENGL-122AL  First-Year College English Intensive For Multilingual Students**

5 units LR
- 90 hours lecture per term
- Prerequisite: Placement into ENGL-122AL; or placement into ENGL-122; or ESL-117A; or ENGL-117; or ENGL-116 and 118; or assessment process or equivalent.

This course is designed for multilingual students who do not speak English as their primary language. The course is for those who are ready for transfer-level reading, writing, and speaking. The course focuses on the analysis of college-level readings and composition of college-level essays that are coherent, detailed, and free from serious error. Rhetorical strategies, research, strengthening linguistic monitors, and the reading and grammar concepts specific to the needs of multilingual students at this level are emphasized. This course also covers American academic norms and resources that foster student success. C-ID ENGL 100, CSU, UC (credit limits may apply to UC and CSU - see counselor)

**ENGL-122L  First-Year College Writing and Reading with Additional Support**

5 units LR
- IGETC: 1A; CSU GE: A2; DVC GE: IA
- 90 hours lecture per term
- Prerequisite: Placement into ENGL-122; or ENGL-122L; or ENGL-117; or ENGL-117A; or ENGL-116 and 118; or assessment process or equivalent.

This course is designed for students who place into ENGL-122 with the requirement or recommendation of additional support. The course focuses on the practice of reading and writing at the college-level, while also offering support in effective reading, writing, and critical-thinking strategies, as well as other academic best practices. This course also encourages students to apply disciplined thought to language in order to comprehend and analyze college-level readings and to compose college-level essays that are coherent, detailed, and free of serious error. In their essays, students will use a variety of types of support including primary and secondary research and employ varied rhetorical strategies used by accomplished writers. C-ID ENGL 100, CSU, UC (credit limits may apply to UC and CSU - see counselor)
ENGL-122M First-Year College Writing and Reading with Support
4 units LR
• IGETC: 1A; CSU GE: A2; DVC GE: 1A
• 72 hours lecture per term
• Prerequisite: Placement into ENGL-122; or ENGL-122M; or ENGL-117; or ENGL-117A; or ENGL-116 and 118; or assessment process Or equivalent
This course is designed for students who place into ENGL-122 with the requirement or recommendation of support. The course focuses on the practice of reading and writing at the college level, while also offering support in effective reading, writing, and critical-thinking strategies. The course also encourages students to apply disciplined thought to language in order to comprehend and analyze college-level readings and to compose college-level essays that are coherent, detailed, and free of serious error. In their essays, students will use a variety of types of support including primary and secondary research and employ varied rhetorical strategies used by accomplished writers. C-ID ENGL 100, CSU, UC (credit limits may apply to UC and CSU - see counselor)

ENGL-122X Year-Long First-Year College Writing and Reading, Part II
3 units SC
• IGETC: 1A; CSU GE: A2; DVC GE: 1A
• 54 hours lecture per term
• Prerequisite: ENGL-121 or equivalent
• Note: Successful completion of both ENGL-121 and ENGL-122X is required to meet the transfer-level English requirements satisfied by ENGL-122, ENGL-122L, ENGL-122A, or ENGL-122AL. The successful completion of both ENGL-121 and ENGL-122X is required to meet the transfer-level English requirements satisfied by ENGL-122, ENGL-122L, ENGL-122A, or ENGL-122AL. Students who do not successfully complete both ENGL-121 and ENGL-122X will not get credit for transfer-level English.
ENGL-121X is the second part of a two-course series that covers the content of ENGL-122L (First-Year College Writing and Reading with Additional Support). Students must have successfully completed ENGL-121 in order to be eligible for ENGL-122X. ENGL-122X builds on the skills of ENGL-121, continuing to focus on the practice of reading and writing at the college level, the habit of applying disciplined thought to language in order to comprehend and analyze college-level readings, and the composition of college-level essays that are coherent, detailed, and free of serious error. In their essays, students will use a variety of types of support, including primary and secondary research, and will employ varied rhetorical strategies used by accomplished writers. ENGL-122X continues to offer support, including effective reading, writing, and critical-thinking strategies. ENGL-121 + ENGL-122X = C-ID ENGL 100, CSU, UC (credit limits may apply to UC - see counselor)

ENGL-123 Critical Thinking: Writing about Literature
3 units LR
• IGETC: 1B; CSU GE: A3; DVC GE: IB
• 54 hours lecture per term
• Prerequisite: ENGL-122 or equivalent
This course in advanced composition focuses on the analysis of literary texts, the development of logical reasoning and the improvement of argumentative writing skills. It is designed to develop critical thinking, reading, and writing skills beyond the level expected in ENGL-122 through the study of various critical approaches and diverse literary genres. C-ID ENGL 120, CSU, UC

ENGL-124 The Nature of Language: An Introduction to Linguistics
3 units SC
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course examines format, psychological, and socio-cultural properties of language. This examination will focus on the analysis, description, and functions of language in relation to culture, sociability, and personality. CSU, UC

ENGL-126 Critical Thinking: Writing about Non-Fiction
3 units LR
• IGETC: 1B; CSU GE: A3; DVC GE: IB
• 54 hours lecture per term
• Prerequisite: ENGL-122 or equivalent
This course focuses on the development of logical reasoning, analysis of expository and persuasive texts, and analytical and argumentative writing skills. It is designed to develop critical thinking, reading, and writing skills beyond the level expected in ENGL-122 through the analysis, evaluation and synthesis of arguments in diverse expository texts. C-ID ENGL 105, CSU, UC

ENGL-140 Tutor Training
3 units SC
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course introduces students to the basic principles and methods of tutoring for the English discipline. Students will receive instruction on how to work with tutees on reading, writing, and study skills, with the intent of helping these tutees become independent learners. CSU
ENGL-150  Introduction to Literature  
3 units  SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Advisory: ENGL-122 or equivalent  
This course offers a survey of the literary genres by introducing students to the academic study of literature through representative works reflecting a variety of cultures and experiences. Critical approaches to analyze how historical, social, economic, psychological, philosophical, and aesthetic lenses shape the genres are emphasized. The distinguishing elements of different literary genres and methods used to analyze literature of any genre will also be covered. CSU, UC  

ENGL-151  The Short Story  
3 units  SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Advisory: ENGL-122 or equivalent  
This course introduces the study of the short story through representative works reflecting a variety of cultures and experiences. This course covers the distinguishing elements of the short story and the art and practice of literary analysis, and the historical, philosophical, social, political, and/or aesthetic contexts relevant to selected texts. CSU, UC  

ENGL-152  Film as Literature  
3 units  SC  
- IGETC: 3B; CSU GE: C1, C2; DVC GE: III  
- 54 hours lecture per term  
- Advisory: ENGL-122 or equivalent  
This survey course covers the history, nature, and structure of the short narrative, documentary, and experimental film. The course compares and contrasts literature to film, noting how each medium deals with theme and structure. Many films from the DVC collection, including some showing the lives and stories of members of American subcultures and cultures around the world, along with new releases from major short-films distributors, will be viewed, discussed and written about. CSU, UC  

ENGL-153  Contemporary Poetry  
3 units  SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.  
This course explores contemporary poetry from a variety of cultural and poetic traditions. Through reading, analysis, and discussion, the course connects contemporary poetry to its historical, social, cultural, and aesthetic contexts while exploring the use of poetic forms and techniques. CSU, UC  

ENGL-154  Shakespeare and His World  
3 units  SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Advisory: ENGL-122 or equivalent  
This course will focus on the language, structure, characterization, and philosophy of a representative selection of Shakespeare’s plays and sonnets within the framework of the historical, social, and artistic forces of the Elizabethan and Jacobean ages. The course will also examine Shakespeare’s work not only as literature, but also as performance art in various media. Students will also practice the skills needed for analyzing and writing about literature. CSU, UC  

ENGL-155  Topics in English  
.3-4 units  SC  
- Variable hours  
A supplemental course in English to provide a study of current concepts and problems in English and related substantive areas. Specific topics will be announced in the schedule of classes. CSU  

ENGL-156  Language, Literature, and Culture  
3 units  SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.  
This course examines language, literature and other aspects of culture using texts that reflect a broad variety of cultural perspectives. These texts will serve as a springboard to discuss and analyze cultural traditions and trends and their dynamic nature, which shift in response to various factors such as time or geography. The course will also explore the challenges of cross-cultural communication. Students will be introduced to the distinguishing elements of different literary genres and cultures as well as methods used to analyze literature of any genre. CSU, UC  

ENGL-162  Asian American Literature  
3 units  SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Advisory: ENGL-122 or equivalent  
This course presents a variety of literary works that illuminate Asian American experiences, culture identities, and languages. Readings are chosen for their literary, historical, cultural, philosophical, and psychological importance within the context of Asian American communities. The course focuses on the relation between texts and broader historical, political, aesthetic, and cultural themes and conditions. This course also exposes students to distinguishing elements of selected literary forms and to the art and practice of analyzing and writing about literature. CSU, UC
ENGL-164 Native American Literatures
3 units SC
- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Advisory: ENGL-122 or equivalent

This course presents the literary traditions and cultures of various Native American nations through the study of oral and written literary works (such as songs, myths, folktales, oratories, autobiographies, films, plays, poetry and prose). Through reading, analysis and discussion, the course will connect Native American literatures to historical, social, cultural, and aesthetic contexts and examine issues central to Native peoples, such as cultural identity, language, and self-determination. CSU, UC

ENGL-166 African American Literature
3 units SC
- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Advisory: ENGL-122 or equivalent

This course presents a variety of literary works that illuminate African American experiences, history and culture. Readings are chosen for their literary, historical, cultural, philosophical, and psychological importance within the context of African American communities. The course focuses on the relation between texts and broader historical, political, aesthetic, and cultural themes and conditions. This course also exposes students to distinguishing elements of selected literary forms and to the art and practice of analyzing and writing about literature. CSU, UC

ENGL-167 Latin American Literature
3 units SC
- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Advisory: ENGL-122 or equivalent

The course presents a variety of literary works that illuminate Latin American experiences, cultural identities, and history. The course focuses on the relation between texts and broader historical, political, aesthetic, and cultural themes and conditions of Latin America. This course also exposes students to distinguishing elements of selected literary forms and to the art and practice of analyzing and writing about literature. CSU, UC

ENGL-168 Multietnic Literatures of the United States
3 units SC
- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Advisory: ENGL-122 or equivalent

This course examines literary works of authors from under-represented groups including African American, Asian American, Latinx American, and Native American. Selected contributions will be studied from novels, plays, short stories, nonfiction, and poetry to explore the influences that shape the literatures of the United States. Through reading, analysis, and discussion, the course will connect these literatures to historical, social, cultural, economic, and aesthetic context and examine issues central to underrepresented peoples, such as cultural identity, language, and self-determination. The distinguishing elements of different literary genres and methods used to analyze literature of any genre will also be covered. CSU, UC

ENGL-170 World Mythology
3 units SC
- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Advisory: ENGL-122 or equivalent

This course presents a variety of world myths that are meant to illuminate the human experience. The course examines the literary elements of mythology, including creation stories, archetypes, the hero’s journey, and more. Texts may represent myths from the Middle East, Asia, Europe, Africa, indigenous peoples of the Americas, among others, and expose students to relevant historical, philosophical, social, political, and aesthetic contexts. The course also exposes students to distinguishing elements of selected mythic forms, and to the art and practice of analyzing and writing about literature. CSU, UC

ENGL-172 The Bible As Literature
3 units SC
- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Advisory: ENGL-122 or equivalent

This course presents the Hebrew Scriptures (Old Testament) and the New Testament as literature, including the historical, intellectual, and spiritual environments in which the texts were composed. Major themes and characters are given close attention, as is the development of the Biblical canon. Literary genres such as poetry, essays, letters, and epics in scripture are compared with those genres found in other world literatures. Distinguishing elements of literary forms and methods to analyze literature of any genre will also be covered. CSU, UC
ENGL-173  Queer Literature Across Cultures  
3 units SC  
• IGETC: 3B; CSU GE: C2; DVC GE: III  
• 54 hours lecture per term  
• Advisory: ENGL-122 or equivalent  
This course is a survey of queer literature in a variety of literary genres. The wide-range of Lesbian, Gay, Bisexual, Transgender, Queer (LGBTQ) experience is examined from various cultural points of reference and literary devices that characterize this genre. Students will read selections from a variety of cultures. Additionally, students will analyze the ways historical, social, economic, and psychological forces shape LGBTQ cultures and the literatures they produce. The course also exposes students to distinguishing elements of literary forms and to analyzing literature of any genre. CSU, UC

ENGL-175  Science Fiction and Fantasy Literature  
3 units SC  
• IGETC: 3B; CSU GE: C2; DVC GE: III  
• 54 hours lecture per term  
• Advisory: ENGL-122 or equivalent  
This course offers a survey of speculative fiction as a literary form. Covering a range of literary genres and a variety of texts from diverse cultures, the course considers major authors, developments in the genre over time and important themes. This course uses critical approaches to analyze the ways historical, social, economic, psychological, philosophical, and aesthetic forces shape science fiction and fantasy. The distinguishing elements of different literary genres and methods used to analyze literature of any genre will also be covered. CSU, UC

ENGL-176  The Graphic Novel as Literature  
3 units SC  
• IGETC: 3B; CSU GE: C2; DVC GE: III  
• 54 hours lecture per term  
• Advisory: College-level reading and writing are expected.  
This course is a survey of the graphic literature as literary and artistic form. The course will examine the genre’s variety of forms and explore the genre from various cultural points of reference. The course will also review the literary and artistic techniques used in composing graphic literature, the origins of the form, and its significance in contemporary literature and culture. Additionally, this course will use formal analysis and critical approaches to analyze the ways historical, social, economic, psychological, and aesthetic forces shape graphic literature. The distinguishing elements of different literary genres and methods used to analyze literature of any genre will also be covered. CSU, UC

ENGL-177  Children’s Literature  
3 units SC  
• IGETC: 3B; CSU GE: C2; DVC GE: III  
• 54 hours lecture per term  
• Advisory: College-level reading and writing are expected.  
This course is a survey of children’s literature of different literary genres. It places children’s literature in an historical context, tracing its development from earliest oral origins to the present. The course examines children’s literature from various time periods and geographical and cultural points of reference. Additionally, this course will analyze the ways historical, social, psychological, philosophical, and aesthetic forces shape children’s literature. The distinguishing elements of different literary genres and methods used to analyze literature of any genre will also be covered. CSU, UC

ENGL-178  Young Adult Literature  
3 units SC  
• IGETC: 3B; CSU GE: C2; DVC GE: III  
• 54 hours lecture per term  
• Advisory: College-level reading and writing are expected.  
This course is a survey of young adult literature of different literary genres and from different cultures. The course examines young adult literature from various time periods and geographical and cultural points of reference. Additionally, this course analyzes the ways historical, social, psychological, philosophical, and aesthetic forces shape young adult literature. The distinguishing elements of different literary genres and methods used to analyze literature of any genre will also be covered. CSU, UC

ENGL-180  Drama and Performance as Literature  
3 units SC  
• IGETC: 3B; CSU GE: C2; DVC GE: III  
• 54 hours lecture per term  
• Advisory: ENGL-122 or equivalent  
• Note: Attendance at one or more live performances is required.  
This course presents reading, critical study, and discussion of dramatic literature as a literary form by authors from diverse time periods and cultures. Dramatic structure, elements of performance (dramatic expression, stage direction, rhythm, etc.), and literary devices that characterize this literary genre are emphasized. Students will analyze the ways dramatic literature reflects and captures historical, social, cultural, and economic forces, and can serve as a unique literary artifact. CSU, UC
ENGL-190 Multicultural Literature by American Women
3 units  SC
• IGETC: 3B; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Advisory: ENGL-122 or equivalent
This course presents literature by and about women from at least three of the following cultural, ethnic, or racial groups: African American, Native American, European American, Asian American, and Latinx American. The course will analyze women's prescribed role in society, their literary voices in resistance to those roles, as well as the language, ideology, content, and form of the literature. Through reading, analysis, and discussion, the course will connect these literatures to historical, social, cultural, and aesthetic contexts and examine issues central to women’s lives. The distinguishing elements of different literary genres and methods used to analyze literature of any genre will also be covered. CSU, UC

ENGL-222 Multi-Genre Creative Writing
3 units  SC
• CSU GE: C2
• 54 hours lecture per term
• Prerequisite: ENGL-122 or equivalent
In this course, students will compose different pieces representing a variety of literary genres. Students will read in different genres in order to learn various writing techniques, styles, and conventions. The readings represent the diverse perspectives of African American, Native American, European American, Asian American, and Latinx American writers. Students then employ the identified literary techniques and craft elements to plan and compose their own creative works. Students will workshop their pieces in class, focusing on the revision and editing processes. C-ID ENGL 200, CSU, UC

ENGL-223 Short Story Writing
3 units  SC
• CSU GE: C2
• 54 hours lecture per term
• Prerequisite: ENGL-122 or equivalent
This course provides an in-depth study of the elements of the short story. The elements of the short story form will be examined through reading and writing; students will write to prompts and complete original full-length short stories. Students’ short stories will be critiqued by both the full class and the instructor in both one-on-one and workshop settings. CSU, UC

ENGL-224 Poetry Writing
3 units  SC
• CSU GE: C2
• 54 hours lecture per term
• Prerequisite: ENGL-122 or equivalent
This course is an in-depth study of the elements of poetry. Students write original poems for discussion and criticism by both class and instructor. CSU, UC

ENGL-225 Creative Nonfiction Writing
3 units  SC
• CSU GE: C2
• 54 hours lecture per term
• Prerequisite: ENGL-122 or equivalent
In this course, students analyze classic and contemporary narrative nonfiction writing, to identify the aspects and strategies of successful creative nonfiction works. The readings represent the diverse perspectives of African American, Native American, European American, Asian American, and Latinx American writers. Students then employ the craft elements to plan and compose creative nonfiction essays with an emphasis on the strategies necessary to develop an authentic narrative voice. Students will workshop their pieces in class, focusing on the revision and editing processes. CSU, UC

ENGL-252 Survey of Early English Literature
3 units  SC
• IGETC: 3B; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Prerequisite: ENGL-122 or equivalent
This course presents Early English Literature from the time period of roughly 750-1790, a thousand years of poetry and prose that reflects the diverse history of the English-speaking peoples who populated the British Isles (England, Ireland, Scotland and Wales). The course examines the evolution of style and language in selected texts and the influence of cultural heritage on ideas, institutions, literature and other art forms. The course also exposes students to distinguishing elements of selected literary forms and to the art and practice of analyzing and writing about literature. C-ID ENGL 160, CSU, UC

ENGL-253 Survey of Late English Literature
3 units  SC
• IGETC: 3B; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Prerequisite: ENGL-122 or equivalent
This course provides a survey of late English literature (nineteenth and twentieth centuries) through representative works such as poems, fiction, drama and non-fiction from major movements of this period. The course focuses on the development of literary forms and the relation between texts and broader historical, political, aesthetic and cultural themes and conditions. The course also exposes students to distinguishing elements of selected literary forms and to the art and practice of analyzing and writing about literature. C-ID ENGL 165, CSU, UC
ENGL-262  Survey of Early American Literature  
3 units  SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Prerequisite: ENGL-122 or equivalent  

This course provides a survey of early American literature from before first contact through the Civil War, a body of work comprising diverse cultures, traditions, and genres. The course focuses on the development of literary forms and the relation between texts and the broader historical, political, aesthetic and cultural themes and conditions. The course also exposes students to distinguishing elements of selected literary forms and to the art and practice of analyzing and writing about literature. C-ID ENGL 130, CSU, UC

ENGL-263  Survey of Late American Literature  
3 units  SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Prerequisite: ENGL-122 or equivalent  

This course provides a survey of late American literature from the Civil War through the present day, a body of work comprising diverse traditions, genres, and cultures. The course focuses on the development of late American literary forms and the relation between texts and broader historical, political, aesthetic and cultural themes and conditions. The course also exposes students to distinguishing elements of selected literary forms and to the art and practice of analyzing and writing about literature. C-ID ENGL 135, CSU, UC

ENGL-272  Survey of Early World Literature  
3 units  SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Prerequisite: ENGL-122 or equivalent  

This course provides a survey of early world literature from antiquity to mid-late seventeenth century from cultures around the world, including significant literary movements of the timeframe: ancient times, the middle ages, and both the English and Italian Renaissance. The course focuses on the development of early world literary forms and the relation between texts and broader historical, political, aesthetic and cultural themes and conditions. The course also exposes students to distinguishing elements of selected literary forms and to the art and practice of analyzing and writing about literature. C-ID ENGL 140, CSU, UC

ENGL-273  Survey of Late World Literature  
3 units  SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Prerequisite: ENGL-122 or equivalent  

This course provides a survey of late world literature from the seventeenth century to modern times from cultures around the world, including significant literary movements of this timeframe: romanticism, realism, modernism, post-colonial, and contemporary literature. The course focuses on the development of late world literary forms and the relation between texts and broader historical, political, aesthetic and cultural themes and conditions. The course also exposes students to distinguishing elements of selected literary forms and to the art and practice of analyzing and writing about literature. C-ID ENGL 145, CSU, UC

ENGL-298  Independent Study  
.5-3 units  SC  
- Variable hours  
- Note: Submission of acceptable educational contract to department and Instruction Office is required.  

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU
The English as a Second Language (ESL) program offers a broad range of courses in reading, writing, grammar, and oral skills communication that are organized into increasing levels of skill development. The low-intermediate level consists of a single course that combines reading, writing, and speaking skills development. The intermediate, high-intermediate, and advanced levels consist of separate courses in reading, writing, grammar, and oral skills. For students at the high-advanced ESL level, an integrated reading and writing course, English 117A, is offered. Completion of English 117A provides English language learners with an entry point to college-level coursework.

Students may begin at any ESL level and complete courses individually or in sequence. The courses are organized into certificates of accomplishment in ESL:

- ESL conversation
- Intermediate ESL reading and writing
- Advanced ESL reading and writing
- Transition to college-level English

To earn a certificate, students must complete each of the required courses with a grade of “C” grade or higher.

### Certificate of accomplishment

**ESL conversation**

Students completing the program will be able to...

A. demonstrate confidence and skills in English pronunciation.
B. demonstrate confidence and skills in listening to and understanding English.
C. demonstrate skills in English conversation, including a mock job interview.

<table>
<thead>
<tr>
<th>required courses</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESL-075</td>
<td>2</td>
</tr>
<tr>
<td>ESL-085</td>
<td>2</td>
</tr>
<tr>
<td>ESL-095</td>
<td>2</td>
</tr>
</tbody>
</table>

**total minimum required units** 6

### Certificate of accomplishment

**Intermediate ESL reading and writing**

Students completing the program will be able to...

A. demonstrate college-essay writing skills.
B. demonstrate college-level critical reading skills.
C. demonstrate critical thinking skills and prepare them for more advanced college-level courses.

<table>
<thead>
<tr>
<th>required courses</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESL-076</td>
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<tr>
<td>ESL-078</td>
<td>3</td>
</tr>
<tr>
<td>ESL-086</td>
<td>3</td>
</tr>
<tr>
<td>ESL-088</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units** 12

### Certificate of accomplishment

**Advanced ESL reading and writing**

Students completing the program will be able to...

A. demonstrate advanced-level essay writing skills.
B. demonstrate advanced-level critical reading skills.
C. demonstrate advanced-level critical thinking skills.
D. demonstrate language control and sentence clarity in writing by focusing on the grammar in the context of their writing.
E. demonstrate improved conversation skills, as well as career/major exploration.

<table>
<thead>
<tr>
<th>required courses</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARER-130</td>
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</tr>
<tr>
<td>ESL-090</td>
<td>3</td>
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</tbody>
</table>

**plus at least 5 units from:**

| ESL-096A       | 3     |
| ESL-098A       | 3     |
| ESL-097A       | 5     |

**total minimum required units** 12
## Certificate of accomplishment
### ESL: Transition to college-level English

Students completing the program will be able to...

- A. transition into college and transfer-level English and Counseling courses.
- B. improve college-level essay writing skills.
- C. improve college-level critical reading skills.
- D. improve college-level critical thinking skills.
- E. improve language control and sentence clarity in writing by focusing on grammar in the context of their writing.
- F. improve success, including possible transfer plans.

### required courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL-122</td>
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</tr>
<tr>
<td>or ENGL-122A</td>
<td>3</td>
</tr>
<tr>
<td>COUNS-120</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-116</td>
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<tr>
<td>ENGL-117</td>
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</tr>
<tr>
<td>ENGL-118</td>
<td>3</td>
</tr>
<tr>
<td>ESL-096A</td>
<td>3</td>
</tr>
<tr>
<td>ESL-098A</td>
<td>3</td>
</tr>
<tr>
<td>ESL-117A</td>
<td>3</td>
</tr>
<tr>
<td>ESL-090</td>
<td>3</td>
</tr>
<tr>
<td>ESL-095</td>
<td>2</td>
</tr>
</tbody>
</table>

### Noncredit - certificate of completion
### Beginning ESL success

Students completing this program will be able to...

- A. demonstrate academic paragraph and sentence-level skills.
- B. demonstrate foundational reading and vocabulary skills.
- C. demonstrate critical-thinking skills and preparation for the rest of the ESL program.
- D. demonstrate foundational listening and speaking skills.

The Beginning ESL Success noncredit certificate is for non-native English speakers at the beginning to high-beginning level. This certificate demonstrates completion and acquisition of foundational English skills needed for college success and career and personal growth. This certificate also prepares students for the rest of the ESL program.

### Noncredit - certificate of competency
### Intermediate ESL success

Students completing this program will be able to...

- A. demonstrate ability to self-edit sentences and paragraphs.
- B. demonstrate academic paragraph and short essays skills.
- C. demonstrate intermediate reading and vocabulary skills.
- D. demonstrate critical-thinking skills.
- E. demonstrate intermediate listening, and speaking skills.

The Intermediate ESL success certificate is for non-native English speakers at the intermediate level. This certificate demonstrates that students have acquired intermediate-level English skills needed for college success, career, personal growth, and more. This certificate also prepares students for higher-level classes within the ESL program.

### Noncredit - certificate of competency
### Intermediate ESL for career success

Students completing this program will be able to...

- A. demonstrate basic computer technology-related skills (e.g. computer applications, emails, files, etc.)
- B. demonstrate employment readiness skills (e.g. job searches, resumes, interviewing, etc)
- C. demonstrate critical-thinking skills.
- D. demonstrate foundational listening and speaking skills.

The Beginning ESL for career success certificate is for non-native English speakers at the beginning-to-intermediate level. This certificate demonstrates that students have acquired foundational English skills needed for career success, personal growth, and more. This certificate also prepares students for the rest of the ESL program.

### required courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESL-065NC Beginning Oral Communication Skills</td>
<td>0</td>
</tr>
<tr>
<td>ESL-067NC Beginning Integrated Academic Reading, Writing, and Study Skills</td>
<td>0</td>
</tr>
</tbody>
</table>

### total minimum required units

0
ESL-030NC Beginning English and Technology Skills - Noncredit
0 units SC
   • 36 hours lecture per term
This noncredit course is designed for English Language Learners at the high-beginning to low-intermediate level who want to improve their vocabulary, reading, writing, and oral communication related to current technology and who wish to improve their basic technology skills, especially those commonly needed in a classroom setting.

ESL-031NC Beginning English for Employment - Noncredit
0 units SC
   • 36 hours lecture per term
This noncredit course is designed for English Language Learners at the high-beginning to low-intermediate level to develop English skills for all steps of the employment search process in a variety of career fields. This course is designed to help students with their written and oral communication skills and to familiarize them with employment search strategies and application conventions and etiquette.

ESL-060 Beginning English Grammar for Multilingual Students
2 units SC
   • 36 hours lecture per term
This course is designed for multilingual students at the beginner level and provides grammar support for beginner ESL reading, writing, and oral skills courses. Students will practice basic grammar skills and editing strategies. The course emphasizes the fundamentals of English grammar and grammar terminology.

ESL-060NC Beginning English Grammar for Multilingual Students - Noncredit
0 units SC
   • 36 hours lecture per term
This noncredit course is designed for multilingual students at the beginner level and provides grammar support for beginner ESL reading, writing, and oral skills courses. Students will practice basic grammar skills and editing strategies. The course emphasizes the fundamentals of English grammar and grammar terminology.

ESL-065 Beginning Oral Communication Skills
2 units SC
   • 18 hours lecture/54 hours laboratory per term
This oral communication course focuses on the needs of multilingual students at the beginning to high-beginning levels. This course focuses on helping students to learn and understand essential language for academic and everyday communication. This course will also introduce students to essential English sounds and intonation patterns. Students will learn strategies for developing a self-awareness of strengths and challenges of communicating in English.

ESL-065NC Beginning Oral Communication Skills - Noncredit
0 units SC
   • 18 hours lecture/54 hours laboratory
This non-credit oral communication course focuses on the needs of multilingual students at the beginning to high-beginning levels. This course focuses on helping students to learn and understand essential language for academic and everyday communication. This course will also introduce students to essential English sounds and intonation patterns. Students will learn strategies for developing a self-awareness of strengths and challenges of communicating in English.

ESL-067 Beginning Integrated Academic Reading, Writing, and Study Skills
5 units SC
   • Non degree applicable
   • 90 hours lecture/18 hours laboratory per term
This course is designed for multilingual students at the beginning to high-beginning level. The course introduces the foundations of academic English reading skills to help students understand ideas of beginning to high-beginning adapted readings while expanding their vocabulary. Students will develop their vocabulary skills and will learn to identify parts of speech and use English-English dictionaries. Students will also learn the basics of academic writing, starting with sentence-level grammar--including the formation of simple and compound sentences--and moving to the composition of paragraphs. The course will also emphasize study skills, use of campus resources, and the norms of the American college classroom.

ESL-067NC Beginning Integrated Academic Reading, Writing, and Study Skills - Noncredit
0 units SC
   • Non degree applicable
   • 90 hours lecture/18 hours laboratory per term
This non-credit course is designed for multilingual students at the beginning to high-beginning level. The course introduces the foundations of academic English reading skills to help students understand ideas of beginning to high-beginning adapted readings while expanding their vocabulary. Students will develop their vocabulary skills and will learn to identify parts of speech and use English-English dictionaries. Students will also learn the basics of academic writing, starting with sentence-level grammar--including the formation of simple and compound sentences--and moving to the composition of paragraphs. The course will also emphasize study skills, use of campus resources, and the norms of the American college classroom.
ESL-070  Intermediate Grammar for Multilingual Students
3 units SC
- 54 hours lecture
- Advisory: ESL-067 or equivalent
This course is designed for multilingual students at the intermediate level and provides grammar support for intermediate ESL reading, writing, and oral skills courses. Students will practice basic grammar skills and editing strategies. The course emphasizes grammar in the context of students' own reading and writing tasks as well as a variety of texts.

ESL-070NC Intermediate Grammar for Multilingual Students-Noncredit
0 units SC
- 54 hours lecture per term
This noncredit course is designed for Multilingual students at the Intermediate level and provides grammar support for intermediate ESL reading, writing, and oral skills courses. Students will practice basic grammar skills and editing strategies. The course emphasizes grammar in the context of students' own reading and writing tasks as well as a variety of texts.

ESL-075  Intermediate Oral Communication Skills
2 units SC
- Non degree applicable
- 18 hours lecture/54 hours laboratory per term
- Advisory: ESL-067 or equivalent
This intermediate ESL course is designed for non-native speakers of English at the intermediate level. The course offers strategies for both understanding and being understood in real-life situations. Students will explore a range of topics through a variety of activities. Students may wish to take ESL-075 with the ESL reading and writing course (ESL-077) at the same level.

ESL-075NC Intermediate Oral Communication Skills-Noncredit
0 units SC
- 18 hours lecture/54 hours laboratory per term
This noncredit intermediate course complements the ESL reading and writing courses, ESL-076 and ESL-078 and is designed for non-native speakers of English at the intermediate level. The focus is on oral comprehension and increased fluency and accuracy in spoken English. The course will also present strategies for developing a self-awareness of strengths and challenges of communicating in English. Students will explore a range of topics through a variety of activities.

ESL-076  Intermediate Academic Reading Skills
3 units SC
- Non degree applicable
- 54 hours lecture/18 hours laboratory per term
- Advisory: ESL-067 or placement through the ESL assessment process or equivalent
This course focuses on the needs of ESL students at the intermediate level as they develop their academic reading skills. Students will practice strategies for reading, comprehending, and responding to academic texts at the intermediate level. The course will also present grammar, high-frequency vocabulary, study skills, campus resources, and the norms of American college.

ESL-077  Intermediate Integrated Reading, Writing, and Study Skills
5 units SC
- 90 hours lecture/18 hours laboratory
- Advisory: ESL-067 or placement through the ESL assessment process or equivalent
This course focuses on the needs of multilingual students at the intermediate level to help them develop reading, writing, and study skills needed in academic settings. The course introduces students to academic reading skills that enable them to grasp ideas, details, and themes of college texts. Students will develop their command of English vocabulary by using context clues, analyzing word parts, and using acquired vocabulary in writing. Following the steps of the writing process, students will compose paragraphs and short essays in response to ideas from readings and topics introduced in class. Language instruction focuses on sentence-level grammar topics essential to students' writing, individual proofreading, and editing. The course will also emphasize study skills, use of campus resources, and the norms of the American college classroom.

ESL-077NC Intermediate Integrated Reading, Writing, and Study Skills-Noncredit
0 units SC
- 90 hours lecture/18 hours laboratory per term
This noncredit course focuses on the needs of multilingual students at the intermediate level to help them develop reading, writing, and study skills needed in academic settings. The course introduces students to academic reading skills that enable them to grasp ideas, details, and themes of college texts. Students will develop their command of English vocabulary by using context clues, analyzing word parts, and using acquired vocabulary in writing. Following the steps of the writing process, students will compose paragraphs and short essays in response to ideas from readings and topics introduced in class. Language instruction focuses on sentence-level grammar topics essential to students' writing, individual proofreading, and editing. The course will also emphasize study skills, use of campus resources, and the norms of the American college classroom.
ESL-078 Intermediate Academic Writing Skills
3 units SC
• Non degree applicable
• 54 hours lecture/18 hours laboratory per term
• Advisory: ESL-067 or placement through the ESL assessment process or equivalent

This course focuses on the needs of ESL students at the intermediate level, and aims to help them increase confidence, fluency, and accuracy as they write for academic purposes. Students will practice the skills needed to write, revise, and edit academic sentences and paragraphs. Emphasis mechanics and usage. Norms of the American college classroom will also be presented.

ESL-080 High-Intermediate Grammar for Multilingual Students
3 units SC
• Non degree applicable
• 54 hours lecture per term
• Advisory: ESL-078 or equivalent

This course is intended to address the grammar needs of multilingual students at the high-intermediate level. Students will have opportunities to review basic English-grammar concepts and will be introduced to new, increasingly complex concepts as well. The course emphasizes grammar in the context of students’ own reading and writing tasks as well as a variety of social circumstances.

ESL-085 High-Intermediate Oral Communication Skills
2 units SC
• Non degree applicable
• 18 hours lecture/54 hours laboratory per term
• Advisory: ESL-075 or equivalent

This oral communication course focuses on the needs of multilingual students at the high-intermediate level. Building on ESL-075, the course offers strategies for both understanding and being understood in real-life, academic situations. Exploring a variety of topics, students will work on oral comprehension of lectures and presentations, note-taking, and academic discussion. Students will also practice the norms of the American college classroom. The course will also present strategies for developing an awareness of their own strengths and challenges of communicating in English. Students may wish to take ESL-085 with the ESL reading and writing course ESL-087, at the same level.

ESL-086 High Intermediate Academic Reading Skills
3 units SC
• Non degree applicable
• 54 hours lecture/18 hours laboratory per term
• Advisory: ESL-076 or placement through the ESL assessment process or equivalent

This course focuses on the needs of ESL students at the high-intermediate level as they develop their academic reading skills. Students will practice strategies for reading, comprehending, analyzing, and responding to academic texts at the high-intermediate level. The course will also present reading-related writing skills, methods for vocabulary development, and high-intermediate grammar concepts. Study strategies, campus resources, and the norms of the American college classroom will also be presented.

ESL-087 High-Intermediate Integrated Academic Reading, Writing, and Study Skills
5 units SC
• Non degree applicable
• 90 hours lecture/18 hours laboratory per term
• Advisory: ESL-076 or ESL-078 or ESL-077 or placement through the ESL assessment process or equivalent

This course focuses on the needs of multilingual students at the high-intermediate level to help them strengthen their academic reading, writing, and study skills. The course emphasizes vocabulary expansion and context clues, strategies for reading, comprehending, summarizing, and responding to college-level texts. Following the steps of the writing process, students will also continue to refine their knowledge of paragraph writing and work towards composing thesis-driven essays in response to ideas from readings, topics covered in class, and personal experience. Language instruction focuses on strengthening understanding of grammar and on individual proofreading and editing skills. While this course emphasizes the combination of reading and writing, the course also emphasizes study skills, campus resources, and the norms of the American college classroom.

ESL-088 High-Intermediate Academic Writing Skills
3 units SC
• Non degree applicable
• 54 hours lecture/18 hours laboratory per term
• Advisory: ESL-078 or placement through the ESL assessment process or equivalent

This course focuses on the needs of ESL students at the high-intermediate level, with the aim or helping them increase confidence, fluency, and accuracy as they write coherent paragraphs and thesis-driven essays. Following the steps of the writing process, students will compose paragraphs and essays for an audience of their peers. They will also practice editing strategies to identify and correct sentence-level errors common to high-intermediate ESL learners, including errors in mechanics and usage. Norms of the American college classroom will also be covered.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>SC</th>
<th>Non degree applicable</th>
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<tr>
<td>ESL-090</td>
<td>ESL-090 Advanced Grammar for Multilingual Students</td>
<td>3</td>
<td>SC</td>
<td>• Non degree applicable</td>
<td>• Advisory: ESL-080 and 088 or equivalents</td>
</tr>
<tr>
<td></td>
<td>This course is intended to address the grammar needs of multilingual students at the advanced-level. Students will have opportunities to review English-grammar concepts covered in earlier course work, and will be introduced to new, increasingly complex concepts as well. The course emphasizes grammar in the context of students’ own reading and writing tasks as well as a variety of social circumstances.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESL-091</td>
<td>ESL-091 Topics in Vocational English Skills</td>
<td>3-4</td>
<td>SC</td>
<td>• Non degree applicable</td>
<td>• Variable hours</td>
</tr>
<tr>
<td></td>
<td>This course is designed for advanced multilingual students. The focus of this course will change depending on the student population that it serves. It will teach reading, writing, listening and oral communication, and study skills as well as vocabulary-building strategies.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESL-095</td>
<td>ESL-095 Advanced Oral Communication Skills</td>
<td>2</td>
<td>SC</td>
<td>• Non degree applicable</td>
<td>• 18 hours lecture/54 hours laboratory per term</td>
</tr>
<tr>
<td></td>
<td>This oral communication course focuses on the needs of multilingual students at the advanced level. Building on ESL-085, the course offers strategies for academic engagement. Exploring a variety of conceptually and linguistically complex topics, students will work on oral comprehension of lectures and presentations, strategies for note-taking, and academic discussions. Students will also practice the norms of the American college classroom. The course will also present strategies for developing an awareness of their own strengths and challenges of communicating in English. Students may wish to take ESL-095 with the ESL reading and writing course, ESL-097A, at the same level.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>ESL-096A</td>
<td>ESL-096A Advanced Academic Reading Skills</td>
<td>3</td>
<td>SC</td>
<td>• Non degree applicable</td>
<td>• 54 hours lecture/18 hours laboratory per term</td>
</tr>
<tr>
<td></td>
<td>This course focuses on the needs of ESL students at the advanced level as they develop critical reading and academic skills. Working with college-level texts, students will practice identifying themes, main and supporting points, and methods of organization. Students will practice strategies for reading, comprehending, analyzing, and responding to academic texts at the advanced level. This course will also emphasize reading-related writing skills, and vocabulary development. Effective study skills, campus resources, and the norms of the American college classroom will also be presented.</td>
<td></td>
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</tr>
<tr>
<td>ESL-097A</td>
<td>ESL-097A Advanced Integrated Reading, Writing, and Study Skills</td>
<td>5</td>
<td>SC</td>
<td>• 90 hours lecture/18 hours laboratory per term</td>
<td>• Advisory: ESL-086 or ESL-088 or equivalent</td>
</tr>
<tr>
<td></td>
<td>This course focuses on the needs of multilingual students at the advanced level to help them increase their confidence, fluency, and accuracy as they develop critical reading, writing, and academic skills. Students will practice strategies for reading, comprehending, analyzing, and responding to college-level texts. Following the steps of the writing process, they will compose thesis-driven essays for an academic audience, with coherent paragraphs and a variety of sentence structures. They will also practice editing strategies to identify and correct sentence-level errors common to advanced English-language learners, as well as errors in mechanics and usage. Although the central focus of the course is on the connections between reading and writing, it also emphasis study skills, campus resources, and the norms of the American college classroom.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESL-098A</td>
<td>ESL-098A Advanced Academic Writing Skills</td>
<td>3</td>
<td>SC</td>
<td>• Non degree applicable</td>
<td>• 54 hours lecture/18 hours laboratory per term</td>
</tr>
<tr>
<td></td>
<td>This course focuses on the needs of ESL students at the advanced level, with the aim of helping them increase confidence, fluency, and accuracy as they write college-level essays. Following the steps of the writing process, students will compose thesis-driven essays for an academic audience. The course will focus on the generation of coherent paragraphs with a variety of sentence structures. To complement and inspire their writing, students will read, analyze, and write about a variety of college-level texts. They will also practice editing strategies to identify and correct sentence-level errors common to advanced ESL learners, as well as errors in mechanics and usage. Norms of the American college classroom will also be presented.</td>
<td></td>
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</tr>
</tbody>
</table>
ESL-100  College Grammar and Editing for Multilingual Students  
2 units SC  
- 36 hours lecture per term  
- Advisory: ESL-090 or equivalent  
This is a grammar and editing course for high-advance non-native English speakers at the college level. Students will review advance English-grammar concepts and will be introduced to more advanced grammar concepts needed for college success. Students will also review editing strategies and learn ways to identify and correct errors in their own writing.

ESL-110  Reading and Writing Skills for ECE-124  
3 units SC  
- 54 hours lecture per term  
- Co-requisite: ECE-124 or Equivalent  
- Advisory: ESL-088 or Equivalent  
This course is designed for English as a Second Language students concurrently enrolled in ECE-124. It is intended for advanced ESL students to develop college-level reading, writing, listening, speaking, and study skills at the same time as they are learning the content in ECE-124. This course will use the ECE-124 textbook as the subject matter on which to practice and build students’ English-language skills. CSU

ESL-111  Reading and Writing Skills for ECE-123  
3 units SC  
- 54 hours lecture per term  
- Co-requisite: ECE-123 or Equivalent  
- Advisory: ESL-088 or Equivalent  
This course is designed for English as a Second Language students concurrently enrolled in ECE-123. It is intended for advanced ESL students to develop college-level reading, writing, listening, speaking, and study skills at the same time as they are learning the content in ECE-123. This course will use the ECE-123 textbook as the subject matter on which to practice and build students’ English-language skills. CSU

ESL-112  Reading and Writing Skills for ECE-125  
3 units SC  
- 54 hours lecture per term  
- Co-requisite: ECE-125 or equivalent  
- Advisory: ESL-088 or equivalent  
This course is designed for English as a Second Language students concurrently enrolled in ECE-125. It is intended for advanced ESL students to develop college-level reading, writing, listening, speaking, and study skills at the same time as they are learning the content in ECE-125. This course will use the ECE-125 textbook as the subject matter on which to practice and build students’ English-language skills. CSU

ESL-113  Reading and Writing Skills for ECE-130  
3 units SC  
- 54 hours lecture per term  
- Co-requisite: ECE-130 or equivalent  
- Advisory: ESL-088 or equivalent  
This course is designed for English as a Second Language students concurrently enrolled in ECE-130. It is intended for advanced ESL students to develop college-level reading, writing, listening, speaking, and study skills at the same time as they are learning the content in ECE 130. This course will use the ECE-130 textbook as the subject matter on which to practice and build students’ English language skills. CSU

ESL-115  College Oral Communication Skills  
2 units SC  
- 36 hours lecture per term  
- Advisory: ESL-095 or equivalent  
This course focuses on highly advanced listening and speaking skills appropriate at the college-level. Designed for non-native English speakers, students will work on oral comprehension and production on a variety of college-level and socially relevant topics. This course will also present strategies for developing a self-awareness of strengths and challenges of communicating in English.

ESL-117A  Integrated Reading and Writing: Advanced English Language Learners  
5 units SC  
- 90 hours lecture per term  
- Advisory: ESL-096A and ESL-098A or equivalents  
- Note: This course is equivalent to the completion of ENGL-116 and ENGL-118 or ENGL-117. Only one of ENGL-116, 117, 118 or ESL-117A may be applied to the units required for the associate degree.  
This course provides an integrated approach to reading and writing for highly advanced English-language learners to prepare them for ENGL-122, transfer-level English. Students will prepare for college-level work; practice critical reading, writing, and thinking skills; and improve their vocabulary and study skills. Students will also actively engage with their peers, read and interact with a variety of college-level texts, and complete both formal and informal writing assignments connected to these readings. The central focus throughout the course will be on the ways reading and writing inform each other. The course will also cover grammar concepts and revision and editing methods specific to English-language learners. CSU, UC
ENVIRONMENTAL SCIENCE - ENVSC

Charles Ramos, Dean
Sciences Division
Physical Sciences Building, Room 263

Possible career opportunities
Career opportunities in the field of environmental studies have grown with the increase of human population and the need to document and study the relationship between humans and nature. Environmental scientists are needed to monitor, interpret, analyze and enforce the guidelines of governmental policies. Careers include working for the government at all levels, working for companies in science and technology, as well as working in companies in energy fields. Such specialties include pollution prevention, resource conservation and environmental restoration, environmental stewardship, and newly emerging fields such as energy management technology, geospatial technology, and biodiversity preservation. Individuals studying in this field are trained to provide both public and private environmental services in a variety of settings: private business, consulting services and government agencies.

Associate in science degree
Environmental science
Students completing the program will be able to...
A. differentiate between different biotic and abiotic components of the environment.
B. explain and analyze man-made impacts on the environment
C. apply the scientific method for environmental analysis.
D. explain, illustrate and analyze chemical bonds and reactions.
E. apply environmental science concepts and analytical procedures in various fields

The associate in science degree in environmental science offers a distinctive program of interdisciplinary study. It is a field of inquiry exploring energy and climate systems and their complex relationships with the world’s diverse human cultures. To achieve this goal, students and faculty work together across disciplines to develop an understanding of environmental sustainability in all its dimensions. The program focuses on current environmental concerns that have far-reaching implications for the fate of human society, ecological systems, and energy diversity. This involves an integration of knowledge from a variety of disciplines to understand the function of the ecological system and human impact upon these systems at a local, regional, and global scale.

Students are advised that there are a wide range of environmental science areas of emphasis offered at the university level. Therefore, while choosing electives, students are advised to consult with a counselor or faculty advisor to select courses that will meet the requirements of an area of emphasis at their selected transfer institution. DVC environmental science students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE). General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

To earn an associate in science degree, students must complete each required course with a “C” grade or higher and complete general education requirements as listed in the catalog. Degree requirements can be completed by attending classes in the day, evening, online, or a combination of those. Certain classes may satisfy both major and other general education requirements; however, the units are only counted once.

major requirements:  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-170</td>
<td>Environmental Science</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-140</td>
<td>Introduction to Weather</td>
<td>3</td>
</tr>
<tr>
<td>GEO-120</td>
<td>Physical Geology</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 4 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM-108</td>
<td>Introductory Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-120</td>
<td>General College Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>plus at least 4 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH-142</td>
<td>Elementary Statistics with Probability</td>
<td>4</td>
</tr>
<tr>
<td>MATH-192</td>
<td>Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>plus at least 9 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARCHI-207</td>
<td>Environmental Control Systems</td>
<td>3</td>
</tr>
<tr>
<td>BIOSC-126</td>
<td>Ecology and Field Biology</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-130</td>
<td>Energy, Society, and the Environment</td>
<td>3</td>
</tr>
<tr>
<td>ENSYS-120</td>
<td>Introduction to Energy Systems</td>
<td>3</td>
</tr>
<tr>
<td>ENSYS-125</td>
<td>Building Envelope and Systems</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-124</td>
<td>Thinking and Communicating Geospatially</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-125</td>
<td>Introduction to Geographic Information Systems (GIS)</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-129</td>
<td>Field Data Acquisition and Management</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-160</td>
<td>Introduction to Remote Sensing</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-120</td>
<td>General College Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-121</td>
<td>General College Physics II</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-130</td>
<td>Physics for Engineers and Scientists A: Mechanics and Wave Motion</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-230</td>
<td>Physics for Engineers and Scientists B: Heat and Electro-Magnetism</td>
<td>4</td>
</tr>
</tbody>
</table>

total minimum units for the major 26
Associate in science in environmental science for transfer

Students completing the program will be able to...

A. recognize and understand chemical components in physical and biological aspects of ecosystems.
B. apply the scientific method to collect data on environmental problems, and use data to analyze and solve quantitative and qualitative problems.
C. evaluate the relationship of organisms to each other and to their changing chemical and physical environment.
D. integrate environmental and economic issues.
E. demonstrate the proper use of common laboratory equipment and use proper laboratory techniques in running experiments.

The associate in science in environmental science for transfer degree is designed as a two-year program that offers an introduction to the basic principles of environmental science, which includes an integration of knowledge from a variety of disciplines to understand ecological systems and human impacts on these systems.

In order to earn the degree, students must:

• Complete 60 CSU-transferable units.
• Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
• Complete a minimum of 18 units in the major.
• Attain a minimum grade point average (GPA) of 2.0.
• Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60-unit requirement for an associate’s degree. Students are advised for this major, they may use the IGETC for STEM (Science, Technology, Engineering and Mathematics) pattern. This pattern allows students to complete one course in area 3A; one course in Area 3B; and two courses in Area 4 from two different disciplines. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

**major requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-170</td>
<td>Environmental Science</td>
<td>3</td>
</tr>
<tr>
<td>ECON-221</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-142</td>
<td>Elementary Statistics with Probability</td>
<td>4</td>
</tr>
<tr>
<td>MATH-192</td>
<td>Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
</tbody>
</table>

**select 1 of 2 options:**

**Option 1: Biology sequence**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-130</td>
<td>Principles of Cellular and Molecular Biology</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-131</td>
<td>Principles of Ecology, Evolution and Organismal Biology</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-120</td>
<td>General College Chemistry I</td>
<td>5</td>
</tr>
</tbody>
</table>

**Option 2: Chemistry sequence**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-130</td>
<td>Principles of Cellular and Molecular Biology</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-120</td>
<td>General College Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-121</td>
<td>General College Chemistry II</td>
<td>5</td>
</tr>
</tbody>
</table>

plus 4 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL-120</td>
<td>Physical Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-122</td>
<td>Physical Geology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>GEOG-120</td>
<td>Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-121</td>
<td>Physical Geography Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>PHYS-120</td>
<td>General College Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-121</td>
<td>General College Physics II</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-130</td>
<td>Physics for Engineers and Scientists A: Mechanics and Wave Motion</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-230</td>
<td>Physics for Engineers and Scientists B: Heat and Electro-Magnetism</td>
<td>4</td>
</tr>
</tbody>
</table>

**total minimum units for the major**

42

**ENVSC-100 Exploring Environmental Science and Engineering**

<table>
<thead>
<tr>
<th>1 unit</th>
<th>P/NP</th>
<th>5 hours lecture/35 hours laboratory per term</th>
</tr>
</thead>
</table>

This course introduces students to current issues and careers in environmental science and engineering. Topics include climate change, wetland ecology and water quality in the Sacramento-San Joaquin River Delta. Students gain hands-on experience both in the laboratory and during field trips as well as explore careers and work readiness skills related to the fields of environmental science and engineering. CSU
ETHNIC STUDIES - ETHN

Obed Vazquez, Dean
Social Sciences Division
Faculty Office Building, Room 136

ETHN-101 Introduction to Ethnic Studies
3 units SC
- IGETC: 4; CSU GE: D,F; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected

This course provides a survey of the experiences, history, culture, politics, and knowledge of and from African Americans, Asian/Pacific Islander Americans, Chicano/Latinx, and Native Americans. Focus is placed on the contributions of these populations in the making of the United States. Topics include settler-colonialism, conquest, slavery, imperialism, and immigration. The course highlights the subjectivities of these populations, as well as resistance and liberation movements that seek to eliminate injustice and oppression along the intersections of race, class, gender, sexuality and ableness. CSU, UC

FILM, TELEVISION, AND ELECTRONIC MEDIA – FTVE

Janette Funaro, Dean
Arts and Communication Division

Possible career opportunities
Students majoring in FTVE enter broadcasting, cable, online media, and related industries. They can pursue graduate degrees in the field of mass or electronic communication for work in audio and video production, web development, radio and television, cable television, and media departments of agencies, institutions, and businesses.

Associate in arts degree
Television arts

Students completing the program will be able to...
A. produce for broadcast and digital distribution utilizing three-camera studio format principles.
B. operate cameras and professional sound equipment.
C. perform digital nonlinear editing.
D. produce for broadcast and digital distribution utilizing field production principles.
E. direct projects for various production formats.
F. qualify for entry-level employment in broadcasting.
G. apply their planning skills for project management.
H. identify major trends in the history of broadcasting.

The associate degree program in television arts is designed as a two year curricular pathway that offers a broad general education while preparing students for entry-level positions such as: associate producer, assistant director, on-camera talent, camera operator, sound technician, video switcher, floor director, videotape editor, production assistant, radio board operator, radio producer, radio production engineer, and radio on-air talent.

Students must complete each of the required courses with a "C" grade or higher. Required courses can only be completed by attending a combination of day and evening classes. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

Selected courses in the program may also meet some lower division requirements for bachelor of arts programs at certain California State University campuses. Students who intend to transfer are advised to consult with a counselor regarding specific requirements.

major requirements: units
ARTDM-105 Introduction to Digital Imaging .................................3
FTVE-120 Introduction to TV Studio Production .........................3
FTVE-130 Intermediate TV Studio Production ..........................3
FTVE-165 Digital Editing ............................................................3
FTVE-240 Survey of Broadcasting and Electronic Media ............3

plus at least 6 units from:
FTVE-132 Advanced TV Studio Production .............................3
FTVE-140 Introduction to Film and Media Scriptwriting ..........3
FTVE-160 Introduction to Film Production .................................3
MUSX-100 Audio and Visual Technology .................................3
MUSX-120 Live Sound ...............................................................3
MUSX-174 Introduction to Music Technology and Pro Tools ........3
MUSX-178 Music and Sound for Film, Games, and Digital Media ..3

plus at least 3 units from:
ARTDM-190 Digital Media Projects ...........................................3
FTVE-295 Occupational Work Experience Education in FTVE ....2-4
FTVE-296 Internship in Occupational Work Experience Education in FTVE .....................................................2-4

total minimum units for the major 24

*Note: There may be no duplication of course units between major requirements and elective courses.
**Associate in science degree in film, television, and electronic media for transfer**

**Students completing the program will be able to...**

A. seamlessly transfer to a CSU

B. demonstrate a working knowledge of the operation of basic production equipment including cameras, sound recording equipment, lights, microphones and grip equipment.

C. demonstrate a working knowledge of the operation of basic post production equipment and software for the purposes of producing various types of programming.

D. demonstrate a working knowledge of the theory and practice of recording sound and visuals in professional formats.

E. demonstrate a working knowledge of the theory and practice of editing original material with the goal of producing finished programs according to professional standards.

F. demonstrate a working knowledge of the theory and practice of producing scripts in a variety of formats for visual presentation.

G. identify the major trends in world cinema and television history.

H. utilize critical thinking skills to analyze and evaluate various approaches to applying visual concepts to a variety of storytelling formats.

The associate in science in film, television, and electronic media (FTVE) for transfer will prepare students for transfer into bachelor's degree programs in broadcast, film, TV, and similar majors. Career opportunities include TV and video producing, directing, camera operation, video editing, scriptwriting, audio recording and mixing, and radio programming.

The associate in science in film, television, and electronic media for transfer degree is primarily intended for students who plan to complete a bachelor's degree at a California State University (CSU) in areas of study such as radio-television-film, television-Film, video, film, and electronic arts. Students completing this degree are guaranteed admission to the CSU system, but not necessarily to a particular major or campus.

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area IC requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system, or those students who do not intend to transfer.

Students must complete each course used to meet a major requirement with a “C” grade or higher. Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

**major requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTDM-130 Introduction to Digital Audio</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-140 Introduction to Film and Media Scriptwriting</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-205 Introduction to Film and Media Arts</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
</tr>
<tr>
<td>FTVE-240 Survey of Broadcasting and Electronic Media</td>
<td>3</td>
</tr>
<tr>
<td>JRNAL-110 Mass Media of Communication</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
</tr>
<tr>
<td>FTVE-120 Introduction to TV Studio Production</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-160 Introduction to Film Production</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
</tr>
<tr>
<td>any course not used above or:</td>
<td></td>
</tr>
<tr>
<td>FTVE-161 Intermediate Film Production</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-280 American Cinema 1900-1950</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-281 World Cinema 1900-1960</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-283 World Cinema 1960 to the Present</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
</tr>
<tr>
<td>any course not used above or:</td>
<td></td>
</tr>
<tr>
<td>ARTDM-140 Motion Graphics</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-130 Intermediate TV Studio Production</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-132 Advanced TV Studio Production</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-141 Intermediate Film and Media Scriptwriting</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-142 Advanced Film and Media Scriptwriting</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-165 Digital Editing</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-166 Intermediate Digital Editing</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-200 American Cinema/American Culture</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-210 American Ethnic Cultures in Film</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-260 Ethnic Images in United States (U.S.) Television</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-282 American Cinema 1950 to the Present</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-296 Internship in Occupational Work Experience Education in FTVE</td>
<td>2-4</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 21
## Certificate of achievement - Film post-production

### Film post-production

Students completing this program will be able to...

- use industry-standard graphics, video and audio editing software.
- create motion graphics projects.
- create samples for an online portfolio.
- qualify for entry-level employment in the film and television post-production industries.

This certificate of achievement in film post-production prepares students for a career in film, television, and media industries. Students develop skills in three of the core aspects of post-production: video editing, sound design and editing, and motion graphics. Students will participate in a collaborative team-oriented learning experience that mirrors the post-production process. The program goal is to provide relevant, industry-standard skills necessary to enter this dynamic and creative field.

Some examples where students might find employment using their post-production skills are working at a film or television post-production company as an assistant video editor, assistant sound designer or sound mixer, working at a visual effects studio, working in the video game industry, or at an advertising agency.

To earn the certificate of achievement students must complete the required courses with a minimum of grade of “C” or higher. Some courses are available in both online and traditional formats. The certificate can be completed in one year of full-time or two years of part-time study.

### Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTDM-105</td>
<td>Introduction to Digital Imaging</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-140</td>
<td>Motion Graphics</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-165</td>
<td>Digital Editing</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-166</td>
<td>Intermediate Digital Editing</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-178</td>
<td>Music and Sound for Film, Games, and Digital Media</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 3 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTDM-130</td>
<td>Introduction to Digital Audio</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-174</td>
<td>Introduction to Music Technology and Pro Tools</td>
<td>3</td>
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</table>

**plus at least 3 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTDM-149</td>
<td>Fundamentals of Digital Video</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-160</td>
<td>3D Modelling and Animation</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-165</td>
<td>Drawing for Digital Animation</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-180</td>
<td>Game Design I</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-150</td>
<td>Topics in Film, Television, and Electronic Media</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-160</td>
<td>Introduction to Film Production</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-295</td>
<td>Occupational Work Experience Education in FTVE</td>
<td>2-4</td>
</tr>
<tr>
<td>FTVE-296</td>
<td>Internship in Occupational Work Experience Education in FTVE</td>
<td>2-4</td>
</tr>
</tbody>
</table>

**Total minimum required units** 21

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## Certificate of achievement – Film production

### Film production

Students completing this program will be able to...

- demonstrate knowledge of the basic technical aspects of digital film production.
- create short films, taking an idea through all stages of film production.
- use industry-standard video and audio editing software.
- demonstrate the successful teamwork necessary to work on a crew in television, film, or other media employment.
- build foundation knowledge in film language and visual storytelling.
- qualify for entry-level employment in the film and television industry.
- create film samples for an online portfolio.

This certificate of achievement in film production prepares students for a career in the film, television, and media industries. Students develop creativity and production skills and experience the film production process from pitching ideas through editing the final film. Students will participate in a collaborative, team-oriented learning experience that mirrors the film industry production process. The program goal is to provide the skills necessary to enter this dynamic and creative industry.

Some examples where students can find employment using their film production skills are working on film crews, joining a film or television production company, assisting at a talent agency, creating corporate videos, assisting the production of business training or real estate videos, and assisting in an advertising or marketing agency.

To earn the certificate of achievement students must complete the required courses with a minimum of grade of “C” or higher. Some courses are available in both online and traditional formats. The certificate can be completed in one year of full-time or two years of part-time study.

### Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTVE-140</td>
<td>Introduction to Film and Media Scriptwriting</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-160</td>
<td>Introduction to Film Production</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-161</td>
<td>Intermediate Film Production</td>
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</tr>
<tr>
<td>FTVE-165</td>
<td>Digital Editing</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-205</td>
<td>Introduction to Film and Media Arts</td>
<td>3</td>
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</table>

**plus at least 3 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTDM-130</td>
<td>Introduction to Digital Audio</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-178</td>
<td>Music and Sound for Film, Games, and Digital Media</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 3 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
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</thead>
<tbody>
<tr>
<td>ARTDM-140</td>
<td>Motion Graphics</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-180</td>
<td>Game Design I</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-122</td>
<td>Basic Principles of Acting</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-120</td>
<td>Introduction to TV Studio Production</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-150</td>
<td>Topics in Film, Television, and Electronic Media</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-166</td>
<td>Intermediate Digital Editing</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-295</td>
<td>Occupational Work Experience Education in FTVE</td>
<td>2-4</td>
</tr>
<tr>
<td>FTVE-296</td>
<td>Internship in Occupational Work Experience Education in FTVE</td>
<td>2-4</td>
</tr>
<tr>
<td>JRNAL-130</td>
<td>Multimedia Reporting</td>
<td>3</td>
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</tbody>
</table>

**Total minimum required units** 21
Film, television, and electronic media

Certificate of achievement
Television arts

Students completing the program will be able to...
A. produce for broadcast and digital distribution utilizing three-camera studio format principles.
B. operate cameras and professional sound equipment.
C. perform digital nonlinear editing.
D. produce for broadcast and digital distribution utilizing field production principles.
E. write scripts for various production formats.
F. direct projects for various production formats.
G. qualify for entry-level employment in broadcasting.
H. apply their planning skills for project management.
I. identify major trends in the history of broadcasting.

This program prepares students for entry-level positions in one of four specialty areas: studio production, film production, post production, and writing.

To earn a certificate of accomplishment, students must complete each of the required courses with a “C” grade or higher. Required courses can only be completed by attending a combination of day and evening classes.

required courses:  
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTVE-120</td>
<td>Introduction to TV Studio Production</td>
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<tr>
<td>FTVE-130</td>
<td>Intermediate TV Studio Production</td>
<td>3</td>
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<tr>
<td>FTVE-132</td>
<td>Advanced TV Studio Production</td>
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</tr>
<tr>
<td>MUSX-100</td>
<td>Audio and Visual Technology</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-120</td>
<td>Live Sound</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-174</td>
<td>Introduction to Music Technology and Pro Tools</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-178</td>
<td>Music and Sound for Film, Games, and Digital Media</td>
<td>3</td>
</tr>
</tbody>
</table>

plus at least 6 units from:
- FTVE-140 Introduction to Film and Media Scriptwriting
- FTVE-160 Introduction to Film Production
- ARTDM-105 Introduction to Digital Imaging
- MUSX-140 Audio and Visual Technology
- MUSX-170 Live Sound
- MUSX-174 Digital Imaging

plus at least 3 units from:
- ARTDM-190 Digital Media Projects
- FTVE-295 Occupational Work Experience
- FTVE-296 Internship in Occupational Work

*Note: There may be no duplication of course units between major requirements and elective courses.

Certificate of accomplishment
Television arts - Film production

Students completing the program will be able to...
A. operate cameras and professional sound equipment.
B. perform digital nonlinear editing.
C. produce for broadcast and digital distribution utilizing field production principles.
D. write scripts for various production formats.
E. direct projects for various production formats.
F. apply their planning skills for project management.

The television arts program prepares students for entry level positions in one of four specialty areas: studio production, film production, post production, and writing.

To earn a certificate of accomplishment, students must complete each of the required courses with a “C” grade or higher. Required courses can only be completed by attending a combination of day and evening classes.

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<tr>
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<th>Description</th>
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<tbody>
<tr>
<td>FTVE-120</td>
<td>Introduction to TV Studio Production</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-130</td>
<td>Intermediate TV Studio Production</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-160</td>
<td>Introduction to Film Production</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-165</td>
<td>Digital Editing</td>
<td>3</td>
</tr>
</tbody>
</table>

total minimum required units 9

Certificate of accomplishment
Television arts - Studio production

Students completing the program will be able to...
A. produce for broadcast and digital distribution utilizing three-camera studio format principles.
B. operate cameras and professional sound equipment.
C. produce still and motion graphics.
D. write scripts for various production formats.
E. direct projects for various production formats.
F. apply their planning skills for project management.

The television arts program prepares students for entry level positions in one of four specialty areas: studio production, film production, post production, and writing.

To earn a certificate of accomplishment, students must complete each of the required courses with a “C” grade or higher. Required courses can only be completed by attending a combination of day and evening classes.

required courses:  
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>FTVE-120</td>
<td>Introduction to TV Studio Production</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-130</td>
<td>Intermediate TV Studio Production</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-160</td>
<td>Introduction to Film Production</td>
<td>3</td>
</tr>
</tbody>
</table>

plus at least 3 units from:
- FTVE-132 Advanced TV Studio Production
- FTVE-295 Occupational Work Experience
- FTVE-296 Internship in Occupational Work

total minimum required units 9
Certificate of accomplishment
Television arts -
Basic writing for digital medium
Students completing the program will be able to...

A. write scripts for various production formats.
B. direct projects for various production formats.
C. qualify for entry-level employment in broadcasting.
D. apply their planning skills for project management.
E. identify major trends in the history of broadcasting.

The television arts program prepares students for entry level positions in one of four specialty areas: studio production, field production, post production, and writing.

To earn a certificate of accomplishment, students must complete each of the required courses with a “C” grade or higher. Required courses can only be completed by attending a combination of day and evening classes.

required courses: units
FTVE-140 Introduction to Film and Media Scriptwriting ......3
FTVE-141 Intermediate Film and Media Scriptwriting........3
FTVE-142 Advanced Film and Media Scriptwriting...........3
FTVE-240 Survey of Broadcasting and
Electronic Media ..................................................3

plus at least 3 units from:
COMM-148 Performance of Literature............................3
ENGL-151 The Short Story ........................................3
FTVE-150 Topics in Film, Television, and
Electronic Media ..................................................0.3-4
FTVE-295 Occupational Work Experience
Education in FTVE ...........................................2-4
FTVE-296 Internship in Occupational Work
Experience Education in FTVE ..............................2-4
FTVE-298 Independent Study ..................................0.5-3
JRNL-110 Mass Media Communication ..........................3

total minimum required units 15

FTVE-120 Introduction to TV Studio Production
3 units SC
• 36 hours lecture/54 hours laboratory per term
• Advisory: College-level reading and writing are expected.

This course introduces theory, terminology and operation of a multi-camera television studio and control room. Topics include studio signal flow, directing, theory and operation of camera and audio equipment, switcher operation, fundamentals of lighting, graphics, video control and video recording and real-time video production. CSU

FTVE-130 Intermediate TV Studio Production
3 units SC
• 36 hours lecture/54 hours laboratory per term
• Prerequisite: FTVE-120 or equivalent
• Advisory: College-level reading and writing are expected.

This is an intermediate class designed to advance the student’s skills in producing and directing TV programs and operating television equipment. Students will produce and direct programs and prepare for positions in broadcast and cable TV as well as industrial television production facilities. CSU

FTVE-132 Advanced TV Studio Production
3 units SC
• 36 hours lecture/54 hours laboratory per term
• Prerequisite: FTVE-130 or equivalent
• Advisory: College-level reading and writing are expected.

This advanced class is designed to increase the student’s skills in producing and directing TV programs and operating television equipment. Students will produce and direct programs to prepare for positions in broadcast and cable TV as well as industrial television production facilities. CSU

FTVE-140 Introduction to Film and Media Scriptwriting
3 units SC
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.

This is a basic introductory course in writing for film and electronic media. Students will prepare fiction and non-fiction scripts in proper formats, and address technical, conceptual and stylistic issues related to writing for informational and entertainment purposes. A writing evaluation component is a significant part of the course requirement. CSU, UC

FTVE-141 Intermediate Film and Media Scriptwriting
3 units SC
• 54 hours lecture per term
• Prerequisite: FTVE-140 or equivalent
• Advisory: College-level reading and writing are expected.

This intermediate scriptwriting writing class builds on skills acquired in FTVE-140 with a focus on developing dramatic conflict within a three-act structure. Emphasis is placed on writing for a visual medium through assignments including the completion of the first-act of a feature-length screenplay or television series bible. CSU, UC
FTVE-142 Advanced Film and Media Scriptwriting  
3 units SC  
- 54 hours lecture per term  
- Prerequisite: FTVE-141 or equivalent  
- Advisory: College-level reading and writing are expected.  
This advanced scriptwriting class builds on skills acquired in FTVE-141 with a focus on the writing of a feature-length screenplay or television pilot and show bible. Emphasis is placed on developing and refining authentic characters, solid stories, and dramatic structure through writing exercises and critiques. CSU, UC

FTVE-150 Topics in Film, Television, and Electronic Media  
3-4 units SC  
- Variable hours  
- Advisory: College-level reading and writing are expected.  
A supplemental course in film, television, and electronic media to provide a study of current concepts and problems in film, television, and electronic media. Specific topics will be announced in the schedule of classes. CSU

FTVE-160 Introduction to Film Production  
3 units SC  
- 36 hours lecture/54 hours laboratory per term  
- Advisory: College-level reading and writing are expected.  
This course provides an introduction to single-camera narrative film production focusing on the aesthetics and fundamentals of scripting, producing, directing on location, and post-production. Theory, terminology, and operation of film production equipment, including composition and lighting techniques, camera operation, sound recording, directing actors, and basic editing will also be covered. CSU, UC

FTVE-161 Intermediate Film Production  
3 units SC  
- 36 hours lecture/54 hours laboratory per term  
- Prerequisite: FTVE-160 or ARTDM-149 or Equiv.  
In this course students produce intermediate level, single-camera short films that use sophisticated lighting schemes, sync sound, polished editing, and visual metaphors. Theory, terminology, and operation of digital film production equipment, including lighting techniques, camera operation, camera movement, sound recording, scriptwriting, directing actors, and editing will also be covered. CSU, UC

FTVE-165 Digital Editing  
3 units SC  
- 36 hours lecture/72 hours laboratory per term  
- Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply toward the 60 units required for the degree.  
This course is an introduction to the techniques, concepts, and aesthetics of digital editing for film, television, and digital media using professional software programs. Emphasis is placed on organization, timelines, and story development as well as editing for visual and audio effect. CSU, UC

FTVE-166 Intermediate Digital Editing  
3 units SC  
- 36 hours lecture/72 hours laboratory per term  
- Prerequisite: FTVE-165 or equivalent  
- Advisory: College-level reading and writing are expected.  
- Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply toward the 60 units required for the degree.  
This intermediate course is designed to advance the student’s editing skills using current industry standard software programs. CSU, UC

FTVE-200 American Cinema/American Culture  
3 units SC  
- IGETC: 3A; CSU GE: C1; DVC GE: III  
- 54 hours lecture per term  
This course presents the history of cinema focusing on major genres in American filmmaking in a larger cultural context including literature, drama, vaudeville, and related art forms. The course investigates the interplay of economic, industrial, aesthetic, and cultural forces that shape the language of film - how film conveys meaning and functions as a work of art. Other themes include how Hollywood functions as a business, reflects societal values and concerns, and responds to evolving technology. CSU, UC

FTVE-205 Introduction to Film and Media Arts  
3 units SC  
- IGETC: 3A; CSU GE: C1; DVC GE: III  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.  
This course will examine major trends and genres in the world of film and media. Analysis of how plot, theme and character are developed in a visual medium and how the language and syntax of film conveys meaning as compared to media, literature and drama will be emphasized. The relationship of film and media to historical, social, and cultural trends will also be examined. Topics include modes of production, narrative and non-narrative forms, visual design, editing, sound, genre, ideology and critical analysis. CSU, UC
FTVE-210  American Ethnic Cultures in Film  
3 units  SC  
- IGETC: 3A; CSU GE: C1, C2; DVC GE: III  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.

In this course, students will evaluate and explore various American cultures: African American, Native American, Asian American, Hispanic, and European American as represented in feature film. Emphasis is placed on the analysis of similarities and differences, paying particular attention to social and cultural representations. In addition, the course will introduce issues specific to the world of cinema such as how film language communicates ideas and stimulates emotional responses. Economic considerations that influence Hollywood distribution practices will also be covered. CSU, UC

FTVE-240  Survey of Broadcasting and Electronic Media  
3 units  SC  
- IGETC: 4; CSU GE: D; DVC GE: IV  
- 54 hours lecture per term  

This course introduces the history, structure, function, economics, content and evolution of radio, television, film, the internet, social media and new media. Students will also research communication theories and the social, cultural, political, regulatory, ethical, and occupational impacts of broadcasting and electronic media. CSU, UC

FTVE-260  Ethnic Images in United States (U.S.) Television  
3 units  SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  

This course will evaluate and explore the treatment of race and ethnicity U.S. television. The historical, commercial, ideological, and social factors that influence the cultural diversity of television programming are examined. Focus is placed on representation including the number and quality of on-screen roles as well as industry demographics behind the scenes. Students will analyze dominant racial caricatures and stereotypes while examining similarities and differences in the way various cultures are portrayed. Television’s role in communicating ideas and stimulating emotional responses while functioning as a socializing force that teaches us about ourselves and other people is emphasized. CSU, UC

FTVE-280  American Cinema 1900-1950  
3 units  SC  
- IGETC: 3A; CSU GE: C1; DVC GE: III  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.

This course is a survey of major trends in American Cinema from 1900 to the demise of the studio system in the 1950s. Students will view films from notable artists and movements that have influenced the development of film arts around the world. In addition, students will analyze how social, economic, and historical forces shape film art, the development of global media culture, and how cinema communicates as an art form. CSU, UC

FTVE-281  World Cinema 1900-1960  
3 units  SC  
- IGETC: 3A; CSU GE: C1; DVC GE: III  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.

This course is a survey of major trends in World Cinema from 1900 to the French New Wave of the 1960s. Students will view films from notable artists and movements that have influenced the development of film arts around the world. In addition, students will analyze how social, economic, and historical forces shape film art, the development of global media culture, and how cinema communicates as an art form. CSU, UC

FTVE-282  American Cinema 1950 to the Present  
3 units  SC  
- IGETC: 3A; CSU GE: C1; DVC GE: III  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.

This course is a survey of major trends in American Cinema from the demise of the studio system in the 1950’s to the present. Students will view films from notable artists and movements that have influenced the development of film arts around the world. In addition, students will analyze how social, economic, and historical forces shape film art, the development of global media culture, and how cinema communicates as an art form. CSU, UC
FTVE-283  World Cinema 1960 to the Present
3 units SC
• IGETC: 3A; CSU GE: C1; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course provides a survey of major trends in World Cinema since 1960 from French New Wave to the growth of Asian, Latin American, and Third-World cinema. The course methodology includes lectures and the viewing of key films from notable artists and movements that have influenced the development of film arts around the world. The social, economic, and historical forces that shape film art, as well as the development of global media culture and understanding how film communicates as an art form will be stressed. CSU, UC

FTVE-295  Occupational Work Experience Education in FTVE
2-4 units SC
• May be repeated eight times
• Variable hours
• Note: In order to enroll in FTVE-295, students must be employed, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.
FTVE-295 is supervised employment that extends classroom learning to the job site and relates to the student's chosen field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Each unit represents five hours of work per week or 75 hours work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

FTVE-296  Internship in Occupational Work Experience Education in FTVE
2-4 units SC
• May be repeated eight times
• Variable hours
• Note: In order to enroll in the FTVE-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.
FTVE-296 is a supervised internship in a skilled or professional level assignment in the student's major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Each unit represents five hours of paid work or four hours of unpaid work per week or 75 hours of paid work or 60 hours of unpaid work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

FTVE-298  Independent Study
.5-3 units SC
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office is required.
This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

FTVE-299  Student Instructional Assistant
.5-3 units SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.
• Formerly BCA-299 and FILM-299
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU
**FRENCH – FRNCH**

Janette Funaro, Dean  
Arts and Communication Division

**Possible career opportunities**  
The study of French can open up opportunities in communications, foreign trade and banking, transportation, government, the Foreign Service, tourism, library services, teaching, professional translating, journalism, and all levels of education, including university teaching. Most foreign language careers require more than two years of study.

**Associate in arts degree French**

Students completing the program will be able to...

A. communicate verbally in the target language with accurate pronunciation in meaningful situations present in both informal and formal contexts.

B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.

C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.

D. discuss, describe, and infer information from authentic texts in the target language.

E. demonstrate cultural appreciation by making (comparative) connections, on both an individual and societal level, between the target cultures and students’ own cultures.

F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

The associate in arts degree in French at DVC will provide students with skills in understanding, speaking, reading and writing French. The curriculum exposes students to French culture and civilization and provides foundational skills in language that can apply to a broad range of international and domestic career opportunities and professions. The degree will provide lower division preparation for transfer to UC, CSU and other four year colleges and universities to earn a bachelor’s degree.

The DVC French major is intended for transfer. Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to baccalaureate-granting institutions of their choice are met. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE). Option 1 (DVC General Education) is appropriate for those students who do not intend to transfer. Students may not take a pass/no pass option for major courses and each of the major requirements must be completed with a “C” grade or higher. Certain courses may satisfy both major and general education requirements; however, the units are counted only once.

Students must complete at least 20 units from the list of core courses. The core courses provide students with the essential grammar of the language, culture and basic literature of the francophone world. Students who have no prior knowledge of French will complete the first four courses in the list for a total of 20 units. Students with prior knowledge of French may start at the second term level and take fifth and sixth terms to achieve a total of 21 units.

**Certificate of achievement French**

Students completing the program will be able to...

A. communicate verbally in the target language with accurate pronunciation in meaningful situations present in both informal and formal contexts.

B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.

C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.

D. discuss, describe, and infer information from authentic texts in the target language.

E. demonstrate cultural appreciation by making (comparative) connections, on both an individual and societal level, between the target cultures and students’ own cultures.

F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

This certificate of achievement was created to give students the opportunity to show potential employers in this country and in other countries that the student has completed a certain number of courses in French and prepares students with an intermediate to advanced knowledge of French and familiarizes them with the culture of the Francophone world.

This certificate of achievement provides students, prospective employers and others with documented evidence of persistence and academic accomplishment in the language. The certificate requires completion of at least 13 units from one of the following lists of courses Students may not take a credit/no credit option for required courses and each course must be completed with a “C” grade or higher.
French

List A  
FRNCH-120 First Term French .................................................5  
FRNCH-121 Second Term French ..............................................5  
FRNCH-220 Third Term French ................................................5  
FRNCH-221 Fourth Term French ..............................................5  
FRNCH-230 Fifth Term French ...............................................3  
FRNCH-231 Sixth Term French ...............................................3  

List B  
FRNCH-121 Second Term French ..............................................5  
FRNCH-155 First Term Conversational French ..........................3  
FRNCH-156 Second Term Conversational French ......................3  
FRNCH-157 Third Term Conversational French ..........................3  
FRNCH-220 Third Term French ...............................................5  
FRNCH-221 Fourth Term French ..............................................5  

**total minimum required units**  13

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**FRNCH-120 First Term French**  
5 units SC  
• IGETC: 6A  
• 90 hours lecture per term  
• Note: This course is equivalent to two years of high school study.

This course provides an introduction to the French language and the culture of French-speaking countries. Topics include the four language skills: speaking, listening, reading, and writing. Emphasis is placed on active use of the language in class as well as basic communicative functions and structures. CSU, UC

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**FRNCH-121 Second Term French**  
5 units SC  
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III  
• 90 hours lecture per term  
• Prerequisite: FRNCH-120 or two years of high school study or equivalent  
• Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the second course in a sequence of French language courses. The course continues skill building in understanding, speaking, reading, and writing of the French language. The expansion of vocabulary and more advanced communicative functions and structures, as well as a deeper examination of the cultures of French-speaking countries are emphasized. CSU, UC

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**FRNCH-150 Topics in French**  
.3-4 units SC  
• Variable hours

A supplemental course in French to provide a study of current concepts and problems in French and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

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**FRNCH-155 First Term Conversational French**  
3 units SC  
• 54 hours lecture per term  
• Note: This course does not satisfy major or general education requirements.

This is the first term of the conversational French series. Basic grammar and vocabulary as well as an introduction to French culture will also be covered. CSU

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**FRNCH-156 Second Term Conversational French**  
3 units SC  
• 54 hours lecture per term  
• Advisory: FRNCH-155 or equivalent  
• Note: This course does not satisfy major or general education requirements.

This is the second term of the conversational French series. Emphasis will be placed on more advanced grammar and vocabulary to expand beyond the self to conversations of a more general nature. Comprehension will be reinforced through listening practice. CSU

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**FRNCH-157 Third Term Conversational French**  
3 units SC  
• 54 hours lecture per term  
• Advisory: FRNCH-156 or equivalent  
• Note: This course does not satisfy major or general education requirements.

This is a third term conversational French course designed to improve and refine speaking, listening, and comprehensive skills by reviewing and introducing target vocabulary and grammar. Topics will include social, political, and cultural issues as well as French culture. CSU

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**FRNCH-220 Third Term French**  
5 units SC  
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III  
• 90 hours lecture per term  
• Prerequisite: FRNCH-121 or three years of high school study or equivalent  
• Note: Students may meet prerequisite in a variety of ways. Students should seek assistance at Admissions and Records.

This is the third term French course in a sequence that develops early intermediate fluency in understanding, speaking, reading and writing French. All verbal tenses are reviewed, expanded and refined. Advanced grammar concepts, new vocabulary, and idiomatic expressions are introduced. Selected readings about the culture and literature of French-speaking countries will be explored. This course is taught entirely in French. CSU, UC
FRNCH-221 Fourth Term French
5 units SC
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
• 90 hours lecture per term
• Prerequisite: FRNCH-220 or four years of high school study or equivalent
• Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the fourth term French course in the sequence that develops intermediate fluency in understanding, speaking, reading and writing French. The grammatical moods are reviewed and developed; the sequences of tenses are introduced. Additional vocabulary and idiomatic expressions are introduced and connected to the selected readings. These readings about French culture and literature will be analyzed. This course is taught entirely in French. CSU, UC

FRNCH-230 Fifth Term French
3 units SC
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Prerequisite: FRNCH-221 or equivalent
• Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the fifth term advanced course emphasizing reading, writing (prioritizing the mechanics of academic writing), listening, and speaking skills. The rich heritage of French society and Francophone societies are explored through a wide range of materials including short stories, articles, poems, films, and documentaries. This course is taught entirely in French. CSU, UC

FRNCH-231 Sixth Term French
3 units SC
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Prerequisite: FRNCH-230 or equivalent
• Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the sixth term advanced French language course strengthening reading, writing (prioritizing the mechanics of academic writing), listening, and speaking skills. Deepening the exploration of the rich heritage of French and Francophone societies through a wide range of materials including novels, articles, poems, films, documentaries, and dramas. This course is taught entirely in French. CSU, UC

FRNCH-298 Independent Study
.5-3 units SC
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

FRNCH-299 Student Instructional Assistant
.5-3 units SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU
GEOGRAPHY – GEOG

Charles Ramos, Dean
Sciences Division
Physical Sciences Building, Room 263

Possible career opportunities
Geography is an interdisciplinary study focusing on the spatial relations of physical, cultural and economic systems of our world. As such, geographers are employed in a wide array of fields in many capacities such as: city/county planning; surveying; cartography; aerial photographic interpretation; remote sensing; environmental studies; meteorology; GIS (geographic information systems; and GPS (global positioning systems). Geographers are employed by private sector firms, government and non-profit organizations. Many career options may require more than two years of college study.

Cultural geography careers include geography education at many levels, analyst, consultant and planner. Most career options require more than two years of college study.

Associate in arts degree
Social/cultural geography

Students completing the program will be able to...
A. describe the spatial organization of the world’s peoples, nations, cultural environments.
B. compare and contrast the levels of economic development and their underlying environmental and cultural factors.
C. demonstrate a global view with appreciation for diverse cultures and societies.
D. demonstrate an understanding of how human activities impact the physical environment.

The social-cultural geography major at Diablo Valley College offers students the opportunity to prepare for a broad range of professions through the study of the spatial distribution of languages, religions and other aspects of human culture. Students will be prepared to transfer to UC, CSU and other four-year colleges and universities to earn a Bachelor’s degree. DVC prepares students to pursue careers in government, business, international relations and education.

The DVC social-cultural geography major consists of 18 units of required courses in which students develop an understanding of the origin, diffusion and spatial distribution of various attributes of human culture.

The DVC social-cultural geography major is intended for transfer. Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE). Option 1 (DVC General Education) is not generally advised.

To earn an associate in arts degree with a major in social-cultural geography, students must complete each course used to meet a major requirement with a “C” grade or higher, maintain an overall GPA of 2.5 or higher in the coursework required for the major, and complete general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

major requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTHR-130</td>
<td>Cultural Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-120</td>
<td>Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-130</td>
<td>Cultural Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-135</td>
<td>World Regional Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-162</td>
<td>Map Design and Visualization</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO-131</td>
<td>The Urban Community</td>
<td>3</td>
</tr>
</tbody>
</table>

total minimum units for the major 18

Associate in arts in geography for transfer

Students completing the program will be able to...
A. describe the various components of the geosystems and explain how they interact.
B. explain the interaction between physical and human components of the environment and how the nature of interaction varies in different parts of the world.
C. describe the role and significance of geospatial techniques in assessing and mapping the physical and cultural environments.
D. describe the characteristics of different cultural realms and demonstrate a respect for diversity that exists between and among cultural or geographic regions.

The associate in arts in geography for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.
Some courses in the major satisfy both major and CSU GE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

**major requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG-120 Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-121 Physical Geography Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>GEOG-125 Introduction to Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-130 Cultural Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-135 World Regional Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-140 Introduction to Weather</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 6 units from any course not used above or:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTHR-130 Cultural Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-124 Thinking and Communicating Geospatially</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-126 Advanced Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-129 Field Data Acquisition and Management</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-130 Introduction to Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-135 World Regional Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-140 Introduction to Weather</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-162 Map Design and Visualization</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-165 Drone and Remote Sensing and Mapping</td>
<td>3</td>
</tr>
<tr>
<td>GEO-120 Physical Geology</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 19

### Associate in science degree

**Geographic information systems/Global positioning system**

**Students completing the program will be able to...**

A. analyze the inter-disciplinary applications of GIS, GPS, and remote sensing.

B. synthesize data from various sources and different formats for spatial analyses.

C. apply spatial tools and techniques in a research or work environment.

D. explain the fundamentals of the different geospatial technologies and how they function.

The associate in science degree program in geographic information systems (GIS)/global positioning system (GPS) is designed to prepare students for entry into careers that employ generalized or specialized applications of GIS. GIS is a versatile and powerful technology that allows data input, data management, analysis and display of result within a single setup. Most local, state, and federal government agencies use GIS, as do businesses, planners, architects, foresters, geologists and a host of other occupations. Students learn technical and analytical skills for research as well as practical skills necessary to enter the job market and obtain positions with such titles as GIS technician, GIS specialist, GIS analyst, GIS programmer, GIS coordinator, GIS supervisor and GIS manager.

To earn a degree, students must complete each course used to meet a major requirement with a “C” grade or higher and complete general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**major requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG-125 Introduction to Geographic Information Systems (GIS)</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-126 Advanced Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-129 Field Data Acquisition and Management</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-160 Introduction to Remote Sensing</td>
<td>4</td>
</tr>
<tr>
<td>GEOG-162 Map Design and Visualization</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 6 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMSC-101 Computer Literacy</td>
<td>4</td>
</tr>
<tr>
<td>COMSC-110 Introduction to Programming</td>
<td>4</td>
</tr>
<tr>
<td>COMSC-120 SQL Programming</td>
<td>4</td>
</tr>
<tr>
<td>COMSC-172 UNIX and Linux Administration</td>
<td>2</td>
</tr>
<tr>
<td>COMSC-255 Programming with Java</td>
<td>4</td>
</tr>
</tbody>
</table>

**plus at least 6 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-126 Ecology and Field Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-170 Environmental Science</td>
<td>3</td>
</tr>
<tr>
<td>ENGT-126 Computer Aided Design and Drafting - AutoCAD</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-120 Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-124 Thinking and Communicating Geospatially</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-295 Occupational Work Experience</td>
<td>2-4</td>
</tr>
<tr>
<td>GEOL-120 Physical Geology</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 28

### Associate in science degree

**Meteorology**

**Students completing the program will be able to...**

A. describe the structure and properties of the atmosphere and atmospheric circulation systems.

B. develop and explain a forecast in the short to medium time range.

C. demonstrate the ability to apply atmospheric studies to interdisciplinary and practical applications for commercial and public needs.

The meteorology major at Diablo Valley College offers students the opportunity to prepare for a range of professions through the study of meteorology as an applied science. Students will be prepared to transfer to UC, CSU and other four-year colleges and universities to earn a baccalaureate degree. DVC prepares students to pursue careers in government, private forecasting and broadcast meteorology.

The DVC meteorology major consists of 18 units of required core courses through which students develop an understanding of the atmosphere, the physical principles governing weather, the spatial distribution of weather and how the atmosphere links to other components of earth’s physical environment.

The DVC meteorology major is intended for transfer. Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE). Option 1 (DVC General Education) is not generally advised.
To earn an associate in science degree with a major in meteorology, students must complete each course used to meet a major requirement with a “C” grade or higher, maintain an overall GPA of 2.5 or higher in the coursework required for the major, and complete general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**major requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG-120</td>
<td>Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-121</td>
<td>Physical Geography Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>GEOG-135</td>
<td>World Regional Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-140</td>
<td>Introduction to Weather</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-141</td>
<td>Introduction to Weather Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>GEOG-162</td>
<td>Map Design and Visualization</td>
<td>3</td>
</tr>
<tr>
<td>PHYS-120</td>
<td>General College Physics I</td>
<td>4</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 18

**Certificate of achievement**

**Drone technology**

Students completing this program will be able to...

A. explain the basics of drone flight preparation.
B. demonstrate how to download and post-process data acquired with a drone.
C. describe UAS laws, air space regulations, and licensing.
D. demonstrate the procedures for analyzing data obtained during a drone flight.
E. demonstrate how the data obtained from a drone is applied in a selected profession.
F. explain how data acquired by drone is used in geospatial applications.

The drone technology certificate of achievement program is designed to prepare students to take the Federal Aviation Administration Part 107 commercial drone pilot exam and for entry into careers that employ generalized or specialized applications of drones. Students will select an area of business, industry, or government to apply drone piloting, data acquisition, data processing.

To earn the certificate of achievement students must complete the following courses with a “C” grade or higher.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG-164</td>
<td>Fundamentals of Drone Operations and Licensing</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-165</td>
<td>Drone Remote Sensing</td>
<td>3</td>
</tr>
</tbody>
</table>

**complete at least 6 units from one of the following groups:**

**geography and geospatial**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOE-120</td>
<td>Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOE-125</td>
<td>Introduction to Geographic Information Systems (GIS)</td>
<td>3</td>
</tr>
<tr>
<td>GEOE-129</td>
<td>Field Data Acquisition and Management</td>
<td>3</td>
</tr>
<tr>
<td>GEOE-160</td>
<td>Introduction to Remote Sensing</td>
<td>3</td>
</tr>
</tbody>
</table>

**administration of justice**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADJUS-203</td>
<td>Crime Scene Investigation</td>
<td>4</td>
</tr>
<tr>
<td>ADJUS-222</td>
<td>Criminal Investigation</td>
<td>3</td>
</tr>
<tr>
<td>ADJUS-250</td>
<td>Terrorism and Homeland Security</td>
<td>3</td>
</tr>
</tbody>
</table>
The geographic information systems (GIS)/global positioning system (GPS) program is designed to prepare students to take the Federal Aviation Administration Part 107 commercial drone pilot exam and for entry into careers that employ generalized or specialized applications of GIS. GIS is a versatile and powerful technology that allows data input, data management, analysis and display of result within a single setup. Most local, state, and federal government agencies use GIS, as do businesses, planners, architects, foresters, geologists and a host of other occupations. Students learn technical and analytical skills for research as well as practical skills necessary to enter the job market and obtain positions with such titles as GIS technician, GIS specialist, GIS analyst, GIS programmer, GIS coordinator, GIS supervisor and GIS manager.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and during the day.

### Certificate of achievement

#### Drone technology fundamentals

Students completing this program will be able to...
A. explain the basics of drone flight preparation.
B. demonstrate how to download and post-process data acquired with drone.
C. describe UAS laws, air space regulations, and licensing.
D. demonstrate the procedures for analyzing data obtained during drone flight.

The drone technology certificate of accomplishment program is designed to prepare students to take the Federal Aviation Administration Part 107 commercial drone pilot exam and for entry into careers that employ generalized or specialized applications of drones.

To earn the certificate of accomplishment students must complete each course used to meet a certificate requirement with a “C” grade or higher.

<table>
<thead>
<tr>
<th>required courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG-164 Fundamentals of Drone Operations and Licensing .................................................. 3</td>
</tr>
<tr>
<td>GEOG-165 Drone Remote Sensing .................................................................................. 3</td>
</tr>
</tbody>
</table>

**total minimum required units 6**

### Certificate of achievement

#### Geographic information systems/

#### Global positioning system

**Students completing the program will be able to...**
A. analyze the inter-disciplinary applications of GIS, GPS, and remote sensing.
B. synthesize data from various sources and different formats for spatial analyses.
C. apply spatial tools and techniques in a research or work environment.
D. explain the fundamentals of geospatial technologies and how they operate.

The geographic information systems (GIS)/global positioning system (GPS) program is designed to prepare students for entry into careers that employ generalized or specialized applications of GIS. GIS is a versatile and powerful technology that allows data input, data management, analysis and display of result within a single setup. Most local, state, and federal government agencies use GIS, as do businesses, planners, architects, foresters, geologists and a host of other occupations. Students learn technical and analytical skills for research as well as practical skills necessary to enter the job market and obtain positions with such titles as GIS technician, GIS specialist, GIS analyst, GIS programmer, GIS coordinator, GIS supervisor and GIS manager.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and during the day.

<table>
<thead>
<tr>
<th>required courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG-125 Introduction to Geographic Information Systems (GIS) ................................................ 3</td>
</tr>
<tr>
<td>GEOG-160 Introduction to Remote Sensing .................................................................................. 4</td>
</tr>
<tr>
<td>GEOG-162 Map Design and Visualization .................................................................................. 3</td>
</tr>
</tbody>
</table>

**total minimum required units 12**

### Horticulture

#### ARCLA-120 Introduction to Landscape Architecture and Environmental Design ................................................. 3
#### HORT-110 Introduction to Horticulture and Plant Science .................................................................................. 4
#### HORT-179 Arboriculture ............................................................................................................... 3
#### HORT-185 Site Analysis ............................................................................................................... 1.5
#### HORT-298 Independent Study ...................................................................................................... 0.5-3

**total minimum required units 12**

### Biology and environmental science

#### BIOSC-126 Ecology and Field Biology ............................................................................. 4
#### BIOSC-170 Environmental Science .................................................................................. 3
#### GEOG-140 Introduction to Weather ...................................................................................... 3

### Business and entrepreneurship

#### ARCHI-120 Introduction to Architecture and Environmental Design ......................................................... 3
#### CONST-124 Construction Details and Specifications ............................................................................. 3
#### CONST-170 Fundamentals of Building Inspection .................................................................................. 3
#### CONST-298 Independent Study ...................................................................................................... 0.5-3
#### RE-162 Real Estate Appraisal ..................................................................................................... 3

### Program/course descriptions

#### Chapter four

#### Program/course descriptions

#### 301

#### Geography

#### art digital media

#### ARDM-105 Introduction to Digital Imaging ......................................................... 3
#### ARDM-117 Digital Illustration .................................................................................. 3
#### ARDM-136 Introduction to Digital Photography ..................................................... 3
#### FTVE-160 Introduction to Film Production ................................................................. 3
#### FTVE-165 Digital Editing .......................................................................................... 3

#### biology and environmental science

#### BIOSC-126 Ecology and Field Biology ............................................................................. 4
#### BIOSC-170 Environmental Science .................................................................................. 3
#### GEOG-140 Introduction to Weather ...................................................................................... 3

#### business and entrepreneurship

#### ARCHI-120 Introduction to Architecture and Environmental Design ......................................................... 3
#### CONST-124 Construction Details and Specifications ............................................................................. 3
#### CONST-170 Fundamentals of Building Inspection .................................................................................. 3
#### CONST-298 Independent Study ...................................................................................................... 0.5-3
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#### horticulture

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#### HORT-179 Arboriculture ............................................................................................................... 3
#### HORT-185 Site Analysis ............................................................................................................... 1.5
#### HORT-298 Independent Study ...................................................................................................... 0.5-3

**total minimum required units 12**
Certificate of accomplishment
Geographic information systems/
Global positioning system

Students completing the program will be able to...
A. analyze the inter-disciplinary applications of GIS, GPS, and remote sensing.
B. synthesize data from various sources and different formats for spatial analyses.
C. apply spatial tools and techniques in a research or work environment.
D. understand the fundamentals of geospatial technologies and how they function.

The geographic information systems (GIS)/global positioning system (GPS) program is designed to prepare students for entry into careers that employ generalized or specialized applications of GIS. GIS is a versatile and powerful technology that allows data input, data management, analysis and display of result within a single setup. Most local, state, and federal government agencies use GIS, as do businesses, planners, architects, foresters, geologists and a host of other occupations. Students learn technical and analytical skills for research as well as practical skills necessary to enter the job market and obtain positions with such titles as GIS technician, GIS specialist, GIS analyst, GIS programmer, GIS coordinator, GIS supervisor and GIS manager.

To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and during the day.

Required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG-125</td>
<td>Introduction to Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-126</td>
<td>Advanced Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-129</td>
<td>Field Data Acquisition and Management</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOSC-126</td>
<td>Ecology and Field Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-170</td>
<td>Environmental Science</td>
<td>3</td>
</tr>
<tr>
<td>COMSC-120</td>
<td>SQL Programming</td>
<td>4</td>
</tr>
<tr>
<td>ENGT-126</td>
<td>Computer Aided Design and Drafting</td>
<td></td>
</tr>
<tr>
<td>GEOG-120</td>
<td>Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-121</td>
<td>Physical Geography Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>GEOG-124</td>
<td>Thinking and Communicating Geospatially</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-160</td>
<td>Introduction to Remote Sensing</td>
<td>4</td>
</tr>
<tr>
<td>GEOG-162</td>
<td>Map Design and Visualization</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-295</td>
<td>Occupational Work Experience Education in GEOG</td>
<td>2-4</td>
</tr>
<tr>
<td>GEOG-298</td>
<td>Independent Study</td>
<td>0.5-3</td>
</tr>
<tr>
<td>GEOL-120</td>
<td>Physical Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-122</td>
<td>Physical Geology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>Total minimum required units</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

GEOG-120 Physical Geography

- IGETC: 5A; CSU GE: B1; DVC GE: II
- 54 hours lecture per term
- Advisory: MATH-085 or MATH-085SP or one year of high school algebra or equivalent

This course introduces the fundamental principles of physical geography. Focus is placed on providing an intelligent understanding of the Earth as the home of human beings and to show the interrelationships found within the physical environment. Quantitative reasoning, development of mathematical concepts and problem solving are emphasized. C-ID GEOG 110, CSU, UC

GEOG-121 Physical Geography Laboratory

- IGETC: 5C; CSU GE: B3
- 54 hours laboratory per term
- Prerequisite: GEOG-120 or equivalent (may be taken concurrently)

This course is the laboratory component for Physical Geography (GEOG-120). Emphasis is placed on using the skills and tools of modern physical geography and analyzing and interpreting geographic data. Topics include maps, aerial photographs, satellite images, weather instruments and computer analysis. C-ID GEOG 111, CSU, UC

GEOG-124 Thinking and Communicating Geospatially

- 54 hours lecture per term

This course is designed to develop and promote critical thinking and understanding of spatial concepts, such as location, direction, movement, space and time, pattern and association through geographic information technologies. Students will compare, evaluate, and analyze how the techniques of GIS (Geographic Information Systems), GPS (Global Positioning Systems), RS (Remote Sensing), maps and cartography, mobile and online mapping are utilized for information gathering, resource management, problem solving, and decision making. CSU, UC

GEOG-125 Introduction to Geographic Information Systems (GIS)

- 54 hours lecture/18 hours laboratory per term
- Advisory: GEOG-124 or equivalent

This course provides an introduction to Geographic Information Systems (GIS) as a tool for spatial analysis. GIS concepts, techniques and methodologies are covered and laboratory activities are used to reinforce lecture concepts. The course provides preparation for advanced university level courses in spatial analysis or for entry level positions in GIS-related fields. C-ID GEOG 155, CSU, UC
GEOG-126 Advanced Geographic Information Systems
3 units SC
- 54 hours lecture/18 hours laboratory per term
- Prerequisite: GEOG-125 or equivalent
This course is an application of advanced analytical techniques of geographic information systems (GIS) to manipulate, analyze and predict spatial patterns. Topics include how GIS is used as a tool for decision making, environmental prediction, and problem solving. Students will work on individual projects to learn the various advanced applications of GIS. CSU

GEOG-129 Field Data Acquisition and Management
3 units SC
- 54 hours lecture per term
- Advisory: GEOG-124 or equivalent
This course covers the fundamentals of the Global Positioning System (GPS) and Global Navigation Satellite System (GNSS) for data acquisition, management, and integration of data with Geographic Information Systems (GIS). Students will configure GPS/GNSS devices, acquire and process field data and export the information to a GIS platform for advanced analyses. CSU

GEOG-130 Cultural Geography
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.
This course examines the nature and causes of the spatial distribution of human activity. Phenomena such as population, language, religion, popular culture, agricultural practices, political structure, economic organization, settlement patterns, resource exploration, and technological innovation are examined in order to understand the interactive relationship between human beings and their environment. C-ID GEOG 120, CSU, UC

GEOG-135 World Regional Geography
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
This course is a geographic perspective of physical, cultural, political, and economic characteristics of countries and regions of the world. Topics include a general survey of world place locations, influence of geographic factors on international cooperation and conflict, and a survey of the transformation of the cultural landscape of the United States. C-ID GEOG 125, CSU, UC

GEOG-140 Introduction to Weather
3 units SC
- IGETC: 5A; CSU GE: B1; DVC GE: II
- 54 hours lecture per term
- Advisory: Math-085 or MATH-085SP or beginning algebra or equivalent
This introductory course in meteorology is both a descriptive and analytical course on the physical principles affecting the earth’s weather. Topics covered include the nature of the atmosphere, solar energy, heat, temperature, pressure, stability, moisture, wind, storms, severe weather and forecasting. Climatology as a scientific study and the Earth’s climatic history are introduced. The course examines current research in climate modeling and global climate change. C-ID GEOG 130, CSU, UC

GEOG-141 Introduction to Weather Laboratory
1 unit SC
- IGETC: 5C; CSU GE: B3
- 54 hours laboratory per term
- Co-requisite: GEOG-140 or equivalent (may be taken previously)
- Advisory: MATH-085 or MATH-085SP or beginning algebra or equivalent
This laboratory course is a supplement to GEOG-140. It includes coverage of fundamental concepts in meteorology and measurement techniques including selected mathematical concepts used to develop an understanding of weather and climate. Analysis of real-time weather data will be stressed. CSU, UC

GEOG-150 Topics in Geography
.3-.4 units SC
- Variable hours
A supplemental course in geography to provide a study of current concepts and problems in geography. Specific topics will be announced in the schedule of classes. CSU

GEOG-160 Introduction to Remote Sensing
3 units SC
- 36 hours lecture/54 hours laboratory per term
- Advisory: COMSC-101 or equivalent
This course introduces the basic principles of remote sensing techniques, including aerial photographs, satellite and LIDAR images. We teach techniques to collect data about the earth, how to interpret such data and how to map with the help of image processing software. CSU, UC
GEOG-162  Map Design and Visualization  
3 units  SC  
- 36 hours lecture/54 hours laboratory per term  
- Advisory: MATH-085 or MATH-085SP or beginning algebra or equivalent  
This course introduces basic principles of mapping and representation of spatial data using conventional and computerized cartographic techniques and is designed to develop a better understanding of maps, map design, and map interpretation. Elements of map such as scale, distance, direction, and map projections as well as cartographic techniques of data analysis, processing, visualization, and representation are examined in detail. CSU, UC

GEOG-164  Drone Operations and Piloting  
3 units  SC  
- 36 hours lecture/54 hours laboratory  
This course introduces students to Unmanned Aerial Systems (UAS), the technologies involved and their operation. Course topics include safety procedures, flight operations, and basic UAS maintenance. The laboratory portion of the course provides students with hands-on experience with piloting Unmanned Aerial Vehicles (UAVs or “drones”). The course also prepares students for the Federal Aviation Administration (FAA) UAS pilot examination. FAA UAS certification (part 107) is required to operate UAVs commercially. CSU

GEOG-165  Drone Remote Sensing and Mapping  
3 units  LR  
- 36 hours lecture/54 hours laboratory per term  
This course introduces Unmanned Aerial System (UAS) operations, data acquisition, and data processing techniques. Topics include UAS safety procedures, air space restrictions, flight mission planning, and data processing. Federal Aviation Administration (FAA) regulations and the requirements for obtaining UAS pilot certification are presented. the laboratory component of the course will offer students experience with UAS flight operations, data processing, and analysis. CSU

GEOG-295  Occupational Work Experience Education in GEOG  
2-4 units  SC  
- May be repeated eight times  
- Variable hours  
- Note: In order to enroll in GEOG-295, students must be employed, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course. GEOG-295 is supervised employment that extends classroom learning to the job site and relates to the student’s chosen field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Each unit represents five hours of work per week or 75 hours of work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5 Section 55253. CSU

GEOG-298  Independent Study  
.5-3 units  SC  
- Variable hours  
- Note: Submission of acceptable educational contract to department and Instruction Office is required. This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

GEOG-299  Student Instructional Assistant  
.5-3 units  SC  
- Variable hours  
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor. Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU
GEOLOGY – GEOL

Charles Ramos, Dean
Sciences Division
Physical Sciences Building, Room 263

Possible career opportunities
Geologists work in exploration for oil, natural gas, coal and uranium for energy, and for metals used in everyday life. They search for clean sources of groundwater for drinking and agriculture (hydrology). They seek to understand geologic hazards and how to mitigate them (seismology, flood and landslide control, and volcanology). They work to monitor and clean up pollutants in soil, groundwater and surface water. Currently, the best employment opportunities are in hydrology and pollution control. Many career options may require more than two years of college study.

Associate in science degree
Geology

Students completing the program will be able to...
A. identify, describe, and classify earth materials, formations, and structures and interpret them in terms of geologic processes.
B. synthesize information from a variety of physical science disciplines to solve geologic problems.
C. develop and demonstrate analytical and critical thinking skills required for transfer into a four-year geologic science program.

The geology major at Diablo Valley College (DVC) prepares students to transfer to a University of California, California State University, or other baccalaureate-granting college or university to earn a bachelor's degree in geology or other earth science.

The geology major at DVC consists of at least 38 units of study, including 8 units of geology where students will learn the fundamentals of geologic science and gain hands-on experience in geology laboratories. In addition, students will complete a year of calculus courses, a year of chemistry courses, and a year of physics courses that are typically required for a bachelor's degree at baccalaureate-granting institutions. A list of electives including courses such as California Geology, Maps and Cartography, or Introduction to Field Geology allows the student to explore specific fields of greater interest.

The DVC geology major is intended for transfer. Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to baccalaureate-granting institutions of their choice are met. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE). Option 1 (DVC General Education) is not generally advised.

To earn an associate in science degree with a major in geology, students must complete each course used to meet a major requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the major. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

Group 1: Core geology courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL-120</td>
<td>Physical Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-121</td>
<td>Earth and Life Through Time</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-122</td>
<td>Physical Geology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>GEOL-124</td>
<td>Earth and Life Through Time Laboratory</td>
<td>1</td>
</tr>
</tbody>
</table>

Group 2: Core mathematics courses

complete at least the first two courses (at least 10 units):

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH-192</td>
<td>Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>MATH-193</td>
<td>Analytic Geometry and Calculus II</td>
<td>5</td>
</tr>
<tr>
<td>MATH-292</td>
<td>Analytic Geometry and Calculus III</td>
<td>5</td>
</tr>
</tbody>
</table>

Group 3: Core chemistry courses

complete 10 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM-120</td>
<td>General College Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-121</td>
<td>General College Chemistry II</td>
<td>5</td>
</tr>
</tbody>
</table>

Group 4: Core physics courses

complete a minimum of two terms from one sequence (at least 8 units):

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS-130</td>
<td>Physics for Engineers and Scientists A: Mechanics and Wave Motion</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-230</td>
<td>Physics for Engineers and Scientists B: Heat and Electro-Magnetism</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-231</td>
<td>Physics for Engineers and Scientists C: Optics and Modern Physics</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHYS-120</td>
<td>General College Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-121</td>
<td>General College Physics II</td>
<td>4</td>
</tr>
</tbody>
</table>

Group 5: Electives

complete at least one course (2-4 units):

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG-125</td>
<td>Introduction to Geographic Information Systems (GIS)</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-160</td>
<td>Introduction to Remote Sensing</td>
<td>4</td>
</tr>
<tr>
<td>GEOG-162</td>
<td>Map Design and Visualization</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-125</td>
<td>Geology of California</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-135</td>
<td>Introduction to Field Geology</td>
<td>2</td>
</tr>
</tbody>
</table>

total minimum units for the major 38
Associate in science in geology for transfer

Students completing the program will be able to...

A. identify, describe, and classify earth materials, formations, and structures and interpret them in terms of geologic processes.

B. synthesize information from a variety of physical science disciplines to solve geologic problems.

C. develop and demonstrate analytical and critical thinking skills required for transfer into a four-year geologic science program.

The associate in science in geology for transfer at Diablo Valley College (DVC) prepares students to transfer to a California State University (CSU) or other four-year college or university to earn a bachelor’s of science degree in geology, geological science, or similarly named earth science field. In addition, the course work prepares students for a wide range of professional opportunities across many scientific disciplines.

The associate in science in geology for transfer consists of 28 units of study, including eight units of geology where students will learn the fundamentals of geologic science and gain hands-on experience in geology laboratories. In addition, students will complete a year of calculus courses and a year of chemistry courses. Though not specifically required by this transfer major, it is highly recommended that students also take a year of physics courses that are typically required for a bachelor’s degree at four-year institutions.

The associate in science in geology for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE) or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSU GE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

### major requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>CHEM-120</td>
<td>General College Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-121</td>
<td>General College Chemistry II</td>
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</tr>
<tr>
<td>GEOL-120</td>
<td>Physical Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-121</td>
<td>Earth and Life Through Time</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-122</td>
<td>Physical Geology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>MATH 192</td>
<td>Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>MATH 193</td>
<td>Analytic Geometry and Calculus II</td>
<td>5</td>
</tr>
</tbody>
</table>

**total minimum units for the major 28**

### GEOL-120 Physical Geology

3 units SC

- IGETC: 5A; CSU GE: B1; DVC GE: II
- 54 hours lecture per term
- Advisory: MATH-085 or MATH-085SP or beginning algebra or equivalent. College-level reading and writing are expected.

This is a general course in geologic science that encompasses nearly all phases of geology. Students will gain an appreciation and understanding of the fundamental processes that have changed, and are presently changing, the Earth’s crust. The recognition of common minerals, rocks and landscape features of the Earth will be included. Students will practice quantitative reasoning and mathematical concepts. C-ID GEOL 100, CSU, UC

### GEOL-121 Earth and Life Through Time

3 units LR

- IGETC: 5A; CSU GE: B1; DVC GE: II
- 54 hours lecture per term
- Advisory: GEOL-120, GEOL-122 or equivalent

This course introduces the history of the Earth from its beginning to the present. Topics included are the origin of the Earth, the development of plant and animal life, and the physical changes in the Earth that have led to the features that are observed today. C-ID GEOL 110, CSU, UC

### GEOL-122 Physical Geology Laboratory

1 unit SC

- IGETC: 5C; CSU GE: B3
- 54 hours laboratory per term
- Co-requisite: GEOL-120 (may be taken previously) or equivalent
- Advisory: MATH-085 or MATH-085SP or beginning algebra or equivalent

- Note: Field trips may be included in the course

This course is the laboratory component to Physical Geology (GEOL-120). Topics include the description and identification of minerals and all types of rocks, studies of topographic and geologic maps, as well as the internal structure of the earth using cross-sections. Laboratory studies of earthquakes, tectonic activity, and surficial features of the earth are included. C-ID GEOL 100L, CSU, UC
GEOL-124  Earth and Life Through Time Laboratory
1 unit LR
• IGETC: 5C; CSU GE: B3
• 54 hours laboratory per term
• Prerequisite: GEOL-121 or equivalent (may be taken concurrently)

This course is the laboratory component to Earth and Life Through Time (GEOL-121) and focuses on the techniques of historical geological investigations. Laboratory activities include identification and interpretation of the basic rocks and minerals that make up the earth, as well as recognition and classification of common types of fossils. Topics include geologic dating, plate tectonics, stratigraphy, fossils, biological evolution, the planet’s origin and the processes that have influenced paleogeography during the past 4.6 billion years. C-ID GEOL 110L, CSU, UC

GEOL-125  Geology of California
3 units SC
• IGETC: 5A; CSU GE: B1; DVC GE: II
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.

This course is designed to familiarize students with the varied geological, topographical and geographical aspects of California. This will include a general study of the provinces of California, the major rock types and their occurrence, the major earthquake faults and their frequency of activity, and the general geologic history. Mineral and petroleum resources of the state will be discussed. C-ID GEOL 200, CSU, UC

GEOL-130  Earth Science
4 units LR
• IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
• 54 hours lecture/54 hours laboratory per term
• Advisory: MATH-085 or MATH-085SP or beginning algebra or equivalent. College-level reading and writing are expected.

This course introduces the essentials of earth science including the geosphere, atmosphere, hydrosphere, and solar system. The interactions between physical and chemical systems of the Earth such as the tectonic cycle, rock cycle, hydrologic cycle, weather and climate are explored. C-ID GEOL 121, CSU, UC

GEOL-135  Introduction to Field Geology
2 units LR
• 18 hours lecture/54 hours laboratory per term
• Prerequisite: GEOL-120 and GEOL-122 or equivalents
• Note: Field trips are definitely required. Most trips are to local parks or open spaces and students are responsible for their own transportation to and from these required components.

A course presents general field methods of geologic science. It is designed to provide students with the basic skills required to collect geologic data in the field and the skills necessary for constructing simple geologic maps. Types of fieldwork will include compass and orienteering work, measurement of rock features and descriptions of outcrops, as well as identification and mapping of geologic contacts. CSU, UC

GEOL-298  Independent Study
.5-3 units SC
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

GEOL-299  Student Instructional Assistant
.5-3 units SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU
GERMAN – GRMAN

Janette Funaro, Dean
Arts and Communication Division

Possible career opportunities
The study of German can open up opportunities in communications, foreign trade and banking, transportation, government, the Foreign Service, tourism, library services, teaching, professional translating, journalism, and all levels of education, including university teaching. Most foreign language careers require more than two years of study.

Program learning outcomes
Program learning outcomes are subject to change. The most current list of program learning outcomes for each program is published on the DVC website at www.dvc.edu/slo.

Associate in arts degree German
Students completing the program will be able to...
A. communicate verbally in the target language with accurate pronunciation in meaningful situations present in both informal and formal contexts.
B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.
C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.
D. discuss, describe, and infer information from authentic texts in the target language.
E. demonstrate cultural appreciation by making (comparative) connections, on both an individual and societal level, between the target cultures and students’ own culture.
F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

The DVC German major is intended for transfer. Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to baccalaureate-granting institutions of their choice are met. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSUGE). Option 1 (DVC General Education) is appropriate for those students who do not intend to transfer. Students may not take a credit/no credit option for major courses and each of the major requirements must be completed with a “C” grade or higher. Certain courses may satisfy both a major and a general education requirement; however, the units are counted only once.

To earn an associate in arts degree in German, students must complete 20 units from the list of major requirements, which will provide students with the essential grammar of the language, culture and basic literature of the German-speaking countries. Students with no previous knowledge of German when entering DVC will take the first four courses in the list for a total of 20 units. If students enter the program with previous knowledge of German, they may start at the second term level and take fifth and sixth terms to achieve a total of 21 units.

complete at least 20 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRMAN-120</td>
<td>First Term German</td>
<td>5</td>
</tr>
<tr>
<td>GRMAN-121</td>
<td>Second Term German 5</td>
<td>5</td>
</tr>
<tr>
<td>GRMAN-220</td>
<td>Third Term German</td>
<td>5</td>
</tr>
<tr>
<td>GRMAN-221</td>
<td>Fourth Term German</td>
<td>5</td>
</tr>
<tr>
<td>GRMAN-230</td>
<td>Fifth Term German</td>
<td>3</td>
</tr>
<tr>
<td>GRMAN-231</td>
<td>Sixth Term German</td>
<td>3</td>
</tr>
</tbody>
</table>

total minimum units for the major 20

Certificate of achievement German
Students completing the program will be able to...
A. communicate verbally in the target language with accurate pronunciation in meaningful situations present in both informal and formal contexts.
B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.
C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.
D. discuss, describe, and infer information from authentic texts in the target language.
E. demonstrate cultural appreciation by making (comparative) connections, on both an individual and societal level, between the target cultures and students’ own cultures.
F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.
This certificate of achievement was created to give students the opportunity to show potential employers in this country and in other countries that the student has completed a certain number of courses in German and prepares students with an intermediate to advanced knowledge of German and familiarizes them with the culture of the German-speaking world.

This certificate of achievement provides students, prospective employers and others with documented evidence of persistence and academic accomplishment in the language. The certificate requires completion of at least 13 units from the following list of courses. Students may not take a credit/no credit option for required courses and each course must be completed with a “C” grade or higher.

complete at least 13 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRMAN-120</td>
<td>5</td>
<td>IGETC: 6A; 90 hours lecture per term; Note: This course is equivalent to two years of high school study.</td>
</tr>
<tr>
<td>GRMAN-121</td>
<td>5</td>
<td>IGETC: 3B, 6A; CSU GE: C2; DVC GE: III; 90 hours lecture per term; Prerequisite: GRMAN-120 or two years of high school study or equivalent; Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.</td>
</tr>
<tr>
<td>GRMAN-220</td>
<td>5</td>
<td>IGETC: 3B, 6A; CSU GE: C2; DVC GE: III; 90 hours lecture per term; Prerequisite: GRMAN-121 or three years of high school study or equivalent; Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.</td>
</tr>
<tr>
<td>GRMAN-221</td>
<td>5</td>
<td>IGETC: 3B, 6A; CSU GE: C2; DVC GE: III; 90 hours lecture per term; Prerequisite: GRMAN-220 or four years of high school study or equivalent; Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.</td>
</tr>
<tr>
<td>GRMAN-230</td>
<td>3</td>
<td>IGETC: 3B, 6A; CSU GE: C2; DVC GE: III; 54 hours lecture per term; Prerequisite: GRMAN-221 or equivalent; Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.</td>
</tr>
</tbody>
</table>

This course provides an introduction to the German language and the culture of German-speaking countries. Topics include the four language skills: speaking, listening, reading, and writing. Emphasis is placed on active use of the language in class as well as basic communicative functions and structures. CSU, UC

This is the second course in a sequence of German language courses. The course continues skill building in understanding, speaking, reading, and writing of the German language. The expansion of vocabulary and more advanced communicative functions and structures, as well as a deeper examination of the cultures of German-speaking countries are emphasized. CSU, UC

This is the third term German course in the sequence that develops early intermediate fluency in understanding, speaking, reading and writing German. All verbal tenses are reviewed, expanded and refined. Advanced grammar concepts, new vocabulary and idiomatic expressions are introduced. Selected readings about the culture and literature of German speaking countries will be explored. This course is taught mainly in German. CSU, UC

This is the fourth term German course in the sequence that develops intermediate fluency in understanding, speaking, reading and writing German. The grammatical moods are reviewed and developed; the sequences of tenses are introduced. Additional vocabulary and idiomatic expressions are introduced and connected to the selected readings. These readings about German culture and literature will be analyzed. This course is taught mainly in German. CSU, UC

This is the fifth term advanced German language course emphasizing reading, writing (prioritizing the mechanics of academic writing), listening, and speaking skills. The rich German heritage is explored through a wide range of materials including short stories, articles, poems, films, and documentaries. This course is taught almost entirely in German. CSU, UC
**GRMAN-231  Sixth Term German**

3 units SC  
- IGETC: 3B, 6A; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Prerequisite: GRMAN-230 or equivalent  
- Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the sixth term advanced German language course strengthening reading, writing (prioritizing the mechanics of academic writing), listening, and speaking skills. The exploration of the rich German heritage is deepened through a wide range of materials including novels, articles, poems, films, documentaries, and dramas. This course is taught almost entirely in German. CSU, UC

**GRMAN-299  Student Instructional Assistant**

.5-3 units SC  
- Variable hours  
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

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**HEALTH SCIENCE – HSCI**

See Public Health - PH

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**HEATING, VENTILATION, AIR CONDITIONING, REFRIGERATION - HVACR**

Despina Prapavessi, Dean  
Mathematics and Engineering Division  
Mathematics Building, Room 263

**Possible career opportunities**

Upon successful completion of the Heating Ventilation Air Conditioning and Refrigeration (HVACR) program, students will have the necessary knowledge and skills for a career in residential, commercial, or industrial HVACR, including careers as Heating and Air Conditioning Mechanics and Installers and as Refrigeration Mechanics and Installers. Program content includes an introduction to the electrical and mechanical principles used in air conditioning and refrigeration, including meters, circuits, contactors, relays, thermostats, pressure switches, motors, overloads, controls, and boilers. Reading and drawing of schematic diagrams, troubleshooting, and safe electrical practices are also covered.

**Associate in science degree**

**Heating, ventilation, air conditioning, and refrigeration (HVACR)**

Students completing the program will be able to...

A. analyze the electrical parts of the refrigeration system.  
B. differentiate between many types of motor.  
C. distinguish between mechanical and electrical controls.  
D. demonstrate basic control design that have applications to the HVACR industry.  
E. identify the different types of controllers for the HVACR industry.  
F. use oral and written communication skills in the HVACR industry.

In collaboration with Plumbers-Steamfitters-Refrigeration Union Local 342 [www.ua342.org](http://www.ua342.org), DVC currently offers three five-year apprenticeship programs: steamfitting, plumbing, and HVACR. Apprenticeship is training that is designed to prepare an individual for a career in the skilled crafts and trades. Apprentices develop technical skills, experience the sharing of assignments and see how technical tasks relate specifically with theoretical knowledge and interpretation. Apprentices earn a wage while learning. Enrollment in this program is restricted. You must be registered as an apprentice with the State of California to participate in the program and accepted into the apprenticeship program by our union partners.
While completing their HVACR apprenticeship, DVC students can earn awards at three levels of completion: a certificate of accomplishment, a certificate of achievement, and an associate in science degree. To earn an associate in science degree with a major in HVACR, students must complete 20 out of 31 core courses to meet their individual educational and career goals. In addition they must complete 18 general education units. Students must complete each course used to meet a major requirement with a "C" grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the major.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HVACR-110</td>
<td>Electrical Theory I</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-111</td>
<td>Mechanical Refrigeration Theory</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-112</td>
<td>Electrical Theory II</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-113</td>
<td>The Refrigeration Cycle</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-114</td>
<td>Intermediate Electrical I</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-115</td>
<td>Intermediate Mechanical Refrigeration I</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-116</td>
<td>Intermediate Electrical II</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-117</td>
<td>Intermediate Mechanical Refrigeration II</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-118</td>
<td>Electrical Troubleshooting I</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-119</td>
<td>Electrical Troubleshooting II</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-120</td>
<td>Introduction to Direct Digital Controls</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-121</td>
<td>Introduction to Variable Frequency Drives</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-122</td>
<td>Introduction to Market Refrigeration</td>
<td>1.5</td>
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<tr>
<td>HVACR-123</td>
<td>Introduction to Market Refrigeration Systems</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-124</td>
<td>Introduction to Pneumatic Controls</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-125</td>
<td>Advanced Compressor and Motor Theory</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-126</td>
<td>Start Test Balance: Water Side I</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-127</td>
<td>Start Test Balance: Air Side I</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-128</td>
<td>Start Test Balance: Water Side II</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-129</td>
<td>Start Test Balance: Air Side II</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**total minimum required units** 21

**Certificate of achievement**

**Heating ventilation air conditioning and refrigeration (HVACR)**

Students completing the program will be able to...

A. compare a number of basic principles and laws of electricity as they relate to AC refrigeration.

B. analyze the electrical parts of the refrigeration system.

C. differentiate between many types of motor.

D. distinguish between mechanical and electrical controls.

E. demonstrate basic control design that have applications to the HVACR industry.

F. identify the different types of controllers for the HVACR industry.

In collaboration with Plumbers-Steamfitters-Refrigeration Union Local 342 www.ua342.org, DVC currently offers three five-year apprenticeship programs: steamfitting, plumbing, and HVACR. Apprenticeship is training that is designed to prepare an individual for a career in the skilled crafts and trades. Apprentices develop technical skills, experience the sharing of assignments and see how technical tasks relate specifically with theoretical knowledge and interpretation. Apprentices earn a wage while learning. Enrollment in this program is restricted. You must be registered as an apprentice with the State of California to participate in the program and accepted into the apprenticeship program by our union partners.

**Certificate of accomplishment**

**Heating ventilation air conditioning and refrigeration (HVACR)**

Students completing the program will be able to...

A. identify tools and equipment, used in the industry.

B. demonstrate general safety practices.

C. compare a number of basic principles and laws of electricity as they relate to AC refrigeration.

D. analyze the electrical parts of the refrigeration system.

E. differentiate between many types of motor.

F. distinguish between mechanical and electrical controls.

In collaboration with Plumbers-Steamfitters-Refrigeration Union Local 342 www.ua342.org, DVC currently offers three five-year apprenticeship programs: steamfitting, plumbing, and HVACR. Apprenticeship is training that is designed to prepare an individual for a career in the skilled crafts and trades. Apprentices develop technical skills, experience the sharing of assignments and see how technical tasks relate specifically with theoretical knowledge and interpretation. Apprentices earn a wage while learning. Enrollment in this program is restricted. You must be registered as an apprentice with the State of California to participate in the program and accepted into the apprenticeship program by our union partners.
While completing their HVACR apprenticeship, DVC students can earn awards at three levels of completion: a certificate of accomplishment, a certificate of achievement, and an associate in science degree. To earn a certificate of accomplishment, students must complete five out of seven core courses. Students must complete each course used to meet a major requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate. The courses required for the certificate of accomplishment also meet some of the requirements of the certificate of achievement and major for the associate in science degree.

required courses: units

<table>
<thead>
<tr>
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<tbody>
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<tr>
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<tr>
<td>HVACR-114</td>
<td>Intermediate Electrical I</td>
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</tr>
<tr>
<td>HVACR-115</td>
<td>Intermediate Mechanical Refrigeration I</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-116</td>
<td>Intermediate Electrical II</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>total minimum required units</strong></td>
<td></td>
<td><strong>7.5</strong></td>
</tr>
</tbody>
</table>

HVACR-110 Electric Theory I
1.5 units LR

• 18 hours lecture/36 hours laboratory per term

Note: This program is sponsored by The United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course introduces concepts of electrical principles used in air conditioning and refrigeration. Topics include meters, circuits, contactors, relays, thermostats, pressure switches, motors, overloads, circuitry and troubleshooting. Kirchhoffs Law, and Ohms Law. Safety topics for the Heating Ventilation Air Conditioning and Refrigeration (HVACR) industry will also be covered.

HVACR-111 Mechanical Refrigeration Theory
1.5 units LR

• 18 hours lecture/36 hours laboratory per term

Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course presents the study of the design, assembly, and operation of compression systems. Topics include basic liquid and vapor control and metering devices as well as the design and construction of system piping including techniques of leak detection, dehydration of systems, charging methods, recovery and troubleshooting. In addition, safety, torch techniques, cutting, fitting, and brazing of various copper projects will be explored. Further, the techniques for isometric drawing and pipe symbols for soldering and brazing will be practiced.

HVACR-112 Electrical Theory II
1.5 units LR

• 18 hours lecture/36 hours laboratory per term

Note: This program is sponsored by the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course presents advanced concepts of electrical principles used in air conditioning and refrigeration. Topics include installation of heating, cooling, and refrigeration systems; basic electric motors and their components; contactors, relays, and overloads; thermostats, pressure switches, common electrical components used on a schematic, and other electric control devices; heating control devices; and troubleshooting.

HVACR-113 The Refrigeration Cycle
1.5 units LR

• 18 hours lecture/36 hours laboratory per term

Note: This program is sponsored by the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course covers the design, assembly and operation of refrigeration compression systems. Topics include charging, recovery, recycling, and reclamation; installation of heat pumps, safety procedures, leak testing and troubleshooting.
HVACR-114 Intermediate Electrical I
1.5 units LR
- 18 hours lecture/36 hours laboratory per term
- Note: This program is sponsored by the United Association of Union Plumbers, Fitters, Welders, and Service Technicians and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course introduces basic series and parallel circuits related to air conditioning (AC) and refrigeration. Motors, relays, contactors, thermostats, pressure switches and overloads will be examined and wired. Emphasis will be placed on electrical circuit troubleshooting.

HVACR-115 Intermediate Mechanical Refrigeration I
1.5 units LR
- 18 hours lecture/36 hours laboratory per term
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course covers components and applications of refrigeration systems; electric, gas, oil, and alternative (stoves, fireplace inserts, and solar) heating; indoor air quality, comfort and psychometrics; and refrigeration applied to air conditioning.

HVACR-116 Intermediate Electrical II
1.5 units LR
- 18 hours lecture/36 hours laboratory per term
- Note: This program is sponsored by the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course presents continued study of series and parallel circuits related to complex air conditioning (AC) and refrigeration systems. Advanced applications for motors, relays, contactors, thermostats, magnetic starters, pressure switches and overloads are examined and wired. Emphasis will be placed on electrical circuit troubleshooting.

HVACR-117 Intermediate Mechanical Refrigeration II
1.5 units LR
- 18 hours lecture/36 hours laboratory per term
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course presents the practical and theoretical aspects of heating, air conditioning, and refrigeration (HVACR). Topics include gas controls, gas ignition systems, gas furnace troubleshooting and safety.

HVACR-118 Electrical Troubleshooting I
1.5 units LR
- 18 hours lecture/36 hours laboratory per term
- Note: This program is sponsored by the United Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course will cover advanced electrical controls with special emphasis on troubleshooting and repair. Topics include proportional controls, economizers and variable air volume (VAV) controls and motors. Safety procedures will be stressed.

HVACR-119 Electrical Troubleshooting II
1.5 units LR
- 18 hours lecture/36 hours laboratory per term
- Note: This program is sponsored by the United Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course presents additional topics in advanced electrical controls with emphasis on troubleshooting and repair. Topics include proportional, open/closed transition, pump, fans, economizers, and variable air volume (VAV) controls, as well as motor starting techniques including variable frequency drives (VFD). Safety procedures are also emphasized.

HVACR-120 Introduction to Direct Digital Controls
1.5 units LR
- 18 hours lecture/36 hours laboratory per term
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course will cover direct digital controls (DDC) as they apply to the heating, air conditioning and refrigeration industry. Techniques to troubleshoot and diagnose hardware and software problems with DDC systems will be presented. The course includes hands-on wiring, testing, and programming of typical components found in the industry. Basic programming languages and pneumatic actuators to better understand the internal operation of the system will also be introduced.

HVACR-121 Introduction to Variable Frequency Drives
1.5 units LR
- 18 hours lecture/36 hours laboratory per term
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course provides an introduction to variable frequency drives (VFD’s), applications of use, and limited troubleshooting. Parameterization for start up, open loop, closed loop, floating point, and preset speed profiles will be covered.
HVACR-122 Introduction to Market Refrigeration Systems
1.5 units LR
- 18 hours lecture/36 hours laboratory per term
- Note: This program is sponsored by the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course covers refrigeration equipment, cases, defrost methods, timers, control devices, oil float systems, and heat reclaim controls. Topics will include print reading, wiring and piping diagrams, and refrigeration schedule in a typical market setting. Operation and location of compressors, evaporators, condensers, refrigerated cases, walk-ins, heat reclaim, and connecting paraphernalia will also be presented.

HVACR-123 Introduction to Pneumatic Controls
1.5 units LR
- 18 hours lecture/36 hours laboratory per term
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course presents the operation of direct and reverse acting controls, air compressors, sizing of valves and dampers, thermostats, auxiliary devices, transmitters, pneumatic and receiver controllers.

HVACR-124 Introduction to Boilers
1.5 units LR
- 18 hours lecture/36 hours laboratory per term
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course covers the components and operation of boiler systems used in hotels, apartment buildings, schools, and other large institutions. A comprehensive overview of the safe and efficient operation of high pressure boilers and related equipment is provided, including the latest combustion control technology, and Environmental Protection Agency (EPA) regulations and their implications. This course is designed to prepare students for licensing examinations.

HVACR-125 Advanced Compressor and Motor Theory
1.5 units LR
- 18 hours lecture/36 hours laboratory per term
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

The course presents reciprocating compressor disassembly and assembly. Topics include compressor function, safety, troubleshooting, alignment, and performance. Unloaders, oils, electrical, refrigerant gas, starters, and start-up procedures will also be explored.

HVACR-126 Start Test Balance: Water Side I
1.5 units LR
- 18 hours lecture/36 hours laboratory per term
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course introduces the basic principles of air and water flow. The Mollier Diagram will be used to apply these principles to air conditioning and refrigeration.

HVACR-127 Start Test Balance: Air Side I
1.5 units LR
- 18 hours lecture/36 hours laboratory per term
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course provides an overview of commercial air conditioning systems operations. Topics include direct expansion (DX) and chiller systems, fan types, pumps, boiler controls, related systems, and service methods. The use and application of heat load equations, charts, and procedures is introduced.

HVACR-128 Start Test Balance: Water Side II
1.5 units LR
- 18 hours lecture/36 hours laboratory per term
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course describes proper procedures for start, test, and balance of air conditioning systems utilizing principles of air and water flow. Topics include sizing of refrigerant piping for liquid, the benefits of psychrometrics on human comfort, fan laws, air movement, pumps, piping, evaporative cooling, and air and water measurement.
In order to earn the degree, students must:

- Attend a specific campus or major.
- Are guaranteed admission to the CSU system, but not to a specific major at a CSU campus.
- Students completing this degree are eligible to transfer to a prospective transfer institution and consult a counselor.

This course provides an overview of commercial air conditioning systems emphasizing air distribution, heat flow, and service methods. Students will also investigate air measurement and the impact of duct design on air distribution.

### HISTORY – HIST

Obed Vazquez, Dean
Social Sciences Division
Faculty Office Building, Room 136

**Possible career opportunities**
The study of history contributes to cultural literacy, developing critical thinking and other useful skills for a broad range of careers, including education, public service and law. Most career options require more than two years of college study.

**Associate in arts in history for transfer**
Students completing the program will be able to...

- Understand and value the importance of diverse perspectives in history.
- Analyze the causes and the effects of historical events.
- Apply critical thinking strategies to better understand and explain why historical events occurred and how those events affected various populations.
- Evaluate, using critical thinking strategies, how interpretations of historical events can be disputed.

The associate in arts in history for transfer is intended for students who plan to complete a bachelor's degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area IC requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSU GE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST-120</td>
<td>History of the United States before 1865</td>
<td>3</td>
</tr>
<tr>
<td>HIST-121</td>
<td>History of the United States after 1865</td>
<td>3</td>
</tr>
<tr>
<td>HIST-122</td>
<td>Critical Reasoning in History</td>
<td>3</td>
</tr>
<tr>
<td>HIST-123</td>
<td>Contemporary European History</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total minimum units for the major:** 18

### PROGRAM/COURSE DESCRIPTIONS

**HVACR-129 Start Test Balance: Air Side II**

1.5 units LR

- 18 hours lecture/36 hours laboratory per term
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course provides an overview of commercial air conditioning systems emphasizing air distribution, heat flow, and service methods. Students will also investigate air measurement and the impact of duct design on air distribution.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Type</th>
<th>IGETC</th>
<th>CSU GE</th>
<th>DVC GE</th>
<th>Advisory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST-120</td>
<td>History of the United States before 1865</td>
<td>3</td>
<td>SC</td>
<td></td>
<td>C2, D</td>
<td>III, IV</td>
<td>College-level reading and writing are expected.</td>
<td>This course presents a multicultural history of the United States before 1865. Students will explore social, political, cultural, and economic experiences and contributions of African American, Asian American, European American, Latinx American, and Native American men and women in the development of United States society. The origins, nature, and impact of the U.S. Constitution on United States history before 1865 including the political philosophies of the framers, the operation of political institutions, and the rights and obligations of citizens will also be covered. C-ID HIST 130, CSU, UC</td>
</tr>
<tr>
<td>HIST-121</td>
<td>History of the United States after 1865</td>
<td>3</td>
<td>SC</td>
<td></td>
<td>C2, D</td>
<td>III, IV</td>
<td>College-level reading and writing are expected.</td>
<td>This course presents a multicultural history of the United States from 1865 to present. Students will explore social, political, cultural, and economic factors in the development of the United States. Topics will include the operation and the continuing evolution of local, state and federal governments under the U.S. and California constitutions and the experiences of groups from diverse backgrounds such as European Americans, Asian Americans, African Americans, Native Americans and Latinx Americans. The growing international role of the United States from the late nineteenth century to the present will also be examined. C-ID HIST 140, CSU, UC</td>
</tr>
<tr>
<td>HIST-122</td>
<td>Critical Reasoning in History</td>
<td>3</td>
<td>SC</td>
<td></td>
<td>A3</td>
<td>IB</td>
<td>Prerequisite: ENGL-122 or equivalent</td>
<td>This course presents the processes of questioning, analyzing, and evaluating oral and written ideas, concepts, and interpretations of the past. The principles of inductive and deductive reasoning are applied to examine historical viewpoints, gather and organize historical information, recognize historical relationships and patterns, and assess the relevance of history to current events and issues. CSU, UC</td>
</tr>
<tr>
<td>HIST-124</td>
<td>History of California</td>
<td>3</td>
<td>SC</td>
<td></td>
<td>C2, D</td>
<td>III, IV</td>
<td>College-level reading and writing are expected.</td>
<td>This course is a survey of the history of California from pre-conquest to the present. The course highlights California Constitutions, the formation and growth of state and local governments, and the unique social, political, economic and cultural forces that spurred the development of modern California. Topics will include the role of Native Americans, immigration, geography, war, and natural resources in the formation of a vibrant and multicultural California. CSU, UC</td>
</tr>
<tr>
<td>HIST-125</td>
<td>History of the United States: A Mexican American Perspective</td>
<td>3</td>
<td>SC</td>
<td></td>
<td>C2, D</td>
<td>III, IV</td>
<td>College-level reading and writing are expected.</td>
<td>This course presents an overview of United States (U.S.) history from 1848 to the present with an emphasis on the role of peoples of Mexican-origin -- both immigrants and U.S. born. History from social, political, economic, and cultural perspectives will be examined. The contributions of Mexican-origin people to the multicultural development of contemporary American society, including their interaction with other Latino communities, as well as people of European, African, Asian, and Native descent are emphasized. The impact of U.S. attitudes and policies on peoples of Mexican-origin will also be addressed. CSU, UC</td>
</tr>
<tr>
<td>HIST-126</td>
<td>The American West</td>
<td>3</td>
<td>SC</td>
<td></td>
<td>C2, D</td>
<td>III, IV</td>
<td>College-level reading and writing are expected.</td>
<td>This course surveys the movement of the American people from the Atlantic seaboard across North America and into the Pacific, including the history of western half of the current United States of America. Focusing on the Westward Movement during the nineteenth century, this course examines the historical experience from a social, political, economic, and cultural perspective the present. The role of the diverse ethnic and racial communities of the West and their interaction with one another, their contributions to the construction of the American national character, and the experience of “the West” as a moving borderland with other nations, societies and cultures will also be emphasized. CSU, UC</td>
</tr>
</tbody>
</table>
HIST-127  African American Perspective History of the US to 1865
3 units  SC
- IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course presents a survey of the history of the United States from the perspective of African Americans and compares the African experience with the experiences of Europeans, Native Americans, Asian Americans and Mexicans/Mexican Americans. Early African presence in the Americas, the trade in African slaves, and the political, economic, demographic and cultural influences shaping African American life and culture prior to 1865 will be examined. The U.S. government and the Constitution, the California government and Constitution, and other constitutional models for comparison and contrast will also be covered. CSU, UC

HIST-128  African American Perspective History of the US after 1865
3 units  SC
- IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course presents a survey of the history of the United States from the perspective of African Americans and compares the African American experience with that of Native peoples, Europeans, Asian Americans and Hispanics/Latinos after 1865. The course explores the economic, cultural, institutional, political history of African Americans from the post-Civil War period to the present. The African American relationship with national, California state and local governments will also be covered. CSU, UC

HIST-129  History of Asians and Pacific Islanders in the United States
3 units  SC
- IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course provides a comparative analysis of Asian American History from 1848 to the present. Topics include an exploration of Asian American perspectives; immigration and settlement patterns; labor, legal, political and social history. A comparative historical approach, placing Asian immigration within the context of global interdependence and inequality, frames the course materials. This course will examine migration theories and patterns, the politics and policies of U.S. immigration, resettlement patterns, and the reconstruction of identities and social networks. The three periods of Asian Immigration: Before World War II; during and after World War II and the Cold War; and after 1965 to the present will be explored. CSU, UC

HIST-135  History of Latin America - The Colonial Period
3 units  SC
- IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course introduces the student to the history of colonial Latin America from 1492 through the European conquest, the creation of new empires, and the subsequent fall of the latter in the first two decades of the 19th century. Students will examine how geography, the encounter between pre-Columbian cultures and Spanish/Portuguese colonialism, the introduction of African slavery, and the movements for independence shaped Latin America and its inhabitants. The connections of past and present in the Latin American world including early Latin-American history from pre-Columbian indigenous cultures through the early nineteenth century independence movements will also be explored. CSU, UC

HIST-136  History of Latin America - The National Period
3 units  SC
- IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course surveys the history of Latin America during the National Period (from independence to the present), considering the legacies of conquest and 300 years of Spanish colonialism. Latin American political, economic, social and cultural development from the 19th to 21st centuries is examined using specific countries and regions as case studies. How geography, the encounter between pre-Columbian cultures and Spanish/Portuguese colonialism, the introduction of African slavery, and the movements for independence shaped Latin America and its inhabitants is also explored. CSU, UC

HIST-140  History of Western Civilization to the Renaissance
3 units  SC
- IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course presents the history of modern civilization from the ancient world to the Renaissance (circa 1500). Political, economic, social, cultural, and intellectual developments and relationships in the western world are examined. C-ID HIST 170, CSU, UC
HIST-141 **History of Western Civilization since the Renaissance**
3 units SC
• IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.

This course presents the history of western civilization from the 16th century to the present time. Emphasis is placed on the emergence of Europe’s unique social structures and development, tracing political, economic, social, cultural, and intellectual change from the late medieval to the contemporary era. The development of modern Europe will be explored in its global context, addressing important issues such as class, gender, race, religion, empire, power, and equality. C-ID HIST 180, CSU, UC

HIST-142 **Contemporary European History**
3 units SC
• IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.

This course is a study of political, social, economic and cultural developments in recent European history from the late 19th century to the present. Students will examine the influence of Europe in international events since the late 19th century. Emphasis is placed on the impact of ideologies, the origins of wars, the ongoing effects of conflict, and progress toward coexistence. The impact of United States foreign policy in twentieth century Europe will be explored, as will the important process of decolonization and the European Union. CSU, UC

HIST-150 **History of East Asia (to 1600)**
3 units SC
• IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.

This course offers a history of East Asia, with emphasis on China and Japan, from pre-historical times to the beginning of the 17th century. CSU, UC

HIST-151 **History of East Asia (from 1600 - Present)**
3 units SC
• IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.

This course presents the history of East Asia, from the 17th century to the present with emphasis on China and Japan. The history of Korea and Vietnam will also be considered. CSU, UC

HIST-155 **Topics in History**
.3-.4 units SC
• Variable hours

A supplemental course in history to provide a study of current concepts and problems in history and related substantive areas. Specific topics will be announced in the schedule of classes. CSU

HIST-170 **History of Women in the United States before 1877**
3 units SC
• IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV
• 54 hours lecture per term

This course is a survey of United States history before 1877, with an emphasis on women’s life experiences within the context of broader historical change. We will examine the commonalities of women’s experiences and explore the impacts of race, law, ethnicity, class, and region on women’s lives. This course also explores how women both fostered and were affected by social, political, economic, legal and cultural transformations in the United States. The impact of the U.S. and California Constitutions on women’s life experiences and the activities of federal, state, and local governments will also be assessed. CSU, UC

HIST-171 **History of Women in the United States after 1865**
3 units SC
• IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.

This course is a survey of United States history, after 1865 to present, emphasizing women’s life experiences within the context of larger historical changes. Students will examine the commonalities of women’s experiences and explore the impacts of race, class, gender, and region on women’s lives. This course will explore how women fostered and were affected by social, political, economic, and cultural transformations in the United States. The impact of the U.S. and California Constitutions and the activities of federal, state, and local governments on the experiences of women will also be covered. CSU, UC
HIST-180 World History to 1500
3 units SC
- IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course presents a broad survey of world history, emphasizing the dynamic interaction of cultures and peoples and the broad patterns of global history to 1500 CE. This course examines the key social, political, economic, cultural, and intellectual forces that shaped the major world civilizations. While the legacy of these major civilizations will be emphasized, less influential societies are also examined for perspective. C-ID HIST 150, CSU, UC

HIST-181 World History since 1500
3 units SC
- IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course surveys world history from 1500 CE to the present, with an emphasis on the dynamic interaction of cultures and societies around the globe. The course considers the social, political, economic, cultural, and intellectual forces that shaped the major societies and less influential ones. The course examines the legacy of these forces worldwide and their contributions to present-day circumstances, including ongoing tensions between tradition and modernity. Specifically, it transcends nationalist versions of history to connect the histories of people worldwide through the methodology of World History. C-ID HIST 160, CSU, UC

HIST-298 Independent Study
.5-3 units SC
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

HIST-299 Student Instructional Assistant
.5-3 units SC
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

HORTICULTURE – HORT

Charles Ramos, Dean
Sciences Division
Physical Sciences Building, Room 263

Possible career opportunities
The horticulture program prepares students for numerous state licenses and industry certifications. State licenses include landscape contractor and pest control operator. Industry certifications include: nursery person, arborist, landscape technician, maintenance technician, and irrigation designer. Career choices in horticulture include: nursery technician, propagator, plant breeder, nursery manager, greenhouse grower, greenhouse manager, garden center manager, arborist/tree worker, landscape architect, landscape designer, grounds manager/municipal, landscape contractor, landscape maintenance contractor, golf course manager, and pest controller/advisor. Some career options may require more than two years of college work.

Associate in science in agriculture plant science for transfer
Students completing this program will be able to...
A. recognize and remediate soil properties in terms of chemistry, plant growth requirements, erosion, organic content, pore space and carbon sequestration.
B. produce plants using sexual and asexual methods of propagation, identifying water, nutrient, light, pH and temperature requirements per crop to produce crop production cost estimates.
C. evaluate, formulate, and apply needed nutrients for specific crops grown on given soils on a seasonal basis.
D. demonstrate pest problem solving skills through data analysis of biological and environmental factors influencing pest populations and application of integrated pest management options.
E. describe how markets function as applied to plant science.

The associate in science in agriculture plant science for transfer degree (AS-T in Agriculture Plant Science) provides students with courses aligned for transfer to the California State University plant science baccalaureate majors and courses in agriculture plant sciences. Potential careers include: Pest Control Advisor (PCA), farm management positions, landscape design, greenhouse manager, quality control manager, county and governmental compliance inspector, sales and marketing of seed and crop related materials. Courses include soils, plant propagation, plant identification, plant pest control, and water management.

Students transferring to a CSU campus that accepts this degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. Students should consult with a counselor for more information on specific university admission and transfer requirements.
Horticulture

In order to earn the degree, students must:

- Complete 60 semester CSU-transferable units.
- Complete the California State University-General Education-Breadth pattern (CSU GE-Breadth); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
- Complete a minimum of 18 semester units in the major.
- Obtain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60-unit requirement for an associate’s degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

**major requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORT-110</td>
<td>Introduction to Horticulture and Plant Science</td>
<td>4</td>
</tr>
<tr>
<td>HORT-120</td>
<td>Soil Science and Management</td>
<td>3</td>
</tr>
<tr>
<td>HORT-121</td>
<td>Soil Science and Management Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>CHEM-108</td>
<td>Introductory Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>or CHEM-120</td>
<td>General College Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>ECON-221</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>BUS-240</td>
<td>Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>or MATH-142</td>
<td>Elementary Statistics with Probability</td>
<td>4</td>
</tr>
<tr>
<td>or MATH-144</td>
<td>Statway II</td>
<td>4</td>
</tr>
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</table>

plus at least 3 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>HORT-111</td>
<td>Plant Propagation and Production: Winter and Spring</td>
<td>3</td>
</tr>
<tr>
<td>HORT-112*</td>
<td>Plant Propagation and Production: Winter and Spring</td>
<td>3</td>
</tr>
<tr>
<td>HORT-113</td>
<td>Plant Materials and their Uses: Winter and Spring</td>
<td>3</td>
</tr>
<tr>
<td>HORT-114</td>
<td>Plant Materials and their Uses: Summer and Fall</td>
<td>3</td>
</tr>
<tr>
<td>CHEM-226</td>
<td>Organic Chemistry I</td>
<td>5</td>
</tr>
</tbody>
</table>

**total minimum required units** 21

*must take both as equivalent to C-ID AG-EH 116 L*

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**Certificate of achievement Arboriculture**

Students completing the program will be able to...

A. identify commonly planted trees in local landscapes.
B. use dichotomous keys to correctly identify tree species.
C. use site analysis data to determine appropriate tree species.
D. explain how trees should be planted, staked, pruned, and irrigated.
E. identify common insect pests and disease pathogens of common trees.
F. assess tree health and recognize potential hazards.
G. interpret local tree ordinance regulations for county residents.
H. describe tree selection mistakes.
I. demonstrate techniques to mitigate tree pruning errors.

This certificate of achievement prepares students for employment as arborists in a variety of settings including public and private gardens, parks, golf courses, institutions, municipalities, utilities, government agencies, and commercial and residential tree care services. It includes classroom, laboratory, and work experience/internships. Completion of the certificate requirements will also prepare students to sit for the International Society of Arboriculture (ISA) certification.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and/or on weekends.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORT-110</td>
<td>Introduction to Horticulture</td>
<td>4</td>
</tr>
<tr>
<td>HORT-120</td>
<td>Soil Science and Management</td>
<td>3</td>
</tr>
<tr>
<td>HORT-125</td>
<td>Integrated Pest Management</td>
<td>3.5</td>
</tr>
<tr>
<td>HORT-170</td>
<td>Woody Plants: Identification and Maintenance</td>
<td>4</td>
</tr>
<tr>
<td>HORT-171</td>
<td>Pruning Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>HORT-179</td>
<td>Arboriculture</td>
<td>4</td>
</tr>
<tr>
<td>HORT-185</td>
<td>Site Analysis</td>
<td>1.5</td>
</tr>
<tr>
<td>HORT-187</td>
<td>Sustainable Water Practices</td>
<td>3</td>
</tr>
</tbody>
</table>

plus at least 2 units from:

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<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORT-296</td>
<td>Internship Occupational Work</td>
<td>2-4</td>
</tr>
</tbody>
</table>

**total minimum required units** 26
Certificate of achievement  
**Arboriculture entrepreneurship**

Students completing this program will be able to...
A. implement tree trimming safety procedures.
B. use field examinations to determine tree problems.
C. diagnose woody plant suitability for given sites.
D. recognize species and the characteristics of a given species.
E. construct a business plan and essential financial documents for a small business.
F. describe basic accounting and marketing knowledge to support a business.

This certificate of achievement adds business courses to the Tree Technician Certificate of Accomplishment. The additional coursework provides the business skills needed to start and run arboriculture businesses or enhance employability in local arboriculture businesses.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and/or on weekends.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>HORT-110</td>
<td>Introduction to Horticulture and Plant Science</td>
<td>4</td>
</tr>
<tr>
<td>HORT-170</td>
<td>Woody Plants: Identification and Maintenance</td>
<td>4</td>
</tr>
<tr>
<td>HORT-171</td>
<td>Pruning Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>HORT-179</td>
<td>Arboriculture</td>
<td>4</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
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<tr>
<td>BUSMG-191</td>
<td>Small Business Management</td>
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</tr>
<tr>
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<td>Entrepreneurship and Venture Management</td>
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</tr>
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<td>plus at least 3 units from:</td>
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<tr>
<td>BUSAC-185</td>
<td>QuickBooks Accounting for Business I</td>
<td>1.5</td>
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<tr>
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<td>QuickBooks Accounting for Business II</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSMK-259</td>
<td>Digital Marketing Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>BUSMK-260</td>
<td>Social Media Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units** 19

Certificate of achievement  
**Landscape design entrepreneurship**

Students completing this program will be able to...
A. apply principles of planting design theory to landscape design projects.
B. prepare rendered documents for presentation.
C. prepare professional level planting plans and schedules, estimating quantity and sizes of plants required.
D. construct a business plan and essential financial documents for a small business.
E. describe basic accounting and marketing knowledge to support a business.

This certificate of achievement adds business courses to the Landscape Design Fundamentals Certificate of Accomplishment. The additional coursework provides the business skills needed to start and run landscape design businesses or to enhance employability in local landscaping businesses.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and/or on weekends.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ARCLA-120</td>
<td>Introduction to Landscape Architecture and Environmental Design</td>
<td>3</td>
</tr>
<tr>
<td>ARCLA-121</td>
<td>Landscape Design</td>
<td>3</td>
</tr>
<tr>
<td>ARCLA-130</td>
<td>Landscape Design and Graphics</td>
<td>3</td>
</tr>
<tr>
<td>HORT-110</td>
<td>Introduction to Horticulture and Plant Science</td>
<td>4</td>
</tr>
<tr>
<td>HORT-120</td>
<td>Soil Science and Management</td>
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</tr>
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<tr>
<td>HORT-113</td>
<td>Plant Materials and their Uses: Winter and Spring</td>
<td>3</td>
</tr>
<tr>
<td>HORT-114</td>
<td>Plant Materials and their Uses: Summer and Fall</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units** 26.5

Certificate of achievement  
**Landscape design**

Students completing the program will be able to...
A. develop fundamental designer and client communication techniques.
B. perform a site analysis and inventory.
C. recognize and develop a personal landscape design process.
D. create presentations through graphic sketching and drafting.
E. identify plant and non-plant material suitable for specific site design.
F. produce a portfolio and related documents necessary to enter the marketplace

This certificate presents the fundamental skills used by landscape designers. Using hand-drawing and digital tools, students will develop designs based upon environments typical of residential and small commercial landscape sites. Through portfolio development and presentations, students will emulate the industry practice of designer/client interaction.

**required courses:**

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<tr>
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<tbody>
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<tr>
<td>HORT-113</td>
<td>Plant Materials and their Uses: Winter and Spring</td>
<td>3</td>
</tr>
<tr>
<td>HORT-114</td>
<td>Plant Materials and their Uses: Summer and Fall</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units** 19
plus at least 3 units from:
BUSMG-191 Small Business Management .........................3
BUSMG-192 Entrepreneurship and Venture Management ........3
plus at least 3 units from:
BUSAC-185 QuickBooks Accounting for Business I .............1.5
BUSAC-188 QuickBooks Accounting for Business II .............1.5
BUSMK-259 Digital Marketing Fundamentals .....................3
BUSMK-260 Social Media Marketing ..............................3

Certificate of achievement
Master grower

Students completing this program will be able to...
A. describe specific environmental and cultural requirements to grow common plants.
B. describe the pests and control methods for pests common to controlled environment plant production
C. identify the requirements for successful seed and vegetative propagation of cannabis.
D. construct a business plan and essential financial documents for a small business.
E. describe basic accounting and marketing knowledge to support a business.

This certificate of achievement will allow students who are interested in becoming Master Growers to develop the business skills needed to start and run their own nurseries and greenhouses as Master Growers or to increase their employability in local businesses.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and/or on weekends.

required courses:  units
HORT-110  Introduction to Horticulture and Plant Science .......................................................4
HORT-125  Integrated Pest Management .................................................................3.5
HORT-151  Controlled Environment Growing (CEG): Methods of Plant Production .................3

plus at least 3 units from:
HORT-163  Nursery and Greenhouse Practices:  units
          Summer/Fall ........................................................................3
HORT-183  Garden Design .................................................................1.5
HORT-185  Site Analysis ...............................................................1.5
HORT-187  Sustainable Water Management ...................................3

plus at least 2 units from:
HORT-296  Internship in Occupational Work Experience Education in HORT ................................2-4

plus at least 3 units from:
HORT-111  Plant Propagation and Production:  units
          Winter and Spring .................................................................3
HORT-113  Plant Materials and their Uses:  units
          Winter and Spring .................................................................3
HORT-114  Plant Materials and their Uses:  units
          Summer and Fall .................................................................3
HORT-118  Nursery and Greenhouse Practices:  units
          Winter/Spring ........................................................................3

plus at least 3 units from:
HORT-111  Plant Propagation and Production:  units
          Winter and Spring .................................................................3
HORT-113  Plant Materials and their Uses:  units
          Winter and Spring .................................................................3

Certificate of achievement
Nursery and greenhouse

Students completing the program will be able to...
A. identify, alleviate, and recommend treatment for diseases and pathogens.
B. describe specific environmental and cultural requirements to grow seasonal common plants.
C. select plants based on analysis of a specific landscape setting.
D. maintain and support nursery operations.
E. describe and differentiate among physical and growth characteristics of common seasonal plants.
F. group plants according to water needs (zoning).
G. implement safety and procedures.

This certificate provides the skills needed to work in the local nursery industry including plant identification, plant propagation, labeling, nursery sales, marketing and nursery management. The program includes lectures, laboratory, and work experience.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and/or on weekends.

required courses:  units
HORT-110  Introduction to Horticulture and Plant Science .......................................................4
HORT-111  Plant Propagation and Production:  units
          Winter and Spring .................................................................3
HORT-113  Plant Materials and their Uses:  units
          Winter and Spring .................................................................3
HORT-118  Nursery and Greenhouse Practices:  units
          Winter/Spring ........................................................................3

plus at least 3 units from:
HORT-111  Plant Propagation and Production:  units
          Winter and Spring .................................................................3
HORT-113  Plant Materials and their Uses:  units
          Winter and Spring .................................................................3

plus at least 3 units from:
HORT-111  Plant Propagation and Production:  units
          Winter and Spring .................................................................3
HORT-113  Plant Materials and their Uses:  units
          Winter and Spring .................................................................3

total minimum required units .........................................24
Certificate of achievement – Nursery and greenhouse entrepreneurship

Students completing this program will be able to...

A. identify, alleviate and recommend treatment for diseases and pathogens.
B. describe specific environmental and cultural requirements to grow seasonal common plants.
C. maintain and support nursery operations.
D. construct a business plan and essential financial documents for a small business.
E. describe basic accounting and marketing knowledge to support a business.

This certificate of achievement adds business courses to the Nursery Technician Certificate of Accomplishment. The additional coursework provides the business skills needed to start and run nurseries and greenhouses or to enhance employability in local nursery and greenhouse businesses.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and/or on weekends.

required courses: 

<table>
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<tr>
<td>plus at least 3 units from:</td>
<td></td>
<td></td>
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<tr>
<td>HORT-163</td>
<td>Nursery and Greenhouse Practices: Summer/Fall</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HORT-111</td>
<td>Plant Propagation and Production: Winter and Spring</td>
<td>3</td>
</tr>
<tr>
<td>HORT-112</td>
<td>Plant Propagation and Production: Summer and Fall</td>
<td>3</td>
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<tr>
<td>plus at least 3 units from:</td>
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<tr>
<td>BUSMG-191</td>
<td>Business and Entrepreneurship: Management</td>
<td>3</td>
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<tr>
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<td>Business and Entrepreneurship: Venture Management</td>
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<tr>
<td>HORT-296</td>
<td>Internship in Occupational Work</td>
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<tr>
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<td>QuickBooks Accounting for Business I</td>
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<td>BUSMK-259</td>
<td>Digital Marketing Fundamentals</td>
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<tr>
<td>BUSMK-260</td>
<td>Social Media Marketing</td>
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total minimum required units 16

Certificate of achievement

Plant science and horticulture

Students completing the program will be able to...

A. integrate the knowledge of higher plant functions with site analysis
B. describe local geographical features and their relationship to soils.
C. select appropriate plants for specific environmental conditions.
D. apply appropriate plant pruning techniques.
E. demonstrate proper use of botanical nomenclature.
F. identify exotic and native woody plants.
G. explain the effects of temperature, water, humidity, and fertility on winter and spring plant growth,
H. apply learned skills to gardens.

This certificate program is designed to prepare students with the skills, knowledge, and training to enter into local green industry jobs in fields such as landscape installation, maintenance, park service, plant propagation, nursery, and remediation. The certificate provides a strong foundation for students who intend to pursue a baccalaureate degree in horticulture, plant science, and agriculture majors.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available evenings and/or weekends.

required courses: 

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<td>Introduction to Horticulture and Plant Science</td>
<td>4</td>
</tr>
<tr>
<td>HORT-120</td>
<td>Soil Science and Management</td>
<td>3</td>
</tr>
<tr>
<td>HORT-121</td>
<td>Soil Science and Management Laboratory</td>
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</tr>
<tr>
<td>HORT-171</td>
<td>Pruning Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>HORT-187</td>
<td>Sustainable Water Management</td>
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</tr>
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<td>Business and Entrepreneurship: Management</td>
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<td>BUSMG-192</td>
<td>Business and Entrepreneurship: Venture Management</td>
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<td>plus at least 4 units from:</td>
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<tr>
<td>CONST-135</td>
<td>Construction Processes: Residential</td>
<td>4</td>
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<tr>
<td>HORT-170</td>
<td>Woody Plants: Identification and Maintenance</td>
<td>4</td>
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<tr>
<td>plus at least 3 units from:</td>
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<tr>
<td>HORT-111</td>
<td>Plant Propagation and Production: Winter and Spring</td>
<td>3</td>
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<tr>
<td>HORT-112</td>
<td>Plant Propagation and Production: Summer and Fall</td>
<td>3</td>
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</table>

total minimum required units 24
Certificate of accomplishment
Horticulture technician

Students completing the program will be able to...
A. integrate the knowledge of higher plant functions with site analysis.
B. describe local geographical features and their relationship to soils.
C. describe the relationship between plants, soil and water.
D. evaluate plant pruning needs.

This certificate introduces students to the comprehensive field of plant science and horticulture, the green industry. Green industry professionals are responsible for nurturing and protecting our natural resources and integrating them into the built environment. This foundational certificate can lead to further study in the fields of landscape installation, maintenance, park service, plant propagation, nursery, and remediation.

To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available evenings and/or weekends.

required courses: units
HORT-110 Introduction to Horticulture and Plant Science ...........................................4
HORT-120 Soil Science and Management .................................................................3
HORT-171 Pruning Laboratory ....................................................................................1
HORT-187 Sustainable Water Management ............................................................3

total minimum required units 11

Certificate of accomplishment
Landscape design fundamentals

Students completing the program will be able to...
A. apply principles of planting design theory to landscape design projects.
B. prepare rendered documents for presentation.
C. prepare professional level planting plans and schedules, estimating quantity and sizes of plants required.

This certificate incorporates the basic principles of site analysis, plant science, and soil science as applied to landscape design principles. Students are prepared for entry-level positions in the landscape industry focusing on residential settings and small commercial sites.

To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available evenings and/or weekends.

required courses: units
ARCLA-130 Landscape Design and Graphics ..................................................3
HORT-110 Introduction to Horticulture and Plant Science ...........................................4
HORT-185 Site Analysis .........................................................................................1.5

plus at least 3 units from:
HORT-113 Plant Materials and their Uses: Winter and Spring ....................................3
HORT-114 Plant Materials and their Uses: Summer and Fall .......................................3

total minimum required units 11.5

Certificate of accomplishment
Nursery technician

Students completing the program will be able to...
A. identify, alleviate and recommend treatment for diseases and pathogens.
B. describe specific environmental and cultural requirements to grow seasonal common plants.
C. maintain and support nursery operations.

This certificate provides the fundamental skills required for entry-level employment in the nursery industry. It includes classroom and hands-on laboratory experiences.

To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and/or on weekends.

required courses: units
HORT-110 Introduction to Horticulture and Plant Science ...........................................4
HORT-163 Nursery and Greenhouse Practices: Summer/Fall ....................................3

plus at least 3 units from:
BUSMG-191 Small Business Management ...............................................................3
BUSMG-192 Entrepreneurship and Venture Management ..............................................3
HORT-111 Plant Propagation and Production: Winter and Spring ................................3
HORT-112 Plant Propagation and Production: Summer and Fall ..................................3

total minimum required units 10

Certificate of accomplishment
Tree technician

Students completing the program will be able to...
A. implement tree trimming safety procedures.
B. use field examinations to determine tree problems.
C. diagnose woody plant suitability for given sites.
D. recognize species and the characteristics of a given species.

This program prepares students for employment as assistant tree trimmers, pruners, or fallers working under certified arborists.

To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available evenings and/or on weekends.
required courses:  
HORT-110  Introduction to Horticulture and Plant Science .......................................................4  
HORT-170  Woody Plants: Identification and Maintenance .........................................................4  
HORT-171  Pruning Laboratory .................................................................1  
HORT-179  Arboriculture .................................................................4  

total minimum required units  13

HORT-110  Introduction to Horticulture and Plant Science  
4 units SC  
• 54 hours lecture/54 hours laboratory per term  
• Advisory: CHEM-106, MATH-085 or MATH-085SP or beginning algebra and college-level reading and writing are expected or equivalents  
This course provides an introduction to plant sciences as related to horticulture. Topics include plant morphology, growth processes, propagation, physiology, growth media, biological competitors, and post-harvest factors of food, fiber, ornamental and native plants. CID AG-PS 106L, CSU, UC

HORT-111  Plant Propagation and Production: Winter and Spring  
3 units SC  
• 36 hours lecture/54 hours laboratory per term  
• Prerequisite: HORT-110 (may be taken concurrently) or equivalent  
• Advisory: HORT-125 or equivalent  
This course introduces plant propagation and production practices for nursery operations, with an emphasis on sexual and asexual reproduction of winter and spring plants. Topics include winter and spring planting specifications, transplanting, fertilizing, plant pest and disease control; structures and site layout; preparation and use of propagating and planting mediums; use and maintenance of common tools and equipment; regulations pertaining to plant production; and new plant introductions in the nursery industry. Students will also participate in greenhouse management, scheduling of plant production, seed-starting, vegetative propagation and the marketing of winter and spring containerized nursery stock. HORT 111 + HORT 112 = C-ID AG-EH 116L, CSU

HORT-112  Plant Propagation and Production: Summer and Fall  
3 units SC  
• 36 hours lecture/54 hours laboratory per term  
• Prerequisite: HORT-110 (may be taken concurrently) or equivalent  
• Advisory: HORT-125 or equivalent  
This course introduces plant propagation and production practices for nursery operations, with an emphasis on sexual and asexual reproduction of summer and fall plants. Topics include summer and fall planting specifications, transplanting, fertilizing, plant pest and disease control; structures and site layout; preparation and use of propagating and planting mediums; use and maintenance of common tools and equipment; regulations pertaining to plant production; and new plant introductions in the nursery industry. Students will also participate in greenhouse management, scheduling of plant production, seed-starting, vegetative propagation and the marketing of summer and fall containerized nursery stock. HORT 111 + HORT 112 = C-ID AG-EH 116L, CSU

HORT-113  Plant Materials and their Uses: Winter and Spring  
3 units SC  
• 36 hours lecture/54 hours laboratory per term  
• Prerequisite: HORT-110 (may be taken concurrently) or equivalent  
This course introduces the identification and uses of common plants in the California landscape that are of special interest in the winter or spring. Topics include native and introduced plant identification, growth habits, cultural and environmental requirements, uses in the landscape. Plants emphasized will come from the current California Association of Nurseries & Garden Centers (CANGC) and Professional Landcare Network (PLANET) Certification Tests Plant Lists. C-ID AG-EH 108L, CSU

HORT-114  Plant Materials and their Uses: Summer and Fall  
3 units SC  
• 36 hours lecture/54 hours laboratory per term  
• Prerequisite: HORT-110 (may be taken concurrently) or equivalent  
This course introduces the identification and uses of common plants in the California landscape that are of special interest in the summer or fall. Topics include native and introduced plant identification, growth habits, cultural and environmental requirements, uses in the landscape. Plants emphasized will come from the current California Association of Nurseries & Garden Centers (CANGC) and Professional Landcare Network (PLANET) Certification Tests Plant Lists. C-ID AG-EH 112 109L, CSU
**Horticulture**

**HORT-120 Soil Science and Management**
3 units SC
- 54 hours lecture per term
- Prerequisite: HORT-110 or equivalent
- Advisory: CHEM-106, MATH-085 or MATH-085SP or beginning algebra or equivalents, and college-level reading and writing are expected.

This course presents a study of soil science and management of soils. Biology, physics and chemistry are integrated with geological concepts to provide a comprehensive overview of all facets of soil science. Topics covered include soil classification, derivation, use, function and management including erosion, moisture retention, structure, cultivation, organic matter and microbiology. HORT 120 + HORT 121 = C-ID AG-PS 128L, CSU, UC

**HORT-121 Soil Science and Management Laboratory**
1 unit SC
- 54 hours laboratory per term
- Prerequisite: HORT-110, HORT-120 or equivalents (may be taken concurrently)
- Advisory: CHEM-106, MATH-085 or MATH-085SP or beginning algebra or equivalents, and college-level reading and writing are expected
- Formerly HORT-120L

The lab for soils will include identifying soil types, classifications, reactions, fertility and physical properties. Soil management, biology, chemistry and microbiology will be explored. Regional soils and soil quality are investigated. Laboratory required for transfer to CSU. HORT 120 + HORT 121 = C-ID AG-PS 128L, CSU

**HORT-125 Integrated Pest Management**
3.5 units SC
- 54 hours lecture/27 hours laboratory per term
- Prerequisite: HORT-110 (may be taken concurrently) or equivalent
- Advisory: MATH-085 or MATH-085SP or beginning algebra or equivalents, and college-level reading and writing are expected
- Note: This course meets the California State Pest Control Advisor, California Association of Nurserymen, and International Society of Arboriculture Continuing Education Units (CEU) license certification for CEUs necessary for pest control operators and advisors

This course will introduce students to plant, insect and disease pests associated in California. Key concepts in applied ecology of pest and beneficial species, insect, vertebrate and disease identification and control methodologies using Integrated Pest Management (IPM) and Plant Health Care models are emphasized. CSU

**HORT-148L California Native Plants Laboratory**
1 unit SC
- 54 hours laboratory per term
- Advisory: HORT-110 or equivalent

This course presents a study of California plant communities and the environments that shape them. The dominant and typical plant constituents of each vegetation unit, focusing on native species currently used in the nursery industry will be covered. Habitat, soil, and climatic factors will be discussed as related to the plant species established in their natural and horticultural environment, exploring possibilities of integration into residential landscapes. Local field trips to select California vegetation environments are taken to record relevant plant and habitat data. Destinations will vary based on season and term. CSU

**HORT-150 Topics in Horticulture**
.3-4 units SC
- Variable hours

A supplemental course in horticulture to provide a study of current concepts and problems in horticulture and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

**HORT-151 Controlled Environment Growing (CEG): Methods of Plant Production**
3 units SC
- 36 hours lecture/54 hours laboratory per term
- Advisory: HORT-110 or equivalent

This course presents the history, current state, and future of Controlled Environment Growing (CEG), also known as Controlled Environment Agriculture (CEA). Topics include hydroponics, aquaponics, and aeroponic systems, as well as a review of basic plant anatomy and physiology. Emphasis is placed on cultural practices, plant protection (insects and diseases), pollination/fertilization and bee management, plant nutrition and disorders, irrigation systems and nutrient solutions, transplant production, structures, control systems and energy conservation, harvesting, grading and storage, marketing and economics of CEG systems. CSU

**HORT-160 Plant Propagation**
1.5 units SC
- 18 hours lecture/27 hours laboratory per term
- Advisory: HORT-110 or equivalent and College-level reading and writing are expected.

This course will introduce students to the principles and practices of plant propagation from seed and vegetative material to marketable nursery stock. The key concepts of physiological processes, environmental requirements and techniques required for successful plant production will be covered. CSU
Horticulture

- HORT-163 Nursery and Greenhouse Practices: Summer/Fall
  - 3 units SC
  - 36 hours lecture/54 hours laboratory per term
  - Advisory: College-level reading and writing are expected.
  This course develops the knowledge and skills needed to work as a manager or supervisor in the wholesale and retail plant nursery industry and provides advanced training in the production, staging and marketing of plants, staff management and customer care in summer and fall. Topics include office practices, business operations and management and marketing for container, hydroponics and aquaponic greenhouse systems. CSU

  - 3 units SC
  - 36 hours lecture/54 hours laboratory per term
  - Advisory: College-level reading and writing are expected.
  This course develops the knowledge and skills needed to work as a manager or supervisor in the wholesale and retail plant nursery industry and provides advanced training in the production, staging and marketing of plants, staff management and customer care in winter and spring. Topics include office practices, business operations and management and marketing for container, hydroponics and aquaponic greenhouse systems. CSU

- HORT-170 Woody Plants: Identification and Maintenance
  - 4 units SC
  - 54 hours lecture/36 hours laboratory per term
  - Advisory: HORT-110 or equivalents and College-level reading and writing are expected.
  - Note: Field Trips Required. This course meets the plant certification for California Association of Nurserymen, California Landscape Contractor’s Licensing and satisfies International Society of Arboriculture Continuing Education units.
  - Formerly HORT-143 and HORT-143L
  Students will learn the taxonomy, identification, growth habits, landscape values, maintenance requirements and nativities of woody plants used in regional landscapes. Emphasis will be placed on regenerative landscape design with a focus on ecologically appropriate choices. CSU

- HORT-179 Arboriculture
  - 4 units SC
  - 54 hours lecture/54 hours laboratory per term
  - Advisory: College-level reading and writing are expected. HORT-110 or equivalents
  - Note: This course meets the requirements for the California Association of Nurserypersons and International Society of Arboriculture Continuing Education Units (CEU).
  This comprehensive class teaches students how to manage trees in urban and suburban landscapes. Included are the benefits that trees provide, and species profiles, form and ecological functions. Observational analysis skills will be taught in conjunction with scientific knowledge to direct assessment and diagnosis. Tree health subjects and applications include species selection, planting and establishment, pruning, safety, cabling, bracing, staking, watering, fertilizing, and pest control. The focus will be on trees appropriate for Contra Costa soils and micro-climates. CSU

- HORT-183 Garden Design
  - 1.5 units SC
  - 18 hours lecture/27 hours laboratory per term
  - Advisory: HORT-110 or equivalent
  This basic design course is intended for students in the nursery and landscape industry as well as interested laypersons and residential homeowners. Fundamental design principles, plant selection, hardscape materials and planting techniques will be covered. Plant selection for seasonal color, energy efficiency and water usage will be introduced. Students will layout a rough site plan overview of a personal garden design. CSU

- HORT-185 Site Analysis
  - 1.5 units SC
  - 18 hours lecture/27 hours laboratory per term
  - Advisory: HORT-110 and HORT-182 or equivalents
  This course provides an introduction to the site analysis skills required by landscape designers, architects, contractors, maintenance technicians and gardeners. Details of specified sites are assessed, inventoried and documented including climatic, geographical, historical, legal, and infra-structural conditions. CSU

- HORT-187 Sustainable Water Management
  - 3 units SC
  - 36 hours lecture/54 hours laboratory per term
  - Notes: Field trips may be required
  This course introduces concepts and practices in landscape irrigation and sustainable water use. Topics include the relationships between plants, soils and water auditing; irrigation design; monitoring techniques; rainwater/greywater collection and delivery systems; subsurface installation; irrigation and system repair. State and local water regulations, water supply and quality are also covered. CSU
HORT-296  Internship in Occupational Work
Experience Education in HORT
2-4 units  SC
- May be repeated eight times
- Variable hours
- Note: In order to enroll in the HORT-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.

HORT-296 is a supervised internship in a skilled or professional level assignment in the student’s major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Each unit represents five hours of paid work or four hours of unpaid work per week or 75 hours of paid work or 60 hours of unpaid work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

HORT-298  Independent Study
.5-3 units  SC
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

HORT-299  Student Instructional Assistant
.5-3 units  SC
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

HUMANITIES – HUMAN

Janette Funaro, Dean
Arts and Communication Division

Possible career opportunities
The study of humanities can open up career opportunities in such diverse fields as advertising, banking, editing, publishing, teaching, writing, foreign service, library science, law, public administration, museum work, website design, archaeology, cultural anthropology, art criticism, tourism and journalism.

Associate in arts degree

Humanities

Students completing the program will be able to...
A. use their critical thinking skills to analyze and evaluate both formally and contextually, a variety of creative works and literary documents.
B. compare and contrast the historic meaning and impact of works selected from the various arts, and from philosophic and religious literature.
C. recognize and explain the integration of arts and ideas in selected cultural, historical, and thematic contexts.
D. demonstrate their ability to articulate clearly in oral and written form objective analysis of major works from the various arts, and from philosophic and religious literature.

This degree is designed for students who wish to study a broad range of the arts: music, dance, visual arts, architecture, literature, drama, film, philosophy and history. Through this course of student students will learn to analyze, interpret, and compare a diverse range of art forms and cultures while deepening their understanding of the arts as human expression and honing their critical thinking and writing skills.

The associate in arts in humanities degree is both an interdisciplinary and integrative degree dedicated to the student of arts and ideas in their cultural contexts and to the comparative analysis of the arts. The degree provides a well-rounded and rich background in the creative and intellectual expression of major world civilizations, intellectual and cultural movements, and cultural works of creative expression. Humanities students develop skills in artistic analysis, aesthetic judgments, and other modes of critical thinking. Students develop the ability to view cultural material from multiple perspectives, appreciate and evaluate diverse forms of cultural expression, and understand the criticism and theory regarding major artistic works, styles, forms and movements.

DVC humanities students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE). General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.
To earn an associate in arts degree in humanities, students must complete each required course with a “C” grade or higher, and complete general education requirements as listed in the catalog. Degree requirements can be completed by attending classes in the day, the evening, or both. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**major requirements:**

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Units</th>
<th>SC</th>
<th>IGETC:</th>
<th>CSU GE:</th>
<th>DVC GE:</th>
<th>Lecture Hours</th>
<th>Advisory</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUMAN-110 Humanities: Ancient Civilizations</td>
<td>3</td>
<td></td>
<td>3B</td>
<td>C2</td>
<td>III</td>
<td>54</td>
<td>College-level reading and writing are expected.</td>
</tr>
<tr>
<td>HUMAN-111 Humanities: The Middle Ages and Renaissance</td>
<td>3</td>
<td></td>
<td>3B</td>
<td>C2</td>
<td>III</td>
<td>54</td>
<td>College-level reading and writing are expected.</td>
</tr>
<tr>
<td>HUMAN-112 Humanities: The Modern World</td>
<td>3</td>
<td></td>
<td>3B</td>
<td>C2</td>
<td>III</td>
<td>54</td>
<td>College-level reading and writing are expected.</td>
</tr>
</tbody>
</table>

**complete at least 3 units from:**

HUMAN-105 Introduction to Humanities: Arts and Ideas  
HUMAN-108 Humanities: The Roots of Hell  
HUMAN-115 Humanities: The Multicultural American Experience  
HUMAN-116 Humanities: The Arts and Culture of Asia  
HUMAN-118 Humanities: Film, Fiction, and Criticism  
HUMAN-123 Humanities: American Popular Culture  
HUMAN-124 Humanities: California Culture

**total minimum units for the major**  
18

**HUMAN-105 Introduction to Humanities: Arts and Ideas**

3 units  
- IGETC: 3B  
- CSU GE: C2  
- DVC GE: III  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.

This is a non-chronological course that introduces students to the integration of creative arts and the world of ideas. Students will learn to analyze, interpret, and relate masterworks selected from literature, music, drama, painting, sculpture, photography, architecture, dance, and film, to trends in philosophy, religion and scientific thought. Works from diverse global cultures may be selected from throughout the various ages of history. Emphasis is placed on the student’s personal interaction with human creative expression. CSU, UC

**HUMAN-108 Humanities: The Roots of Hell**

3 units  
- IGETC: 3B  
- CSU GE: C2  
- DVC GE: III  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.

This course presents an introduction to humanities focused on the theme of hell. Integrating literature, philosophy, the visual arts, music, and film from international sources, students will explore themes such as guilt and responsibility, trial and redemption, and life after death from a variety of cultures. CSU, UC

**HUMAN-110 Humanities: Ancient Civilizations**

3 units  
- IGETC: 3B  
- CSU GE: C2  
- DVC GE: III  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.

This course presents an introduction to humanities in the ancient world. Integrating the visual arts, music, literature, drama, architecture, philosophy, religion, science, technology, and history, students will explore creative works and ideas from ancient Egypt and Mesopotamia through the late Roman period. CSU, UC

**HUMAN-111 Humanities: The Middle Ages and Renaissance**

3 units  
- IGETC: 3B  
- CSU GE: C2  
- DVC GE: III  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.

This course presents an introduction to humanities in the Middle Ages and Renaissance. Integrating the visual arts, music, literature, drama, architecture, philosophy, religion, science, technology, and history, students will explore creative works and ideas from the end of the Roman period to the end of the Renaissance. CSU, UC

**HUMAN-112 Humanities: The Modern World**

3 units  
- IGETC: 3B  
- CSU GE: C2  
- DVC GE: III  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.

This course presents an introduction to humanities in the modern world. Integrating the visual arts, music, literature, drama, architecture, philosophy, religion, science, technology, and history, students will explore creative works and ideas from the Baroque era to the present. CSU, UC

**HUMAN-115 Humanities: The Multicultural American Experience**

3 units  
- IGETC: 3B  
- CSU GE: C2  
- DVC GE: III  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.

This course presents an introduction to the multicultural diversity of contemporary American creative expression through an integrative survey of the visual arts, literature, music, thought and religion, dance, theater, and film. This course will examine contemporary creative works in relation to their historical roots, as well as the contemporary cultural context in which they have been created. CSU, UC
Humanities

HUMAN-116  Humanities: The Arts and Culture of Asia
3 units  SC
• IGETC: 3B; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.

This course presents an introduction to the humanities in Asia. Integrating the visual arts, music, literature, drama, architecture, philosophy, religion, science, technology, and history, students will explore creative works and ideas from a variety of Asian cultures. CSU, UC

HUMAN-118  Humanities: Film, Fiction, and Criticism
3 units  SC
• IGETC: 3B; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.

This course presents an introduction to the integration of three areas of the humanities—literature, cinema, and aesthetic criticism. Students will explore and evaluate the aesthetic make-up of masterworks of literature and film. CSU, UC

HUMAN-123  Humanities: American Popular Culture
3 units  SC
• IGETC: 3B; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.

This course presents an introduction to humanities focusing on American popular culture, including the arts, entertainment, myths, the heroic tradition, and symbols. CSU, UC

HUMAN-124  Humanities: California Culture
3 units  SC
• IGETC: 3B; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.

This course presents an introduction to humanities through the study of California arts and culture by integrating the visual arts, music, literature, drama, architecture, philosophy, religion, science, technology, and history. California's artistic expression has shaped the way both native and non-native Californians perceive themselves and their culture. Students will explore creative works and ideas from select periods of California history. Course themes include California land, California people, and “The California Myth” as both utopia and dystopia. CSU, UC

HUMAN-298  Independent Study
.5-3 units  SC
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

HUMAN-299  Student Instructional Assistant
.5-3 units  SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

INDUSTRIAL DESIGN - IDSGN

Despina Prapavessi, Dean
Mathematics and Engineering Division
Mathematics Building, Room 267

Associate in science degree
Industrial design

Students completing the program will be able to...
A. work within a team of diverse industry professionals to establish and meet design criteria.
B. use advanced consumer research techniques to better understand human-centered design.
C. design a product using two-dimensional and three-dimensional computer software.
D. develop detailed technical drawings of a product.
E. determine the most efficient and responsible manufacturing method for the product.
F. prototype an object from a given technical drawing or three-dimensional CAD model.
G. design and prototype mechanical parts in collaborating with engineers.
H. use computer integrated manufacturing (CIM) and computer numerical control (CNC) software for automation of manufacturing.
I. create color renderings and presentation techniques that showcase product drawings at a professional level.
The associate in science degree in industrial design is offered to provide students with academic and technical skills required for transfer to leading industrial design programs offered at four-year universities. The associate in science degree curriculum also provides students with a highly valued skillset needed to enter the modern workforce.

Graduates of the industrial design program can be employed in research and development, rapid prototyping and fabrication, product design, package design, soft goods design, and transportation design. Students in the program will learn how to design products for consumers and industry, as well as utilize advanced surface modeling software and milling programs used for computer numerical control (CNC) manufacturing equipment including 3D printers. Students completing this program will also be candidates for a broad range of manufacturing and corporate jobs requiring a combination of technical knowledge and communication skills needed to collaborate with marketing and engineering personnel and skilled workers in various trades and specialties.

Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select General Education option 2 (IGETC) or option 3 (CSU GE). Option 1 (DVC General Education) is not generally advised.

To earn an associate degree with a major in industrial design, students must complete each of the courses required for the major with a “C” grade or higher, maintain an overall GPA of 2.5 or higher and complete general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

<table>
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<tr>
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<td>ARCHI-135</td>
<td>Digital Tools for Design</td>
<td>3</td>
</tr>
<tr>
<td>ART-102</td>
<td>Introduction to Three-Dimensional Design and Sculpture</td>
<td>3</td>
</tr>
<tr>
<td>ART-105</td>
<td>Introduction to Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENGT-119</td>
<td>Introduction to Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENGT-128</td>
<td>Fusion 360 for Design and Prototyping</td>
<td>3</td>
</tr>
<tr>
<td>IDSGN-120</td>
<td>Design</td>
<td>3</td>
</tr>
<tr>
<td>IDSGN-121</td>
<td>Industrial and Product Design Foundations</td>
<td>3</td>
</tr>
<tr>
<td>IDSGN-131</td>
<td>Color Visualization for Product Design</td>
<td>3</td>
</tr>
<tr>
<td>IDSGN-105</td>
<td>Assembly and Fabrication Workshop</td>
<td>2</td>
</tr>
<tr>
<td>IDSGN-107</td>
<td>Furniture Design Studio</td>
<td>2</td>
</tr>
<tr>
<td>ENGT-126</td>
<td>Computer Aided Design and Drafting-AutoCAD</td>
<td>3</td>
</tr>
<tr>
<td>ENGT-129</td>
<td>Product Design I Using SolidWorks</td>
<td>3</td>
</tr>
<tr>
<td>IDSGN-220</td>
<td>Soft Goods Product Design Studio</td>
<td>4</td>
</tr>
<tr>
<td>IDSGN-221</td>
<td>Transportation Design Studio</td>
<td>4</td>
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<tr>
<td>total minimum units for the major</td>
<td>33</td>
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</tbody>
</table>

**Certificate of achievement**

**Industrial design**

Students completing the program will be able to...

A. work within a team of diverse industry professionals to establish and meet design criteria.
B. use advanced consumer research techniques to better understand human-centered design.
C. design a product using two-dimensional and three-dimensional computer software.
D. develop detailed technical drawings of a product.
E. determine the most efficient and responsible manufacturing method for the product.
F. prototype an object from a given technical drawing or three-dimensional CAD model.
G. design and prototype mechanical parts in collaborating with engineers.
H. use computer integrated manufacturing (CIM) and computer numerical control (CNC) software for automation of manufacturing.
I. create color renderings and presentation techniques that showcase product drawings at a professional level.

The certificate of achievement in industrial design is intended for students who wish to enter the workforce directly in an industrial design field without transferring to a four-year university program. The certificate of achievement prepares students for a career as an industrial design intern, modeler or designer offering technical support, design, and modeling and fabrication assistance in an industrial design office.

Industrial design interns and technicians prepare models, presentation drawings, computer models and renderings for the design and production of everyday objects and tools, household products, soft goods, packaging and transportation design.

To earn a certificate of achievement in industrial design, students must complete each of the required courses required with a “C” grade or higher and maintain an overall GPA of 2.5 or higher.

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</tr>
</tbody>
</table>
Industrial design

plus at least 4 units from:
IDSGN-220 Soft Goods Product Design Studio.............4
IDSGN-221 Transportation Design Studio..................4

total minimum required units 33

IDSGN-105 Assembly and Fabrication Workshop
2 units SC
• 18 hours lecture/54 hours laboratory per term
This course presents methods of fabrication for projects in metal, wood, plastic and other materials and includes an introduction to shop safety. The use of hand tools, power tools and an introduction to computer controlled tools such as laser cutters and computer numerical control (CNC) routers is also covered. This course introduces the principles necessary to fabricate parts, components, and prototypes for a variety of technical applications. CSU

IDSGN-107 Furniture Design Studio
2 units SC
• 18 hours lecture/54 hours laboratory per term
• Advisory: IDSGN-105 or equivalent
This course introduces furniture design, construction, and assembly. Topics include design development, working drawings and assembly drawings, digital and physical modeling, and final assembly of furniture. Detailing, fabrication, and utilization of computer numerical control (CNC) routers to build finished products will be emphasized. CSU

IDSGN-120 Introduction to Industrial and Product Design
3 units SC
• 36 hours lecture/72 hours laboratory per term
This introductory course will expose students to a broad spectrum of product design and general design principles and theories with a focus on visual theory, aesthetics, and historical context. Emphasis is placed on develop of critical thinking skills through the analysis of cultural and technological constructs that influence the creation of specific products. Design research methodology and creative problem solving skills will be emphasized and explored through the completion of studio projects. CSU, UC

IDSGN-121 Industrial and Product Design Foundations
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Prerequisite: IDSGN-120 or equivalent
This project-based industrial design course introduces comprehensive design strategy and thought processes required to develop consumer products. Product research, design, and three-dimensional prototyping will be based on design briefs to develop problem-solving abilities. CSU

IDSGN-131 Color Visualization for Product Design
3 units SC
• 36 hours lecture/72 hour laboratory per term
• Prerequisite: ENGTC-119 or equivalent
• Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.
This course introduces color drawing as a component of the design process through the use of traditional marker rendering and digital imaging. Drawings will reflect the product development process including the initial concept, iterations, and final presentation drawings. Specific focus will be given to principles of perspective, shade and tone, shadow casting, and color. Computer-assisted imaging software and digital drawing tablets will be introduced. Students will develop a portfolio of color drawing that showcases their hand renderings and digital visualization skills. CSU

IDSGN-137 Digital Fabrication and Prototyping
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Advisory: ENGTC-119 or Equivalent
• Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.
This is an introductory course in design prototyping and digital fabrication methods. Manual and digital modeling with an exploration of computer numerical control (CNC) fabrication methods will be explored. Shaping and material removal using three-axis and five-axis CNC fabrication tools for a variety of materials, including plastics, wood, metals and ceramics will be practiced in addition to three-dimensional printing methods. CSU

IDSGN-220 Soft Goods Product Design Studio
4 units SC
• 36 hours lecture/108 hours laboratory per term
• Prerequisite: IDSGN-120 or equivalent
This course explores materials and textiles required for the construction of wearable products and their impact on lifestyles and fashion. Students will design a variety of soft goods products including fashion, high-end accessories, clothing, shoes, and recreational equipment such as tents and sleeping bags. Creative problem-solving, research, design, and prototyping are emphasized. CSU

IDSGN-221 Transportation Design Studio
4 units SC
• 36 hours lecture/108 hours laboratory per term
• Prerequisite: IDSGN-120 or equivalent
This course presents the history of automotive styling trends and evolution, design philosophy, and cultural influences on the automobile. Emphasis is placed on accurate proportion based on the packaging of occupants and components, human factors, target market analysis, and brand identity. Final outcomes include sketches, renderings, package drawings, written reports, and scale models. CSU
Interdisciplinary studies

Interdisciplinary studies - INTD

Nikki Moultrie, Senior Dean (Interim)
Instruction Office
Administration Building, AB 214

Noncredit - Certificate of competency
Skills for success in science, math, and engineering pathways

Students completing this program will be able to...
A. identify the variables and problem-solving strategy for word problems involving applications in science and engineering.
B. use algebraic terms, expressions, and equations to solve problems in science and engineering.
C. apply algebraic laws to science and engineering concepts.
D. use technology including calculators and graphing programs to perform calculations and to visualize and interpret data in science and engineering.

This noncredit certificate of completion presents the critical algebra skill development necessary for students to be successful in science and engineering educational pathways. The courses cover the application of fundamental skills in advanced science and engineering courses contextualized to a student’s course of interest.

To earn a noncredit certificate of completion, students must complete both courses. The courses are noncredit. They are non-degree applicable and do not transfer to the California State University (CSU) or University of California (UC) systems or other private universities.

Required courses:

- INTD-080NC Problem Solving Skills for Science and Engineering Courses
  0 units P/NP
  • 24 hours lecture per term
  • Note: Students enrolled in CHEM-107, CHEM-108, PHYS-110, PHYS-111, PHYS-113, PHYS-112 and ENGIN-130 should check the schedule of classes for information about section offerings.

This course is designed to help students improve their math problem-solving abilities in the sciences. Algebra skills critical for success in introductory science courses will be applied to typical science discipline problems.

- INTD-081NC Applying Algebra Skills in Advanced Science and Engineering
  0 units P/NP
  • 24 hours lecture per term
  • Note: Students enrolled in CHEM-120, CHEM-121, ENGIN-121, ENGIN-140, PHYS-120, PHYS-121, PHYS-129, and PHYS-130 should check the schedule of classes for information about section offerings.

This course is designed to help students improve their math problem-solving abilities in the sciences. Algebra skills critical for success in advanced science and engineering major courses will be applied to typical science discipline problems.

- INTD-100 Study Abroad Life and Culture
  3 units SC
  • 54 hours lecture per term
  This course introduces students to the norms, culture, social structures, economic, and political systems of a foreign country as part of the study abroad program. Students learn about another culture through lectures by local experts, organized field trips, and authentic experiences. CSU

- INTD-140 Tutor Training
  1 unit SC
  • 18 hours lecture per term
  • Note: Students who want to tutor in the Pleasant Hill Campus English Lab must take ENGL-140 instead of INTD-140. Students who want to tutor in the Pleasant Hill Campus Math Lab must take MATH-140 instead of INTD-140.

This one-unit course introduces students to the principles of effective tutoring. The strategies of tutoring that foster independent learning and promote critical thinking and understanding are emphasized. CSU

- INTD-010NC Supervised Tutoring
  0 units P/NP
  • Variable hours
  This noncredit open entry/open exit course provides students with tutoring and learning support in areas of identified academic need, including: communication/literacy skills, quantitative reasoning skills, and critical thinking skills. Students receive assistance from peer tutors to develop their ability to learn independently in order to increase academic success.
ITALIAN – ITAL

Janette Funaro, Dean
Arts and Communication Division

Possible career opportunities
The study of Italian can open up opportunities in communications, foreign trade and banking, transportation, government, the Foreign Service, tourism, library services, teaching, professional translating, journalism, and all levels of education, including university teaching. Most foreign language careers require more than two years of study.

Associate in arts degree
Italian

Students completing the program will be able to...
A. communicate verbally in the target language with accurate pronunciation in meaningful situations present in both informal and formal contexts.
B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.
C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.
D. discuss, describe, and infer information from authentic texts in the target language.
E. demonstrate cultural appreciation by making (comparative) connections, on both an individual and societal level, between the target cultures and students’ own cultures.
F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

The associate in arts degree in Italian at DVC will provide students with skills in understanding, speaking, reading and writing Italian. It also gives students a greater understanding of Italian culture and civilization and will prepare them for a broad range of international and domestic career opportunities and professions. The degree will also provide students the opportunity to transfer to UC, CSU and other four-year colleges and universities to earn a bachelor’s degree.

The DVC Italian major is intended for transfer. Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to baccalaureate-granting institutions of their choice are met. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE). Option 1 (DVC General Education) is appropriate for those students who do not intend to transfer. Students may not take a pass/no pass option for major courses and each of the major requirements must be completed with a “C” grade or higher. Certain courses may satisfy both major and general education requirements; however, the units are counted only once.

To earn an associate degree in Italian, students must complete 20 units from the list of major requirements, which will provide students with the essential grammar of the language, culture and basic literature of Italy. Students with no previous knowledge of Italian when entering DVC will take the first four courses in the list for a total of 20 units. If students enter the program with previous knowledge of Italian, they may start at the second term level and take fifth and sixth terms to achieve a total of 21 units.

Certificate of achievement
Italian

Students completing the program will be able to...
A. communicate verbally in the target language with accurate pronunciation in meaningful situations present in both informal and formal contexts.
B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.
C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.
D. discuss, describe, and infer information from authentic texts in the target language.
E. demonstrate cultural appreciation by making (comparative) connections, on both an individual and societal level, between the target cultures and students’ own cultures.
F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

This certificate of achievement was created to give students the opportunity to show potential employers in this country and in other countries that the student has completed a certain number of courses in Italian and prepares students with an intermediate to advanced knowledge of Italian and familiarizes them with the culture of Italy.

This certificate of achievement provides students, prospective employers and others with documented evidence of persistence and academic accomplishment in the language. The certificate requires completion of at least 13 units from the following list of courses. Students may not take a credit/no credit option for required courses and each course must be completed with a “C” grade or higher.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITAL-120 First Term Italian</td>
<td>5</td>
</tr>
<tr>
<td>ITAL-121 Second Term Italian</td>
<td>5</td>
</tr>
<tr>
<td>ITAL-220 Third Term Italian</td>
<td>5</td>
</tr>
<tr>
<td>ITAL-221 Fourth Term Italian</td>
<td>5</td>
</tr>
<tr>
<td>ITAL-230 Fifth Term Italian</td>
<td>3</td>
</tr>
<tr>
<td>ITAL-231 Sixth Term Italian</td>
<td>3</td>
</tr>
</tbody>
</table>

Total minimum units for the major: 20
ITAL-120  First Term Italian
5 units  SC  
• IGETC: 6A  
• 90 hours lecture per term  
• Note: This course is equivalent to two years of high school study.

This course provides an introduction to the Italian language and the culture of Italian-speaking countries. Topics include the four language skills: speaking, listening, reading, and writing. Emphasis is placed on active use of the language in class as well as basic communicative functions and structures. CSU, UC

ITAL-121  Second Term Italian
5 units  SC  
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III  
• 90 hours lecture per term  
• Prerequisite: ITAL-120 or two years of high school study or equivalent  
• Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the second course in a sequence of Italian courses. The course continues skill building in understanding, speaking, reading, and writing. The expansion of vocabulary and more advanced communicative functions and structures, as well as a deeper examination of the cultures of Italian-speaking countries are emphasized. CSU, UC

ITAL-150  Topics in Italian
.3-4 units  SC  
• Variable hours  

A supplemental course in Italian to provide a study of current concepts and problems in Italian and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

ITAL-220  Third Term Italian
5 units  SC  
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III  
• 90 hours lecture per term  
• Prerequisite: ITAL-121 or three years of high school study or equivalent  
• Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the third term Italian course in the sequence that develops intermediate fluency in understanding, speaking, reading, and writing Italian. All verbal tenses are reviewed, expanded, and refined. Advanced grammar concepts, new vocabulary, and idiomatic expressions are introduced. Selected readings about the culture and literature of Italy will be explored. This course is taught mainly in Italian. CSU, UC

ITAL-221  Fourth Term Italian
5 units  SC  
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III  
• 90 hours lecture per term  
• Prerequisite: ITAL-220 or four years of high school study or equivalent  
• Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the fourth term Italian course in the sequence that develops high-intermediate fluency in understanding, speaking, reading, and writing Italian. The grammatical moods are reviewed and developed; the sequences of tenses are introduced. Additional vocabulary and idiomatic expressions are introduced and connected to the selected readings. These readings about Italian culture and literature will be analyzed. This course is taught mainly in Italian. CSU, UC

ITAL-230  Fifth Term Italian
3 units  SC  
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III  
• 54 hours lecture per term  
• Prerequisite: ITAL-221 or equivalent  
• Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the fifth term advanced Italian course emphasizing reading, writing (prioritizing the mechanics of academic writing), listening, and speaking skills. The rich Italian heritage is explored through a wide range of materials including short stories, articles, poems, films, and documentaries. This course is taught entirely in Italian. CSU, UC
ITAL-231 Sixth Term Italian
3 units SC
- IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Prerequisite: ITAL-230 or equivalent
- Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the sixth term advanced Italian language course strengthening reading, writing (prioritizing the mechanics of academic writing), listening, and speaking skills. Deepening the exploration of the rich Italian heritage through a wide range of materials including novels, articles, poems, films, documentaries, and dramas. This course is taught entirely in Italian. CSU, UC

ITAL-299 Student Instructional Assistant
.5-3 units SC
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

JAPANESE – JAPAN

Janette Funaro, Dean
Arts and Communication Division

Possible career opportunities
The study of Japanese can open up opportunities in communications, foreign trade and banking, transportation, government, the Foreign Service, tourism, library services, teaching, professional translating, journalism, and all levels of education, including university teaching. Most foreign language careers require more than two years of study.

Program learning outcomes
Program learning outcomes are subject to change. The most current list of program learning outcomes for each program is published on the DVC website at www.dvc.edu/slo.

Associate in arts degree

Japanese

Students completing the program will be able to...

A. communicate verbally in the target language with accurate pronunciation in meaningful situations present in both informal and formal contexts.
B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.
C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.
D. discuss, describe, and infer information from authentic texts in the target language.
E. demonstrate cultural appreciation by making (comparative) connections, on both an individual and societal level, between the target cultures and students’ own cultures.
F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

The associate in arts degree in Japanese at DVC will provide students with skills in understanding, speaking, reading and writing Japanese. The curriculum exposes students to Japanese culture and civilization and provides foundational skills in language that can apply to a broad range of international and domestic career opportunities and professions. The degree will provide lower division preparation for transfer to UC, CSU and other four year colleges and universities to earn a bachelor's degree.

The DVC Japanese major is intended for transfer. Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to baccalaureate-granting institutions of their choice are met. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE). Option 1 (DVC General Education) is appropriate for those students who do not intend to transfer. Students may not take a pass/no pass option for major courses and each of the major requirements must be completed with a “C” grade or higher. Certain courses may satisfy both major and general education requirements; however, the units are counted only once.

To earn an associate in arts degree in Japanese, students must complete one of the following lists of courses. The core Japanese courses provide students with the essential grammar of the language and culture of Japan. The Kanji courses provide students with practice in Kanji characters used in writing the Japanese language.

List A

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAPAN-120</td>
<td>First Term Japanese</td>
<td>5</td>
</tr>
<tr>
<td>JAPAN-121</td>
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<tr>
<td>JAPAN-220</td>
<td>Third Term Japanese</td>
<td>5</td>
</tr>
<tr>
<td>JAPAN-221</td>
<td>Fourth Term Japanese</td>
<td>5</td>
</tr>
</tbody>
</table>

Total minimum units for the major 20
Certificate of achievement
Japanese

Students completing the program will be able to...

A. communicate verbally in the target language with accurate pronunciation in meaningful situations present in both informal and formal contexts.

B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.

C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.

D. discuss, describe, and infer information from authentic texts in the target language.

E. demonstrate cultural appreciation by making (comparative) connections, on both an individual and societal level, between the target cultures and students’ own cultures.

F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

The certificate of achievement was created to give students the opportunity to show potential employers in this country and in other countries that the student has completed a certain number of courses in Japanese and prepares students and in other countries that the student has completed a certain number of courses in Japanese and prepares students and others with documented evidence of persistence and academic accomplishment in the language. The certificate requires completion of one of the following lists of courses. Students may not take a credit/no credit option for required courses and each course must be completed with a “C” grade or higher.

This certificate of achievement provides students, prospective employers and others with documented evidence of persistence and academic accomplishment in the language. The certificate requires completion of one of the following lists of courses. Students may not take a credit/no credit option for required courses and each course must be completed with a “C” grade or higher.

List B

complete at least 21 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAPAN-121</td>
<td>Second Term Japanese</td>
<td>5</td>
</tr>
<tr>
<td>JAPAN-130</td>
<td>First Term Kanji</td>
<td>3</td>
</tr>
<tr>
<td>JAPAN-131</td>
<td>Second Term Kanji</td>
<td>3</td>
</tr>
<tr>
<td>JAPAN-132</td>
<td>Third Term Kanji</td>
<td>3</td>
</tr>
<tr>
<td>JAPAN-220</td>
<td>Third Term Japanese</td>
<td>5</td>
</tr>
<tr>
<td>JAPAN-221</td>
<td>Fourth Term Japanese</td>
<td>5</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 21

List C

complete at least 19 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAPAN-121</td>
<td>Second Term Japanese</td>
<td>5</td>
</tr>
<tr>
<td>JAPAN-130</td>
<td>First Term Kanji</td>
<td>3</td>
</tr>
<tr>
<td>JAPAN-131</td>
<td>Second Term Kanji</td>
<td>3</td>
</tr>
<tr>
<td>JAPAN-132</td>
<td>Third Term Kanji</td>
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<tr>
<td>JAPAN-220</td>
<td>Third Term Japanese</td>
<td>5</td>
</tr>
<tr>
<td>JAPAN-221</td>
<td>Fourth Term Japanese</td>
<td>5</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 19

JAPAN-120  First Term Japanese
3 units   SC
- IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
- 90 hours lecture per term
- Prerequisite: JAPAN-120 or equivalent
- Note: This course is equivalent to two years of high school study.

This course provides an introduction to the Japanese language and the culture of Japanese-speaking countries. Topics include the four language skills: speaking, listening, reading, and writing. Emphasis is placed on active use of the language in class as well as basic communicative functions and structures. CSU, UC

JAPAN-121  Second Term Japanese
5 units   SC
- IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
- 90 hours lecture per term
- Prerequisite: JAPAN-120 or two years of high school study or equivalent
- Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the second course in a sequence of Japanese language courses. The course continues skill building in understanding, speaking, reading, and writing of the Japanese language. The expansion of vocabulary (characters) and more advanced communicative functions and structures, as well as a deeper examination of the cultures of Japanese-speaking countries are emphasized. CSU, UC

JAPAN-130  First Term Kanji
3 units   SC
- 54 hours lecture per term
- Advisory: JAPAN-120 or equivalent

This course is an intensive study of Kanji characters to enhance competence in reading and writing Japanese in daily life situations. Examples include reading and comprehending simple essays and articles, and understanding Kanji used in everyday life. The course will cover up to 169 characters. CSU
JAPAN-131 Second Term Kanji
3 units SC
- 54 hours lecture per term
- Advisory: JAPAN-130 or equivalent
This course is designed for those who have taken JAPAN-130 or who have the equivalent knowledge and skills. Students will further develop their competence in reading and writing Japanese. Examples include reading more complicated essays and letters, and understanding maps, road signs, and TV programs. The course will cover up to 345 characters. CSU

JAPAN-132 Third Term Kanji
3 units SC
- 54 hours lecture per term
- Advisory: JAPAN-131 or equivalent
This course is designed for those who have taken JAPAN-131 or who have the equivalent knowledge and skills. Students will improve their advanced competence in reading and writing Japanese. Examples include reading and comprehending intermediate-level essays and understanding the pamphlets for travel, train timetables, and newspaper headlines. The course will cover up to 500 characters. CSU

JAPAN-150 Topics in Japanese
.3-4 units SC
- Variable hours
A supplemental course in Japanese to provide a study of current concepts and problems in Japanese and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

JAPAN-220 Third Term Japanese
5 units SC
- IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
- 90 hours lecture per term
- Prerequisite: JAPAN-121 or three years of high school study or equivalent
- Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.
This is the third term Japanese course in the sequence that develops pre-intermediate fluency in understanding, speaking, reading, and writing Japanese. All verbal tenses are reviewed, expanded and refined, and more advanced grammar concepts, new vocabulary and idiomatic expressions are introduced. Selected readings about the culture of Japan will be explored. This course is taught mainly in Japanese. CSU, UC

JAPAN-221 Fourth Term Japanese
5 units SC
- IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
- 90 hours lecture per term
- Prerequisite: JAPAN-220 or four years of high school study or equivalent
- Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.
This is the fourth term Japanese course in the sequence that develops early intermediate fluency in understanding, speaking, reading, and writing Japanese. The sequence of verb tenses and grammatical moods are reviewed and developed. Additional new vocabulary and idiomatic expressions are introduced and connected with the selected readings. These readings about Japanese culture will be analyzed. This course is taught mainly in Japanese. CSU, UC

JAPAN-298 Independent Study
.5-3 units SC
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office is required.
This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

JAPAN-299 Student Instructional Assistant
.5-3 units SC
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU
**JOURNALISM – JRNAL**

Obed Vazquez, Dean  
Social Sciences Division  
Faculty Office Building, Room 136

**Possible career opportunities**

The journalism program prepares students in the writing, reporting, and critical thinking skills required for jobs in the news media or for transfer to a journalism program at a four-year institution. Career options include copy editor, script writer, broadcast journalist, newspaper reporter, magazine writer, columnist, public information officer, online writer, speech writer, freelance writer, advertising copy writer, editor, and photojournalist. Some career options may require more than two years of college study.

**Associate in arts in journalism for transfer**

Students completing the program will be able to...

A. use a variety of media and sources to produce journalistic products that demonstrate good news judgment, appropriate sourcing, accuracy and completeness, technical competence and adherence to ethical, legal and style guidelines.

B. understand and analyze how history, economics, politics, law or government regulation affect the climate for journalism and freedom of speech in the United States.

C. demonstrate good work habits, time management and professionalism while working collaboratively and under deadline pressure to produce a news product.

The journalism program prepares students in the writing, reporting and critical thinking skills required for jobs in the news media and for transfer to a journalism program at a four-year institution. Career options include copy editor, script writer, broadcast journalist, newspaper reporter, magazine writer, columnist, public information officer, online writer, speech writer, freelance writer, advertising copy writer, editor, and photojournalist. Some career options may require more than two years of college study.

The associate in arts in journalism for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular CSU campus or major.

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area IC requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSU GE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

**major requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>JRNAL-110</td>
<td>Mass Media of Communication</td>
<td>3</td>
</tr>
<tr>
<td>JRNAL-120</td>
<td>Introduction to Newswriting and Reporting</td>
<td>3</td>
</tr>
<tr>
<td>JRNAL-126</td>
<td>News Production Laboratory I</td>
<td>3</td>
</tr>
<tr>
<td>JRNAL-127</td>
<td>News Production Laboratory II</td>
<td>3</td>
</tr>
<tr>
<td>JRNAL-130</td>
<td>Multimedia Reporting</td>
<td>3</td>
</tr>
<tr>
<td>ART-160</td>
<td>Photography I</td>
<td>3</td>
</tr>
<tr>
<td>BUS-240</td>
<td>Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-142</td>
<td>Elementary Statistics with Probability</td>
<td>4</td>
</tr>
<tr>
<td>COMM-123</td>
<td>Argumentation and Debate</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-126</td>
<td>Critical Thinking: Writing about Non-Fiction</td>
<td>3</td>
</tr>
<tr>
<td>ECON-220</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON-221</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>POLSC-121</td>
<td>Introduction to United States Government</td>
<td>3</td>
</tr>
<tr>
<td>POLSC-220</td>
<td>Comparative Politics</td>
<td>3</td>
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</table>

**total minimum units for the major**

<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
</tr>
</tbody>
</table>

**JRNAL-110  Mass Media of Communication**

3 units  SC

- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course is an introduction to major mass media and their impact on American life. The history of mass media, how they are structured, who controls them and how they influence individual and social values are explored. Topics include First Amendment rights and responsibilities, techniques of persuasion and propaganda, the blurred line between entertainment and news, the role of journalists in war time, issues of credibility and trust and the impact of the new media - digital technology and the Internet - on the traditional forms of mass communication. Critical thinking and analysis of the images and sounds that shape the public mind will be emphasized. C-ID JOUR 100, CSU, UC
JRNAL-120 Introduction to Newswriting and Reporting
3 units  SC
- 54 hours lecture per term
- Advisory: ENGL-122 or equivalent
This course introduces students to journalism reporting and writing for print, online and the broadcast media. It includes generating story ideas, developing sources, conducting interviews and online research, taking accurate notes, observing detail, exercising news judgment and crafting stories appropriate for various media. The course also covers sensitivity to multicultural issues and explores libel laws and media ethics. Students will learn how to write strong lead sentences, how to organize their findings into lively and informative stories, and how to write and revise their work on deadline. Students may publish some assignments in the college’s student newspaper, The Inquirer, or use them for other student media. C-ID JOUR 110, CSU

JRNAL-125 News Production Fundamentals
3 units  SC
- 54 hours lecture
- Note: Journalism majors should take JRNAL-120.
This course introduces non-journalism majors to the fundamentals of reporting and writing the news through a practical approach that is intended to include publication in the college’s student newspaper, The Inquirer, or its online new site. Emphasis is placed on news judgment, basic legal and ethical principles, interviews and note-taking, digital news photographs and news story basics. CSU

JRNAL-126 News Production Laboratory I
3 units  SC
- 36 hours lecture/54 hours laboratory per term
- Advisory: JRNAL-120 (may be taken concurrently) or JRNAL-125 or JRNAL-130 and ENGL-118 or equivalents
Intermediate journalism students refine news-gathering skills introduced in JRNAL-120 while producing content for The Inquirer, the college’s student newspaper and its website. Emphasis is placed on beat coverage and working in formats suitable for print, social media and the Internet. Students will practice news judgment, ethics, and accuracy while meeting daily and weekly deadlines. They will also exercise their First Amendment responsibilities by ensuring that The Inquirer is a forum for the diverse views of the DVC community. C-ID JOUR 130, CSU

JRNAL-127 News Production Laboratory II
3 units  SC
- 18 hours lecture/108 hours laboratory per term
- Prerequisite: JRNAL-126 or equivalent
This course is a continuation of JRNAL-126 and requires higher skill level and/or leadership/management involvement for the college’s student newspaper, “The Inquirer” and its website. Emphasis is placed on management skills, methods for tackling longer-term projects, practical experience in design/layout, and working in formats suitable for print, social media and the internet. Students will be expected to exercise news judgment, meet daily and weekly deadlines, adhere to the highest ethical principles and be vigilant about accuracy. They will also exercise their First Amendment responsibilities by allowing The Inquirer to be a forum for the diverse views of the DVC community. C-ID JOUR 131, CSU

JRNAL-128 News Production Portfolio Development
3 units  SC
- 18 hours lecture/108 hours laboratory per term
- Note: Classes such as JRNAL-120, ART-105, ART-160, ARTDM-136, ARTDM-165, ARTDM-214 or FTVE-120 could provide good preparation for this course of instruction.
This intermediate class is designed for students preparing for employment in journalism and associated fields. Students with prior instruction in reporting, photography, illustration, design or digital media will create and publish works for “The Inquirer” while learning the basic principles of preparing a professional portfolio. CSU

JRNAL-130 Multimedia Reporting
3 units  SC
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.
This course is an introduction to multimedia storytelling tools for journalism. Students will explore techniques that use tools such as text, photographs, video or audio to tell news or feature stories on the Internet or through social media. It will also include techniques in digital research. C-ID JOUR 120, CSU

JRNAL-160 Intermediate Reporting
3 units  SC
- 54 hours lecture per term
- Advisory: ENGL-122 or equivalent
This course equips students to research, write and market feature stories for magazines, websites and newspapers. Topics covered include choosing and focusing on a story idea, interviewing sources, using storytelling techniques, locating a market and framing a query. Students learn to evaluate and use online sources and public documents. Basic principles of media law, including libel and copyright, are introduced. Students develop feature stories and market them to appropriate venues. CSU
JRNAL-295 Occupational Work Experience Education in JRNAL
2-4 units SC
- May be repeated eight times
- Variable hours
- Note: In order to enroll in JRNAL-295, students must be employed, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.

JRNL-295 is supervised employment that extends classroom learning to the job site and relates to the student’s chosen field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Each unit represents five hours of work per week or 75 hours work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

JRNAL-296 Internship in Occupational Work Experience Education in JRNAL
2-4 units SC
- May be repeated eight times
- Variable hours
- Note: In order to enroll in the JRNAL-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.

JRNAL-296 is a supervised internship in a skilled or professional level assignment in the student’s major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Each unit represents five hours of paid work or four hours of unpaid work per week or 75 hours of paid work or 60 hours of unpaid work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

JRNAL-298 Independent Study
.5-3 units SC
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

Kinesiology is the academic discipline focusing on the study of all aspects of human movement. Programs of study at the baccalaureate level include exercise science, sports management, allied health profession preparation, and pursuit of a teaching credential to become a secondary school teacher/coach.

The associate in arts in kinesiology for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.

Associate in arts in kinesiology for transfer
Students completing the program will be able to...
A. describe and explain the scholarly study of human movement and its significance to our understanding of physical activity.
B. assess the importance of physical activity in our daily lives (e.g. recreation, self-expression, health, competition, etc.).
C. differentiate among the sub-disciplines of kinesiology (e.g. history, biomechanics, philosophy, etc.) and discuss the knowledge specific to those areas.
D. demonstrate knowledge in related disciplines required as core preparation for kinesiology majors (e.g. chemistry, biology, physics, statistics, etc.).
E. apply a variety of research methods to locate and use appropriate information from various sources.
Kinesiology

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education-Breadth pattern (CSU GE-Breadth); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area IC requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Students must complete each course used to meet a major requirement with a “C” grade or higher. Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

**major requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-139 Human Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-140 Human Physiology</td>
<td>5</td>
</tr>
<tr>
<td>KINES-210 Introduction to Kinesiology</td>
<td>3</td>
</tr>
</tbody>
</table>

plus a minimum of 6 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS-240 Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-142 Elementary Statistics with Probability</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-117 Human Biology with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-120 General College Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>PH-230 Advanced First Aid/CPR</td>
<td>3</td>
</tr>
<tr>
<td>PHYS-120 General College Physics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-130 Physics for Engineers and Scientists A-Mechanics and Wave Motion</td>
<td>4</td>
</tr>
</tbody>
</table>

plus at least 3 units from:

Maximum of one course (minimum one unit) from any three of the following areas:

**Aquatics**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNACT-100A Beginning Swimming</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-100B Intermediate Swimming</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-102A Beginning Aquatic Fitness</td>
<td>1</td>
</tr>
</tbody>
</table>

**Fitness**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANCE-105A Pilates Mat Work I</td>
<td>1</td>
</tr>
<tr>
<td>DANCE-105B Pilates Mat Work II</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-110A Beginning Hatha Yoga</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-110B Intermediate Hatha Yoga</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-122A Beginning Exercise, Balance, and Mobility</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-128A Beginning Cardio Kickboxing</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-130A Beginning Fitness Walking</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-132 Hiking</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-144A Beginning Strength and Cardio Circuit Training</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-144B Intermediate Strength and Cardio Circuit Training</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-146A Theory and Practice of Strength Training and Fitness I</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-148A Beginning Power Training</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-148B Intermediate Power Training</td>
<td>1</td>
</tr>
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</table>

**Individual sports**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>KNACT-160A Beginning Badminton</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-160B Intermediate Badminton</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-162A Bowling</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-164A Beginning Golf</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-164B Intermediate Golf</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-166A Beginning Tennis</td>
<td>1</td>
</tr>
</tbody>
</table>

**Team sports**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNACT-170A Beginning Basketball</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-170B Intermediate Basketball</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-176A Beginning Soccer</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-176B Intermediate Soccer</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-178A Beginning Indoor Soccer</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-182A Beginning Volleyball I</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-182B Intermediate Volleyball</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-182C Advanced Volleyball</td>
<td>1</td>
</tr>
</tbody>
</table>

**Combatives**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNCMB-110 Self Defense</td>
<td>1</td>
</tr>
<tr>
<td>KNCMB-118A Beginning Taekwondo</td>
<td>1</td>
</tr>
<tr>
<td>KNCMB-118B Intermediate Taekwondo</td>
<td>1</td>
</tr>
<tr>
<td>KNCMB-118C Advanced Taekwondo</td>
<td>1</td>
</tr>
<tr>
<td>KNCMB-126A Beginning Aikido</td>
<td>1</td>
</tr>
<tr>
<td>KNCMB-126B Intermediate Aikido</td>
<td>1</td>
</tr>
<tr>
<td>KNCMB-130 Judo</td>
<td>1</td>
</tr>
<tr>
<td>KNCMB-134 Karate</td>
<td>1</td>
</tr>
</tbody>
</table>

**Dance**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANCE-100 Introduction to Dance</td>
<td>1</td>
</tr>
<tr>
<td>DANCE-110A Ballet Fundamentals I</td>
<td>1</td>
</tr>
<tr>
<td>DANCE-110B Ballet Fundamentals II</td>
<td>1</td>
</tr>
<tr>
<td>DANCE-120A Jazz Dance Fundamentals I</td>
<td>1</td>
</tr>
<tr>
<td>DANCE-120B Jazz Dance Fundamentals II</td>
<td>1</td>
</tr>
<tr>
<td>DANCE-130A Modern Dance Fundamentals I</td>
<td>1</td>
</tr>
<tr>
<td>DANCE-130B Modern Dance Fundamentals II</td>
<td>1</td>
</tr>
<tr>
<td>DANCE-160A Tap Dance I</td>
<td>1</td>
</tr>
<tr>
<td>DANCE-166 Swing Dance</td>
<td>1</td>
</tr>
<tr>
<td>DANCE-168A Salsa and Latin Dance I</td>
<td>1</td>
</tr>
<tr>
<td>DANCE-168B Salsa and Latin Dance II</td>
<td>1</td>
</tr>
<tr>
<td>DANCE-169A Argentine Tango</td>
<td>1</td>
</tr>
<tr>
<td>DANCE-170A Hip-Hop and Urban Funk Dance I</td>
<td>1</td>
</tr>
<tr>
<td>DANCE-170B Hip-Hop and Urban Funk Dance II</td>
<td>1</td>
</tr>
<tr>
<td>DANCE-164A Ballroom/Social Dance I</td>
<td>1</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 22
Recommended general education courses:
KINES-100  Fitness and Wellness ........................................... 1
KINES-248  Sport and Society ............................................. 3

### Associate in science degree

#### Fitness instruction

Students completing the program will be able to...

- A. conduct assessment of personal fitness levels.
- B. develop a conditioning program to improve conditioning levels utilizing the periodization model.
- C. design a conditioning program to meet the unique needs of special populations.

The associate in science degree in fitness instruction is a two-year course of study designed for students who are interested in a career in the fitness industry and/or wish to transfer to a four-year institution in kinesiology or related major. It will expose students to many facets of the fitness industry and is appropriate for those students who wish to become a personal trainer and/or group exercise instructor. Completion of the degree will also prepare students to sit for one of the national personal training or group exercise instructor certification examinations. Students who intend to transfer to a four-year institution must consult with program faculty and college counselors to ensure that the requirements for transfer to appropriate institutions are met. Possible programs of study at the baccalaureate level include exercise science, strength and conditioning, preparation for instructor certification examinations. Students who intend to transfer to a four-year institution must consult with program faculty and college counselors to ensure that the requirements for transfer to appropriate institutions are met.

To earn a degree, students must complete each course used to meet a major requirement with a “C” grade or higher and complete general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

#### major requirements:

<table>
<thead>
<tr>
<th>Course Code (major)</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>KINES-100</td>
<td>Fitness and Wellness</td>
<td>1</td>
</tr>
<tr>
<td>KINES-234</td>
<td>Introduction to Sports Medicine and Athletic Training</td>
<td>3</td>
</tr>
<tr>
<td>KINES-240</td>
<td>Principles of Optimizing Human Performance</td>
<td>3</td>
</tr>
<tr>
<td>KINES-242</td>
<td>Exercise Techniques and Fitness Assessments</td>
<td>1</td>
</tr>
<tr>
<td>KINES-246</td>
<td>Sport and Exercise Psychology</td>
<td>3</td>
</tr>
<tr>
<td>KINES-248</td>
<td>Sport and Society</td>
<td>3</td>
</tr>
<tr>
<td>KINES-250</td>
<td>Professional Aspects of Personal Training</td>
<td>3</td>
</tr>
<tr>
<td>KINES-252</td>
<td>Professional Aspects of Group Personal Training</td>
<td>1.5</td>
</tr>
<tr>
<td>KINES-254</td>
<td>Practical Experience in Personal Training</td>
<td>4</td>
</tr>
<tr>
<td>KINES-255</td>
<td>Practical Experience in Personal Training and Fitness Instruction II</td>
<td>4</td>
</tr>
<tr>
<td>NUTRI-120</td>
<td>Sports Nutrition: Fueling the Athlete</td>
<td>3</td>
</tr>
<tr>
<td>PH-230</td>
<td>Advanced First Aid/CPR</td>
<td>3</td>
</tr>
</tbody>
</table>

#### plus at least 3 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-101</td>
<td>Fundamentals of Biological Science</td>
<td>3</td>
</tr>
<tr>
<td>BIOSC-102</td>
<td>Fundamentals of Biological Science with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-116</td>
<td>Human Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIOSC-117</td>
<td>Human Biology with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-120</td>
<td>Introduction to Human Anatomy and Physiology</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-139</td>
<td>Human Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-140</td>
<td>Human Physiology</td>
<td>5</td>
</tr>
</tbody>
</table>

#### plus at least 2 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNACT-146A</td>
<td>Theory and Practice of Strength Training and Fitness I</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-146B</td>
<td>Theory and Practice of Strength Training and Fitness II</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-146C</td>
<td>Theory and Practice of Strength Training and Fitness III</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-146D</td>
<td>Theory and Practice of Strength Training and Fitness IV</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-148A</td>
<td>Beginning Power Training</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-148B</td>
<td>Intermediate Power Training</td>
<td>1</td>
</tr>
</tbody>
</table>

#### plus at least 2 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANCE-105A</td>
<td>Pilates Mat Work I</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-110A</td>
<td>Beginning Hatha Yoga</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-110B</td>
<td>Intermediate Hatha Yoga</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-110C</td>
<td>Advanced Hatha Yoga</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-120</td>
<td>Physical Fitness</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-122A</td>
<td>Beginning Exercise, Balance, and Mobility</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-124A</td>
<td>Beginning Strength, Core, and More</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-124B</td>
<td>Intermediate Strength, Core, and More</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-126A</td>
<td>Beginning Cardio Kickboxing</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-128B</td>
<td>Intermediate Cardio Kickboxing</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-140</td>
<td>Indoor Cycling</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-144A</td>
<td>Beginning Strength and Cardio Circuit Training</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-144B</td>
<td>Intermediate Strength and Cardio Circuit Training</td>
<td>1</td>
</tr>
</tbody>
</table>

#### total minimum units for the major

39.5

### recommended courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSMG-191</td>
<td>Small Business Management</td>
<td>3</td>
</tr>
<tr>
<td>KINES-210</td>
<td>Introduction to Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>KINES-230</td>
<td>Overview of Sports Medicine and Fitness Professions</td>
<td>2</td>
</tr>
<tr>
<td>KINES-232</td>
<td>Introduction to Sports Massage</td>
<td>1.5</td>
</tr>
<tr>
<td>KINES-235</td>
<td>Advanced Sports Medicine and Athletic Training</td>
<td>3</td>
</tr>
<tr>
<td>KINES-256</td>
<td>Theory &amp; Practice of Performance</td>
<td>3</td>
</tr>
<tr>
<td>KINES-257</td>
<td>Exercise Training &amp; Exam Prep</td>
<td>2</td>
</tr>
<tr>
<td>KINES-258</td>
<td>Theory &amp; Practice of Corrective Exercise Training &amp; Exam Prep</td>
<td>2</td>
</tr>
<tr>
<td>KINES-258</td>
<td>Personal Training National Examination Preparation</td>
<td>2</td>
</tr>
</tbody>
</table>

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DIABLO VALLEY COLLEGE  CATALOG 2022-2023  chapter four  PROGRAM/COURSE DESCRIPTIONS  343
**Associate in science degree**  
**Kinesiology**

Students completing the program (coaching emphasis) will be able to...

A. develop practice plans, analyze strategy and teach techniques specific to a chosen sport.
B. incorporate concepts of an athlete’s psychological and physical health to improve performance.
C. develop an educational and career plan matched to their skills, aptitudes, and professional requirements.

Students completing the program (Sports and recreation management) will be able to...

A. compare and contrast career opportunities within the sports management and kinesiology sectors.
B. apply management and organizational techniques to the sports and recreation setting.
C. design individual components sports management programs.
D. describe basic principles of kinesiology.
E. utilize these disciplines in completing a transfer degree pathway.

The associate in science degree in kinesiology offers students two areas of specialization from which to choose: sport and recreation management or coaching. The degree is a two-year course of study designed for students who are interested in a career as an athletic coach and/or preparing for an entry level job in sports or recreation administration at a wide variety of businesses such as fitness centers, spas and wellness centers, recreational facilities, etc.

While most of the kinesiology major requirements are transferable and many meet prerequisites required in associate majors, this degree is not designed as a transfer curriculum. Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Possible programs of study at the baccalaureate level include pursuit of a teaching credential to become a secondary school teacher/coach, or exercise science, sports management or other specialty area related to the discipline of kinesiology. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE). Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

To earn this degree, students must complete the core major requirements as indicated and select an area of specialization. Students must complete each course used to meet a major requirement with a “C” grade or higher and complete general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however the units are only counted once. For this degree a maximum of 15 units may be double-counted.

<table>
<thead>
<tr>
<th>major requirements:</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>KINES-100</td>
<td>Fitness and Wellness</td>
</tr>
<tr>
<td>KINES-210</td>
<td>Introduction to Kinesiology</td>
</tr>
<tr>
<td>KINES-216</td>
<td>Introduction to Sports Medicine and Athletic Training</td>
</tr>
<tr>
<td>KINES-240</td>
<td>Principles of Optimizing Human Performance</td>
</tr>
<tr>
<td>KINES-242</td>
<td>Exercise Techniques and Fitness Assessments</td>
</tr>
<tr>
<td>KINES-246</td>
<td>Sport and Exercise Psychology</td>
</tr>
<tr>
<td>KINES-248</td>
<td>Sport and Society</td>
</tr>
<tr>
<td>PH-230</td>
<td>Advanced First Aid/CPR</td>
</tr>
<tr>
<td>PSYCH-101</td>
<td>Introduction to Psychology</td>
</tr>
</tbody>
</table>

plus at least 3 units from:

| BUS-240     | Business Statistics          | 3 |
| MATH-135    | College Algebra              | 4 |
| MATH-142    | Elementary Statistics with Probability | 4 |

plus at least 3 units from:

| BIOSC-116   | Human Biology                | 3 |
| BIOSC-117   | Human Biology with Laboratory | 4 |
| BIOSC-139   | Human Anatomy                | 5 |

**coaching emphasis**

**required courses:**

| KINES-260 | Theory of Coaching Sports | 3 |

plus at least 2 units from:

| KNACT-100A | Beginning Swimming      | 1 |
| KNACT-100B | Intermediate Swimming   | 1 |
| KNACT-160A | Beginning Badminton     | 1 |
| KNACT-160B | Intermediate Badminton  | 1 |
| KNACT-164A | Beginning Golf          | 1 |
| KNACT-164B | Intermediate Golf       | 1 |
| KNACT-166A | Beginning Tennis        | 1 |
| KNACT-170A | Beginning Basketball    | 1 |
| KNACT-170B | Intermediate Basketball | 1 |
| KNACT-174A | Beginning Men's Lacrosse| 1 |
| KNACT-174B | Intermediate Men's Lacrosse| 1 |
| KNACT-178A | Beginning Soccer        | 1 |
| KNACT-178B | Intermediate Soccer     | 1 |
| KNACT-182A | Beginning Volleyball    | 1 |
| KNACT-182B | Intermediate Volleyball | 1 |
| KNACT-195A | Beginning Plyometrics and Agility Training for Female Athletes | 1 |
| KNACT-195B | Intermediate Plyometrics and Agility Training for Female Athletes | 1 |
| KNACT-195C | Advanced Plyometrics and Agility Training for Female Athletes | 1 |

**total minimum units for the major** 34

**sport and recreation management emphasis**

**required courses:**

| KINES-220 | Introduction to Sport and Recreation Management | 3 |
| KINES-222 | Practical Experience in Sport and Recreation Management I | 4 |
| KINES-223 | Practical Experience in Sport and Recreation Management II | 4 |
Students must complete each course used to meet a major and general education pattern are met. However, the units are only counted once. Satisfy both major and general education requirements; all GPA of 2.75 or higher and complete general education to transfer must consult with a program advisor or counselor.

The associate in science degree in sports medicine/athletic training program is a two-year course of study designed for students interested in becoming allied health care professionals such as athletic trainers or physical therapists. It incorporates concepts of an athlete’s psychological and physical health to improve performance. The coaching certificate of achievement is a one-year course for students interested in becoming youth or secondary school coach. Specific sport options offered include baseball, basketball, cross-country, football, soccer, softball, swimming, tennis, track and field, volleyball and water polo. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

### Associate in science degree

#### Sports medicine/athletic training

Students completing the program will be able to...

- A. differentiate between a variety of anatomical structures and related technology.
- B. utilize injury evaluation, treatment, rehabilitation and massage techniques.
- C. develop an educational and career plan matched to their skills, aptitudes, and professional requirements.

The associate in science degree in sports medicine/athletic training program is a two-year course of study designed for students interested in becoming allied health care professionals such as athletic trainers or physical therapists. It combines academic, laboratory and clinical experience to prepare students for further study or to obtain employment as an entry-level rehabilitation/allied health paraprofessional.,Earning this degree may facilitate the student’s transfer to a four-year college and/or professional program.

DVC sports medicine/athletic training students who intend to transfer must consult with a program advisor or counselor to ensure that all requirements for transfer to four-year institutions of their choice, including the appropriate general education pattern are met.

Students must complete each course used to meet a major requirement with a “C” grade or higher, maintain an overall GPA of 2.75 or higher and complete general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

#### Certificate of achievement

**Coaching**

Students completing the program will be able to...

- A. develop practice plans, analyze strategy and teach techniques specific to a chosen sport.
- B. incorporate concepts of an athlete’s psychological and physical health to improve performance.
- C. develop an educational and career plan matched to their skills, aptitudes, and professional requirements.

The coaching certificate of achievement is a one-year course of study that prepares students to be an effective recreational, youth or secondary school coach. Specific sport options offered include baseball, basketball, cross-country, football, soccer, softball, swimming, tennis, track and field, volleyball and water polo. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

---

### Recommended degree electives:

- **BIOSC-140** Human Physiology ..................................5
- **KINES-230** Overview of Sports Medicine and Fitness Professions......................................................2
- **PSYCH-101** Introduction to Psychology ....................3
- **KINES-180** Sports Medicine and Athletic Training........2

### Major requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>BIOSC-139</td>
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<td>Human Physiology</td>
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<td>KINES-230</td>
<td>Overview of Sports Medicine and Fitness Professions</td>
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<td>KINES-232</td>
<td>Introduction to Sports Massage</td>
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<td>KINES-234</td>
<td>Introduction to Sports Medicine and Athletic Training</td>
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<td>KINES-235</td>
<td>Advanced Sports Medicine and Athletic Training</td>
<td>3</td>
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<tr>
<td>KINES-236</td>
<td>Clinical Experiences in Sports Medicine and Athletic Training</td>
<td>2</td>
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<td>Exercise Techniques and Fitness Assessments</td>
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<td>KINES-248</td>
<td>Sport and Society</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH-101</td>
<td>Introduction to Psychology</td>
<td>3</td>
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<tr>
<td>BIOSC-139</td>
<td>Human Anatomy</td>
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<tr>
<td>BIOSC-140</td>
<td>Human Physiology</td>
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<td>KINES-230</td>
<td>Overview of Sports Medicine and Fitness Professions</td>
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<td>PSYCH-101</td>
<td>Introduction to Psychology</td>
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<tr>
<td>CHEM-107</td>
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<td>CHEM-108</td>
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<td>CHEM-109</td>
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<td>CHEM-120</td>
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<tr>
<td>CHEM-107</td>
<td>Integrated Inorganic, Organic, and Biological Chemistry</td>
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</tr>
<tr>
<td>CHEM-120</td>
<td>General College Chemistry</td>
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### Total minimum units for the major

**Associate in science degree**

42 units

**Certificate of achievement**

**Coaching**

41.5 units

---

**plus a least 2 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
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<td>Beginning Swimming</td>
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<td>KNACT-164B</td>
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</tr>
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<tr>
<td>KNACT-170A</td>
<td>Beginning Basketball</td>
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<td>Intermediate Basketball</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-174A</td>
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<td>1</td>
</tr>
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<td>KNACT-174B</td>
<td>Intermediate Men’s Lacrosse</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-176A</td>
<td>Beginning Soccer</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-176B</td>
<td>Intermediate Soccer</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-182A</td>
<td>Beginning Volleyball</td>
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</tr>
<tr>
<td>KNACT-182B</td>
<td>Intermediate Volleyball</td>
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</tr>
<tr>
<td>KNACT-182C</td>
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</tr>
<tr>
<td>KNACT-195A</td>
<td>Beginning Plyometrics and Agility Training for Female Athletes</td>
<td>1</td>
</tr>
<tr>
<td>KNACT-195B</td>
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<td>KNACT-195C</td>
<td>Advanced Plyometrics and Agility Training for Female Athletes</td>
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**total minimum units for the major**

42 units

**plus at least 4 units from:**

<table>
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<tr>
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<tr>
<td>CHEM-107</td>
<td>Integrated Inorganic, Organic, and Biological Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-108</td>
<td>Introductory Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-109</td>
<td>Introduction to Organic and Biochemistry</td>
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<tr>
<td>CHEM-120</td>
<td>General College Chemistry</td>
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</table>

**plus at least 3 units from:**

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<tr>
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<tbody>
<tr>
<td>BIOSC-101</td>
<td>Fundamentals of Biological Science</td>
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<td>BIOSC-116</td>
<td>Human Biology</td>
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<td>KINES-210</td>
<td>Introduction to Kinesiology</td>
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</tr>
<tr>
<td>NUTRI-160</td>
<td>Nutrition: Science and Applications</td>
<td>3</td>
</tr>
<tr>
<td>PH-230</td>
<td>Advanced First Aid/CPR</td>
<td>3</td>
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<tr>
<td>PHYS-110</td>
<td>Elementary Physics</td>
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<td>PHYS-120</td>
<td>General College Physics</td>
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</table>

**total minimum units for the major**

41.5 units
## Kinesiology

### Required Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>KINES-234</td>
<td>Introduction to Sports Medicine and Athletic Training</td>
<td>3</td>
</tr>
<tr>
<td>KINES-240</td>
<td>Principles of Optimizing Human Performance</td>
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<td>KINES-242</td>
<td>Exercise Techniques and Fitness Assessments</td>
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<tr>
<td>KINES-246</td>
<td>Sport and Exercise Psychology</td>
<td>3</td>
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<tr>
<td>KINES-260</td>
<td>Theory of Coaching Sports</td>
<td>3</td>
</tr>
<tr>
<td>PH-230</td>
<td>Advanced First Aid/CPR</td>
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**Plus at least 3 units from:**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>NUTRI-120</td>
<td>Sports Nutrition: Fueling the Athlete</td>
<td>3</td>
</tr>
<tr>
<td>NUTRI-160</td>
<td>Nutrition: Science and Applications</td>
<td>3</td>
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</table>

**Plus at least 2 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Units</th>
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</thead>
<tbody>
<tr>
<td>KNACT-100A</td>
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</tr>
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<td>Intermediate Swimming</td>
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<td>KNACT-180A</td>
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<td>KNACT-184B</td>
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<td>KNACT-172A</td>
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<td>Beginning Men's Lacrosse</td>
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<tr>
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<td>Intermediate Plyometrics and Agility Training for Female Athletes</td>
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<td>KNICA-146A</td>
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<td>Theory and Practice of Strength Training and Fitness II</td>
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<td>KNICA-146D</td>
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**Plus at least 1 unit from:**

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<tr>
<td>KNACT-148B</td>
<td>Intermediate Power Training</td>
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</tbody>
</table>

### Certificate of Achievement

#### Personal Training

Students completing the program will be able to...

A. conduct assessment of personal fitness levels.
B. develop a conditioning program to improve conditioning levels utilizing the periodization model.
C. design a conditioning program to meet the unique needs of special populations.

The personal training certificate program is a one-year course of study that will expose students to many facets of the fitness industry and prepares them to obtain entry-level employment as a personal trainer. Completion of the certificate requirements will also prepare students to sit for national personal training examinations.

To earn a certificate of achievement, a student must complete each course used to meet a certificate requirement with a grade of “C” or higher. Courses are available in the day and evening.

**Required Courses:**

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>KINES-240</td>
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<td>Exercise Techniques and Fitness Assessments</td>
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<td>KINES-246</td>
<td>Sport and Exercise Psychology</td>
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<td>KINES-250</td>
<td>Professional Aspects of Personal Training and Fitness Instruction</td>
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<td>KNICA-215</td>
<td>Intercollegiate Water Polo, Men</td>
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<tr>
<td>KNICA-223</td>
<td>Intercollegiate Volleyball, Women</td>
<td>3</td>
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<td>KNICA-224</td>
<td>Intercollegiate Water Polo, Men</td>
<td>3</td>
</tr>
<tr>
<td>KNICA-225</td>
<td>Intercollegiate Water Polo, Women</td>
<td>3</td>
</tr>
</tbody>
</table>

*Activity courses or intercollegiate athletic participation must be in the selected area of coaching emphasis.*

### Total Minimum Required Units

21

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**DIABLO VALLEY COLLEGE CATALOG 2022-2023**

346 PROGRAM/COURSE DESCRIPTIONS chapter four
KINES-100  Fitness and Wellness
3 units SC
18 hours lecture per term
Advisory: College-level reading and writing are expected.
This course presents the physiological, psychological and sociological aspects of healthy choices and habits that lead to fitness and overall wellness. Emphasis is placed on behavior that contribute to a lifetime of good health. CSU, UC (credit limits may apply to UC - see counselor)

KINES-150  Topics in Kinesiology Theory
.3-4 units SC
Variable hours
A supplemental course in physical education theory to provide a study of topics not covered in other courses or to address current developments in the field. Specific topics to be announced in the schedule of classes. CSU

KINES-210  Introduction to Kinesiology
3 units SC
54 hours lecture per term
Advisory: College-level reading and writing are expected.
This is an introductory course surveys the sub-disciplines related to the study of human movement including history, sociology, biomechanics, physiology, and psychology, as they pertain to the sport and exercise environment. In addition, students will explore three career pathways involving the study of human movement: teaching, research, and professional practice. The course also introduces students to the concepts and skills of locating, evaluating, synthesizing, and communicating information in various formats. C-ID KIN 100, CSU, UC (credit limits may apply to UC - see counselor)

KINES-220  Introduction to Sport and Recreation Management
3 units SC
54 hours lecture per term
Advisory: College-level reading and writing are expected.
This is an introductory course in sport and recreation management. Students will examine the history and development of the profession, discover and evaluate a variety of career opportunities, discuss organizational and managerial strategies, and analyze current trends in sport and recreation management. CSU

KINES-222  Practical Experience in Sport and Recreation Management I
4 units SC
36 hours lecture/108 hours laboratory by arrangement per term
Advisory: KINES-220 or equivalent
This is an internship course that exposes students to the practical application and responsibilities within the field of sport and recreation management. Students have the opportunity to assist with a variety of projects including marketing, game management, website management, sports information, fundraising, and/or scheduling. CSU

KINES-223  Practical Experience in Sport and Recreation Management II
4 units SC
36 hours lecture/108 hours laboratory by arrangement per term
Prerequisite: KINES-222 or equivalent
This internship course continues to develop students’ skills and practical experiences within the field of sport and recreation management. Students participate in creating and implementing projects. Topics for projects include, but are not limited to, marketing, game management, website management, sports information, fundraising, and/or scheduling. CSU

KINES-230  Overview of Sports Medicine and Fitness Professions
2 units SC
36 hours lecture per term
This course will acquaint students with a variety of sports medicine, fitness and health care professions. Information presented will include job descriptions, educational and certification/licensure requirements, work environment and potential salary ranges. CSU
KINES-232  Introduction to Sports Massage
1.5 units  SC
- 18 hours lecture/27 hours laboratory per term
This course will present the theory and practice of massage and its role in treating and preventing athletic injuries as well as preparing athletes for competition. Students will apply and experience the application of a variety of massage, stretching and relaxation techniques. CSU

KINES-234  Introduction to Sports Medicine and Athletic Training
3 units  SC
- 36 hours lecture/54 hours laboratory per term
- Advisory: College-level reading and writing are expected.
This course will provide the future coach, athletic trainer and other health care providers with the basic theoretical knowledge and practical skills necessary for the proper and effective management of common injuries. The students will also develop the ability to recognize these injuries, manage emergency situations and apply preventative taping. CSU, UC (credit limits may apply to UC - see counselor)

KINES-235  Advanced Sports Medicine and Athletic Training
3 units  SC
- 36 hours lecture/54 hours laboratory per term
- Prerequisite: KINES-234 or equivalent
This course builds on concepts from KINES-234. It will introduce the student to the theoretical knowledge and practical skills necessary to evaluate and rehabilitate injuries. The medical and surgical management of injuries will also be discussed in presentations by orthopedic surgeons and podiatrists. CSU

KINES-236  Clinical Experiences in Sports Medicine and Athletic Training I
2 units  SC
- 108 hours laboratory by arrangement per term
- Prerequisite: KINES-234 or completion of one year high school ROP sports medicine or equivalent
This course will expose students to basic injury prevention and care. The student will observe and assist athletic trainers in administering health care to the DVC athletes. Skills to be learned and performed include prophylactic taping and wrapping, immediate injury management and modality application. CSU

KINES-237  Clinical Experiences in Sports Medicine and Athletic Training II
2 units  SC
- 108 hours laboratory by arrangement per term
- Prerequisite: KINES-235 (may be taken concurrently) and KINES-236 or equivalents
This course will expose students to injury evaluation and career exploration in the area of sports medicine. Students will observe and assist athletic trainers in evaluating and treating DVC athletes. This may be augmented by off-campus observations of physicians and/or other health care providers. CSU

KINES-238  Clinical Experiences in Sports Medicine and Athletic Training III
2 units  SC
- 108 hours laboratory by arrangement per term
- Prerequisite: KINES-237 or equivalent
This course will expose the student to advanced athletic injury evaluation and anatomy. Problem solving and professional development will be emphasized. The student will observe and assist athletic trainers in evaluating and rehabilitating DVC student athletes. This may be augmented by off-campus observations of surgery. CSU

KINES-239  Clinical Experiences in Sports Medicine and Athletic Training IV
2 units  SC
- 108 hours laboratory by arrangement per term
- Prerequisite: KINES-238 or equivalent
This course will expose the student to advanced injury rehabilitation principles and clinical intervention techniques. Problem solving and professional development will be emphasized. Students will observe and assist athletic trainers in evaluating and rehabilitating DVC student athletes. This may be augmented by off-campus observations of surgery. CSU

KINES-240  Principles of Optimizing Human Performance
3 units  SC
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.
This course is a study of the body’s adaptations to exercise. The development of fitness programs to maximize these strength and conditioning adaptations is emphasized. The information is relevant for students interested in professions such as personal training, physical therapy, athletic training/sports medicine, teaching and coaching, as well as for people seeking to improve their own fitness level or athletic performance. This course presents the principles and foundations for national personal training exams. CSU, UC (credit limits may apply to UC - see counselor)
KINES-242 Exercise Techniques and Fitness Assessments
1 unit SC
- 54 hours laboratory per term
- Advisory: KINES-240 or equivalent (may be taken concurrently)

This course is a companion laboratory course to KINES-240. Topics include cardiovascular, pulmonary and muscular responses to exercise. Students will also practice the instruction of proper techniques of strength training and fitness conditioning, conditioning, conduct fitness assessments and evaluate progress in exercise programs. CSU, UC (credit limits may apply to UC - see counselor)

KINES-246 Sport and Exercise Psychology
3 units SC
- CSU GE: E
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course addresses the scientific approach to psychological aspects of sport and exercise performance, as well as the practical application of that knowledge. Factors that influence sport performance and/or exercise adherence, such as personality, cognitive and physiological anxiety, motivation, group/social dynamics, and leadership, are presented. In addition, psychological skills training methods such as arousal management, imagery, goal setting, and concentration are introduced. Lastly, the course defines the relationship between sport/exercise participation (from childhood through adulthood), and psychological health, wellness, and development. CSU

KINES-248 Sport and Society
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course demonstrates the many ways sport and society interact and affect one another. The process of socialization as well as the roles of violence, gender, race, media, politics and others within the realm of sport, are examined. Considerations of pertinent current events and scholarly journal articles to enhance students' understanding of the topics addressed. CSU, UC

KINES-250 Professional Aspects of Personal Training
3 units SC
- 54 hours lecture per term
- Advisory: KINES-240 or equivalent

This course is for students who are, or aspire to be, personal trainers. Emphasis in on how to become nationally certified as a personal trainer, effectively work with clients, including those within special populations, conduct assessments and create long term and short term goals, and create appropriate program design. CSU

KINES-252 Professional Aspects of Group Personal Training
1.5 units SC
- 18 hours lecture/27 hours laboratory per term
- Advisory: KINES-240 or equivalent

This course prepares the potential personal trainer and group exercise instructor for the practical aspects of training and managing clients in a small group fitness/strength training setting. Principles and management of appropriate progression, regression and modification will be emphasized. Program design, exercise sequencing, training variables, use of strength equipment/modalities and practical teaching skills will also be included. CSU

KINES-254 Practical Experience in Personal Training and Fitness Instruction I
4 units SC
- 36 hours lecture/108 hours laboratory by arrangement per term
- Prerequisite: KINES-240 (may be taken concurrently) or equivalent

This is an internship course that exposes students to the practical application and responsibilities of personal training through the observation and assistance of a fitness professional. Students observe and conduct assessments on clients for fitness programs and program design development. Students examine the adaptations/adjustments (appropriate progressions/regressions) of fitness programs to meet the changing needs of the client’s fitness level and risk factor management and development of long and short term fitness goals. CSU

KINES-255 Practical Experience in Personal Training and Fitness Instruction II
4 units SC
- 36 hours lecture/108 hours laboratory by arrangement per term
- Prerequisite: KINES-240 (may be taken concurrently) and KINES-250 (may be taken concurrently) or equivalents

This is an internship course where students experience the practical application and responsibilities of personal training. Students perform objective assessments with clients, prepare, and execute program design, as well as create long and short term health and wellness goals based on assessments outcomes. CSU

KINES-256 Theory and Practice of Performance Exercise Training and Exam Prep.
2 units SC
- 36 hours lecture per term
- Advisory: KINES-240 and KINES-250 or equivalents

This course is for personal trainers, athletic trainers and coaches to advance their knowledge in the area of performance exercise. Performance exercise theory, assessment techniques, and strategies for optimizing human performance are emphasized. Students may be able to earn continuing education units (CEU’s) and/or sit for a national examination in performance exercise. CSU
KINES-257  Theory and Practice of Corrective Exercise Training and Exam Prep.
2 units SC  
- 36 hours lecture per term  
- Advisory: KINES-240 and KINES-250 or equivalents
This course is for personal trainers, athletic trainers, and coaches to advance their knowledge in the area of corrective exercise. Emphasis includes corrective exercise theory, assessing human movement dysfunction, the corrective exercise continuum, and corrective strategies. Students may be able to earn continuing education units (CEU’s) and/or sit for a national examination in corrective exercise. CSU

KINES-258  Personal Training National Exam Preparation
2 units SC  
- 36 hours lecture per term  
- Advisory: KINES-250 or equivalent
This course is designed to provide students with the information necessary to sit for a national personal training exam. The course expands upon information presented in other personal training courses within our program to emphasize knowledge required for passing these exams. CSU

KINES-260  Theory of Coaching Sports
3 units SC  
- 54 hours lecture per term
This course is an introduction to a variety of coaching sports. Topics include methods of instruction, practice design, mental preparation, and program building. This course is appropriate for those looking for a career in coaching, current youth coaches and the athlete wanting to increase knowledge of their sport. No previous coaching experience is necessary. CSU, UC (credit limits may apply to UC - see counselor)

KINES-265  Theory and Strategies of American Football Offense
2 units SC  
- 36 hours lecture per term
This course presents an overview of the strategies and techniques of American football offense. Topics include terminology, rules, strategies, mental preparation, skills, and methods of implementing the offense. CSU, UC (credit limitations may apply to UC - see counselor)

KINES-266  Theory and Strategies of American Football Defense
2 units SC  
- 36 hours lecture per term
This course presents an overview of the strategies and techniques of American football defense. Topics include terminology, rules, strategies, mental preparation, skills, and methods of implementing the defense. CSU, UC (credit limitations may apply to UC - see counselor)

KINES-295  Occupational Work Experience Education in KINES
2-4 units SC  
- May be repeated eight times  
- Variable hours  
- Advisory: KINES-250 or equivalent
KINES-295 is supervised employment that extends classroom learning to the job site and relates to the student’s chosen field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Each unit represents five hours of work per week or 75 hours of work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5 Section 55253. CSU

KINES-298  Independent Study
.5-3 units SC  
- Variable hours  
- Note: Submission of acceptable educational contract to department and Instruction Office is required.
This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

KINES-299  Student Instructional Assistant
.5-3 units SC  
- Variable hours  
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU
**KINESIOLOGY ACTIVITY – KNACT**

Christine Worsley, Dean  
Kinesiology, Athletics, and Health Sciences Division  
Kinesiology Office Building, Room 104

**Limitations on enrollment**
Effective fall term 2013, changes to the regulations that govern community college enrollments placed limitations on the number of courses that students may take in certain disciplines within the Contra Costa Community College District. The charts below indicate which Diablo Valley College (DVC) courses are assigned to groups of courses (“families”) for which limitations have been imposed. Certain courses within certain “families” may be repeated (see catalog description), however, students are limited to four enrollments within the family. Certain DVC courses are equivalent to courses at Los Medanos College and Contra Costa College. An enrollment in an equivalent course at one of those colleges will count toward the allowable four enrollments within the family.

NOTE: Diablo Valley College may offer experimental or topics courses. When appropriate, based on content, such courses will be assigned to a “family” and that enrollment will be counted as an experience within the “family”.

### KINESIOLOGY

**Family: Swimming**  
KNACT-100A Beginning Swimming  
KNACT-100B Intermediate Swimming

**Family: Yoga**  
KNACT-110A Beginning Hatha Yoga  
KNACT-110B Intermediate Hatha Yoga  
KNACT-110C Advanced Hatha Yoga  
KNACT-114A Beginning Stretch and Yoga for Sports  
KNACT-114B Intermediate Stretch and Yoga for Sports

**Family: Walking/jogging**  
KNACT-130A Beginning Fitness Walking  
KNACT-130B Intermediate Fitness Walking  
KNACT-132 Hiking  
KNACT-134A Beginning Fitness Jogging  
KNACT-134B Intermediate Fitness Jogging  
KNACT-136 Distance Track Training

**Family: Aerobics**  
KNACT-102A Beginning Aquatic Fitness  
KNACT-102B Intermediate Aquatic Fitness  
KNACT-104 Water Aerobics  
KNACT-120 Physical Fitness  
KNACT-125 Zumba  
KNACT-126 Aerobics/Step Aerobics  
KNACT-128A Beginning Cardio Kickboxing  
KNACT-128B Intermediate Cardio Kickboxing  
KNACT-140 Indoor Cycling  
KNACT-142A Beginning Boot Camp  
KNACT-144A Beginning Strength and Cardio Circuit Training  
KNACT-144B Intermediate Super Circuit  
KNACT-150A Zumba  
KNACT-150E Boot Camp

**Family: Core**  
DANCE-105A Pilates Mat Work I  
DANCE-105B Pilates Mat Work II  
KNACT-122A Beginning Exercise, Balance, and Mobility  
KNACT-122B Intermediate Exercise, Balance, and Mobility  
KNACT-124A Beginning Strength, Core, and More  
KNACT-124B Intermediate Strength, Core, and More  
KNDAN-105A Pilates Mat Work I  
KNDAN-105B Pilates Mat Work II

**Family: Sport specific conditioning**  
KNACT-150C Advanced Plyometrics and Agility Training for Female Athletes  
KNACT-195A Beginning Plyometrics and Agility Training for Female Athletes  
KNACT-195B Intermediate Plyometrics and Agility Training for Female Athletes  
KNACT-195C Advanced Plyometrics and Agility Training for Female Athletes

**Family: Resistance**  
KNACT-146A Theory and Practice of Strength Training and Fitness I  
KNACT-146B Theory and Practice of Strength Training and Fitness II  
KNACT-146C Theory and Practice of Strength Training and Fitness III  
KNACT-146D Theory and Practice of Strength Training and Fitness IV  
KNACT-148A Beginning Power Lifting  
KNACT-148B Intermediate Power Lifting

**Family: Golf**  
KNACT-164A Beginning Golf  
KNACT-164B Intermediate Golf

**Family: Tennis**  
KNACT-150B Intermediate Tennis  
KNACT-166A Beginning Tennis  
KNACT-166B Intermediate Tennis
Family: Badminton
KNACT-160A Beginning Badminton
KNACT-160B Intermediate Badminton

Family: Bowling
KNACT-162 Bowling

Family: Basketball
KNACT-170A Beginning Basketball
KNACT-170B Intermediate Basketball

Family: Football
KNACT-172 Flag Football

Family: Lacrosse
KNACT-150D Intermediate Lacrosse
KNACT-174A Beginning Men's Lacrosse
KNACT-174B Intermediate Men's Lacrosse

Family: Soccer
KNACT-176A Beginning Soccer
KNACT-176B Intermediate Soccer
KNACT-178A Beginning Indoor Soccer
KNACT-178B Intermediate Indoor Soccer

Family: Volleyball
KNACT-182A Beginning Volleyball
KNACT-182B Intermediate Volleyball
KNACT-182C Advanced Volleyball
KNACT-184A Beginning Beach Volleyball

Family: Volleyball
KNACT-182A Beginning Volleyball
KNACT-182B Intermediate Volleyball
KNACT-182C Advanced Volleyball
KNACT-184A Beginning Beach Volleyball

Kinesiology activity

KNACT-102A Beginning Aquatic Fitness
1 unit SC
- CSU GE: E
- 54 hours laboratory per term
- Advisory: KNACT-100A or equivalent
This is an activity course designed to introduce students to the development of cardiovascular fitness and muscular strength and endurance through swimming workouts. Freestyle and backstroke will be performed and utilized within both aerobic (long distance) and anaerobic (sprint distance) style fitness programs. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-102B Intermediate Aquatic Fitness
1 unit SC
- CSU GE: E
- 54 hours laboratory per term
- Advisory: KNACT-102A or equivalent
This is an activity course designed to develop an intermediate level of cardiovascular fitness and muscular strength through swimming workouts. All four competitive strokes (freestyle, backstroke, breaststroke and butterfly) will be performed and utilized within both aerobic (long distance) and anaerobic (sprint distance) style fitness programs. Students will improve cardiovascular conditioning, upper and lower body muscular strength and endurance, and core strength. Students will apply their knowledge of swimming fitness assessment and training principles to the development of a personal swimming fitness program. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-100A Beginning Swimming
1 unit SC
- CSU GE: E
- 54 hours laboratory per term
This is an activity course designed to teach beginning level skill of swimming. Correct swimming technique for the freestyle and backstroke strokes will be emphasized. Instruction will also address personal swimming safety, swimming strength development, and health and fitness improvement through swimming. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-100B Intermediate Swimming
1 unit SC
- CSU GE: E
- 54 hours laboratory per term
- Advisory: KNACT-100A or equivalent
This is an activity course designed to teach intermediate level swimming skills. Correct swimming techniques for all four competitive swim strokes (freestyle, backstroke, breaststroke and butterfly) are emphasized. Instruction also includes aquatic rescue techniques and assessment methods for evaluating swimming improvement. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-110A Beginning Hatha Yoga
1 unit SC
- CSU GE: E
- 54 hours laboratory per term
This is a beginning level activity course exploring the principles of Hatha Yoga and how they apply to achieving lifetime fitness. It incorporates yoga postures (asanas) designed to strengthen and tone the body. Breathing exercises, relaxation and meditation techniques are learned and practiced throughout the course. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-110B Intermediate Hatha Yoga
1 unit SC
- CSU GE: E
- 54 hours laboratory per term
- Advisory: KNACT-110A or equivalent
This is an intermediate level activity course that emphasizes intense stretching, balancing, and building of muscular strength through yoga practice. A series of poses and breathing techniques will be practiced in order to create a more challenging yoga experience. Proper posture, relaxation and meditation techniques, as well as principles of healthy living, will be demonstrated and discussed throughout the course. CSU, UC (credit limits may apply to UC - see counselor)
KNACT-110C  Advanced Hatha Yoga
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
• Advisory: KNACT-110B or equivalent
This is an advanced level activity course that incorporates Hatha Yoga principles and practices with students' physical and emotional needs resulting in a more integrated understanding of the benefits of yoga. Various meditation and yoga styles will be studied, practiced and analyzed. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-120  Physical Fitness
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
This is an activity course designed to improve general physical fitness through participation in a variety of resistance, cardiovascular, core and flexibility activities. Fitness principles utilized for enhancing each of these areas will be addressed. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-122A  Beginning Exercise, Balance, and Mobility
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
This is an activity course focusing on beginning elements of guided strength training, core stabilization and balance exercises performed to a specific music cadence and designed to improve muscular strength, muscular endurance, flexibility and neuromuscular control. Basic fitness principles and nutritional/wellness topics will also be discussed. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-122B  Intermediate Exercise, Balance, and Mobility
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
• Advisory: KNACT-122A or equivalent
This is an activity course focusing on intermediate elements of guided strength training, core stabilization and balance exercises performed to a specific music cadence and designed to improve muscular strength, muscular endurance, flexibility and neuromuscular control. Application of fitness principles and nutritional/wellness concepts to student goals is emphasized. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-124A  Beginning Strength, Core, and More
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
This is a beginning level activity course focusing on strengthening muscles of the core region (abdominals, back, and hips). Students perform exercises that are intended to improve overall fitness, enhance joint stability, increase flexibility, enhance postural control, and improve neuromuscular efficiency. A variety of beginning fitness techniques and modalities are utilized. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-124B  Intermediate Strength, Core, and More
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
• Advisory: KNACT-124A or equivalent
This is an intermediate level activity course focusing on strengthening muscles of the core region (abdominals, back, and hips). Students perform a variety of intermediate level exercise that include multidimensional movements (both static and dynamic) and are intended to further improve overall fitness, enhance joint stability, increase flexibility, enhance postural control, and improve neuromuscular efficiency. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-125  Zumba
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
This is an activity course designed to improve aerobic fitness, muscular endurance, and muscular strength by utilizing Zumba dance fitness routines. Zumba is a fitness program that incorporates international music and dance steps. Flexibility training, core strengthening and topics concerning fitness principles and overall well-being will also be incorporated. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-128A  Beginning Cardio Kickboxing
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
This is an activity course that combines fundamental skills and technique from boxing, self defense and various forms of martial arts, such as, Karate and Muay Tai to promote a fun, yet effective and challenging aerobic workout. Jump rope and running will be primary cardiovascular activities. Basic flexibility, strength training, focus mitt training and muscular endurance activities may also be incorporated. CSU, UC (credit limits may apply to UC - see counselor)
KNACT-128B  Intermediate Cardio Kickboxing
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
• Advisory: KNACT-128A or equivalent
This is an activity course that combines intermediate skills and technique from boxing, self defense and various forms of martial arts, such as, Karate and Muay Tai to promote a fun, yet effective and challenging aerobic workout. Jump rope and running will be primary cardiovascular activities. Flexibility, strength training, focus mitt training and muscular endurance activities may also be incorporated. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-130A  Beginning Fitness Walking
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
This is an activity course intended for students at a beginning fitness levels who would like to utilize walking as a fitness-enhancing activity. Introductory technique will be emphasized and basic walking programs will be developed. Walking routes begin on campus and explore nearby parks and trails. Topics to be discussed include: fitness and health assessment, equipment and safety, walking techniques, motivation, nutrition basics, program design, and evaluation. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-130B  Intermediate Fitness Walking
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
• Advisory: KNACT-130A or equivalent
This is an activity course intended for students at an intermediate fitness level who would like to utilize walking as a fitness-enhancing activity. Intermediate techniques will include distance, hill, backward, and speed walking. Intermediate walking programs will be developed. Walking routes begin on campus and explore nearby parks and trails. Topics to be discussed include: fitness and health assessment, equipment and safety, walking techniques, motivation, nutrition basics, program design, and evaluation. Volkssporting and Volksmarching. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-132  Hiking
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
This is an activity course utilizing hiking as a means to improve health and fitness. Hiking and safety skills will be practiced while enjoying the beautiful parks and open spaces of the Bay Area. Hike preparation, map reading, trail marking skills, and the health and fitness benefits of hiking will be addressed. All routes are four to ten miles long at various hiking sites and are often on hilly terrain. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-140  Indoor Cycling
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
This is an activity course using group indoor cycling training to develop cardiovascular fitness. Students will also utilize various strength and flexibility modalities, mental imagery, visualization, nutrition concepts, as well as assessments of their cardiovascular fitness training level through heart rate monitoring and resting heart rate values. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-144A  Beginning Strength and Cardio Circuit Training
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
This is an activity course introducing the basic elements of a unique combination of aerobic and resistance training exercises in a total-fitness workout, utilizing cardiovascular fitness, muscular strength, muscular endurance, and flexibility. Individual health and fitness assessments will be conducted during the semester. Nutrition and other wellness topics will also be included. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-144B  Intermediate Strength and Cardio Circuit Training
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
• Advisory: Eligibility for KNACT-144A or equivalent
This is an activity course for intermediate level students that presents a unique combination of aerobic and resistance training exercises in a total-fitness workout, utilizing cardiovascular fitness, muscular strength, muscular endurance, and flexibility. Individual health and fitness assessments will be conducted during the semester. Nutrition and other wellness topics will also be included. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-146A  Theory and Practice of Strength Training and Fitness I
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
• Note: This is an open entry open exit course.
This is an activity course designed to increase muscular strength, muscular endurance, and fitness utilizing introductory resistance techniques and equipment training. Endurance training activities will also be included. Students will be instructed on information pertaining to safety, warm-up, and musculoskeletal anatomy. CSU, UC (credit limits may apply to UC - see counselor)
KNACT-146B  Theory and Practice of Strength Training and Fitness II
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
• Advisory: Eligibility for KNACT-146A or equivalent.
• Note: This is an open entry open exit course.
This is an activity course designed to increase muscular strength, muscular endurance, and fitness utilizing beginning level strength training techniques, equipment, and endurance training activities. Information on safety, warm-up, anatomy, and basic program design will also be presented. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-146C  Theory and Practice of Strength Training and Fitness III
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
• Advisory: Eligibility for KNACT-146B or equivalent.
• Note: This is an open entry open exit course.
Note: This is an activity course designed to increase muscular strength, muscular endurance, and fitness utilizing intermediate level strength training techniques, equipment, and endurance training activities. Students will work toward independent program design and implementation. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-146D  Theory and Practice of Strength Training and Fitness IV
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
• Advisory: Eligibility for KNACT-146C or equivalent
• Note: This is an open entry open exit course.
This is an activity course designed to increase muscular strength, muscular endurance, and fitness utilizing advanced level strength training techniques, equipment, and endurance training activities. Students will be expected to design and implement independent programs. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-148A  Beginning Power Training
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
This is an activity course designed to teach the basic elements of power lifting. Technique will be emphasized and training programs will be developed. The sport of power lifting, as well as safety concerns will also be discussed. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-148B  Intermediate Power Training
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
• Advisory: Eligibility for KNACT-148A or equivalent
This is an activity course designed to teach intermediate elements of power lifting and training. Intermediate-level exercises will be emphasized and program design will be covered. The biomechanics of power training, as well as plyometric training will also be discussed. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-150  Topics in Physical Activity
.3-4 units SC
• CSU GE: E
• Variable hours
This is a supplemental activity course in physical activity to provide a study of current concepts and problems in fitness and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

KNACT-160A  Beginning Badminton
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
This activity course presents beginning badminton techniques and strategies. Topics include the history, rules, etiquette, equipment, and scoring system of badminton. Students will practice basic stroke techniques and footwork skills. Offensive and defensive positions and fundamental strategies for both singles and doubles play are addressed. No previous badminton experience is necessary. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-160B  Intermediate Badminton
1 unit  SC
• CSU GE: E
• 54 hours laboratory per term
This activity course presents intermediate badminton techniques and strategies and further exploration of the history, rules, etiquette, equipment, and scoring system of badminton. Students will practice intermediate stroke techniques, footwork skills, and knowledge of singles and doubles strategies. Offensive and defensive positions and intermediate tactical strategies for both singles and doubles will also be covered. CSU, UC (credit limits may apply to UC - see counselor)
KNACT-162 Bowling
1 unit SC
- CSU GE: E
- 54 hours laboratory per term
- Note: Mandatory fee required
This is an activity course that focuses on the basic delivery technique, targeting, and strategy of bowling. Additional topics include equipment, rules, etiquette, terminology and scoring. Students will have the opportunity to practice these techniques as well as participate in class competition. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-164A Beginning Golf
1 unit SC
- CSU GE: E
- 54 hours laboratory per term
- Note: Some class meetings will be held at Buchanan Field Golf Course to utilize their practice facilities
This is an activity course designed to introduce the game of golf and provide the skill and knowledge necessary to successfully transition to playing golf on a course. Equipment selection will be covered as well as full swing fundamentals, ball flight principles, chipping, pitching and putting. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-164B Intermediate Golf
1 unit SC
- CSU GE: E
- 54 hours laboratory per term
- Advisory: KNACT-164A or equivalent
- Note: Mandatory fee required
This is an activity course focusing on intermediate level golf skills. Topics include the full swing, chipping and putting mechanics, pitching, bunker shots, and uneven lies. Course management strategies and the psychology of golf are also presented. The focus is on playing nine holes of golf. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-166A Beginning Tennis
1 unit SC
- CSU GE: E
- 54 hours laboratory per term
This is an activity course intended to introduce students to the game of tennis. Topics include basic stroking methods, conditioning techniques, historical background, rules, scoring, as well as singles and doubles strategies. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-166B Intermediate Tennis
1 unit SC
- CSU GE: E
- 54 hours laboratory per term
This is an activity course focusing on intermediate level skills and strategies of tennis. The emphasis is on skill development for a higher level of performance and utilization of multi-optional tennis strategies. CSU, UC (Credit limits may apply to UC - see counselor)

KNACT-170A Beginning Basketball
1 unit SC
- CSU GE: E
- 54 hours laboratory per term
This activity course presents beginning basketball techniques and strategies. Topics include beginning-level techniques, rules of the full court game and cardiovascular fitness. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-170B Intermediate Basketball
1 unit SC
- CSU GE: E
- 54 hours laboratory per term
This is an activity course in basketball with an emphasis on intermediate-level techniques, rules of the full court game and cardiovascular conditioning. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-174A Beginning Men's Lacrosse
1 unit SC
- CSU GE: E
- 54 hours laboratory per term
This activity course presents the fundamental skills and strategies of men's lacrosse. This course focuses on the rules, etiquette, safety, considerations of lacrosse and basic lacrosse skills. Offensive and defensive positions and basic team strategies are also addressed. No previous lacrosse experience is necessary. Open to men and women. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-174B Intermediate Men's Lacrosse
1 unit SC
- CSU GE: E
- 54 hours laboratory per term
This activity course presents intermediate skills and strategies of men's lacrosse with further exploration of application of the rules, etiquette, and safety considerations of lacrosse. Intermediate-level offensive and defensive team strategies are presented during the course. Open to men and women. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-176A Beginning Soccer
1 unit SC
- CSU GE: E
- 54 hours laboratory per term
This activity course presents beginning-level skills and strategies of soccer. Topics include rules, etiquette, safety, and technical soccer skills. Offensive and defensive positions and basic team organization are also addressed. CSU, UC (credit limits may apply to UC - see counselor)
KNACT-176B  Intermediate Soccer  
1 unit SC  
• CSU GE: E  
• 54 hours laboratory per term  
This activity course presents intermediate-level soccer techniques and strategies and further exploration of the rules and technical skills. Intermediate-level offensive and defensive team strategies and positioning are also covered. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-178A  Beginning Indoor Soccer  
1 unit SC  
• CSU GE: E  
• 54 hours laboratory per term  
This activity course presents beginning-level indoor soccer skills and strategies. Indoor soccer is a scaled-down version of soccer, involving 5-6 players per team and small goals with no goalkeepers. Topics include the beginning-level rules, etiquette, and safety concerns of indoor soccer, as well as practice of the basic technical skills and strategies of the game. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-178B  Intermediate Indoor Soccer  
1 unit SC  
• CSU GE: E  
• 54 hours laboratory per term  
• Advisory: KNACT-178A or Equivalent  
This is an activity course emphasizing intermediate-level skills and strategies of indoor soccer. Indoor soccer is a scaled-down version of soccer, involving 5-6 players per team and small goals with no goalkeepers. The rules, etiquette and safety concerns of indoor soccer, as well as practice of the basic technical skills and strategies of the game, will be presented and practiced. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-182A  Beginning Volleyball  
1 unit SC  
• CSU GE: E  
• 54 hours laboratory per term  
This is an activity course focused on beginning volleyball knowledge and skills. Topics include rules, etiquette, safety, and technical volleyball skills. Offensive and defensive positions and basic team organization for non-competitive team play are also addressed. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-182B  Intermediate Volleyball  
1 unit SC  
• CSU GE: E  
• 54 hours laboratory per term  
This is an activity course focused on intermediate volleyball knowledge and skills. Topics include intermediate-level volleyball skills and the utilization of multi-optional volleyball strategies. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-182C  Advanced Volleyball  
1 unit SC  
• CSU GE: E  
• 54 hours laboratory per term  
This is an activity course focused on advanced volleyball knowledge and skills. Topics include analysis, evaluation and performance of complex techniques. Students will also utilize advanced tactical drills and exercises in the development of game strategies and game play. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-184A  Beginning Beach Volleyball  
1 unit SC  
• CSU GE: E  
• 54 hours laboratory per term  
This is an activity course focused on beginning beach volleyball knowledge and skills. Topics include rules, etiquette, safety, and technical beach volleyball skills. Offensive and defensive positions and basic team organization for non-competitive team play are also addressed. CSU, UC (Credit limits may apply to UC - see counselor)

KNACT-195A  Beginning Plyometrics and Agility Training for Female Athletes  
1 unit SC  
• CSU GE: E  
• 54 hours laboratory per term  
• Note: This course is open to all students  
This activity course presents beginning-level plyometric and agility training for the female athlete, designed to help improve performance and minimize the potential for injury. Beginning-level training will include plyometric techniques, agility drills, flexibility exercises and core strengthening techniques. Fundamental health and nutritional issues specific to the female athlete will also be addressed. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-195B  Intermediate Plyometrics and Agility Training for Female Athletes  
1 unit SC  
• CSU GE: E  
• 54 hours laboratory per term  
• Note: This course is open to all students  
This activity course presents intermediate-level plyometric and agility training for the female athlete, designed to further develop neuromuscular control thereby enhancing sport-specific performance and minimizing the potential for injury. Intermediate training will include more complex plyometric techniques, agility drills, flexibility exercises and core strengthening techniques. Further evaluation of health and nutritional issues specific to the female athlete will also be addressed. CSU, UC (credit limits may apply to UC - see counselor)
KNACT-195C  Advanced Plyometrics and Agility Training for Female Athletes

1 unit SC
• CSU GE: E
• 54 hours laboratory per term
• Note: This course is open to all students

This activity course presents advanced-level plyometric and agility training for the female athlete, designed to further advanced students’ neuromuscular control, thereby enhancing sport-specific performance and minimizing the potential for injury. Students will perform advanced levels of plyometric techniques, agility drills, flexibility exercises and core strengthening techniques. Health and nutritional issues specific to the female athlete will also be discussed. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-298  Independent Study

.5-3 units SC
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

KNACT-299  Student Instructional Assistant

.5-3 units SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

KINESIOLOGY COMBATIVE - KNCMB

Christine Worsley, Dean
Kinesiology, Athletics, and Health Sciences Division
Kinesiology Office Building, Room 104

Limitations on enrollment
Effective fall term 2013, changes to the regulations that govern community college enrollments placed limitations on the number of courses that students may take in certain disciplines within the Contra Costa Community College District. The charts below indicate which Diablo Valley College (DVC) courses are assigned to groups of courses ("families") for which limitations have been imposed. Certain courses within certain “families” may be repeated (see catalog description), however, students are limited to four enrollments within the family. Certain DVC courses are equivalent to courses at Los Medanos College and Contra Costa College. An enrollment in an equivalent course at one of those colleges will count toward the allowable four enrollments within the family.

NOTE: Diablo Valley College may offer experimental or topics courses. When appropriate, based on content, such courses will be assigned to a “family” and that enrollment will be counted as an experience within the “family”.

KINESIOLOGY
Family: Combatives
KNCMB-110  Self-Defense
KNCMB-114  Jujitsu
KNCMB-118A Beginning Taekwondo
KNCMB-118B Intermediate Taekwondo
KNCMB-118C Advanced Taekwondo
KNCMB-126A Beginning Aikido
KNCMB-126B Intermediate Aikido
KNCMB-128  Aikido Weapons-Jo and Bokken
KNCMB-130  Judo
KNCMB-134  Karate
KNCMB-150A Intermediate Taekwondo
KNCMB-150B Advanced Taekwondo

KNCMB-110  Self-Defense

1 unit SC
• 54 hours laboratory per term

This is an activity course that presents a combination of defensive techniques and concepts from jujitsu, judo, karate, and aikido. Students will explore self-defense techniques, as well as increase muscular fitness (strength, endurance, flexibility, and balance), improve self-discipline, focus, balance, relieve stress, and increase mental awareness. CSU, UC (credit limits may apply to UC - see counselor)
KNCMB-114  Jujitsu
1 unit  SC
• 54 hours laboratory per term
This is an activity course introducing the history, philosophy, techniques and safety aspects of jujitsu. This Japanese system of unarmed combat teaches students to yield to the opponent’s strength to gain a physical advantage. Topics will include jujitsu techniques, as well as cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC - see counselor)

KNCMB-118A  Beginning Taekwondo
1 unit  SC
• 54 hours laboratory per term
This is an activity course introducing the basic elements of Taekwondo - the ancient Korean martial art. Emphasis will be placed on developing introductory skills as well as the history and philosophy of Taekwondo. Special attention will also be paid to safety procedures and injury prevention while increasing physical fitness and endurance. CSU, UC (credit limits may apply to UC - see counselor)

KNCMB-118B  Intermediate Taekwondo
1 unit  SC
• 54 hours laboratory per term
This is an activity course presenting intermediate elements of Taekwondo. Emphasis will be placed on refining basic skills, as well as introducing combination and sparring techniques. Physical fitness and endurance will be developed and special attention will be paid to safety procedures and injury prevention. The history of Taekwondo in the United States and an introduction to board-breaking techniques will be presented. CSU, UC (credit limits may apply to UC - see counselor)

KNCMB-118C  Advanced Taekwondo
1 unit  SC
• 54 hours laboratory per term
This is an activity course presenting advanced elements of Taekwondo - the ancient Korean martial art. Emphasis will be placed on developing powerful hand and kick striking techniques, as well as competition sparring strategies. Physical fitness and endurance will be developed and special attention will be paid to safety procedures and injury prevention. Preparation for Taekwondo competition will also be addressed. CSU, UC (credit limits may apply to UC - see counselor)

KNCMB-126A  Beginning Aikido
1 unit  SC
• 54 hours laboratory per term
This is an activity course that presents the history, philosophy, and safety aspects of aikido. Emphasis is on fundamental aikido weapon techniques, as well as increasing cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC - see counselor)

KNCMB-126B  Intermediate Aikido
1 unit  SC
• Variable hours
• Advisory: KNCMB-126A or equivalent
This is an activity course that focuses on intermediate level aikido practice. Students will explore more complex skills and techniques with increased pace. Emphasis is on the development of concentration skills and cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC - see counselor)

KNCMB-128  Aikido Weapons - Jo and Bokken
1 unit  SC
• 54 hours laboratory per term
This is an activity course that presents the history, philosophy, and safety aspects of Aikido weapons-Jo (wooden staff) and Bokken (wooden sword.) Emphasis is on fundamental aikido weapon techniques, as well as increasing cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC - see counselor)

KNCMB-130  Judo
1 unit  SC
• 54 hours laboratory per term
This is an activity course that presents the history, philosophy, techniques and safety aspects of judo. Judo is a discipline comprised of throws and pins, self-discipline, punctuality, courtesy, and respect. Emphasis is on judo techniques, as well as increasing cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC - see counselor)

KNCMB-134  Karate
1 unit  SC
• 54 hours laboratory per term
This is an activity course that presents the the history, philosophy, techniques and safety aspects of Kajukembo Karate. This martial art form teaches the way of the “empty hand” using legs, arms and fists, as well as Kiai (expression of inner energy), which accompanies each action. Emphasis is on karate techniques, as well as increasing cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC - see counselor)

KNCMB-150  Topics in Martial Arts and Combatives
.3-4 units  SC
• Variable hours
A supplemental course is martial arts/combatives to provide a study of current concepts, movements and problems in combatives and related subdivisions. Specific topics will be announced in the schedule of classes. CSU
KINSEIOLOGY DANCE – KNDAN

See Dance - DANCE (20-21)

KINSEIOLOGY INTERCOLLEGIATE ATHLETICS – KNICA

Christine Worsley, Dean
Kinesiology, Athletics, and Health Sciences Division
Kinesiology Office Building, Room 104

KNICA-098 Intercollegiate Pre-Participation Orientation
.3 unit P/NP
- Non degree applicable
- 6 hours lecture per term
This course is designed to prepare new students who intend to try-out/compete for an inter-collegiate athletic team, in the upcoming academic term and season of competition. Students will complete the California Community College Athletic Association's (CCCAA) athletic eligibility requirements, required medical forms and waivers, register for the National Collegiate Athletic Association (NCAA) Clearinghouse, and fulfill other requirements for community college athletic competition.

KNICA-100 Student-Athlete Success I
1.5 units SC
- 27 hours lecture per term
This course is designed to assist student-athletes through the transition to collegiate-level academic achievement and athletic performance. Topics will include, student-athlete academic eligibility requirements, college resources and services, and personal responsibility skills. Students will be actively involved in the evaluation of services and application of skills in order to successfully navigate their first year of the college academic and athletic experience. CSU

KNICA-101 Student-Athlete Success II
1.5 units SC
- 27 hours lecture per term
- Prerequisite: KNICA-100 or equivalent
This course is designed to assist student-athletes toward successful degree completion, transfer, and/or professional employment while competing in intercollegiate athletics. Topics include transfer and athletic eligibility requirements for four year institutions, transfer applications and/or professional employment processes, scholarships and financial aid, leadership skills, and personal responsibility for life success. CSU

KNICA-120 Analysis of the Multiple Aspects of Modern Day Football
.5-2 units SC
- Variable hours
- Advisory: Competitive high school football experience or equivalent
This course provides students the opportunity to review and analyze offensive and defensive schemes of daily practice video and opponent game film. Weekly game plans for offense, defense, and special teams (kicking game) will be presented. CSU, UC (credit limits may apply to UC - see counselor)

KNICA-199 Sport-Specific Athletic Conditioning
.5-2 units SC
- May be repeated three times
- Variable hours
This activity course is designed to increase physical conditioning, skill/technique level, and strategic/tactical knowledge of a specific intercollegiate sport during the off-season. See schedule of classes for sport offerings. CSU, UC (credit limits may apply to UC - see counselor)

KNICA-200 Intercollegiate Baseball, Men
3 units SC
- May be repeated once
- 175 hours laboratory per term
- Advisory: Competitive high school baseball experience or equivalent
This course provides instruction and intercollegiate competition for men’s baseball. CSU, UC (credit limits may apply to UC - see counselor)

KNICA-202A Intercollegiate Basketball-A, Men
2 units SC
- May be repeated once
- 115 hours laboratory per term
- Advisory: Competitive high school basketball experience or equivalent
- Note: Fall term only
This course provides instruction and intercollegiate competition in men’s basketball. CSU, UC (credit limits may apply to UC - see counselor)

KNICA-202B Intercollegiate Basketball-B, Men
1 unit SC
- May be repeated once
- 60 hours laboratory per term
- Prerequisite: KNICA-202A or tryout audition
- Note: Spring term only
This course provides instruction and intercollegiate competition in men’s basketball. CSU, UC (credit limits may apply to UC - see counselor)
KNICA-203A  Intercollegiate Basketball-A, Women
2 units  SC
- May be repeated once
- 115 hours laboratory per term
- Advisory: Competitive high school basketball experience or equivalent
- Note: Fall term only
This course provides instruction and intercollegiate competition in women's basketball. CSU, UC (credit limits may apply to UC - see counselor)

KNICA-203B  Intercollegiate Basketball-B, Women
1 unit  SC
- May be repeated once
- 60 hours laboratory per term
- Prerequisite: KNICA-203A or tryout audition
- Note: Spring term only
This course provides instruction and intercollegiate competition in women's basketball. CSU, UC (credit limits may apply to UC - see counselor)

KNICA-204  Intercollegiate Cross Country, Men
3 units  SC
- May be repeated once
- 175 hours laboratory per term
- Advisory: Competitive high school cross country experience or equivalent
This course provides instruction and intercollegiate competition in men's cross country. CSU, UC (credit limits may apply to UC - see counselor)

KNICA-205  Intercollegiate Cross Country, Women
3 units  SC
- May be repeated once
- 175 hours laboratory per term
- Advisory: Competitive high school cross country experience or equivalent
This course provides instruction and intercollegiate competition in women's cross country. CSU, UC (credit limits may apply to UC - see counselor)

KNICA-206  Intercollegiate Football, Men
3 units  SC
- May be repeated once
- 175 hours laboratory per term
- Advisory: Competitive high school football experience or equivalent
This course provides instruction and intercollegiate competition in football. CSU, UC (credit limits may apply to UC - see counselor)

KNICA-209  Intercollegiate Soccer, Men
3 units  SC
- May be repeated once
- 175 hours laboratory per term
- Advisory: Competitive High School Soccer Experience or equivalent
This course provides instruction and intercollegiate competition in men's soccer. CSU, UC (credit limits may apply to UC - see counselor)

KNICA-210  Intercollegiate Soccer, Women
3 units  SC
- May be repeated once
- 175 hours laboratory per term
- Advisory: Competitive high school soccer experience or equivalent
This course provides instruction and intercollegiate competition in women's soccer. CSU, UC (credit limits may apply to UC - see counselor)

KNICA-215  Intercollegiate Softball, Women
3 units  SC
- May be repeated once
- 175 hours laboratory per term
- Advisory: Competitive high school softball experience or equivalent
This course provides instruction and intercollegiate competition in women's softball. CSU, UC (credit limits may apply to UC - see counselor)

KNICA-216  Intercollegiate Swimming and Diving, Men
3 units  SC
- May be repeated once
- 175 hours laboratory per term
- Advisory: Competitive high school swimming/diving experience or equivalent
This course provides instruction and intercollegiate competition in men's swimming and diving. CSU, UC (credit limits may apply to UC - see counselor)

KNICA-217  Intercollegiate Swimming and Diving, Women
3 units  SC
- May be repeated once
- 175 hours laboratory per term
- Advisory: Competitive high school swimming/diving experience or equivalent
This course provides instruction and intercollegiate competition in women's swimming and diving. CSU, UC (credit limits may apply to UC - see counselor)
KNICA-218 Intercollegiate Tennis, Men
3 units SC
- May be repeated once
- 175 hours laboratory per term
- Advisory: Competitive high school tennis experience or equivalent

This course provides instruction and intercollegiate competition in men's tennis. CSU, UC (credit limits may apply to UC - see counselor)

KNICA-219 Intercollegiate Tennis, Women
3 units SC
- May be repeated once
- 175 hours laboratory per term
- Advisory: Competitive high school tennis experience or equivalent

This course provides instruction and intercollegiate competition in women's tennis. CSU, UC (credit limits may apply to UC - see counselor)

KNICA-220 Intercollegiate Track and Field, Men
3 units SC
- May be repeated once
- 175 hours laboratory per term
- Advisory: Competitive high school track and field experience or equivalent

This course provides instruction and intercollegiate competition in men's track and field. CSU, UC (credit limits may apply to UC - see counselor)

KNICA-221 Intercollegiate Track and Field, Women
3 units SC
- May be repeated once
- 175 hours laboratory per term
- Advisory: Competitive high school track and field experience or equivalent

This course provides instruction and intercollegiate competition in women's track and field. CSU, UC (credit limits may apply to UC - see counselor)

KNICA-223 Intercollegiate Volleyball, Women
3 units SC
- May be repeated once
- 175 hours laboratory per term
- Advisory: Competitive high school volleyball experience or equivalent

This course provides Instruction and intercollegiate competition in women's volleyball. CSU, UC (credit limits may apply to UC - see counselor)

KNICA-224 Intercollegiate Water Polo, Men
3 units SC
- May be repeated once
- 175 hours laboratory per term
- Advisory: Competitive high school water polo experience or equivalent

This course provides instruction and intercollegiate competition in men's water polo. CSU, UC (credit limits may apply to UC - see counselor)

KNICA-225 Intercollegiate Water Polo, Women
3 units SC
- May be repeated once
- 175 hours laboratory per term
- Advisory: Competitive high school water polo experience or equivalent

This course provides instruction and intercollegiate competition in women's water polo. CSU, UC (credit limits may apply to UC - see counselor)

LIBRARY STUDIES – LS

Richard Robison, Dean
Library Division
Library Building, Room 219

LS-121 Information Literacy and Research Skills
1 unit P/NP
- 9 hours lecture/27 hours laboratory per term
- Advisory: College-level reading and writing are expected.

The course presents the research strategies and skills to successfully find, retrieve, evaluate and use information in various formats. Library skills, research methods, and information technology literacy are covered including the ethical and legal aspects of information use and the critical thinking skills necessary to conduct effective college research. CSU, UC

LS-150 Topics in Library Studies
.3-4 units SC
- Variable hours

A supplemental course in library studies to provide a study of current concepts and problems in research, information organization and retrieval, and related subdivisions. Specific topics will be announced in the schedule of classes. CSU
LIBRARY TECHNOLOGY – LT

Richard Robison, Dean
Library Division
Library Building, Room 219

Possible career opportunities
Library courses teach the skills necessary to effectively locate, organize and use information in any academic or work setting. There are various titles for the jobs you will be qualified for with a certificate of achievement or associate of science degree in library technology: library technician, library assistant, library paraprofessional, instructional media assistant, information specialist, library media specialist, archive technician, and website editor.

Associate in science degree
Library technology
Students completing the program will be able to...
A. explain library fundamental principles including intellectual freedom, open access, diversity, and patron privacy and confidentiality
B. apply knowledge and skills gained through the coursework to perform library technician-level tasks.
C. describe the characteristics of libraries and the roles of libraries in a diverse, multicultural, and democratic society, and how these needs can be met.
D. apply the basic principles and standardized systems of ordering, cataloging, classifying, processing, and maintaining library materials and resources.
E. demonstrate the workplace communication skills necessary to successfully interact with users and staff in the library and other information services.
F. identify and use the technologies found in the library and other information services.
G. analyze information critically to draw conclusions and/or solve problems when working with patrons, materials, and technology.

The associate in science degree in library technology prepares students for employment in the dynamic field of library and information services. The skills learned in this program may be used in public, school, academic, and corporate libraries, as well as in other jobs or businesses requiring information management skills. If you like working with people, books and information, consider a career in library technology.

DVC library technology students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE). General Education Option 1 is appropriate for students who do not intend to transfer.

To earn the degree, students must complete each course used to meet a major requirement with a “C” grade or higher, maintain an overall GPA of 2.5 or higher in the coursework required for the major and complete all general education requirements. Certain courses may satisfy both major and general education requirements; however, the units are only counted once. With department chairperson’s approval, other course substitutions are possible for use in completing the program.

major requirements:

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<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>LT-101</td>
<td>Foundations of Library and Information Services</td>
<td>3</td>
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<tr>
<td>LT-102</td>
<td>Access and Technical Services in Libraries</td>
<td>3</td>
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<tr>
<td>LT-104</td>
<td>Introduction to Information Organization and Management</td>
<td>3</td>
</tr>
<tr>
<td>LT-105</td>
<td>Reference and Research Services: Tools and Techniques</td>
<td>3</td>
</tr>
<tr>
<td>LS-121</td>
<td>Information Literacy and Research Skills</td>
<td>1</td>
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plus at least 2 units from:

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<tr>
<td>LT-295</td>
<td>Occupational Work Experience Education in LT</td>
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<tr>
<td>LT-296</td>
<td>Internship in Occupational Work Experience Education in LT</td>
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plus at least 2 units from:

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<tr>
<td>ENGL-177</td>
<td>Children’s Literature</td>
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<td>LS-150</td>
<td>Topics in Library Studies</td>
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<td>LT-106</td>
<td>School Library and Media Services</td>
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<td>LT-107</td>
<td>Digital Assets: Tools and Methodologies</td>
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<td>LT-110</td>
<td>Job Search Skills for Library Careers</td>
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<td>LT-111</td>
<td>Storytelling</td>
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<td>LT-112</td>
<td>Internet Skills for Library Personnel</td>
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<td>LT-150</td>
<td>Topics in Library Technology</td>
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<td>Introduction to Digital Imaging</td>
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<td>ARTDM-171</td>
<td>Web Design I</td>
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<td>BUSMG-121</td>
<td>Practices and Concepts of Supervision</td>
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<td>BUSMG-168</td>
<td>Customer Service</td>
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<td>CIS-100</td>
<td>Microsoft Windows – Comprehensive</td>
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<td>COMSC-101</td>
<td>Computer Literacy</td>
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<td>LT-111</td>
<td>Storytelling</td>
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<tr>
<td>LT-112</td>
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<tr>
<td>LT-150</td>
<td>Topics in Library Technology</td>
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<tr>
<td>LT-295</td>
<td>Occupational Work Experience Education in LT</td>
</tr>
<tr>
<td>LT-296</td>
<td>Internship in Occupational Work Experience Education in LT</td>
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</tbody>
</table>

total minimum units for the major ........ 19

Notes: maximum number of units applicable to the program units in LT-295 or LT-296 is four. There may be no duplication of course units between groups of restricted electives.
Certificate of achievement
Library technology

Students completing the program will be able to...

A. explain library fundamental principles including intellectual freedom, open access, diversity, and patron privacy and confidentiality.
B. apply knowledge and skills gained through the coursework to perform library technician-level tasks.
C. describe the characteristics of libraries and the roles of libraries in a diverse, multicultural, and democratic society, and how these needs can be met.
D. apply the basic principles and standardized systems of ordering, cataloging, classifying, processing, and maintaining library materials and resources.
E. demonstrate the workplace communication skills necessary to successfully interact with users and staff in the library and other information services.
F. identify and use the technologies found in the library and other information services.
G. analyze information critically to draw conclusions and/or solve problems when working with patrons, materials, and technology.

This certificate program prepares students for employment in the dynamic field of library and information services. The skills learned in this program may be used in public, school, academic, and special and corporate libraries, as well as in archives or other jobs or businesses requiring information management skills. If you like working with people, books and information, consider a career in library technology.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a "C" grade or higher and maintain an overall GPA of 2.5. With department chairperson's approval, other course substitutions are possible for use in completing the program.

required courses: units
LT-101 Foundations of Library and Information Services .................................................. 3
LT-102 Access and Technical Services in Libraries ......................................................... 3
LT-104 Introduction to Information Organization and Management .................................. 3
LT-105 Reference and Research Services: Tools and Techniques ................................... 3
LS-121 Information Literacy and Research Skills ......................................................... 1

plus at least 2 units from:
LT-295 Occupational Work Experience Education in LT ........................................... 2-4
LT-296 Internship in Occupational Work Experience Education in LT .......................... 2-4

plus at least 2 units from:
ENGL-177 Children's Literature ................................................................. 3
LS-150 Topics in Library Studies ................................................................. 0.3-4
LT-106 School Library and Media Services .................................................. 2
LT-107 Digital Assets: Tools and Methodologies ............................................... 2
LT-110 Job Skills for Library Careers ......................................................... 2
LT-111 Storytelling ................................................................................... 2
LT-112 Internet Skills for Library Personnel .................................................. 1
LT-150 Topics in Library Technology .......................................................... 0.3-4
LT-295 Occupational Work Experience Education in LT ........................................... 2-4
LT-296 Internship in Occupational Work Experience Education in LT .......................... 2-4

total minimum required units 19

Notes: maximum number of units applicable to the program units in LT-295 or LT-296 is four. There may be no duplication of course units between groups of restricted electives.

LT-101 Foundations of Library and Information Services

3 units LR
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.

This course provides an introduction and overview of the missions, services, operations, and staffing of libraries and information centers. The tools and terminology of library services, the library technician's role in the delivery of services, and strategies for successful job placement are emphasized. The course also explores current library issues and trends, as well as the relationship of libraries to the communities and populations they serve. CSU
**LT-102 Access and Technical Services in Libraries**
3 units SC
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course teaches the full array of access and technical services in a variety of library settings and collection formats including online systems and other technology applications. The theory and practice of selecting, acquiring and circulating materials in print and electronic formats is presented. Skills and competencies necessary for providing quality access services, the history of access services, and ethical, legal and policy considerations will be covered. CSU

**LT-104 Introduction to Information Organization And Management**
3 units SC
- 54 hours lecture per term

This is an introductory course for library paraprofessionals on the basic theories, principles, and procedures of bibliographic control, including subject analysis, metadata schemes, physical processing, and database maintenance. Anglo-American Cataloging Rules, (AACR2), Resource Description and Access (RDA), Library of Congress (LC) and other subject heading systems will be covered. CSU

**LT-105 Reference and Research Services: Tools and Techniques**
3 units LR
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course is an introduction to the use of print and online information resources found in public, school, college and special libraries. Students learn effective techniques for assisting library patrons, and are provided opportunities for developing reference service skills. The class uses resources available through the Diablo Valley College library plus other commonly available resources. CSU

**LT-106 School Library and Media Services**
2 units SC
- 36 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course presents the principles and procedures central to the operations of school libraries and media centers with an emphasis on the multi-dimensional role of the library technician. Creating effective learning environments, utilizing technology applications, and applying philosophies of service and programming, as well as collection development, will be explored. CSU

**LT-107 Digital Assets: Tools and Methodologies**
2 units SC
- 36 hours lecture per term

This course provides an introduction to the basic processes of creating and managing digital assets including assessing materials, managing files for preservation, and using current digitizing software systems. Access issues, metadata schemes, quality control, scanning equipment and other technologies will also be examined. CSU

**LT-110 Job Skills for Library Careers**
2 units SC
- 36 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course presents job search skills for careers in the library and information field. Students explore the range of positions and work environments available; apply strategies for job market research; identify key workplace skills, including soft or transferable skills; write and submit quality applications, resumes, and cover letters; and practice interviewing techniques in both face-to-face and virtual settings. CSU

**LT-111 Storytelling**
2 units SC
- 36 hours lecture per term
- Advisory: College-level reading and writing are expected.
- Formerly L-111

This course is an introduction to storytelling in the library, classroom, home, and other settings. Various types, formats, and techniques of storytelling will be explored. Practice in presenting and evaluating a variety of stories will also be included. CSU

**LT-112 Internet Skills for Library Personnel**
1 unit SC
- 18 hours lecture per term
- Advisory: College-level reading and writing are expected.
- Formerly L-112

This course presents uses of the Internet in providing online library and information services to the public and library operations. The course is designed for library personnel using the Internet and other information systems for work-related tasks such as reference, cataloging, acquisitions, programming, and other information management activities. Exploration of networking fundamentals, advanced searching techniques, user training and teaching, and evaluation of online resources are included. CSU
LT-150 Topics in Library Technology  
0.3-4 units SC  
- Variable hours  
- Advisory: College-level reading and writing are expected.  
- Formerly L-150
A supplemental course in Library to provide a study of current concepts and problems in library technology. Specific topics will be announced in the schedule of classes. CSU

LT-295 Occupational Work Experience Education in LT  
2-4 units SC  
- May be repeated eight times  
- Variable hours  
- Note: In order to enroll in LT-295, students must be employed, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.
LT-295 is supervised employment that extends classroom learning to the job site and relates to the student’s chosen field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Each unit represents five hours of work per week or 75 hours work per term. Students may earn up to a total of 16 in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

LT-296 Internship in Occupational Work Experience Education in LT  
2-4 units SC  
- May be repeated eight times  
- Variable hours  
- Note: In order to enroll in the LT-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.
LT-296 is a supervised internship in a skilled or professional level assignment in the student’s major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Each unit represents five hours of paid work or four hours of unpaid work per week or 75 hours of paid work or 60 hours of unpaid work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

MATHEMATICS – MATH
Despina Prapavessi, Dean  
Mathematics and Engineering Division  
Mathematics Building, Room 267

Possible career opportunities
Mathematicians work in a variety of fields, among them statistics, analysis, actuarial science, mathematical modeling, computer programming, cryptography, research, and education. More than two years of college study is usually required for these career options. A strong background in mathematics is also required for many careers in engineering, accounting and finance, business administration, risk management, and business forecasting, as well as for research in computer science, social science, and the physical sciences.

Program learning outcomes
Program learning outcomes are subject to change. The most current list of program learning outcomes for each program is published on the DVC website at www.dvc.edu/slo.

Associate in science in mathematics for transfer
Students completing the program will be able to...  
A. solve problems in differential and integral calculus, both single and multivariable, or linear algebra.  
B. recognize, explain, and apply basic techniques of mathematical proof.  
C. utilize knowledge and skills from mathematics to solve mathematical problems from sciences such as physics, chemistry, engineering, computer science, or social science.

The mathematics major is a liberal arts and sciences major for students planning to study mathematics, applied mathematics, or mathematics for secondary school teachers, but also for those pursuing a course of study in physics, chemistry, engineering, computer science, and economics. Mathematics at Diablo Valley College offers a broad range of courses including calculus, differential equations, linear algebra, discrete mathematics and statistics.

The associate in science in mathematics for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.
In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

**major requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH-192</td>
<td>Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>MATH-193</td>
<td>Analytic Geometry and Calculus II</td>
<td>5</td>
</tr>
<tr>
<td>MATH-292</td>
<td>Analytic Geometry and Calculus III</td>
<td>5</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
<td></td>
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<tr>
<td>MATH-194</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH-294</td>
<td>Differential Equations</td>
<td>5</td>
</tr>
<tr>
<td>total minimum units for the major</td>
<td></td>
<td>22</td>
</tr>
</tbody>
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**MATH-002NC  Fundamental Math Skills for the Statistics Pathway - Noncredit**

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<th></th>
<th></th>
<th>SC</th>
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<tbody>
<tr>
<td>0 units</td>
<td>24 hours laboratory per term</td>
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</tbody>
</table>

This noncredit course focuses on the specific math and study skills necessary for success in transfer-level statistics courses. Students are prepared to enroll in statistics with confidence.

**MATH-003NC  Fundamental Math Skills for Business and STEM Pathways - Noncredit**

<table>
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<tr>
<th></th>
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<th>SC</th>
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</thead>
<tbody>
<tr>
<td>0 units</td>
<td>24 hours laboratory per term</td>
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</tbody>
</table>

This noncredit course focuses on the specific math and study skills necessary for success in transfer-level math courses in the Business or STEM pathways. Students are prepared to enroll in transfer-level math with confidence.

**MATH-021  Support for Success in MATH-121 Plane Trigonometry**

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<thead>
<tr>
<th></th>
<th>P/NP</th>
<th>Non degree applicable</th>
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</thead>
<tbody>
<tr>
<td>1 unit</td>
<td></td>
<td>9 hours lecture/27 hours of laboratory per term</td>
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</table>

This course provides additional support for students who want to feel more confident in their math skills.

**MATH-035  Support for Success in MATH-135 College Algebra**

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<thead>
<tr>
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<th>P/NP</th>
<th>Non degree applicable</th>
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</thead>
<tbody>
<tr>
<td>2 units</td>
<td></td>
<td>18 hours lecture/54 hours of laboratory per term</td>
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This course provides additional support for students who want to feel more confident in their math skills.

**MATH-001NC  Topics in Mathematics - Noncredit**

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<th>SC</th>
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</thead>
<tbody>
<tr>
<td>0 units</td>
<td>Variable hours</td>
<td></td>
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</tbody>
</table>

This noncredit course provides the opportunity to present a variety of topics to meet the needs of basic skills students. Specific topics will be announced in the schedule of classes.
MATH-040  In-Progress Arithmetic and Basic Algebra Review Self-Paced
4 units  P/NP
• Non degree applicable
• 216 hours laboratory per term
• Note: Students do not enroll directly in this course. Enrollment is limited to transfer by instructor.
This course is designed to allow students who are enrolled in MATH-085SP to receive non-degree applicable credit for mastery of some but not all of the outcomes in MATH-085SP. In order to receive credit for MATH-040, students must enroll in MATH-085SP and make reasonable progress through the content.

MATH-041  In-Progress Beginning and Intermediate Algebra Self-Paced
4 units  P/NP
• Non degree applicable
• 216 hours laboratory per term
• Advisory: MATH-085 or MATH-085SP or beginning algebra or equivalent.
• Note: Students do not enroll directly in this course. Enrollment is limited to transfer by instructor.
This course is designed to allow students who are enrolled in MATH-119SP to receive non-degree applicable credit for mastery of some but not all of the outcomes in MATH-119SP. In order to receive credit for MATH-041, students must enroll in MATH-119SP and make reasonable progress through the content.

MATH-042  Support for Success in MATH-142 Elementary Statistics W/ Probability
1 unit  P/NP
• Non degree applicable
• 9 hours lecture/27 hours of laboratory per term
• Co-requisite: MATH-142 or equivalent
• Note: This course provides support with study to be successful in MATH-142 Elementary Statistics with Probability. Studies show significantly improved success rates for students who enroll in a support course to accompany their transfer-level math course. This course is a co-requisite to MATH-142 and provides additional support for students who want to feel more confident in their math skills. Includes use of TI-83/84+ calculators and statistical software.
This course provides students with academic support to be successful in MATH-142 Elementary Statistics with Probability. Additional practice with math concepts directly relevant to MATH-142 are integrated into instruction, as well as study skills strategies, mindset, and other academic supports.

MATH-053  In-Progress College Algebra Self-Paced
4 units  P/NP
• Non degree applicable
• 216 hours laboratory per term
• Advisory: Placement into MATH-135 or MATH-085 or MATH-085SP or beginning algebra or equivalent.
• Note: Students do not enroll directly in this course. Enrollment is limited to transfer by instructor.
This course is designed to allow students enrolled in MATH-135SP to receive credit for mastery of some but not all of the outcomes in MATH-135SP. In order to receive credit for MATH-053, students must enroll in MATH-135SP and make reasonable progress through the content.

MATH-054  In-Progress Pre-Calculus Self-Paced
5 units  P/NP
• Non degree applicable
• 270 hours laboratory per term
• Prerequisite: Placement into MATH-191; or MATH-121; or assessment process equivalent
• Note: Students do not enroll directly in this course. Enrollment is limited to transfer by instructor. A scientific calculator is required.
This course is designed to allow students enrolled in MATH-191SP to receive credit for mastery of some but not all of the outcomes in MATH 191SP. In order to receive credit for MATH 054, students must enroll in MATH-191SP and make reasonable progress through the content.

MATH-077  Summer Bridge to College Math
1 unit  LR
• Non degree applicable
• 40 hours laboratory per term
• Note: This course is part of the EOPS Summer Institute Learning Community and is designed for recent high school graduates. Math/English placement processes are required. Contact the EOPS Summer Institute Coordinator for more information.
This course is designed to help students transition to math in college from high school. Students work with an instructor and web-based software to assess and build math skills in preparation for a college math course.

MATH-080  Topics in Basic Skills Math
.3-4 units  SC
• Non degree applicable
• Variable hours
This is a supplemental course in mathematics to provide a variety of topics for basic skills students. Specific topics will be announced in the schedule of classes.
MATH-081  Support for Success in Math-181 Finite Math
1 unit  P/NP
• Non degree applicable
• 18 hours lecture per term
• Co-requisite: MATH-181 or Equiv.
• Note: This course provides students with support to be successful in MATH-181 Finite Mathematics. Studies show significantly improved success rates for students who enroll in a support course to accompany their transfer-level math course. This course is a co-requisite to MATH-181 and provides additional support for students who want to feel more confident in their math skills. Corequisite: MATH-181 or equivalent

This course provides students with academic support to be successful in MATH-181 Finite Mathematics. Additional practice with math concepts directly relevant to MATH-181 are integrated into instruction, including assistance with study skills strategies as needed.

MATH-085  Arithmetic and Basic Algebra Review
4 units  SC
• Non degree applicable
• 54 hours lecture/54 hours laboratory per term
• Note: Studies of student success strongly suggest that degree-bound students should enroll in a math class at higher-level than MATH-085. Go to https://www.dvc.edu/enrollment/assessment/index.html and complete the online placement process, then make an appointment with a counselor to discuss placement.

This course is a review of topics of arithmetic and basic algebra. Topics include arithmetic, fractions, percentages, problem solving, solving basic equations, graphing lines, and systems of equations. Students who intend to earn a college degree are strongly discouraged from enrolling in this course if they have successfully completed a course equivalent to high school Algebra I.

MATH-085SP  Arithmetic and Basic Algebra Review-Self-Paced
4 units  SC
• Non degree applicable
• 216 hours laboratory per term
• Note: Studies of student success strongly suggest that degree-bound students should enroll in a math class at higher-level than MATH-085. Go to https://www.dvc.edu/enrollment/assessment/index.html and complete the online placement process, then make an appointment with a counselor to discuss placement. In this computer-assisted, flexibly-paced class, students will utilize an online learning system for their initial instruction, as well as receive assistance during weekly face-to-face meetings. Students will have some flexibility on how much time they take to learn topics and when they take assessments, though minimum requirements and deadlines will apply. The online assignments require computer access and may be completed either on or off campus. The face-to-face meetings will be held in the DVC Math Lab (for lab schedule go to www.dvc.edu/PHCmathlab for Pleasant Hill or www.dvc.edu/SRCmathlab for SRC). Students are encouraged to complete MATH-085SP in one semester, or take up to 2 semesters. MATH-085SP is equivalent to MATH-085; students who have completed MATH-085 will not receive credit for MATH-085SP.

This course is a computer-assisted, flexibly-paced class equivalent to MATH-085. This course is a review of topics of arithmetic and basic algebra. Topics include arithmetic, fractions, percentages, problem solving, solving basic equations, graphing lines, and systems of equations. Students who intend to earn a college degree are strongly discouraged from enrolling in this course if they have successfully completed a course equivalent to high school Algebra I.

MATH-091  Support for Success in MATH-191 Pre-Calculus
1 unit  P/NP
• Non degree applicable
• 18 hours lecture per term
• Co-requisite: MATH-191 or equivalent
• Note: This course provides students with support to be successful in MATH-191 Pre-Calculus. Studies show significantly improved success rates for students who enroll in a support course to accompany their transfer-level math course. This course is a co-requisite to MATH-191 and provides additional support for students who want to feel more confident in their math skills.

This course provides students with academic support to be successful in MATH-191 Pre-Calculus. Additional practice with math concepts directly relevant to MATH-191 are integrated into instruction, including assistance with study skills strategies as needed.
### Mathematics

**MATH-092 Math for Trade Pre-Apprentices**
- **4 units**
- **P/NP**
- Non degree applicable
- 72 hours lecture per term
- Note: This course is part of the Pre-Apprenticeship program.

This course provides practice in the mathematics needed to pass apprenticeship exams for various trades, as well as the mathematics required by apprentices on the job site. This course offers mathematics instruction contextualized for the building trades.

**MATH-094 Statway I**
- **4 units**
- **SC**
- Non degree applicable
- 54 hours lecture/54 hours laboratory per term
- Note: Graphing calculator, computer, or other technology required.

This is the first semester of a two-semester course that introduces the concepts of probability and statistics with requisite arithmetic and algebraic topics integrated throughout. It is intended for students in humanities or social sciences majors. Topics include data collection, organization and graphical interpretation of data, qualitative and quantitative data sets, measures of central tendency and measures of dispersion, bivariate data and scatter plots, linear functions and their graphs, nonlinear functions and their graphs, and linear and exponential/logarithmic models. Learning strategies for success with an emphasis on study skills, resource acquisition, and maintaining a positive perspective towards learning are also discussed and applied.

**MATH-114 Geometry**
- **3 units**
- **SC**
- DVC GE: IC
- 54 hours lecture per term
- Prerequisite: Placement into MATH-121; or MATH-085 or MATH-085SP or Equiv.

Students will investigate the properties of lines, polygons, and circles using deductive reasoning. Geometric theorems, formulas for perimeter, area, and volume for a variety of plane and solid geometric objects are presented.

**MATH-119 Beginning and Intermediate Algebra**
- **4 units**
- **SC**
- DVC GE: IC
- 54 hours lecture/54 hours laboratory per term
- Advisory: MATH-085 or MATH-085SP or beginning algebra or equivalent.
- Note: Studies of student success strongly suggest that degree-bound students should enroll in a math class at higher-level than MATH-119. Complete the online placement process, then make an appointment with a counselor to discuss placement.

This course is a review of topics in Algebra. Topics include factoring polynomials, fractional equations, inequalities, logarithms, exponentials, and functions. This course is intended for students who have not successfully completed a course equivalent to high school intermediate Algebra and who plan to take MATH-121 Plane Trigonometry or MATH-135 College Algebra.

**MATH-119SP Beginning and Intermediate Algebra Self-Paced**
- **4 units**
- **SC**
- DVC GE: IC
- 216 hours laboratory per term
- Advisory: MATH-085 or MATH-085SP or beginning algebra or equivalent.
- Note: Studies of student success strongly suggest that degree-bound students should enroll in a math class at higher-level than MATH-119. Complete the online placement process, then make an appointment with a counselor to discuss placement. Note: In this computer-assisted, flexibly-paced class, students will utilize an online learning system for their initial instruction, as well as receive assistance during weekly face-to-face meetings. Students will have some flexibility on how much time they take to learn topics and when they take assessments, though minimum requirements and deadlines will apply. The online assignments require computer access and may be completed either on or off campus. The face-to-face meetings will be held in the DVC Math Lab (for lab schedule go to www.dvc.edu/PHCmathlab for Pleasant Hill or www.dvc.edu/SRCmathlab for SRC). Students are encouraged to complete MATH-119SP in one semester, or take up to 2 semesters. MATH-119SP is equivalent to MATH-119; students who have completed MATH-119 will not receive credit for MATH-119SP.

This course is a computer-assisted, flexibly-paced class equivalent to MATH-119. This course is a review of topics in Algebra. Topics include factoring polynomials, fractional equations, inequalities, logarithms, exponentials, and functions. This course is intended for students who have not successfully completed a course equivalent to intermediate Algebra and who plan to take Trigonometry (MATH-121) or College Algebra (MATH-135).
Mathematics

MATH-121  Plane Trigonometry
3 units  SC  
- CSU GE: B4; DVC GE: IC  
- 54 hours lecture per term  
- Prerequisite: Placement into MATH-121; or MATH 119; or MATH-119SP; or MATH-021 (may be taken concurrently with MATH-121); or intermediate algebra or equivalent.  
- Advisory: High school geometry or equivalent

This course focuses on the theory and applications of trigonometry, including right triangle trigonometry, general angle trigonometry, and trigonometry on the unit circle, as well as trigonometric functions of real numbers. Applications include solutions of right and oblique triangles in problems in surveying, physics, engineering, and navigation. CSU

MATH-124  Mathematics for Liberal Arts
3 units  LR  
- IGETC: 2A; CSU GE: B4; DVC GE: IB, IC  
- 54 hours lecture per term  
- Prerequisite: Placement into MATH-124; or MATH-119; or MATH-119SP; or intermediate algebra or equivalent.

This course presents applications of techniques and concepts of intermediate algebra and critical thinking to the solving of contemporary problems in mathematics. Emphasis is placed on statistics, finance, and voting/apportionment. Other topics may include sets, graph theory, exponential functions, logarithmic scales, probability, geometry, or cultural aspects of mathematics. Historical context of some of the great ideas of mathematics will also be explored. CSU, UC

MATH-125  Mathematical Concepts for Elementary School Teachers
3 units  SC  
- CSU GE: B4; DVC GE: IC  
- 54 hours lecture per term  
- Prerequisite: Placement into MATH-121 or higher; or MATH-119; or MATH-119SP; or intermediate algebra or equivalent.

This course focuses on the development of quantitative reasoning skills through in-depth, integrated explorations of topics in mathematics, including real number systems and subsystems. Emphasis is on comprehension and analysis of mathematical concepts and applications of logical reasoning. C-ID MATH 120, CSU, UC

MATH-135  College Algebra
4 units  LR  
- IGETC: 2A; CSU GE: B4; DVC GE: IB, IC  
- 72 hours lecture per term  
- Prerequisite: Placement into MATH-135 or MATH-119 or MATH-119SP or MATH-035 (may be taken concurrently with MATH-135) or intermediate algebra or equivalent.

This course presents a study of functions and their graphs, including polynomial, rational, radical, exponential, absolute value, logarithmic and inverse functions. Other topics include systems of equations, theory of polynomial equations, analytic geometry, and inequalities. CSU, UC (credit limits may apply to UC - see counselor)

MATH-135SP  College Algebra - Self-Paced
4 units  LR  
- IGETC: 2A; CSU GE: B4; DVC GE: IB, IC  
- 216 hours laboratory per term  
- Prerequisite: Placement into MATH-135 or MATH-119 or MATH-119SP or intermediate algebra or equivalent  
- Note: In this computer-assisted, flexibly-paced class, students will utilize an online learning system for their initial instruction, as well as receive assistance during weekly face-to-face meetings. Students will have some flexibility on how much time they take to learn topics and when they take assessments, though minimum requirements and deadlines will apply. The online laboratories require computer access and may be completed either on or off campus. The face-to-face meetings will be held in the DVC Math Lab (for lab schedule go to www.dvc.edu/PHCmathlab for Pleasant Hill or www.dvc.edu/SRCmathlab for SRC). Students are encouraged to complete MATH-135SP in one semester, or take up to 2 semesters. MATH-135SP is equivalent to MATH-135; students who have completed MATH-135 will not receive credit for MATH-135SP.

This course is a computer-assisted, flexibly-paced class, equivalent to MATH-135. This course presents a study of functions and their graphs, including polynomial, rational, radical, exponential, absolute value, logarithmic and inverse functions. Other topics include systems of equations, theory of polynomial equations, analytic geometry, and inequalities. CSU, UC (credit limits may apply to UC - see counselor)

MATH-140  Tutor Training
1 unit  LR  
- 10 hours lecture/17 hours laboratory/7 hours laboratory by arrangement per term  
- Prerequisite: MATH-142; or MATH-144; or MATH-182; or MATH-191; or placement into MATH-192 or equivalent  
- Advisory: College-level reading and writing are expected.

This course presents the basic principles and methods of tutoring, including the tutoring sequence, leading and probing questions, communication skills, and learning theory. Topics include the application of tutoring techniques to specific areas of mathematics including algebra, trigonometry, and pre-calculus. Students will receive instruction to help tutees with special needs. CSU
MATH-142  Elementary Statistics with Probability
4 units   LR
• IGETC: 2A; CSU GE: B4; DVC GE: IB, IC
• 72 hours lecture per term
• Prerequisite: Placement into MATH-142; or MATH 119; or MATH-119SP; or MATH-042 (may be taken concurrently with MATH-142); or intermediate algebra. Or Equiv.
• Note: Graphing calculator, computer, or other technology required.

This course is designed to introduce the student to the study of statistics and probability. Topics include descriptive statistics (organization of data, histograms and measures of central tendency and spread), linear correlation and regression, design of experiments, introductory probability, random variables, the normal distribution and student’s t-distribution, and statistical inference, including confidence intervals and tests of significance. Use of a graphing calculator or computer for statistical analysis is required. C-ID MATH 110, CSU, UC (credit limits may apply to UC - see counselor)

MATH-144  Statway II
4 units   LR
• IGETC: 2A; CSU GE: B4; DVC GE: IB, IC
• 54 hours lecture/54 hours laboratory per term
• Prerequisite: MATH-094 or equivalent
• Note: Graphing calculator, computer, or other technology required.

This is the second semester of a two-semester course that introduces the concepts of probability and statistics with requisite arithmetic and algebraic topics integrated throughout. It is intended for students in humanities or social sciences majors. Topics include sampling distributions, the Central Limit theorem, confidence intervals and hypothesis testing for means and proportions, chi square tests and mathematical modeling. Learning strategies for success with an emphasis on study skills, resource acquisition, and maintaining a positive perspective towards learning are also discussed and applied. C-ID Math 110, CSU, UC (credit limits may apply to UC - see counselor)

MATH-150  Topics in Mathematics
.3-4 units   SC
• Variable hours

A supplemental course in mathematics to provide a study of current concepts and problems. Specific topics will be announced in the schedule of classes. CSU

MATH-181  Finite Mathematics
3 units   LR
• IGETC: 2A; CSU GE: B4; DVC GE: IB, IC
• 54 hours lecture per term
• Prerequisite: Placement into MATH-181; or MATH-119; or MATH-119SP; or MATH-081 (may be taken concurrently with MATH-181); or intermediate algebra or equivalent.
• Note: TI-83 or TI-84 graphing calculator required.

This course applies intermediate algebra and critical thinking to the solution of contemporary problems in business and the life sciences. Topics include linear models, systems of linear equations and inequalities, linear programming (with geometric method and the simplex method), matrix equations, sets and probabilities, and finance. Students will use a graphing calculator or computer software to manipulate matrices. C-ID MATH 130, CSU, UC

MATH-182  Calculus for Management, Life Science and Social Science I
4 units   LR
• IGETC: 2A; CSU GE: B4; DVC GE: IB, IC
• 72 hours lecture per term
• Prerequisite: Placement into MATH-182; or MATH-135; or MATH-135SP; or MATH-191; or MATH-191SP; or assessment process or equivalent.
• Advisory: College-level reading and writing are expected.

The first in a two-term calculus sequence for management, life science, and social science majors. Topics include the derivative and its applications (including curve sketching, optimization, and rates of change), an introduction to the integral (including Riemann sums and the Fundamental Theorem of Calculus) and its applications. C-ID MATH 140, CSU, UC (credit limits may apply to UC - see counselor)

MATH-183  Calculus for Management, Life Science, and Social Science II
4 units   LR
• IGETC: 2A; CSU GE: B4; DVC GE: IB, IC
• 72 hours lecture per term
• Prerequisite: MATH-182 or equivalent
• Advisory: MATH-121 or equivalent; College-level reading and writing are expected.

This is the second course in a two-term sequence in calculus for management, life science, and social science majors, and is a continuation of MATH-182. Topics include techniques of integration, applications of the integral, multivariable functions, differential equations, and Taylor polynomials. CSU, UC (credit limits may apply to UC - see counselor)
MATH-191  Pre-Calculus  
5 units LR  
- IGETC: 2A; CSU GE: B4; DVC GE: IB, IC  
- 90 hours lecture per term  
- Prerequisite: Placement into MATH-191; or MATH-121; or equivalent.  
- Note: This course has a technology requirement. See individual instructor for further information.  
This course is an in-depth treatment of functions and their graphs, including polynomial, rational, logarithmic, exponential and trigonometric functions. Nonlinear systems, vectors and complex numbers are also covered. Use of a graphing calculator or a computer algebra system is required. C-ID MATH 155, CSU, UC (credit limits may apply to UC - see counselor)

MATH-191SP  Pre-Calculus - Self Paced  
5 units SC  
- IGETC: 2A; CSU GE: B4; DVC GE: IB, IC  
- 270 hours laboratory per term  
- Prerequisite: Placement into MATH-191; or MATH-121; or equivalent  
- Note: Credit by examination option available. Note: In this computer-assisted, flexibly-paced class, students will utilize an online learning system for their initial instruction, as well as receive assistance during weekly face-to-face meetings. Students will have some flexibility on how much time they take to learn topics and when they take assessments, though minimum requirements and deadlines will apply. The online labs require computer access and may be completed either on or off campus. The face-to-face meetings will be held in the DVC Math Lab (for lab schedule go to www.dvc.edu/PHCMatlab for Pleasant Hill or www.dvc.edu/ SRCmathlab for SRC). Students are encouraged to complete MATH 191SP in one semester, or take up to 2 semesters. Students who have successfully completed MATH-191 will not receive credit for MATH -191SP.  
This course is a computer-assisted, flexibly-paced class equivalent to MATH-191. This course is an in-depth treatment of functions and their graphs, including polynomial, rational, logarithmic, exponential and trigonometric functions. Nonlinear systems, vectors and complex numbers are also covered. Use of a graphing calculator or a computer algebra system is required. C-ID MATH 155, CSU, UC (credit limits may apply to UC - see counselor)

MATH-192  Analytic Geometry and Calculus I  
5 units LR  
- IGETC: 2A; CSU GE: B4; DVC GE: IB, IC  
- 90 hours lecture per term  
- Prerequisite: Placement into MATH-192; or MATH-191; or MATH-191SP; or assessment process or equivalent.  
- Advisory: College-level reading and writing are expected.  
This course presents the elements of analytic geometry, differentiation and integration of algebraic and transcendental functions with applications. Use of a graphing calculator or a computer algebra system is required. C-ID MATH 210, CSU, UC (credit limits may apply to UC - see counselor)

MATH-193  Analytic Geometry and Calculus II  
5 units LR  
- IGETC: 2A; CSU GE: B4; DVC GE: IB, IC  
- 90 hours lecture per term  
- Prerequisite: MATH-192 or equivalent  
- Advisory: College-level reading and writing are expected.  
This course is a continuation of MATH-192. Techniques and applications of integration in geometry, science and engineering will be explored. Work with algebraic and transcendental functions will be continued. Other topics will include numerical methods in evaluation of the integral, infinite series, solving differential equations, applications of differential equations, polar coordinates, parametric equations and conic sections. C-ID MATH 220, CSU, UC (credit limits may apply to UC - see counselor)

MATH-194  Linear Algebra  
3 units LR  
- IGETC: 2A; CSU GE: B4; DVC GE: IB, IC  
- 54 hours lecture per term  
- Prerequisite: MATH-193 or equivalent  
- Advisory: College-level reading and writing are expected.  
This course is an introduction to linear algebra, covering vector spaces, matrices, determinants, bases, and linear transformations. Techniques for solving systems of equations using matrices, and applications of linear transformations are covered. C-ID MATH 250, CSU, UC

MATH-195  Discrete Mathematics  
4 units LR  
- IGETC: 2A; CSU GE: B4; DVC GE: IB, IC  
- 72 hours lecture per term  
- MATH-193 (may be taken concurrently) or equivalent  
- Prerequisite: MATH-193 or equivalent  
- Advisory: College-level reading and writing are expected.  
This course provides an introduction to propositional logic, induction, set theory, relations, and functions, counting and combinatorics, introduction to trees, graph theory, algorithms, and algebraic structures. The emphasis is on topics of interest to computer science students. CSU, UC

MATH-289  Introduction to Upper Division Mathematics  
4 units SC  
- 72 hours lecture per term  
- Prerequisite: MATH-193 or equivalent.  
- Advisory: College-level reading and writing are expected.  
This course is designed for students who intend to transfer to a four-year college or university and study upper-division mathematics. Topics include number theory, set theory, and methods of proof including induction, direct and indirect proof as well as other topics from upper-division mathematics including abstract algebra. CSU, UC
MATH-292 Analytic Geometry and Calculus III
5 units LR
- IGETC: 2A; CSU GE: B4; DVC GE: IB, IC
- 90 hours lecture per term
- Prerequisite: MATH-193 or equivalent

This course is a continuation of MATH-193. Topics include limits, parametric equations, vector-valued functions, analytic geometry of three dimensions, partial derivatives, multiple integrals, and Green's, Stokes’ and the Divergence theorems. C-ID MATH 230, CSU, UC

MATH-294 Differential Equations
5 units LR
- IGETC: 2A; CSU GE: B4; DVC GE: IB, IC
- 90 hours lecture per term
- Prerequisite: MATH-292 or equivalent
- Advisory: MATH-194 or equivalent (may be taken concurrently)
- Note: TI-83 or TI-84 graphing calculator required.

This course presents an introduction to the theory and applications of ordinary differential equations and an introduction to partial differential equations. C-ID MATH 240, CSU, UC

MATH-298 Independent Study
.5-3 units SC
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

MATH-299 Student Instructional Assistant
.5-3 units SC
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

MUSIC – MUSIC
Janette Funaro, Dean
Arts and Communication Division

Possible career opportunities
Music prepares students for careers as performers, teachers, composers, historians, arts administrators, and more. Career options include: conductor, arranger, film scorer/composer, music business/manager, music editor, music supervisor/director, songwriter, transcriber, editor (print music publishing), choir director, midi engineering, recording engineer, studio director or manager, sound designer, music therapist, instrumental soloist, sound technician, and tour coordinator. Many careers require more than two years of study.

Program learning outcomes
Program learning outcomes are subject to change. The most current list of program learning outcomes for each program is published on the DVC website at www.dvc.edu/slo.

Associate in arts degree
Music
Students completing the program will be able to...
A. perform music with technical facility and artistry on his/her voice or choice of instrument as a soloist and as a member of an ensemble.
B. demonstrate practical musical literacy, both theoretical and historical.
C. listen to music with practical awareness, theoretical, critical, and historical.

The associate in arts degree in music offers students the opportunity to attain the basic skills and knowledge needed as preparation for careers in music and further undergraduate study. The music major is a two-year program of transferable courses open to all students. Required courses include applied music, theory and musicianship, piano proficiency, and ensemble. The choice of ensemble performance courses and literature courses enables the student to customize his/her own needs and/or special interests.

This degree provides students with the foundations for a broad range of musical specializations such as instrumental performance, vocal performance, jazz performance, composition, theory, musicology, ethnomusicology, music education, and music industry. Music faculty and staff are dedicated to assisting students in exploring performance and teaching opportunities, and transfer to four-year institutions of higher learning.
The DVC music major is intended for transfer. Students who intend to transfer to a four-year baccalaureate program should consult with a counselor regarding specific major preparation requirements at the transfer institution of their choice. Students may not take a pass/no pass option for major courses. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE). Option 1 (DVC General Education) is not generally advised.

Students must complete each of the courses required for the major with a “C” grade or higher. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**Major requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSIC-100</td>
<td>Applied Music</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-122^</td>
<td>Theory and Musicianship I</td>
<td>4</td>
</tr>
<tr>
<td>MUSIC-123^</td>
<td>Theory and Musicianship II</td>
<td>4</td>
</tr>
<tr>
<td>MUSIC-222</td>
<td>Theory and Musicianship III</td>
<td>4</td>
</tr>
<tr>
<td>MUSIC-223</td>
<td>Theory and Musicianship IV</td>
<td>4</td>
</tr>
<tr>
<td>MUSIC-150</td>
<td>Beginning Piano I</td>
<td>1*</td>
</tr>
<tr>
<td>MUSIC-151</td>
<td>Beginning Piano II</td>
<td>1*</td>
</tr>
</tbody>
</table>

**Plus at least 4 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSIC-135</td>
<td>Vocal Jazz Ensemble</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-136</td>
<td>Jazz Ensemble</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-137</td>
<td>Jazz Combos</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-140</td>
<td>Wind Ensemble</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-162</td>
<td>Concert Choir</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-166</td>
<td>Chamber Singers</td>
<td>1-2</td>
</tr>
<tr>
<td>MUSIC-180</td>
<td>Diablo Valley Masterworks Chorale</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-236</td>
<td>Night Jazz Band</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-240</td>
<td>Symphonic Band</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-290</td>
<td>Philharmonic Orchestra</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total Minimum Units for the Major:**

24

*Credit by examination available

**Recommended courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSIC-110</td>
<td>Music Appreciation</td>
<td>3</td>
</tr>
<tr>
<td>MUSIC-112</td>
<td>America's Music - A Multicultural Perspective</td>
<td>3</td>
</tr>
<tr>
<td>MUSIC-114</td>
<td>World Music</td>
<td>3</td>
</tr>
<tr>
<td>MUSIC-117</td>
<td>History of Rock and R&amp;B</td>
<td>3</td>
</tr>
<tr>
<td>MUSIC-118</td>
<td>History of Jazz</td>
<td>3</td>
</tr>
<tr>
<td>MUSIC-119</td>
<td>The History and Culture of Hip Hop Music</td>
<td>3</td>
</tr>
</tbody>
</table>

**Associate in Arts in Music for Transfer**

Students completing the program will be able to...

A. perform music with technical facility and artistry on his/her voice or choice of instrument as a soloist and as a member of an ensemble.
B. demonstrate practical musical literacy, both theoretical and historical.
C. listen to music with practical awareness, theoretical, critical, and historical.

The associate in arts degree in music for transfer major at Diablo Valley College (DVC) offers students the opportunity to attain the basic skills and knowledge needed as preparation for careers in music and further undergraduate study. Required courses include applied music, theory and musicianship, and ensemble. The choice of ensemble performance and choice of voice or specific instrument in applied music enables the student to customize his/her own needs and/or special interests. This degree provides students with the foundations for a broad range of musical specializations such as instrumental performance, vocal performance, jazz performance, composition, theory, musicology, ethnomusicology, music education, and music industry. Music faculty and staff are dedicated to assisting students in exploring performance and teaching opportunities, and transfer to baccalaureate programs in Music.

The associate in arts degree in music for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE) or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSU GE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.
major requirements:  units
MUSIC-100  Applied Music.....................................................1*
MUSIC-122  Theory and Musicianship I.................................. 4
MUSIC-123  Theory and Musicianship II.................................. 4
MUSIC-222  Theory and Musicianship III................................. 4
MUSIC-223  Theory and Musicianship IV................................. 4

plus at least 4 units from:
MUSIC-135  Vocal Jazz Ensemble ......................................... 1
MUSIC-136  Jazz Ensemble .................................................. 1
MUSIC-137  Jazz Combos ..................................................... 1-2
MUSIC-140  Wind Ensemble ................................................ 1
MUSIC-162  Concert Choir.................................................. 1
MUSIC-166  Chamber Singers ............................................... 1-2
MUSIC-240  Symphonic Band............................................... 1
MUSIC-290  Philharmonic Orchestra .................................... 1

total minimum units for the major 24

*must be taken 4 times (total 4 units)

Limitations on enrollment
Effective fall term 2013, changes to the regulations that govern community college enrollments placed limitations on the number of courses that students may take in certain disciplines within the Contra Costa Community College District. The charts below indicate which Diablo Valley College (DVC) courses are assigned to groups of courses (“families”) for which limitations have been imposed. Certain courses within certain “families” may be repeated (see catalog description), however, students are limited to four enrollments within the family. Certain DVC courses are equivalent to courses at Los Medanos College and Contra Costa College. An enrollment in an equivalent course at one of those colleges will count toward the allowable four enrollments within the family.

NOTE: Diablo Valley College may offer experimental or topics courses. When appropriate, based on content, such courses will be assigned to a “family” and that enrollment will be counted as an experience within the “family”.

MUSIC

Family: Applied music
MUSIC-100  Applied Music

Family: Repertoire/literature
MUSIC-255  Piano Repertoire Master Class

Family: Class piano
MUSIC-150  Beginning Piano I
MUSIC-151  Beginning Piano II
MUSIC-250  Intermediate Piano I
MUSIC-251  Intermediate Piano II

Family: Class classical guitar
MUSIC-101  Beginning Guitar
MUSIC-102  Intermediate Guitar
MUSIC-160  Beginning Guitar I
MUSIC-262  Intermediate Guitar I

Family: Solo improvisation
MUSIC-127  Jazz Theory and Improvisation
MUSIC-128  Jazz Theory and Improvisation II
MUSIC-152  Jazz Piano
MUSIC-171  Jazz and Popular Solo Voice
MUSIC-190JA  Jazz Theory and Improvisation II

Family: Pedagogy
MUSIC-256  Pedagogy for Studio Music Teachers

Family: Class vocal study
MUSIC-133  Opera Theater
MUSIC-170  Applied Voice Training
MUSIC-179  Intermediate Applied Voice

Family: Classical large ensembles - Orchestra
MUSIC-180  Diablo Valley Masterworks Chorale
MUSIC-290  Philharmonic Orchestra

Family: Classical large ensembles - Choir
MUSIC-162  Concert Choir

Family: Classical large ensembles - Band
MUSIC-240  Symphonic Band

Family: Classical chamber ensembles
MUSIC-103  Guitar Ensemble
MUSIC-104  Advanced Guitar Ensemble
MUSIC-140  Wind Ensemble
MUSIC-142  Woodwind Ensemble
MUSIC-144  Brass Ensemble
MUSIC-166  Chamber Singers
MUSIC-168  Percussion Ensemble
MUSIC-176  String Ensemble
MUSIC-252  Piano Ensemble

Family: Classical large ensembles - Jazz, pop, rock
MUSIC-136  Jazz Ensemble
MUSIC-238  Night Jazz Band

Family: Ensembles - Jazz, pop, rock
MUSIC-108  Rock Theory and Improvisation I
MUSIC-130  Jazz Workshop
MUSIC-135  Vocal Jazz Ensemble
MUSIC-137  Jazz Combos
MUSIC-190RT  Rock Theory and Improvisation II
MUSIC-190SM  Soul Music of the 1962-1980 Era
MUSIC-208  Rock Theory and Improvisation II

Family: Musical theater
MUSIC-134  Musical Theater Workshop
MUSIC-190SH  Show Choir

Family: Performance
MUSIC-109  Live Music Production and Stagecraft I
MUSIC-190LP  Live Production Techniques
MUSIC-209  Live Music Production and Stagecraft II
### MUSIC-100  Applied Music

1 unit  LR
- May be repeated three times
- 80 hours laboratory by arrangement per term
- Limitations on enrollment: Audition required. Specific days and times are announced in the Schedule of Classes. Students must have the ability to read written music at sight, and play one's instrument or sing with an accomplished level of technical facility, intonation, rhythmic accuracy, tone production, phrasing, and expression.
- Note: This course is limited to students majoring in music and intending to complete the A.A. or A.A.T. in Music, and must therefore be concurrently enrolled in one of the ensemble courses listed in the degree requirements (A.A. or A.A.T.) and in a theory and musicianship class (MUSIC-122, 123, 222, 223).

This course consists of individualized study of the appropriate techniques and repertoire for the specific instrument or voice being studied. The emphasis is on the progressive development of skills needed for solo performance. Achievement is evaluated through a juried performance. Students receive six hours of lessons from an instructor scheduled throughout the semester. Students are required to practice at least 3.5 hours per week during scheduled supervised practice hours in the department practice rooms. Students will meet an additional 24 hours during the semester for group discussion and performances. C-ID MUS 160, CSU, UC

### MUSIC-103  Guitar Ensemble

1 unit  SC
- May be repeated three times
- 60 hours laboratory per term
- Limitations on enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.
- Note: Students must provide an acoustic six-string guitar for use in the course.

This course focuses on the study, rehearsal, and public performance of literature for guitar ensemble, with an emphasis on the development of skills needed to perform within a guitar ensemble. Different literature will be studied each semester so that different technical and artistic issues are addressed. C-ID MUS 185, CSU, UC

### MUSIC-104  Advanced Guitar Ensemble

1 unit  SC
- May be repeated three times
- 60 hours laboratory per term
- Advisory: MUSIC-103 or equivalent
- Note: Students must provide an acoustic six-string guitar for use in the course.

This course focuses on the sight-reading, rehearsal, and performance of advanced guitar ensemble literature. Students will experience an expanded ensemble repertoire arranged for up to eight players featuring the music of Bach, Haydn, and other classical masters. Advanced note reading skills will be employed and emphasis is placed on individual practice, listening, performance, and being an active part of the ensemble experience. CSU, UC

### MUSIC-108  Rock Theory and Improvisation I

1 unit  SC
- 60 hours laboratory per term

This course presents the basic study and performance of historical Blues, including Funk, Soul, R&B, Country, and Rock. Both theoretical and performance aspects will be covered. Small bands (guitar, bass, drums, keyboards, horns, and vocals) will be formed for class performances. Guest artists and industry experts will be featured each term. CSU, UC

### MUSIC-109  Live Music Production and Stagecraft I

1 unit  SC
- 60 hours laboratory per term

This course provides the beginning musician with basic live-show production experience. Practical applications of stage processes from load-in to load-out, including basic stagecraft, live sound, and light engineering will be presented. Guest artists and industry experts will be featured each term. CSU, UC

### MUSIC-110  Music Appreciation

3 units  SC
- IGETC: 3A; CSU GE: C1; DVC GE: III
- 54 hours lecture per term

This course is an introduction to the experience of listening to music with an appreciation of its technical, stylistic, expressive, social and historical aspects. Audio recordings, audio-video recordings, and live performances are used to study the evolution of Western classical styles and genres including opera, symphony, concerto, and chamber music, as well as jazz and rock. Comparison of Western musical traditions with those of other cultures will be included. C-ID MUS 100, CSU, UC

### MUSIC-112  America's Music- A Multicultural Perspective

3 units  SC
- IGETC: 3A; CSU GE: C1; DVC GE: III
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course presents the diverse musics and traditions of the Americas. Cultural contributions and influences of major ethnic groups are examined through the idea that music and culture are intertwined. Topics include historical, religious, political, and social contexts for musical development and experience. The course is an introduction to the field of ethnomusicology. CSU, UC
Music

MUSIC-114  World Music
3 units  SC
- IGETC: 3A; CSU GE: C1; DVC GE: III
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course presents a survey of world music and introduces the field of ethnomusicology. The cultural contributions and influences of music and traditions in the Americas, Asia, the Middle East, Africa, Oceania, and Europe are emphasized. Historical, cultural, philosophical and social conditions in which music exists, its relationship to cultural continuity and/or change, as well as the artistic conditions in which musics and cultures develop are explored through three primary lenses: sound, concept, and behavior. CSU, UC

MUSIC-115  Music of the Middle East/North Africa And South Asia
3 units  SC
- IGETC: 3A; CSU GE: C1; DVC GE: III
- 54 hours lecture per term

This course is a survey of music cultures in the Middle East/ North Africa and South Asia. Students will study traditional and popular musical traditions in rural, urban, and diaspora communities. Local, national, and global contexts for music are presented. CSU, UC

MUSIC-117  History of Rock and R&B
3 units  SC
- IGETC: 3A; CSU GE: C1; DVC GE: III
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

The course will examine the history of rock and roll and its musical roots. Students will learn basic music listening skills while examining the multicultural history of rock and its connection to contemporary American culture. Audio recordings, audio-visual recordings, and live performances are used to study the evolution of rock and its various musical roots including blues, country, Rhythm and Blues (R&B), and folk music. CSU, UC

MUSIC-118  History of Jazz
3 units  SC
- IGETC: 3A; CSU GE: C1; DVC GE: III
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course presents the history of jazz music from African retentions, ragtime, stride, dixieland, swing, bebop, and cool, to various contemporary jazz and fusion art forms. It includes a study of the cultural forces that have shaped the art from European, African, Latin, and African-American influences. The class explores the contributions and conflicts of African-Americans throughout the history and development of this American music. CSU, UC

MUSIC-119  The History and Culture of Hip Hop Music
3 units  SC
- IGETC: 3A; CSU GE: C1; DVC GE: III
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course presents the development of hip hop as a musical style and cultural movement. Students will examine key figures in hip hop, institutions, and social settings through readings, electronic media, videos, and hands-on projects. Students will also investigate how hip hop culture is not only a source of entertainment, but also a medium that analyzes and/or provides commentary regarding social, economic, political and cultural issues dealing with identity, cultural genocide, misogyny, racism, classism, materialism, freedom of speech and sexuality. CSU, UC

MUSIC-121  Introduction to Music Composition
3 units  SC
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term
- Advisory: MUSIC-122 or equivalent

This course presents an introduction to basic techniques for music composition. Listening, reading, discussion, and composing exercises will focus students’ awareness on the diversity of aesthetics, styles, and techniques that exist today. CSU, UC

MUSIC-122  Theory and Musicianship I
4 units  SC
- CSU GE: C1
- 54 hours lecture/54 hours laboratory per term
- Note: Credit by examination option available

This course is a study of the fundamental concepts of Western music theory. These concepts are applicable to both classical and popular styles. The study addresses notation, fundamental theoretical concepts, their relationship to the evolution of musical aesthetics in Western culture, musicianship skills including sight singing, rhythmic training, ear training, dictation, and keyboard realization, and basic composition. C-ID MUS 120, MUS 125, CSU, UC

MUSIC-123  Theory and Musicianship II
4 units  SC
- 54 hours lecture/54 hours laboratory per term
- Prerequisite: MUSIC-122 or equivalent
- Note: Credit by examination option available

This course is a study of harmony and voice leading in the Western Common Practice and is continuation of Music-122. Topics include diatonic functionality, four-part voice leading, simple musical structures, harmonic and formal analysis, and musicianship skills including sight singing, rhythmic training, dictation, and keyboard realization. C-ID MUS 130, MUS 135, CSU, UC
Music

MUSIC-127   Jazz Theory and Improvisation I  
2 units SC  
- 18 hours lecture/36 hours laboratory/18 hours laboratory by arrangement per term  
- Advisory: MUSIC 122 or equivalent  
This is an introductory course to the study of jazz theory with special emphasis upon spontaneous improvisation in the jazz tradition. Students will perform in class. CSU, UC

MUSIC-128   Jazz Theory and Improvisation II  
2 units SC  
- 18 hours lecture/36 hours laboratory/18 hours laboratory by arrangement per term  
- Advisory: MUSIC-127 or equivalent  
This is an intermediate course for the study of jazz theory with special emphasis on spontaneous improvisation in the jazz tradition. Students will perform in class. CSU, UC

MUSIC-129   Counterpoint  
3 units SC  
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term  
- Advisory: MUSIC-122 or equivalent  
This course presents the study of composition practices of the 16th Century with emphasis on species counterpoint. Students will analyze and compose Motets, Masses, Fugues, and other musical forms using imitative techniques. CSU, UC

MUSIC-130   Jazz Workshop  
1 unit SC  
- May be repeated three times  
- 72 hours laboratory per term  
- Limitations on enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.  
This course focuses on the study of performance in a jazz ensemble both as a soloist and a member of a section. Skills addressed include intonation, rhythmic accuracy, tone, blend, balance, dynamic control, style-specific articulation, phrasing, expression, sight-reading, improvisation and practicing. A variety of styles will be studied including Medium Swing, Latin and Fusion. Public performance is included. Literature studied will vary each semester. CSU, UC

MUSIC-131   World Music Repertoire  
1 unit SC  
- 72 hours laboratory per term  
This class provides an opportunity for students to study and perform a wide range of solo and ensemble world music repertoire. Students are coached by faculty in technique, interpretation, and presentation in a master class format. Students will produce in-class and public performances during the course. Different world musics will be studied in alternation each semester, and may include Gamelan, West African drumming, Taiko, Mariachi, etc. CSU, UC

MUSIC-133   Opera Theater  
1 unit SC  
- May be repeated three times  
- 54 hours laboratory per term  
- Limitations on Enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.  
This course provides training and experience for vocalists in the production and presentation of opera including comprehensive rehearsal and performance. Students will be assigned chorus and/or solo parts to perform on their own. All students will be given the opportunity to learn applicable elements of stagecraft and opera performance. CSU, UC

MUSIC-134   Musical Theater Workshop  
1 unit SC  
- May be repeated three times  
- 72 hours laboratory per term  
- Limitation on Enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.  
This course provides training and experience for instrumentalists and vocalists in the production and presentation of a musical including comprehensive rehearsal and performance. CSU, UC

MUSIC-135   Vocal Jazz Ensemble  
1 unit SC  
- May be repeated three times  
- 72 hours laboratory per term  
- Limitations on Enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.  
This course focuses on the study, rehearsal, and public performance of standard vocal jazz ensemble literature for mixed voices. New literature will be studied each semester to address a variety of technical and artistic issues. C-ID MUS 180, CSU, UC

MUSIC-136   Jazz Ensemble  
1 unit SC  
- May be repeated three times  
- 72 hours laboratory per term  
- Audition required. Specific days and times are announced in the Schedule of Classes.  
- Prerequisite: Audition  
This course is a study of performance in a jazz ensemble both as a soloist and a member of a section. Skills addressed include section and ensemble intonation, rhythmic accuracy, tone, blend, balance, style-specific articulation, phrasing, expression, and improvisation. A variety of styles will be studied including ballad, shuffle and funk. Public performance is included. Literature studied will vary each semester. C-ID MUS 180, CSU, UC
Music

MUSIC-137  Jazz Combos
1-2 units  SC
• May be repeated three times
• Variable hours
• Limitation on Enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.

This advanced course is made up of small instrumental and/or vocal jazz combos that rehearse and perform a variety of jazz styles. Students will improve, sight read, and perform in a variety of small group settings, which may include off-campus venues, concerts, and festivals. CSU, UC, C-ID MUS-185

MUSIC-140  Wind Ensemble
1 unit  LR
• May be repeated three times
• 54 hours laboratory per term
• Limitations on Enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.

This course focuses on the study, rehearsal and public performance of literature for wind ensemble, with an emphasis on the development of skills needed to perform in a wind ensemble. Different literature will be studied each semester so that different technical and artistic issues are addressed. C-ID MUS 180, CSU, UC

MUSIC-142  Woodwind Ensemble
1 unit  SC
• May be repeated three times
• 54 hours laboratory per term
• Limitations on Enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.

This course focuses on the study, rehearsal, and public performance of literature for woodwind ensemble, with and emphasis on the development of skills needed to perform within a woodwind ensemble. Different literature will be studied each semester so that different technical and artistic issues are addressed. C-ID MUS 185, CSU, UC

MUSIC-144  Brass Ensemble
1 unit  LR
• May be repeated three times
• 72 hours laboratory per term
• Limitations on Enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.

This course focuses on the study, rehearsal, and public performance of literature for brass ensemble, with and emphasis on the development of skills needed to perform within a brass ensemble. Different literature will be studied each semester so that different technical and artistic issues are addressed. C-ID MUS 185, CSU, UC

MUSIC-150  Beginning Piano I
1 unit  SC
• 54 hours laboratory per term
• Note: Credit by examination option available

This course provides group instruction in piano for students with no prior keyboard experience. Ensemble and solo works, basic rhythm, and fundamental keyboard and music theory skills based on major and minor five-note patterns will be covered. Attention is given to the student’s individual needs, goals, and abilities. C-ID MUS 170, CSU, UC

MUSIC-151  Beginning Piano II
1 unit  SC
• 54 hours laboratory per term
• Advisory: MUSIC-150 or equivalent
• Note: Credit by examination option available

This course provides group instruction in piano. Ensemble and solo works beyond the five-finger position will be covered. Classical and popular music will be emphasized. CSU, UC

MUSIC-152  Jazz Piano
1 unit  SC
• 72 hours laboratory per term
• Advisory: MUSIC-151 or equivalent

This course provides study in the theory and practice of jazz piano through learning chords, voicings, improvisational techniques, and various idiomatic styles. CSU, UC

MUSIC-160  Beginning Guitar I
1 unit  SC
• 54 hours laboratory per term
• Note: Students must provide an acoustic six-string guitar for use in the course.
• Formerly MUSIC-101 (20-21).

This course provides beginning six-string guitar instruction in both popular and classical styles. First position keys and chords, transposition, various strums and styles, finger-picking accompaniments, tablature, chord symbols, and note reading are presented. No previous musical experience is necessary. CSU, UC

MUSIC-161  Beginning Guitar II
1 unit  SC
• 54 hours laboratory per term
• Advisory: MUSIC-160 or Eqiv.
• Note: Students must provide an acoustic six-string guitar for use in the course.

This course provides continuing beginning six-string guitar instruction in both popular and classical styles. First position extended chords, chord substitutions, 5th and 6th string root bar chords, transposition, additional strums, styles, and accompaniment are presented. CSU, UC
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
</table>
| MUSIC-162  | Concert Choir                              | 1 unit  | SC   | May be repeated three times  
72 hours laboratory per term  
Limitation on enrollment: Audition required. Specific days and times are announced in the Schedule of Classes. This course presents the study, rehearsal and public performance of standard choral literature for mixed voices. New literature will be studied each term. C-ID MUS 180, CSU, UC |
| MUSIC-166  | Chamber Singers                            | 1-2 units| SC   | May be repeated three times  
54 hours laboratory/54 hours laboratory by arrangement per term  
Limitation: Audition required. Specific days and times are announced in the Schedule of Classes. Students will study and perform Renaissance through 21st century chamber choir literature including music influenced by non-Western cultures. C-ID MUS 180, CSU, UC |
| MUSIC-168  | Percussion Ensemble                        | 1 unit  | SC   | May be repeated three times  
72 hours laboratory per term  
Prerequisite: Audition This performance ensemble focuses on the sight-reading, rehearsal and performance of percussion ensemble literature. Each member of the group will become a better musician through individual practice and performance, listening and being an active part of the ensemble experience. CSU, UC |
| MUSIC-170  | Applied Voice Training                     | 1 unit  | SC   | 54 hours laboratory per term This course presents the fundamentals of vocal tone production. Students will practice tone production, breath control, and vocal placement. Emphasis is placed on song interpretation and vocal pedagogy. CSU, UC |
| MUSIC-171  | Jazz and Popular Solo Voice                | 1 unit  | SC   | 54 hours laboratory per term This course is a study of the fundamentals of vocal tone production, breathing, vocal placement, and song interpretation as it applies to jazz, Broadway and other popular vocal styles. CSU, UC |
| MUSIC-176  | String Ensemble                            | 1 unit  | SC   | May be repeated three times  
72 hours laboratory per term  
Limitation: Audition required. Specific days and times are announced in the Schedule of Classes. In this course students study, rehearse, and publicly perform the music for or with string ensemble. New literature will be studied each term so that different technical and artistic issues are addressed. CSU, UC |
| MUSIC-179  | Intermediate Applied Voice                 | 1 unit  | SC   | 54 hours laboratory per term  
Limitations on enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.  
Advisory: MUSIC-170 or MUSIC-171 or equivalent This course is a continued study of the fundamentals of vocal tone production, breathing, and vocal placement. Emphasis will be placed on song interpretation and vocal pedagogy. CSU, UC |
| MUSIC-180  | Diablo Valley Masterworks Chorale          | 1 unit  | SC   | May be repeated three times  
72 hours laboratory per term  
Limitation: Audition required. Specific days and times are announced in the Schedule of Classes. This course presents the study and performance of major works of the chorus and orchestra literature, along with practical experience in the operation of a community chorus. New literature is studied each term. CSU, UC |
| MUSIC-185  | Pop and Rock Repertoire                    | 1 unit  | SC   | 60 hours laboratory per term This class provides an opportunity for students to study and perform a wide range of solo and ensemble Pop and Rock repertoire. Students are coached by faculty in technique, interpretation, and presentation in a master class format. Students will produce in-class and public performances during the course. Different repertoire will be studied each semester, including the latest covers. CSU, UC |
| MUSIC-186  | R&B, Hip Hop, and Funk Repertoire          | 1 unit  | SC   | 60 hours laboratory per term This class provides an opportunity for students to study and perform a wide range of solo and ensemble R&B, Hip Hop, and Funk repertoire. Students are coached by faculty in technique, interpretation, and presentation in a master class format. Students will produce in-class and public performances during the course. Different repertoire will be studied each semester, including the latest covers. CSU, UC |
Music

MUSIC-187  Country, Bluegrass, and Folk Repertoire
1 unit  SC
- 60 hours laboratory per term
This class provides an opportunity for students to study and perform a wide range of solo and ensemble Country, Bluegrass, and Folk repertoire. Students are coached by faculty in technique, interpretation, and presentation in a master class format. Students will produce in-class and public performances during the course. Different repertoire will be studied each semester, including the latest covers. CSU, UC

MUSIC-190  Topics in Music
.3-4 units  SC
- Variable hours
A supplemental course in music to provide a study of current topics in music. Specific topics will be announced in the schedule of classes. CSU

MUSIC-208  Rock Theory and Improvisation II
1 unit  SC
- 60 hours laboratory per term
- Advisory: MUSIC-108 or equivalent
This course presents the intermediate study and performance of historical Rock, including Funk, Soul, R&B, and Country. Both theoretical and performance aspects will be covered. Large bands (guitars, bass, drums, percussion, keyboards, horns, and multi vocals) will be formed for class performances. Guest artists and industry experts will be featured each term. CSU, UC

MUSIC-209  Live Music Production and Stagecraft II
1 unit  SC
- 60 hours laboratory per term
- Advisory: MUSIC-109 or equivalent
This course provides the intermediate musician with professional level live-show production experience. Practical applications of stage processes from load-in to load-out, including professional level stagecraft, live sound, and light engineering will be presented. Guest artists and industry experts will be featured each term. CSU, UC

MUSIC-222  Theory and Musicianship III
4 units  SC
- 54 hours lecture/54 hours laboratory per term
- Prerequisite: MUSIC-123 or Equivalent.
This course presents the study of harmony and voice-leading in the Western Common Practice. Topics include sequences, melodic and rhythmic figuration, leading-tone 7th chords, mixture, applied dominants and modulation, four-part voice leading, large formal structures, harmonic and formal analysis, and musicianship skills including sight singing, rhythmic training, ear training, dictation, and keyboard realization. C-ID MUS 140, MUS 145, CSU, UC

MUSIC-223  Theory and Musicianship IV
4 units  SC
- 54 hours lecture/54 hours laboratory per term
- Prerequisite: MUSIC-222 or equivalent
This course is a study of chromatic harmony, 20th century harmonic practices, large musical structures, harmonic, structural, and stylistic analysis, and musicianship skills including sight singing, rhythmic training, ear training, dictation, and keyboard realization of chromatic and 20th century materials. C-ID MUS 150, MUS 155, CSU, UC

MUSIC-236  Night Jazz Band
1 unit  SC
- May be repeated three times
- 72 hours laboratory per term
- Limitation on enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.
This course presents the study of big band jazz for performance in classroom and community settings. A variety of styles will be studied including Swing, Hip-Hop, Afro-Cuban, and Be Bop. Community outreach and public performances at jazz clubs, community events and other venues will be emphasized. Occasionally, guest artists will be featured. New literature will be studied each semester. CSU, UC

MUSIC-240  Symphonic Band
1 unit  LR
- May be repeated three times
- 72 hours laboratory per term
- Limitation on enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.
This course presents the study, rehearsal, and public performance of symphonic band literature, with an emphasis on the development of skills needed to perform within a symphonic band. New literature will be studied each term so that different technical and artistic issues are addressed. C-ID MUS 180, CSU, UC

MUSIC-221  Advanced Music Composition
3 units  SC
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term
- Prerequisite: MUSIC-121 or equivalent
- Advisory: MUSIC-122 or equivalent
This course is a continuation of MUSIC-121. Advanced exercises in listening, reading, and composing are aimed at expanding the students’ awareness of the diversity of modern aesthetics, styles, and techniques. CSU, UC
MUSIC-250   Intermediate Piano I
  1 unit   SC
  • 54 hours laboratory per term
  • Advisory: MUSIC-151 or equivalent
This course is first in a sequence of courses presenting group study of piano at the intermediate level. The development of technical and interpretive skills essential for playing early-intermediate keyboard music in Period-specific styles will be emphasized. Methods of preparation based on an understanding of period/composer-specific performance practice will be addressed. CSU, UC

MUSIC-251   Intermediate Piano II
  1 unit   SC
  • 72 hours laboratory per term
  • Advisory: MUSIC-250 or equivalent
This course is for the continued group study of intermediate piano beyond MUSIC-250. The class emphasizes the development of technical and interpretive skills essential for playing intermediate keyboard music in Baroque, Classical, Romantic, Impressionist and Contemporary Period styles with attention to interpretation and technique. CSU, UC

MUSIC-252   Piano Ensemble
  1 unit   SC
  • May be repeated three times
  • 72 hours laboratory per term
  • Limitation on Enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.
This course focuses on the study, rehearsal, and public performance of literature for piano ensemble (piano 4-hands, piano 8-hands, chamber music with piano, instrumental sonatas, voice and piano) with an emphasis on the development of skills needed to perform within a piano ensemble. Different literature will be studied each semester so that different technical and artistic issues are addressed. Pianists, instrumentalists, and vocalists are encouraged to audition. CSU, UC

MUSIC-255   Piano Repertoire Master Class
  1 unit   SC
  • May be repeated three times
  • 72 hours laboratory per term
  • Limitation on Enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.
This class provides a weekly forum for pianists to perform solo repertoire and includes constructive comments and direction in a master class format. Students will produce four in-class and two public performances during the course. New keyboard works from the Baroque, Classical, Romantic, and Contemporary Period repertory will be studied each semester. CSU, UC

MUSIC-256   Pedagogy for Studio Music Teachers
  1 unit   SC
  • 72 hours laboratory per term
This class presents a practical study of pedagogy for the private music studio. The course is designed for current and aspiring studio music teachers of keyboard and instrumental students. Students will explore ways to augment, develop, and review methods of teaching and performance, gaining the ability to successfully work with learning styles of diverse populations. CSU

MUSIC-256   Intermediate Guitar I
  1 unit   SC
  • 60 hours laboratory per term
  • Advisory: MUSIC 160 or equivalent
  • Note: Students must provide an acoustic six-string guitar for use in the course
  • Formerly MUSIC-102 (20-21).
This course provides instruction in intermediate six-string guitar skills. Intermediate-level classical and popular repertoire will be studied. Intermediate level right-hand techniques, basic voicings, position playing, style-specific performance practices, and approaches to learning solo guitar repertoire will be presented. CSU, UC

MUSIC-256   Intermediate Guitar II
  1 unit   SC
  • 60 hours laboratory per term
  • Advisory: MUSIC-250 or equivalent
  • Note: Students must provide an acoustic six-string guitar for use in the course.
This course provides continuing intermediate instruction in six-string guitar skills. Playing in the upper positions, alternate tunings, harmonics, percussion techniques, ornaments, swing, jazz chords and voicing, Flamenco voicings, and more bar chords will be presented. CSU, UC

MUSIC-256   Philharmonic Orchestra
  1 unit   SC
  • May be repeated three times
  • 72 hours laboratory per term
  • Limitation on Enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.
In this course students will study, rehearse, and publicly perform the standard Western classical orchestral literature along with new orchestral compositions. New literature will be studied each term so that a variety of technical and artistic issues are addressed. C-ID MUS 180, CSU, UC
Music

MUSIC-298 Independent Study
.5-3 units SC
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

MUSIC-299 Student Instructional Assistant
.5-3 units SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

MUSIC INDUSTRY STUDIES – MUSX

Janette Funaro, Dean
Arts and Communication Division

Possible career opportunities

Career options include: conductor, arranger, film scorer/composer, music business/manager, music editor, music supervisor/director, songwriter, transcriber, editor (print music publishing), choir director, midi engineering, recording engineer, studio director or manager, sound designer, sound technician, and tour coordinator. Many careers require more than two years of study.

Associate in science degree

Audio visual technology

Students completing the program will be able to...
A. analyze and describe the science and technology for basic audio, visual, and audiovisual systems integration.
B. set up and test an audio, video, and audiovisual network.
C. describe and explain the components of sound and hearing, and vision and light, as they pertain to human perception and venue limitations.
D. display proper customer service and professional behavior.

The audiovisual technician associate in science degree is designed to prepare students for the Certified Technology Specialist (CTS) certification exam administered by AVIXA International and entry-level jobs in the audiovisual industry. Audiovisual (AV) technicians set up and operate audio and video equipment including microphones, sound speakers, video screens, projectors, video monitors, recording equipment, connecting wires and cables, sound and mixing boards, and related electronic equipment for concerts, sports events, meetings and conventions, presentations, and news conferences. AV systems facilitate essential communication and often require connectivity with various types of networks, requiring AV technicians to work with information technology (IT) teams to set up and maintain that connectivity. This aspect of audiovisual technology is evolving, influencing industry demand. Degree-seeking students complete general education requirements that help students “think and communicate clearly and effectively both orally and in writing; to use mathematics; to understand the modes of inquiry of the major disciplines; to be aware of other cultures and times; to achieve insights gained through experience in thinking about ethical problems; and to develop the capacity for self-understanding”. (Title 5, section 55061)

To earn an associate in science degree in audio visual technology, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however the units are only counted once.

required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>MUSX-100</td>
<td>AV Essentials: Systems and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-101</td>
<td>AV Essentials: Management and Solutions</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-120</td>
<td>Live Sound</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-124</td>
<td>Introduction to Music Production and Multi-Track Recording</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-120</td>
<td>Introduction to TV Studio Production</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-160</td>
<td>Introduction to Film Production</td>
<td>3</td>
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<tr>
<td>CNT-103</td>
<td>Voice, Video and Network Cabling</td>
<td>2</td>
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plus at least 2 units from:

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<tbody>
<tr>
<td>MUSX-296</td>
<td>Internship in Occupational Work Experience</td>
<td></td>
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<tr>
<td></td>
<td>Education in MUSX</td>
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</tbody>
</table>

Total minimum units for the major 22
Associate in arts degree
Commercial music - Media composition

Students completing this program will be able to...
A. produce recorded music projects.
B. demonstrate professional behaviors required in the music industry.
C. apply vocabulary and demonstrate processes used in the protection of intellectual property rights.
D. demonstrate practical musical literacy, both theoretical and historical.
E. mix live performances in a variety of genres.
F. create a portfolio of original compositions for various ensembles/media.

The commercial music – media composition associate in art degree is composed of core music and technology courses that provide both a conceptual foundation in music theory and a technical foundation in a digital audio workstation to record, sequence, and mix music. Graduates of the commercial music – media composition program are prepared for many facets of the music and entertainment industries. Students create a portfolio of diverse compositions that demonstrate competency for such careers as film composer, music editor, film arranger, orchestrator, and more. Graduates can also transfer to four-year universities to prepare for careers at major and independent record labels, motion picture studios, music production companies, music publishing companies, and music libraries.

To earn an associate in art degree, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however the units are only counted once.

required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Units</th>
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<tr>
<td>MUSIC-122</td>
<td>Theory and Musicianship I</td>
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<td>MUSX-120</td>
<td>Live Sound</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-124</td>
<td>Introduction to Music Production and</td>
<td>3</td>
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<tr>
<td></td>
<td>Multi-Track Recording</td>
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<tr>
<td>MUSX-172</td>
<td>Introduction to Electronic Music and MIDI</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-174</td>
<td>Introduction to Music Technology and Pro Tools</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-181</td>
<td>Introduction to the Music Industry</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-182</td>
<td>Songwriting I</td>
<td>3</td>
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plus at least 14 units from:

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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>MUSIC-121</td>
<td>Introduction to Music Composition</td>
<td>3</td>
</tr>
<tr>
<td>MUSIC-123</td>
<td>Theory and Musicianship II</td>
<td>4</td>
</tr>
<tr>
<td>MUSIC-127</td>
<td>Jazz Theory and Improvisation</td>
<td>2</td>
</tr>
<tr>
<td>MUSIC-129</td>
<td>Counterpoint</td>
<td>3</td>
</tr>
<tr>
<td>MUSIC-150</td>
<td>Beginning Piano I</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-176</td>
<td>String Ensemble</td>
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</tr>
<tr>
<td>MUSIC-221</td>
<td>Advanced Music Composition</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-178</td>
<td>Music and Sound for Visual Media</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-221</td>
<td>Orchestration and Arranging for Digital Instruments</td>
<td>3</td>
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| Total Minimum Units for the Major | 36 |

recommended GE elective (DVC GE Area III)

<table>
<thead>
<tr>
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<th>Units</th>
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<tbody>
<tr>
<td>MUSX-110</td>
<td>History of Electronic Music</td>
<td>3</td>
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Associate in arts degree
Commercial music - Performance

Students completing this program will be able to...
A. produce recorded music projects.
B. demonstrate professional behaviors required in the music industry.
C. apply vocabulary and demonstrate processes used in the protection of intellectual property rights.
D. demonstrate practical musical literacy, both theoretical and historical.
E. mix live performances in a variety of genres.
F. utilize basic ensemble skills by performing in an ensemble.

The commercial music – performance associate in art degree consists of comprehensive curriculum that provides students with a solid foundation in music theory, composition, performance, technology, production, and business. This degree offers a unique blend of the art of music and the discipline of business. Students can participate in traditional music courses such as individual applied music lessons and performing ensembles, while immersing themselves in music technology. Graduates of the commercial music – performance degree program may move into all facets of the music and entertainment industries. Graduates may also transfer to four-year universities, which can prepare them for careers at major and independent record labels, motion picture studios, music production companies, music publishing companies, music libraries, artist management companies, music promotion companies, and as performing artists.

To earn an associate in art degree, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however the units are only counted once.

required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
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<tbody>
<tr>
<td>MUSIC-122</td>
<td>Theory and Musicianship I</td>
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<td>MUSX-120</td>
<td>Live Sound</td>
<td>3</td>
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<tr>
<td>MUSX-124</td>
<td>Introduction to Music Production and</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Multi-Track Recording</td>
<td></td>
</tr>
<tr>
<td>MUSX-172</td>
<td>Introduction to Electronic Music and MIDI</td>
<td>3</td>
</tr>
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<td>MUSX-174</td>
<td>Introduction to Music Technology and Pro Tools</td>
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<tr>
<td>MUSX-181</td>
<td>Introduction to the Music Industry</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-182</td>
<td>Songwriting I</td>
<td>3</td>
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plus at least 14 units from:

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<th>Course Name</th>
<th>Units</th>
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<td>MUSIC-100</td>
<td>Applied Music</td>
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<td>MUSIC-103</td>
<td>Guitar Ensemble</td>
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<td>MUSIC-108</td>
<td>Rock Theory and Improvisation</td>
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<td>MUSIC-109</td>
<td>Live Music Production and Stagecraft</td>
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<td>MUSIC-127</td>
<td>Jazz Theory and Improvisation</td>
<td>2</td>
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<tr>
<td>MUSIC-128</td>
<td>Jazz Theory and Improvisation</td>
<td>2</td>
</tr>
<tr>
<td>MUSIC-135</td>
<td>Vocal Jazz Ensemble</td>
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</tr>
<tr>
<td>MUSIC-136</td>
<td>Jazz Ensemble</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-137</td>
<td>Jazz Combos</td>
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<td>MUSIC-150</td>
<td>Beginning Piano I</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-151</td>
<td>Beginning Piano II</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-152</td>
<td>Jazz Piano</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-160</td>
<td>Beginning Guitar I</td>
<td>1</td>
</tr>
</tbody>
</table>
**Music industry studies**

**Associate in arts degree**

**Commercial music - Technology and production**

Students completing this program will be able to...

A. produce recorded music projects.

B. demonstrate professional behaviors required in the music industry.

C. apply vocabulary and demonstrate processes used in the protection of intellectual property rights.

D. demonstrate practical musical literacy, both theoretical and historical.

E. mix live performances in a variety of genres.

F. create, arrange, and produce advanced recorded music projects utilizing a digital audio workstation that is MIDI capable.

The commercial music – technology and production associate in art degree begins with a set of core music and technology courses to provide both the conceptual foundation in music theory and the technical foundation in a digital audio workstation to record, sequence, and mix music. Graduates of the commercial music – technology and production program move into all facets of the music and entertainment industries. Graduates prepare a portfolio of work to demonstrate competencies for work as an AV technician, music engineer, music producer, music editor, film composer, and more. Graduates may also transfer to four-year universities, which can prepare them for successful careers at media venues, major and independent record labels, motion picture studios, music production companies, music publishing companies, and music libraries.

To earn an associate in art degree, students must complete each course used to meet a major requirement with a "C" grade or higher and complete all general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

---

**Music industry entrepreneurship**

Students completing this program will be able to...

A. describe the principles of copyrights, publishing, licensing, and royalties as they relate to the music industry.

B. describe the entrepreneurial process including how to develop successful business ideas and turn them into new entrepreneurial ventures.

C. create, arrange, and produce recorded music projects.

D. practice team cooperation and creative thinking skills in performance of audio visual (AV) installations.

DVC’s Music Industry Entrepreneurship degree begins with a well-rounded set of music technology and industry courses to provide the technical foundation to produce and present music. Students are required to complete electives in small business, entrepreneurship, and marketing. The degree also allows each student to steer their path towards their interest area(s) in music industry studies. Graduates of the Music Industry Entrepreneurship program can move into all facets of the music and entertainment industries.

Graduates may also transfer to four-year universities, which can prepare them for successful careers in the music industry. Students who intend to transfer to a four-year baccalaureate program should consult with a counselor regarding specific major preparation requirements at the transfer institution of their choice. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE).

Students must complete each of the courses required for the major with a “C” grade or higher. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

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**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>MUSC-122</td>
<td>Theory and Musicianship I</td>
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<td>MUSX-120</td>
<td>Live Sound</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-124</td>
<td>Introduction to Music Production and Multi-Track Recording</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-172</td>
<td>Introduction to Electronic Music and MIDI</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-174</td>
<td>Introduction to Music Technology and Pro Tools</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-181</td>
<td>Introduction to the Music Industry</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-182</td>
<td>Songwriting I</td>
<td>3</td>
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</table>

**plus at least 14 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>MUSC-117</td>
<td>History of Rock and R&amp;B</td>
<td>3</td>
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<td>MUSC-150</td>
<td>Beginning Piano I</td>
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<td>MUSC-151</td>
<td>Beginning Piano II</td>
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<tr>
<td>MUSX-100</td>
<td>Audio and Visual Technology</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-175</td>
<td>Advanced Pro Tools</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-176</td>
<td>Introduction to Ableton Live</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-177</td>
<td>Introduction to Logic Pro</td>
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</table>

**total minimum units for the major** 36

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**recommended GE elective (DVC GE Area III)**

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>MUSC-170</td>
<td>History of World Music</td>
<td>3</td>
</tr>
<tr>
<td>MUSC-174</td>
<td>History of Jazz</td>
<td>3</td>
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<tr>
<td>MUSC-190</td>
<td>History of Jazz</td>
<td>3</td>
</tr>
<tr>
<td>MUSC-192</td>
<td>The History and Culture of Hip Hop Music</td>
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</tr>
<tr>
<td>MUSX-100</td>
<td>History of Electronic Music</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 36

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**Associate in arts degree**

**Music industry entrepreneurship**

Students completing this program will be able to...

A. produce recorded music projects.

B. demonstrate professional behaviors required in the music industry.

C. apply vocabulary and demonstrate processes used in the protection of intellectual property rights.

D. demonstrate practical musical literacy, both theoretical and historical.

E. mix live performances in a variety of genres.

F. create, arrange, and produce advanced recorded music projects utilizing a digital audio workstation that is MIDI capable.

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To earn an associate in art degree, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

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**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</tr>
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<tbody>
<tr>
<td>MUSX-100</td>
<td>Audio and Visual Technology</td>
<td>3</td>
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<td>MUSX-172</td>
<td>Introduction to Electronic Music and MIDI</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-174</td>
<td>Introduction to Music Technology and Pro Tools</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-181</td>
<td>Introduction to the Music Industry</td>
<td>3</td>
</tr>
</tbody>
</table>

**Associate in arts degree**

**Music industry entrepreneurship**

Students completing this program will be able to...

A. describe the principles of copyrights, publishing, licensing, and royalties as they relate to the music industry.

B. describe the entrepreneurial process including how to develop successful business ideas and turn them into new entrepreneurial ventures.

C. create, arrange, and produce recorded music projects.

D. practice team cooperation and creative thinking skills in performance of audio visual (AV) installations.

DVC’s Music Industry Entrepreneurship degree begins with a well-rounded set of music technology and industry courses to provide the technical foundation to produce and present music. Students are required to complete electives in small business, entrepreneurship, and marketing. The degree also allows each student to steer their path towards their interest area(s) in music industry studies. Graduates of the Music Industry Entrepreneurship program can move into all facets of the music and entertainment industries.

Graduates may also transfer to four-year universities, which can prepare them for successful careers in the music industry. Students who intend to transfer to a four-year baccalaureate program should consult with a counselor regarding specific major preparation requirements at the transfer institution of their choice. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE).

Students must complete each of the courses required for the major with a “C” grade or higher. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

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**required courses:**

<table>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>MUSX-100</td>
<td>Audio and Visual Technology</td>
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</tr>
<tr>
<td>MUSX-172</td>
<td>Introduction to Electronic Music and MIDI</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-174</td>
<td>Introduction to Music Technology and Pro Tools</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-181</td>
<td>Introduction to the Music Industry</td>
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</table>
plus at least 3 units from:
BUS-109 Introduction to Business ..........................3
BUSMG-191 Small Business Management ..........3
BUSMG-192 Entrepreneurship and Venture Management 3

plus at least 3 units from:
BUSMK-259 Digital Marketing Fundamentals..............3
BUSMK-260 Social Media Marketing ........................3

plus at least 6 units from:
MUSIC-121 Introduction to Music Composition ..........3
MUSX-100 Audio and Visual Production ................3
MUSX-120 Live Sound ........................................3
MUSX-125 Advanced Music Production and
Multi-Track Recording ........................................3
MUSX-127 Introduction to Ableton Live ................3
MUSX-128 Music and Sound for Film, Games, and
Digital Media ....................................................3
MUSX-171 Multitrack Recording .................................3
MUSX-172 Introduction to Electronic Music and MIDI ....3
MUSX-173 Advanced Electronic Music ...................3
MUSX-174 Introduction to Music Technology and
Pro Tools ...........................................................3
MUSX-175 Advanced Pro Tools ................................3
MUSX-176 Introduction to Ableton Live ................3
MUSX-177 Introduction to Logic Pro .....................3
MUSX-178 Music and Sound for Film, Games, and
Digital Media ....................................................3
MUSX-182 Songwriting I .........................................3
MUSX-183 Artist Development in the Music Industry ...3
MUSX-220 Advanced Digital Audio Techniques ..........3
MUSX-221 Orchestration and Arranging for Digital
Instruments .....................................................3
MUSX-225 Music Industry Management ..................3
MUSX-226 Music Industry Marketing ......................3
MUSX-296 Internship in Occupational Work Experience 2-4

total minimum required units .................. 24

Associate in arts degree
Music industry studies

Students completing the program will be able to...
A. produce recorded music projects.
B. demonstrate professional behaviors required in the music industry.
C. apply vocabulary and demonstrate processes that are used in the protection of intellectual property rights.

This associate in arts program prepares students for a career in the music industry. The program has an entrepreneurial focus emphasizing an industry trend requiring artists to be responsible for complete project development. The program is designed to produce well-rounded music industry professionals capable of all aspects of the music production process including recording, marketing, and distribution. The same skill-set also prepares students for careers in specialized areas of the music industry such as digital audio workstation operator, recording engineer, producer, composer, arranger, songwriter, sound designer, artist manager, distributor, and marketing representative.

The DVC music industry studies major is not intended for transfer. Option 1 (DVC General Education) is advised for students who do not intend to transfer. Students may not take a pass/no pass option for major courses. Students who intend to transfer to a four-year baccalaureate program should consult with a counselor regarding specific major preparation requirements at the transfer institution of their choice. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE). Students must complete each of the courses required for the major with a “C” grade or higher. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

major requirements:

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<td>MUSX-172 Introduction to Electronic Music</td>
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<td>MUSX-173 Advanced Electronic Music</td>
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<tr>
<td>MUSX-174 Introduction to Music Technology</td>
<td>3</td>
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<td>MUSX-175 Advanced Pro Tools</td>
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<td>MUSX-176 Introduction to Ableton Live</td>
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<tr>
<td>MUSX-177 Introduction to Logic Pro</td>
<td>3</td>
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<tr>
<td>MUSX-178 Music and Sound for Film, Games,</td>
<td>3</td>
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<td>Digital Media</td>
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<td>MUSX-182 Songwriting I</td>
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<td>MUSX-183 Artist Development in the Music</td>
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<tr>
<td>Industry</td>
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<td>MUSX-220 Advanced Digital Audio Techniques</td>
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<td>MUSX-225 Music Industry Management</td>
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<td>MUSX-226 Music Industry Marketing</td>
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<td>MUSX-296 Internship in Occupational Work</td>
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<tr>
<td>Experience</td>
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</table>

total minimum units for the major 24
This aspect of audiovisual technology is evolving, influencing changes in the industry. Audiovisual (AV) technicians set up and operate audio and video equipment including microphones, sound speakers, video screens, projectors, video monitors, recording equipment, connecting wires and cables, sound and mixing boards, and related electronic equipment for concerts, sports events, meetings and conventions, presentations, and news conferences. AV systems facilitate essential communications and often require connectivity with various types of networks, requiring AV technicians to work with information technology teams to set up and maintain that connectivity. This aspect of audiovisual technology is evolving, influencing industry demand. Degree-seeking students complete general education requirements that help students “think and communicate clearly and effectively both orally and in writing; to use mathematics; to understand the modes of inquiry of the major disciplines; to be aware of other cultures and times; to achieve insights gained through experience in thinking about ethical problems; and to develop the capacity for self-understanding.” (Title 5, section 55061)

To earn an associate in science degree in audio visual technology, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however the units are only counted once.

**Certificate of achievement Audio visual technology**

Students completing this program will be able to...

A. analyze and describe the science and technology for basic audio, visual, and audiovisual systems integration.

B. set up and test an audio, video, and audiovisual network.

C. describe and explain the components of sound and hearing, and vision and light as they pertain to human perception and venue limitations.

D. display proper customer service and professional behavior.

The audiovisual technician certificate of achievement is designed to prepare students for the Certified Technology Specialist (CTS) certification exam administered by AVIXA International and entry-level jobs in the audiovisual industry. Audiovisual (AV) technicians set up and operate audio and video equipment including microphones, sound speakers, video screens, projectors, video monitors, recording equipment, connecting wires and cables, sound and mixing boards, and related electronic equipment for concerts, sports events, meetings and conventions, presentations, and news conferences. AV systems facilitate essential communications and often require connectivity with various types of networks, requiring AV technicians to work with information technology (IT) teams to set up and maintain that connectivity. This aspect of audiovisual technology is evolving and is influencing changes in the industry.

To earn the certificate of achievement, students must complete each of the required courses with a “C” grade or higher.

**required courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>MUSX-100 Audio and Visual Technology</td>
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<td>MUSX-101 Audio and Visual Production</td>
<td>3</td>
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<tr>
<td>MUSX-120 Live Sound</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-124 Introduction to Music Production and Multi-Track Recording</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-120 Introduction to TV Studio Production</td>
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<td>FTVE-160 Introduction to Film Production</td>
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<td>CNT-103 Voice, Video, and Network Cabling</td>
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Plus at least 2 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>MUSX-296 Internship in Occupational Work Experience</td>
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<td>Education in MUSX</td>
<td></td>
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</tbody>
</table>

**total minimum required units**

22
Certificate of achievement
Commercial music - Media composition

Students completing this program will be able to...

A. produce recorded music projects.
B. demonstrate professional behaviors required in the music industry.
C. apply vocabulary and demonstrate processes used in the protection of intellectual property rights.
D. demonstrate practical musical literacy, both theoretical and historical.
E. mix live performances in a variety of genres.
F. create a portfolio of original compositions for various ensembles/media.

The commercial music – media composition certificate of achievement is composed of core music and technology courses that provide both a conceptual foundation in music theory and a technical foundation in a digital audio workstation to record, sequence, and mix music. Graduates of the commercial music – media composition program are prepared for many facets of the music and entertainment industries. Students create a portfolio of diverse compositions that demonstrate competency for such careers as film composer, music editor, film arranger, orchestrator, and more.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>MUSIC-120</td>
<td>Live Sound</td>
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<tr>
<td>MUSX-124</td>
<td>Introduction to Music Production and Multi-Track Recording</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-172</td>
<td>Introduction to Electronic Music and MIDI</td>
<td>3</td>
</tr>
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<td>Introduction to Music Technology and Pro Tools</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-181</td>
<td>Introduction to the Music Industry</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-182</td>
<td>Songwriting I</td>
<td>3</td>
</tr>
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</table>

plus at least 14 units from:

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSX-121</td>
<td>Introduction to Music Composition</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-123</td>
<td>Theory and Musicianship II</td>
<td>4</td>
</tr>
<tr>
<td>MUSX-127</td>
<td>Jazz Theory and Improvisation I</td>
<td>2</td>
</tr>
<tr>
<td>MUSX-129</td>
<td>Counterpoint</td>
<td>3</td>
</tr>
<tr>
<td>MUSIC-150</td>
<td>Beginning Piano I</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-176</td>
<td>String Ensemble</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-221</td>
<td>Advanced Music Composition</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-178</td>
<td>Music and Sound for Visual Media</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-221</td>
<td>Orchestration and Arranging for Digital Instruments</td>
<td>3</td>
</tr>
</tbody>
</table>

total minimum required units.......................... 36

Certificate of achievement
Commercial music - Performance

Students completing this program will be able to...

A. produce recorded music projects.
B. demonstrate professional behaviors required in the music industry.
C. apply vocabulary and demonstrate processes used in the protection of intellectual property rights.
D. demonstrate practical musical literacy, both theoretical and historical.
E. mix live performances in a variety of genres.
F. utilize basic ensemble skills by performing in an ensemble.

The commercial music – performance certificate of achievement consists of comprehensive curriculum that provides students with a solid foundation in music theory, composition, performance, technology, production, and business. This program offers a unique blend of the art of music and the discipline of business. Students can participate in traditional music courses such as individual applied music lessons and performing ensembles, while immersing themselves in music technology. Graduates of the commercial music – performance may move into all facets of the music and entertainment industries.

To earn the certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tr>
<td>MUSIC-122</td>
<td>Theory and Musicianship I</td>
<td>4</td>
</tr>
<tr>
<td>MUSX-120</td>
<td>Live Sound</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-124</td>
<td>Introduction to Music Production and Multi-Track Recording</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-172</td>
<td>Introduction to Electronic Music and MIDI</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-174</td>
<td>Introduction to Music Technology and Pro Tools</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-181</td>
<td>Introduction to the Music Industry</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-182</td>
<td>Songwriting I</td>
<td>3</td>
</tr>
</tbody>
</table>

plus at least 14 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSIC-121</td>
<td>Introduction to Music Composition</td>
<td>3</td>
</tr>
<tr>
<td>MUSIC-123</td>
<td>Theory and Musicianship II</td>
<td>4</td>
</tr>
<tr>
<td>MUSIC-127</td>
<td>Jazz Theory and Improvisation I</td>
<td>2</td>
</tr>
<tr>
<td>MUSIC-129</td>
<td>Counterpoint</td>
<td>3</td>
</tr>
<tr>
<td>MUSIC-150</td>
<td>Beginning Piano I</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-176</td>
<td>String Ensemble</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-221</td>
<td>Advanced Music Composition</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-178</td>
<td>Music and Sound for Visual Media</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-221</td>
<td>Orchestration and Arranging for Digital Instruments</td>
<td>3</td>
</tr>
</tbody>
</table>

plus at least 14 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>MUSIC-100</td>
<td>Applied Music</td>
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<tr>
<td>MUSIC-103</td>
<td>Guitar Ensemble</td>
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</tr>
<tr>
<td>MUSIC-108</td>
<td>Rock Theory and Improvisation I</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-109</td>
<td>Live Music Production and Stagecraft I</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-127</td>
<td>Jazz Theory and Improvisation I</td>
<td>2</td>
</tr>
<tr>
<td>MUSIC-128</td>
<td>Jazz Theory and Improvisation II</td>
<td>2</td>
</tr>
<tr>
<td>MUSIC-135</td>
<td>Vocal Jazz Ensemble</td>
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</tr>
<tr>
<td>MUSIC-137</td>
<td>Jazz Combos</td>
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<tr>
<td>MUSIC-150</td>
<td>Beginning Piano I</td>
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<tr>
<td>MUSIC-151</td>
<td>Beginning Piano II</td>
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<tr>
<td>MUSIC-152</td>
<td>Jazz Piano</td>
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<tr>
<td>MUSIC-160</td>
<td>Beginning Guitar I</td>
<td>1</td>
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<tr>
<td>MUSIC-162</td>
<td>Concert Choir</td>
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<tr>
<td>MUSIC-166</td>
<td>Chamber Singers</td>
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<tr>
<td>MUSIC-168</td>
<td>Percussion Ensemble</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-170</td>
<td>Applied Voice Training</td>
<td>1</td>
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<tr>
<td>MUSIC-171</td>
<td>Jazz and Popular Voice</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-179</td>
<td>Intermediate Applied Voice</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-208</td>
<td>Rock Theory and Improvisation II</td>
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<tr>
<td>MUSIC-209</td>
<td>Live Music Production and Stagecraft II</td>
<td>1</td>
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<tr>
<td>MUSIC-250</td>
<td>Intermediate Piano I</td>
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</table>
Music industry studies

MUSIC-251 Intermediate Piano II .................................................1
MUSIC-256 Pedagogy for Studio Music Teachers ...............................1
MUSX-183 Artist Development in the Music Industry ..........................3
MUSX-282 Songwriting II .............................................................3

certificate of achievement

Certificate of achievement
Commercial music - Technology and production

Students completing this program will be able to...
A. produce recorded music projects.
B. demonstrate professional behaviors required in the music industry.
C. apply vocabulary and demonstrate processes used in the protection of intellectual property rights.
D. demonstrate practical musical literacy, both theoretical and historical.
E. mix live performances in a variety of genres.
F. create, arrange, and produce advanced recorded music projects utilizing a digital audio workstation that is MIDI capable.

The commercial music – technology and production certificate of achievement begins with a set of core music and technology courses to provide both the conceptual foundation in music theory and the technical foundation in a digital audio workstation to record, sequence, and mix music. Graduates of the commercial music – technology and production move into all facets of the music and entertainment industries. Graduates prepare a portfolio of work to demonstrate competencies for work as an AV technician, music engineer, music producer, music editor, film composer, and more.

To earn a certificate of achievement, students must complete each course used to meet a major requirement with a “C” grade or higher.

required courses: units
MUSIC-122 Theory and Musicianship I ..............................................4
MUSX-120 Live Sound .................................................................3
MUSX-124 Introduction to Music Production and Multi-Track Recording ..................................................3
MUSX-172 Introduction to Electronic Music and MIDI ..................................................3
MUSX-174 Introduction to Music Technology and Pro Tools ..................................................3
MUSX-181 Introduction to the Music Industry ..................................................3
MUSX-182 Songwriting I .............................................................3

plus at least 14 units from:
MUSIC-150 Beginning Piano I .........................................................1
MUSIC-151 Beginning Piano II .........................................................1
MUSX-100 Audio and Visual Technology ..................................................3
MUSX-175 Advanced Pro Tools .........................................................3
MUSX-176 Introduction to Ableton Live ..................................................3
MUSX-177 Introduction to Logic Pro .........................................................3

Certificate of achievement
Music industry entrepreneurship

Students completing this program will be able to...
A. describe the principles of copyrights, publishing, licensing, and royalties as they relate to the music industry.
B. describe the entrepreneurial process including how to develop successful business ideas and turn them into new entrepreneurial ventures.
C. create, arrange, and produce recorded music projects.
D. practice team cooperation and creative thinking skills in performance of audio visual (AV) installations.

DVC’s Music Industry Entrepreneurship certificate begins with a well-rounded set of music technology and industry courses to provide the technical foundation to produce and present music. Students are required to complete electives in small business, entrepreneurship, and marketing. The certificate also allows each student to steer their path towards their interest area(s) in music industry studies. Graduates of the Music Industry Entrepreneurship program can move into all facets of the music and entertainment industries.

To earn a certificate of achievement, students must complete each course used to meet a major requirement with a “C” grade or higher.

required courses: units
MUSX-100 Audio and Visual Technology ..................................................3
MUSX-172 Introduction to Electronic Music and MIDI ..................................................3
MUSX-174 Introduction to Music Technology and Pro Tools ..................................................3
MUSX-181 Introduction to the Music Industry ..................................................3

plus at least 3 units from:
BUS-109 Introduction to Business ..................................................3
BUSMG-191 Small Business Management ..................................................3
BUSMG-192 Entrepreneurship and Venture Management ..................................................3

plus at least 3 units from:
BUSMK-259 Digital Marketing Fundamentals ..................................................3
BUSMK-260 Social Media Marketing ..................................................3

plus at least 6 units from:
MUSIC-121 Introduction to Music Composition ..................................................3
MUSIC-101 Audio and Visual Production ..................................................3
MUSIC-120 Live Sound .................................................................3
MUSX-124 Introduction to Music Production and Multi-Track Recording ..................................................3
MUSX-125 Advanced Music Production and Multi-Track Recording ..................................................3
MUSX-123 Advanced Electronic Music ..................................................3
MUSX-175 Advanced Pro Tools .........................................................3
MUSX-176 Introduction to Ableton Live .........................................................3
MUSX-177 Introduction to Logic Pro .........................................................3
MUSX-178 Music and Sound for Film, Games, and Digital Media ..................................................3
MUSX-182 Songwriting I .............................................................3
MUSX-183 Artist Development in the Music Industry ..................................................3
MUSX-270 Advanced Digital Audio Techniques ..................................................3
MUSX-282 Songwriting II .............................................................3
MUSX-296 Internship in Occupational Work Experience Education in MUSX ..................................................2-4

total minimum required units ................................................. 24
Certificate of achievement
Music industry studies

Students completing the program will be able to...
A. produce recorded music projects.
B. demonstrate professional behaviors required in the music industry.
C. apply vocabulary and demonstrate processes that are used in the protection of intellectual property rights.

This certificate program prepares students for a career in the music industry. The program has an entrepreneurial focus emphasizing an industry trend requiring artists to be responsible for complete project development. The program is designed to produce well-rounded music industry professionals capable of all aspects of the music production process including recording, marketing, and distribution. The same skill-set also prepares students for careers in specialized areas of the music industry such as digital audio workstation operator, recording engineer, producer, composer, arranger, songwriter, sound designer, artist manager, distributor, and marketing representative.

To earn a certificate of achievement, students must complete the required courses with a “C” grade or higher. Required courses are available in the evening and during the day.

required courses: 

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>MUSX-172</td>
<td>Introduction to Electronic Music and MIDI</td>
<td>3</td>
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<tr>
<td>MUSX-173</td>
<td>Advanced Electronic Music</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-174</td>
<td>Introduction to Music Technology and Pro Tools</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-175</td>
<td>Advanced Pro Tools</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-181</td>
<td>Introduction to the Music Industry</td>
<td>3</td>
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<tr>
<td>plus at least 9 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSIC-121</td>
<td>Introduction to Music Composition</td>
<td>3</td>
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<tr>
<td>MUSX-100</td>
<td>Audio and Visual Technology</td>
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</tr>
<tr>
<td>MUSX-101</td>
<td>Audio and Visual Production</td>
<td>3</td>
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<tr>
<td>MUSX-110</td>
<td>History of Electronic Music</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-120</td>
<td>Live Sound</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-124</td>
<td>Introduction to Music Production and Multi-Track Recording</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-125</td>
<td>Advanced Music Production and Multi-Track Recording</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-176</td>
<td>Introduction to Ableton Live</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-177</td>
<td>Introduction to Logic Pro</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-178</td>
<td>Music and Sound for Film, Games, and Media</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-182</td>
<td>Songwriting I</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-183</td>
<td>Artist Development in the Music Industry</td>
<td>3</td>
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<tr>
<td>MUSX-221</td>
<td>Orchestration and Arranging for Digital Instruments</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-270</td>
<td>Advanced Digital Audio Techniques</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-282</td>
<td>Songwriting II</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-296</td>
<td>Internship in Occupational Work Experience Education in MUSX</td>
<td>2-4</td>
</tr>
</tbody>
</table>

Total minimum required units: 24

MUSX-100  Audio and Visual Technology
3 units SC
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term
- Note: MUSX-100 and 101 may be taken in any order.

This course, along with MUSX-101, present the essentials for AV (Audio Visual) technology. Topics will include the fundamentals of analog signals, digital signals, audio systems and preparation for AV technician certification. CSU

MUSX-101  Audio and Visual Production
3 units SC
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term
- Note: MUSX-100 and 101 may be taken in any order.

This course, along with MUSX-100, present the essentials for AV (Audio Visual) technology. Topics will include networks, signal management, control systems, electrical systems, and radio waves. This course prepares students for AV technician certification. CSU

MUSX-110  History of Electronic Music
3 units SC
- IGETC: 3A; CSU GE: C1; DVC GE: III
- 54 hours lecture/18 hours laboratory by arrangement per term

This course presents an overview of the history of electronic music from the late 19th century through the 1960s. Topics include electronic musical instruments, electronic musical technology, new musical styles, the introduction of the synthesizer, and the rise of mainstream electronic music. In addition, students will analyze historically significant works from the experimental art music of the mid-20th century through the popular forms of the 1960s. CSU, UC

MUSX-120  Live Sound
3 units SC
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term

This course is an overview of live concert sound reinforcement. Topics include basic sound system theory and its application. It also covers individual sound system component operation, including microphones, mixers, effects, power amplifiers, and speaker systems. This course offers opportunities for hands-on experiences in troubleshooting, sound checking, and mixing sound for live performance applications. C-ID CMUS 120X, CSU
MUSX-124 Introduction to Music Production and Multi-Track Recording
3 units SC
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term
This course is designed to give the music student a working knowledge of the principles and techniques of multi-track recording. This course will explore, analyze and evaluate contemporary music production techniques and apply these techniques to real production and recording situations. Emphasis will be on student involvement with various interrelated roles, including that of studio musician, writer/arranger, producer and sound engineer. C-ID CMUS 130X, CSU

MUSX-125 Advanced Music Production and Multi-Track Recording
3 units SC
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term
- Advisory: MUSX-124 or equivalent
This course extends basic practical music production and multi-track recording skills to include complex projects, integration of acoustic and digital recording elements, and use of current computer software in the mixing process. CSU

MUSX-150 Topics in Music Industry Studies
3-4 units SC
- Variable hours
A supplemental course in music industry studies designed to provide a study of current concepts and problems in music industry studies. Specific topics to be announced in the schedule of classes. CSU

MUSX-172 Introduction to Electronic Music and MIDI
3 units SC
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term
- Advisory: MUSX-174 or equivalent
- Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.
This is an introductory course that provides the foundational skills necessary for the creation of electronic music on a digital audio workstation capable of utilizing MIDI (Musical Instrument Digital Interface). Students will gain direct hands-on experience with MIDI-capable synthesizers, tone generators and samplers, digital signal processors, and computer-based music sequencing software. C-ID CMUS 110X, CSU

MUSX-173 Advanced Electronic Music
3 units SC
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term
- Advisory: MUSX-172 or equivalent
- Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.
This advanced course builds upon the knowledge and technical skills developed in MUSX-172 Introduction to Electronic Music and Musical Instrument Digital Interface (MIDI). The integration of MIDI and digital audio recording environments will be studied as well as the development of advanced post production skills needed for employment in the music recording industry. Topics will include digital audio recording and editing, effects processing, mixing, and digital audio file management and conversion, sampling, synthesis, and advanced MIDI sequencing. CSU

MUSX-174 Introduction to Music Technology and Pro Tools
3 units SC
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term
- Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.
This introductory course examines the terminology, equipment, techniques, and concepts related to music technology. Topics include principals and practices of sound, MIDI, synthesis, notation, and audio recording utilizing hardware and software platforms. Foundational skills to function within the Pro Tools audio production environment are also covered. C-ID: CMUS 100X, CSU

MUSX-175 Advanced Pro Tools
3 units SC
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term
- Advisory: MUSX-174 or equivalent
- Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.
This is an advanced course designed for students who are preparing for employment in the music recording industry. Students will work on special production-oriented projects utilizing a Pro Tools capable digital audio workstation (DAW). Working independently and in teams, students will use the recording production tools that they have developed in prior semesters. Topics include acoustic recording, field recording, sound design, sound for picture, control surfaces, use of external signal processors, surround sound, and advanced mixing techniques. CSU
MUSX-176  Introduction to Ableton Live  
3 units  SC  
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term  
This course presents skills used within the music production software Ableton Live. Topics will include music sequencing, digital audio recording, software synthesis, sampling, Musical Instrument Digital Interface (MIDI), MIDI mapping, virtual effects, automation, signal flow, and mixing. CSU

MUSX-177  Introduction to Logic Pro  
3 units  SC  
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term  
- Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.  
This course presents skills used within the music production software Logic Pro X. Topics include music sequencing, digital audio recording, software synthesis, sampling, Musical Instrument Digital Interface (MIDI), MIDI mapping, virtual effects, automation, signal flow and mixing. CSU

MUSX-178  Music and Sound for Film, Games, and Digital Media  
3 units  SC  
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term  
- Advisory: MUSIC-174 or MUSX-174 or equivalent  
- Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.  
This class examines the topic of sound for picture through a combination of lecture and hands-on experience with a Digital Audio Workstation that is video capable. Students will develop the skill set needed to create soundtracks for film, television, commercials, and video games. Students will learn the three layers of sound for picture: dialog, music, and sound effects including Foley and ambiance. Each of these layers will be discussed and worked on in depth through lab projects. CSU

MUSX-181  Introduction to the Music Industry  
3 units  SC  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.  
This course presents an introduction to the music industry, including its evolution, corporate structure, and legal practices. Topics include record production, music publishing, marketing, use of music in film, television, and advertising, touring, development and implementation of business plan, and career strategies. C-ID: CMUS 140X, CSU

MUSX-182  Songwriting I  
3 units  SC  
- 54 hours lecture per term  
In this course, students will study the process of songwriting. Songs will be analyzed in terms of chord structure, form, rhythm, melody, harmony, and lyrics. Original compositions and performances will be expected from all students. C-ID CMUS 150X, CSU

MUSX-183  Artist Development in the Music Industry  
3 units  SC  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.  
This course presents the skills and techniques utilized by music industry professionals responsible for the identification, development, and promotion of successful artists. Tools such as identifying talent, building an artist development team, networking, and structuring a cohesive development plan are explored. Career options, such as artist management, Artists and Repertoire (A&R), sync and licensing, public relations, and social network promotions will be reviewed. This course is also designed to assist the do it yourself (DIY) musician in developing the skills and techniques used in self-management. CSU

MUSX-221  Orchestration and Arranging for Digital Instruments  
3 units  SC  
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term  
- Advisory: MUSIC-121 or equivalent, MUSIC-122 or equivalent  
This course presents the study of production concepts and arranging techniques for a variety of digital instrument sounds. Students will participate in listening, reading, discussion, and arranging exercises to help develop professional-sounding digital arrangements. CSU

MUSX-270  Advanced Digital Audio Techniques  
3 units  SC  
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term  
- Advisory: MUSIC-174, MUSX-175, MUSX-176, MUSX-177 Or Equiv.  
This course provides students the opportunity to learn advanced digital audio techniques utilizing various digital audio software. Topics will include audio manipulation, digital signal processing, mixing, vocal effect chains, programming drums, drum mixing, sampling, loops, and advanced MIDI. CSU
MUSX-282  Songwriting II
3 units    SC  
• 54 hours lecture per term
• Advisory: MUSX-182 or equivalent
This course presents the continued study of the structural, rhythmic, melodic, harmonic, and lyrical components of a song. Original compositions and performances are required of all students. CSU

MUSX-295  Occupational Work Experience Education in MUSX
2-4 units    SC
• May be repeated eight times
• Variable hours
• Note: In order to enroll in MUSX-295, students must be employed, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.
MUSX-295 is supervised employment that extends classroom learning to the job site and relates to the student’s chosen field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Each unit represents five hours of work per week or 75 hours work per term. Students may earn up to a total of 16 in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

MUSX-296  Internship in Occupational Work Experience Education in MUSX
2-4 units    SC
• May be repeated eight times
• Variable hours
• Note: In order to enroll in the MUSX-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.
MUSX-296 is a supervised internship in a skilled or professional level assignment in the student’s major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Each unit represents five hours of paid work or four hours of unpaid work per week or 75 hours of paid work or 60 hours of unpaid work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

NATURAL SCIENCE
See Biological science - BIOSC

NUTRITION – NUTRI

Diablo Valley College is approved by the California Board of Registered Nurses for continuing education credits (Provider #CEP 7992). Nutrition courses that can be used are NUTRI-115 and 160.

Christine Worsley, Dean
Kinesiology, Athletics, and Health Sciences Division
Kinesiology Office Building, Room 1

Possible career opportunities
Courses offered within the nutrition discipline prepare students for numerous career paths. These courses begin to prepare the student for careers in food science, dietetics, nursing, dental hygiene, restaurant management, and sports nutrition as well as many other food related or health related professions. Specific courses also meet the requirements for certain certificate program and majors offered at DVC and other colleges.

Associate in science in nutrition and dietetics for transfer
Students completing the program will be able to...
A. analyze data and critique information in the nutritional sciences.
B. identify nutrition-related chronic diseases by applying knowledge of nutrient functions, food sources and physiologic systems.
C. explain how genetics and life style factors affect nutritional and health status.
D. assess a diet for nutrient adequacy using a current computerized dietary analysis database.

The associate in science in nutrition and dietetics for transfer offers students basic knowledge in microbiology, human anatomy and physiology, chemistry and nutrition. It is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major. In order to earn the degree, students must complete 60 required term units of CSU-transferable coursework with a minimum GPA of 2.0. Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system, or those students who do not intend to transfer.
Students with degrees in nutrition and dietetics find employment within a wide range of organizations, such as medical facilities, research labs, government agencies, universities, pharmaceutical companies, and the food industry. This degree is also an excellent preparation for students planning to continue training in medicine, public health and/or other allied health sciences.

The associate in science in nutrition for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE) or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

**major requirements:**

- CHEM-120 General College Chemistry I .............................................5
- NUTRI-160 Nutrition: Science and Applications ................................3
- PSYCH-101 Introduction to Psychology ..................................................3

**plus at least 4 units from:**

- BIOSC-119 Fundamentals of Microbiology ...........................................4
- BIOSC-146 Principles of Microbiology ..................................................5

**plus at least 8 units from:**

- BIOSC-139 Human Anatomy .................................................................5
- BUS-240 Business Statistics .................................................................3
- MATH-142 Elementary Statistics with Probability.................................4
- MATH-144 Statway II ...............................................................................4
- CHEM-121 General College Chemistry II ..............................................4
- CHEM-226 Organic Chemistry I ............................................................5

**total minimum units for the major** 26

### Certificate of achievement

#### Nutrition, health, and wellness

Students completing the program will be able to...

A. summarize the basic functions, food sources, digestion and absorption of the major nutrients.

B. analyze a menu and its preparation for nutritional adequacy and food sanitation practices.

C. describe the nutritional requirements and health concerns of each phase of the life span.

D. summarize the impact of food choices on exercise performance, as well as an expression of cultural, socioeconomic and geographical diversity.

E. compare and contrast career opportunities within the nutrition, health, and wellness professions.

This certificate of achievement in nutrition, health and wellness is designed to address the increasing societal interest in personal nutrition, health, and wellness. The wellness mindset has permeated all aspects of everyday life - from eating organic foods to using natural cleaning products to ending the day with meditation - and has emerged as one of the preeminent wellness trends of the new century. Rising health care costs and concerns with quality of life and longevity are also spurring individuals to learn more about what they can do to ensure a healthy body.

The certificate of achievement in nutrition, health and wellness may also serve as a supplementary skill set for individuals in various fields such as early childhood education, health education, fitness instruction, massage therapy, chiropractic medicine, nursing, and allied health occupations or individuals interested in entry-level employment in health and wellness programs such as Women, Infants, and Children (WIC) supplemental nutrition programs, Head Start programs, senior nutrition services and home delivered meal programs, Cal Fresh program, or other community agencies. Additionally, students completing the program will be able to provide advice on weight control and physical performance improvement while working under the supervision of other nutrition and fitness professionals. Such employment can encompass weight control clinics, health spas, corporate fitness and wellness centers, and gyms with a nutrition program.

The program primarily aims to provide the individual with the knowledge to maximize his or her own health and wellness. It may provide preparation for entry into certain nutrition, health and wellness-related jobs that do not require degrees or licensure. Certain required courses provide prerequisite preparation for advanced professional programs should students decide to pursue an associate or bachelor’s degree.
To earn a certificate of achievement, a student must complete each course used to meet a certificate requirement with a grade of “C” or higher.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUTRI-100</td>
<td>Introduction to the Nutrition Professions</td>
<td>1</td>
<td>18 hours lecture per term</td>
</tr>
<tr>
<td>NUTRI-120</td>
<td>Sports Nutrition: Fueling the Athlete</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>NUTRI-130</td>
<td>Food and Nutrition: Cross Cultural Perspectives</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>NUTRI-160</td>
<td>Nutrition: Science and Applications</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>NUTRI-170</td>
<td>Nutrition: Across the Lifespan</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PH-124</td>
<td>Health and Wellness</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CULN-153</td>
<td>Safety and Sanitation</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>PSYCH-101</td>
<td>Introduction to Psychology</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Total minimum required units**: 18

**Required Courses**

**NUTRI-100 Introduction to the Nutrition Professions**
1 unit SC
- 18 hours lecture per term

This course is designed to assist students in making educational and career decisions for a wide spectrum of nutrition-related occupations. It provides an overview of nutrition-related careers and their respective career paths, educational and skill requirements, professional responsibilities, and certification and licensing requirements. Skills required by nutrition-related careers, such as emphasizing personal attributes, demonstrating professionalism, engaging in teamwork, and building communication skills will be covered. CSU

**NUTRI-120 Sports Nutrition: Fueling the Athlete**
3 units SC
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course presents the integration of the principles of nutrition and physical exercise in order to optimize physical fitness and athletic performance for various stages of the life span. Topics include the nutritional needs of athletes regarding macro and micro nutrient intakes, hydration, pre-, during, and post workout planning, body composition, eating disorders, and the specific nutritional, psychological, and sociological influences for different types of athletes. CSU

**NUTRI-130 Food and Nutrition: Cross Cultural Perspectives**
3 units LR
- IGETC: 4; CSU GE: D, E; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course examines the regional, ethnic, cultural, gender, religious, historical, and social influences on food patterns, cuisines, and health and healing, as well as how food is viewed as an expression of cultural diversity. Students will explore traditional foods of geographic areas and cultures. The geographic factors in food availability, global food issues, dietary habits, and socioeconomic influences on food culture, and nutrition problems of various ethnic groups will also be examined. The course also addresses nutrition consequences of ethnic food choices and sanitation and safety practices. CSU, UC

**NUTRI-150 Topics in Nutrition**
3-4 units SC
- Variable hours

This course will supplement topics in the nutritional sciences, dietetics, food service and food technology. Specific topics will be announced in the schedule of classes. CSU

**NUTRI-160 Nutrition: Science and Applications**
3 units SC
- CSU GE: E
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course covers scientific concepts of nutrition related to the function of nutrients in basic life processes and current health issues with emphasis on individual needs. Course content is appropriate for majors in Dental Hygiene, Nutritional Science, Nursing and Health Science. C-ID NUTR 110, CSU, UC (credit limits may apply to UC - see counselor)
NUTRI-170  Nutrition: Across the Life Span
3 units SC
- CSU GE: E
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected. NUTRI-160 or equivalent

This course examines the nutritional needs during an individual's life span from conception to death. Emphasis will be placed on the biological, psychological, and environmental influences on eating habits and nutrient intake, including the impact on skill level development and identification of risk factors that can lead to potential health problems. Nutrition assessment and management with diet planning at every stage of the life span is included. CSU (credit limits may apply to UC - see counselor)

NUTRI-299  Student Instructional Assistant
.5-3 units SC
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

OCEANOGRAPHY – OCEAN

Charles Ramos, Dean
Sciences Division
Physical Sciences Building, Room 263

Possible career opportunities

The diverse range of subjects examined and the multidisciplinary approach taken within the oceanography program prepares students for a variety of career paths. Courses focus on biological, physical, geological and chemical aspects of oceanography. Many oceanographers are employed as researchers and/or educators by public and private research institutions, universities, and colleges. Students graduating with degrees in oceanography or aquatic science fields may work as laboratory or field technicians; water monitoring specialists; for environmental protection, consulting and nonprofit firms; as observers aboard fishing vessels; or in the natural resource management fields. Limited numbers are employed to work with marine animals at aquariums, theme parks, or research facilities. Most career options are likely to require more than two years of college study.

OCEAN-101  Fundamentals of Oceanography
3 units SC
- IGETC: 5A; CSU GE: B1; DVC GE: II
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.
- Note: This course does not include a laboratory.

Students requiring or wanting a laboratory to accompany this course should enroll in OCEAN 102. Students who have successfully completed OCEAN-102 should not enroll in OCEAN-101. Students who have successfully completed OCEAN-102 will not receive credit for OCEAN-101.

This course is an introduction to the geological, chemical, physical and biological aspects of the world's oceans and interactions of these different aspects. Topics include the history of oceanography; historic and modern oceanographic instruments; plate tectonics and marine geology; the marine-land interface; ecological problems of the local bay, estuary, delta and state-wide water resources; the oceans' roles as a dominant influence on the earth, its climate, and the lives of its inhabitants; food, drug, and mineral energy resources from the sea; global and local ocean resource management, aquacultural techniques and practices; preservation of marine environments; and the deep sea, its properties, animals and their adaptations. CSU, UC (credit limits may apply to UC - see counselor)

OCEAN-102  Fundamentals of Oceanography with Laboratory
4 units SC
- IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
- 54 hours lecture/54 hours laboratory per term
- Advisory: College-level reading and writing are expected.
- Note: Students who have successfully completed OCEAN-101 should not enroll in OCEAN-102. Students who have successfully completed OCEAN-102 will not receive credit for OCEAN-102.

This course is an introduction to the geological, chemical, physical and biological aspects of the world's oceans and the interactions of these different aspects. Topics include: the history of oceanography; historic and modern oceanographic instruments; plate tectonics and marine geology; the marine-land interface; ecological problems of the local bay, estuary, delta and state-wide water resources; the oceans' roles as a dominant influence on the earth, its climate, and the lives of its inhabitants; food, drug, mineral and energy resources from the sea; global and local ocean resource management, aquacultural techniques and practices; preservation of marine environments; and the deep sea, its properties, animals and their adaptations. In the laboratory, students will explore the role of the oceanographer as they learn about methods for collecting data and analyze data collected from ocean environments. CSU, UC (credit limits may apply to UC - see counselor)
OCEAN-150  Topics in Oceanography
.3-4 units SC
• Variable hours
A supplemental course in oceanography to provide a study of current concepts and problems in oceanography and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

OCEAN-299  Student Instructional Assistant
.5-3 units SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

PERSIAN – PERSN

Janette Funaro, Dean
Arts and Communication Division

Possible career opportunities
The study of Persian can open up opportunities in communications, foreign trade and banking, transportation, government, the Foreign Service, tourism, library services, teaching, professional translating, journalism, and all levels of education, including university teaching. Most foreign language careers require more than two years of study.

PERSN-120  First Term Persian
5 units SC
• IGETC: 6A
• 90 hours lecture per term
• Note: This course is equivalent to two years of high school study.
This course provides an introduction to the Persian language and the culture of Persian-speaking countries. Topics include the four language skills: speaking, listening, reading, and writing. Emphasis is placed on active use of the language in class as well as basic communicative functions and structures. CSU, UC

PERSN-121  Second Term Persian
5 units SC
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
• 90 hours lecture per term
• Prerequisite: PERSN-120 or two years of high school study or equivalent
• Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.
This is the second course in a sequence of Persian language courses. Topics will include understanding, speaking, reading and writing of the Persian language. The course will continue to expand vocabulary, communicative functions and structures and further examine the cultures of the Persian-speaking countries. CSU, UC

PERSN-150  Topics in Persian
.3-4 units SC
• Variable hours
A supplemental course in Persian to provide a study of current concepts and problems in Persian and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

PERSN-299  Student Instructional Assistant
.5-3 units SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

PHILOSOPHY – PHILO

Janette Funaro, Dean
Arts and Communication Division

Possible career opportunities
For those who wish for a career in philosophy, teaching and research at the university level is an attractive option. There is also an emerging demand for experts in applied ethics, especially in the areas of medical, business, environmental ethics, law, politics and information technology. Most career options will require an advanced degree.
**Associate in arts degree**

**Philosophy**

Students completing the program will be able to...

A. use their critical thinking skills to analyze and evaluate both formally and informally, arguments and positions taken regarding various philosophical topics.

B. compare and contrast various philosophical perspectives, both historically and in the context of larger philosophical texts.

C. recognize and explain the integration of philosophical perspectives and ideas in selected cultural, historical, and thematic contexts.

D. demonstrate their ability to articulate clearly in oral and written form an objective analysis of major works from the various philosophic and religious literatures.

E. explicate the historical development of major philosophical ideas and arguments within the western intellectual tradition

The Philosophy Department views critical thinking and reflection about distinctively human issues to be central to human existence and well-being. Students able to think and articulate viewpoints clearly and in an informed fashion not only enhance their own life, but contribute significantly to interpersonal relationships and social existence, including in the realm of political, economic, cultural, and social institutions.

The program prepares students with effective thinking and communication skills, which are useful in many fields including business, sales, writing, teaching, legal profession, political campaigning, news reporting, and other fields in which critical thinking and eloquent articulation of viewpoints is required.

Although this program is not designed as a transfer program, selected courses in the program do meet general education and lower division requirements for the bachelor of arts degree at many California State University and University of California campuses. Consult with department faculty and the counseling department for more information. DVC philosophy students who intend to transfer must consult with a program adviser or counselor to ensure that the requirements for transfer to the baccalaureate institution of their choice are met.

Students who intend to transfer area advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE). General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

To earn an associate in arts degree with a major in philosophy, students must complete five core courses (15 units total) supplemented by a set of restricted electives from which students select one course (3 units). Students must complete each course used to meet a major requirement with a grade of “C” or higher and also maintain an overall GPA of 2.5 or higher in the coursework required for the major. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**Associate in arts in philosophy for transfer**

Students completing the program will be able to...

A. use their critical thinking skills to analyze and evaluate both formally and informally, arguments and positions taken regarding various philosophical topics.

B. compare and contrast various philosophical perspectives, both historically and in the context of larger philosophical texts.

C. recognize and explain the integration of philosophical perspectives and ideas in selected cultural, historical, and thematic contexts.

D. demonstrate their ability to articulate clearly in oral and written form an objective analysis of major works from the various philosophic and religious literatures.

E. explicate the historical development of major philosophical ideas and arguments within the western intellectual tradition.

The humanities and philosophy department views critical thinking and reflection about distinctively human issues to be central to human existence and well-being. Students who are able to think and articulate viewpoints clearly and in an informed fashion not only enhance their own lives, but contribute significantly to interpersonal relationships and social existence, including in the realm of political, economic, cultural, and social institutions.

The associate in arts in philosophy for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major. The associate in arts in philosophy for transfer is consistent with the mission of the community college to assist students in achieving a seamless transfer to the CSU system.
In order to earn the degree, students must:

• Complete 60 CSU-transferable units.
• Complete the California State University-General Education-Breadth pattern (CSU GE-Breadth); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
• Complete a minimum of 18 units in the major.
• Attain a minimum grade point average (GPA) of 2.0.
• Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Students must complete each course used to meet a major requirement with a “C” grade or higher. Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

**Certificate of achievement Philosophy**

Students completing the program will be able to...

A. use their critical thinking skills to analyze and evaluate both formally and informally, arguments and positions taken regarding various philosophical topics.
B. compare and contrast various philosophical perspectives, both historically and in the context of larger philosophical texts.
C. recognize and explain the integration of philosophical perspectives and ideas in selected cultural, historical, and thematic contexts.
D. demonstrate their ability to articulate clearly in oral and written form an objective analysis of major works from the various philosophic and religious literatures.

To earn a certificate of achievement in philosophy, students must complete four core courses (12 units). The certificate program courses also count towards the “major” that is required for the associate in arts degree in philosophy.

**required courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHILO-120 Introduction to Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHILO-122 Introduction to Ethics</td>
<td>3</td>
</tr>
<tr>
<td>PHILO-130* Logic and Critical Thinking</td>
<td>3</td>
</tr>
<tr>
<td>PHILO-170 Symbolic Logic</td>
<td>3</td>
</tr>
<tr>
<td>PHILO-224 History of Western Philosophy: Pre-Socratic to Medieval Period</td>
<td>3</td>
</tr>
<tr>
<td>PHILO-225 History of Western Philosophy: Descartes to Present</td>
<td>3</td>
</tr>
<tr>
<td>PHILO-141 Introduction to the Philosophy of Religion</td>
<td>3</td>
</tr>
<tr>
<td>PHILO-145 Introduction to Judeo-Christian Tradition</td>
<td>3</td>
</tr>
<tr>
<td>PHILO-160 Introduction to Social and Political Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHILO-220 Comparative Religions</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units** 12

*This course has a prerequisite of ENGL-122/122A.

**PHILO-120 Introduction to Philosophy**

3 units SC

- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course carefully and critically examines the most basic of human beliefs. Logic, epistemology, metaphysics, value theory (ethics and aesthetics), and philosophy of religion are explored at an introductory level. The vocabulary of philosophy and techniques of inquiry are included. C-ID PHIL 100, CSU, UC

**PHILO-122 Introduction to Ethics**

3 units SC

- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course is a systematic examination of major ethical theories, the nature of moral reasoning, as well as the evaluation of contemporary moral issues such as abortion, euthanasia and capital punishment. C-ID PHIL 120, CSU, UC
PHILO-130  Logic and Critical Thinking
3 units  SC
• IGETC: 1B; CSU GE: A3; DVC GE: IB
• 54 hours lecture per term
• Prerequisite: ENGL-122 or equivalent
This course introduces students to the principles of inductive and deductive inference and their practical applications in everyday situations such as problem solving and evaluation of arguments. The uses of language, formal and informal fallacies, syllogistic argument forms, and scientific method will be examined. Additional emphasis is placed on developing the ability to integrate the principles of critical thinking with the techniques of effective written argument. C-ID PHIL 110, CSU, UC

PHILO-140  Introduction to Judeo-Christian Tradition
3 units  SC
• IGETC: 3B; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course presents a critical examination of history, theology, literature, and traditions of Judaism and Christianity. CSU, UC

PHILO-141  Introduction to the Philosophy of Religion
3 units  SC
• IGETC: 3B; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course presents an introduction to the nature of religion. Emphasis is placed on the analysis of central themes including revelation, faith, and miracles and issues such as the problem of evil, and the relationship between religion and science. CSU, UC

PHILO-145  Introduction to Asian Philosophy
3 units  SC
• IGETC: 3B; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course presents an introduction to the major philosophies of Asia. Topics include the primary philosophies of India, China, and Japan. Emphasis will be on the metaphysical, epistemological, and ethical traditions in India, China, and Japan. CSU, UC

PHILO-150  Topics in Philosophy
3-4 units  SC
• Variable hours
A supplemental course in philosophy to provide a study of current concepts and problems in philosophy and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

PHILO-160  Introduction to Social and Political Philosophy
3 units  SC
• IGETC: 3B; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Advisory: PHILO-120 or equivalent
This course is an introduction to the major authors, central issues, and political and philosophical perspectives as presented through classical and contemporary reading selections. Philosophers studied include Plato, Aristotle, Hobbes, Locke, Mill, Rawls, Nozick, and Arendt. Topics include the nature of democracy, fascism, justice, rights, law, liberty, political authority, political principles, and consequences, with an emphasis on understanding these political theories as normative rather than descriptive. Critical analysis of each perspective in political philosophy will be engaged. CSU, UC

PHILO-170  Symbolic Logic
3 units  SC
• CSU GE: A3; DVC GE: IB
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected. PHILO-130 or equivalents
This course introduces the principles of valid deductive reasoning and includes a study of formal techniques of sentential and predicate logic. The use of truth-tables for propositional connectives and interpretations for statements of first-order logic using mathematical theory is presented. The conclusion of the course will engage students in issues such as the completeness of propositional calculus, “fuzzy logic,” and deontic logic. C-ID PHIL 210, CSU, UC

PHILO-220  Comparative Religion
3 units  SC
• IGETC: 3B; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
In this course, religious belief, experience, and ethical teachings of living religions of the world are examined, discussed and compared. Religions, which may be discussed, include Hinduism, Jainism, Buddhism, Sikhism, Zoroastrianism, Judaism, Christianity, and Islam. CSU, UC

PHILO-224  History of Western Philosophy: Pre-Socratic to Medieval Period
3 units  SC
• IGETC: 3B; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course examines ancient philosophy with emphasis on the development of Greek philosophy from the Pre-Socratics through Aristotle and may also include Hellenistic, Roman, medieval or non-western thinkers. C-ID PHIL 130, CSU, UC
Philosophy

PHILO-225 History of Western Philosophy: Descartes to Present
3 units SC
• IGETC: 3B; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course examines continental rationalism (Descartes, Spinoza, and Leibniz), British empiricism (Locke, Berkeley, and Hume), Kant, 19th century and 20th century philosophy. C-ID PHIL 140, CSU, UC

PHILO-298 Independent Study
.5-3 units SC
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office is required.
This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

PHILO-299 Student Instructional Assistant
.5-3 units SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

PHOTOGRAPHY
See Art - ART

PHYSICAL SCIENCE – PHYSC
Charles Ramos, Dean
Sciences Division
Physical Sciences Building, Room 263

Possible career opportunities
Physical science focuses on concepts, processes and the interrelationship of physical phenomena as studied in any combination of the physical science disciplines, such as astronomy, earth science and physics. There are several career options in academics - research and teaching, as well as applied science and industry. Many of the career options require advanced and specialized training in one or a combination of the sub-disciplines of physical science.

PHYSC-112 Fundamentals of Physical Science
3 units SC
• IGETC: 5A; CSU GE: B1; DVC GE: II
• 54 hours lecture per term
• Prerequisite: Placement into MATH-121 or higher or MATH-085 or MATH 085SP or beginning algebra or equivalent
• Advisory: College-level reading and writing are expected.
This course is an overview of the physical sciences of astronomy, physics, chemistry, and earth science. The principles studied will be used to explain current knowledge of the universe and our physical environment. CSU, UC (credit limits may apply to UC - see counselor)

PHYSC-298 Independent Study
.5-3 units SC
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office is required.
This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU
Possible career opportunities
Career opportunities available for physicists include: research in industry, universities, and national laboratories. Many teach in high schools, colleges, and universities. Others can be found in hospitals, the military, oil fields, power plants, in the astronaut corps, in museums, in patent law firms, and in management positions in business and government. A background in physics can help a technical writer or a computer programmer. Most career options require more than two years of college study.

Associate in science in physics for transfer
Students completing the program will be able to...
A. solve problems in mechanics, including mechanical waves and fluids, using calculus.
B. solve problems in thermodynamics using calculus.
C. solve problems in electromagnetism using calculus.
D. solve problems in optics using calculus.
E. solve problems in special relativity using calculus.
F. solve problems in quantum physics, including its applications, using calculus and differential equations.

In order to earn the degree, students must:
• Complete 60 CSU-transferable units.
• Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
• Complete a minimum of 18 units in the major.
• Attain a minimum grade point average (GPA) of 2.0.
• Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

major requirements: units

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>MATH-192</td>
<td>Analytic Geometry and Calculus I</td>
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<tr>
<td>MATH-193</td>
<td>Analytic Geometry and Calculus II</td>
<td>5</td>
</tr>
<tr>
<td>MATH-292</td>
<td>Analytic Geometry and Calculus III</td>
<td>5</td>
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<tr>
<td>PHYS-130</td>
<td>Physics for Scientists and Engineers A: Mechanics and Wave Motion</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-230</td>
<td>Physics for Scientists and Engineers B: Heat and Electromagnetism</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-231</td>
<td>Physics for Scientists and Engineers C: Optics and Modern Physics</td>
<td>4</td>
</tr>
</tbody>
</table>

total minimum units for the major 27

PHYS-110 Elementary Physics
3 units LR
• IGETC: 5A; CSU GE: B1; DVC GE: II
• 54 hours lecture per term
• Prerequisite: Placement into MATH-121 or higher or MATH-119 or MATH 119SP or intermediate algebra or equivalent
• Advisory: Concurrent enrollment in PHYS-111 and College-level reading and writing are expected.
• Note: Students specifically interested in focusing on modern physics should take PHYS-113. Students who have successfully completed PHYS-112 should not enroll in PHYS-110. Students who have successfully completed PHYS-112 will not receive credit for PHYS-110.

This course provides an overview of physics. Forces, motion, heat, electricity and magnetism, optics, and modern physics will be discussed. This course emphasizes topics in classical physics. CSU, UC (credit limits may apply to UC - see counselor)

PHYS-111 Physics Laboratory
1 unit LR
• IGETC: 5C; CSU GE: B3
• 54 hours laboratory per term
• Prerequisite: PHYS-110 or equivalent (may be taken concurrently)
• Advisory: College-level reading and writing are expected.
• Note: Students who have successfully completed PHYS-112 should not enroll in PHYS-111. Students who have successfully completed PHYS-112 will not receive credit for PHYS-111.

This laboratory course will include measurement and analysis of mechanical, thermal, electrical, and optical phenomena. CSU, UC (credit limits may apply to UC - see counselor)
PHYS-112  Elementary Physics with Laboratory
4 units LR
• 54 hours lecture/54 hours laboratory per term
• Prerequisite: Placement into MATH-121 or higher or MATH-119 or MATH 119SP or intermediate algebra or equivalent
• Note: Students specifically interested in focusing on modern physics should take PHYS-113. Students who have successfully completed PHYS-110 should not enroll in PHYS-112. Students who have successfully completed PHYS-110 will not receive credit for PHYS-112.

This course provides an overview of physics. Forces, motion, heat, electricity and magnetism, optics, and modern physics are discussed. This course emphasizes topics in classical physics and includes measurement and analysis of mechanical, thermal, electrical, and optical phenomena. CSU, UC (credit limits may apply to UC - see counselor)

PHYS-113  Elementary Modern Physics: From Atoms to the Big Bang
3 units SC
• IGETC: 5A; CSU GE: B1; DVC GE: II
• 54 hours lecture per term
• Prerequisite: Placement into MATH-121 or higher; or MATH-119 or MATH-119SP; or intermediate algebra or equivalent

This course is an introduction to the ideas of modern physics. Topics will include the relativity of space and time, Einstein’s theory of gravity, the Big Bang Theory of the origin of the universe, the birth and death of stars, black holes, photons, atoms, quantum uncertainty, the nucleus, radioactivity, and nuclear energy. The emphasis will be on concepts, not mathematical problem solving. CSU, UC

PHYS-120  General College Physics I
4 units LR
• IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
• 54 hours lecture/72 hours laboratory per term
• Prerequisite: MATH-121 or equivalent
• Advisory: College-level reading and writing are expected.

This course is the first semester of a two-semester sequence (PHYS-120 and PHYS-121) designed for majors other than engineering and physical sciences such as life science and allied health majors among others. It includes an algebra-based lecture and laboratory study of mechanics, heat and sound. C-ID PHYS 105, PHYS-120+PHYS-121 = C-ID PHYS 100S, CSU, UC (credit limits may apply to UC - see counselor)

PHYS-121  General College Physics II
4 units LR
• IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
• 54 hours lecture/72 hours laboratory per term
• Prerequisite: PHYS-120 or equivalent

This course is the second semester of a two-semester sequence (PHYS-120 and PHYS-121) designed for majors other than engineering and physical sciences such as life science and allied health majors among others. It includes an algebra-based lecture and laboratory study of electricity, magnetism, light and modern physics. C-ID PHYS 110, PHYS-120+PHYS-121 = C-ID PHYS 100S, CSU, UC (credit limits may apply to UC - see counselor)

PHYS-124  Calculus Supplement for Physics 120
.5 unit LR
• 9 hours lecture per term
• Prerequisite: PHYS-120 (may be taken concurrently) and MATH-182 or MATH-192 (may be taken concurrently) or equivalents
• Advisory: College-level reading and writing are expected.

In this course, students will apply calculus techniques to the topics learned in PHYS-120 General College Physics I. CSU, UC (credit limits may apply to UC - see counselor)

PHYS-125  Calculus Supplement for Physics 121
.5 unit LR
• 9 hours lecture per term
• Prerequisite: PHYS-121; and MATH-183 or MATH-193 (all may be taken concurrently) or equivalents
• Advisory: College-level reading and writing are expected.

In this course, students will apply calculus techniques to the physics topics learned in PHYS-121 General College Physics II. CSU, UC (credit limits may apply to UC - see counselor)

PHYS-129  Introductory Physics for Engineers
4 units LR
• IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
• 54 hours lecture/72 hours laboratory per term
• Co-requisite: MATH-192 or equivalent (may be taken previously)
• Advisory: College-level reading and writing are expected.

This course is designed for engineering, physics, and chemistry majors. The student will be introduced to basic vocabulary and techniques of studying physics. It presents a study of vectors, motion, forces, momentum, energy and rotating systems. One or more additional topics such as geometric optics, electricity, the atomic nature of matter or the study of fluids will be presented. CSU, UC (credit limits may apply to UC - see counselor)
PHYS-130   Physics for Engineers and Scientists A: Mechanics and Wave Motion
4 units LR
- IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
- 54 hours lecture/72 hours laboratory per term
- Prerequisite: PHYS-110 and PHYS-111 combined or PHYS-112 or PHYS-120 or PHYS-129 or one year high school physics or equivalent
- Co-requisite: MATH-193 (may be taken previously) or equivalent
- Advisory: College-level reading and writing are expected.
- Note: PHYS-129 is strongly advised for students who have not yet completed an equivalent prerequisite or for students who completed the prerequisite more than a year ago.

This course is designed for engineering and physical science majors such as physics, chemistry, and geology. Lecture and laboratory study of classical mechanics: vectors, particle kinematics, Newton's laws, equilibrium of rigid bodies, work and energy, gravitation, fluids, momentum, rotational kinematics and dynamics, and oscillations and waves in elastic media are presented. C-ID PHYS 205 C-ID PHYS 200 S, CSU, UC (credit limits may apply to UC - see counselor)

PHYS-150   Topics in Physics
.3-4 units SC
- Variable hours
A supplemental course in physics to provide a study of current concepts and problems in physics. Specific topics will be announced in the schedule of classes. CSU

PHYS-230   Physics for Engineers and Scientists B: Heat and Electro-Magnetism
4 units LR
- IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
- 54 hours lecture/72 hours laboratory per term
- Prerequisite: PHYS-130 or equivalent; MATH-292 (may be taken concurrently) or equivalent
- Advisory: College-level reading and writing are expected.

This course is a continuation of PHYS-130 and presents the study of thermodynamics, electricity, and magnetism. Topics include temperature, heat the first and second laws of thermodynamics, kinetic theory of gases, electric field and electric potential of charges, capacitance, magnetic field of moving charges, current, voltage, resistance, induced electric and magnetic fields, Maxwell's equations and plane electromagnetic waves. C-ID PHYS 210, PHYS-130+PHYS-230+PHYS-231 = C-ID PHYS 200 S, CSU, UC (credit limits may apply to UC - see counselor)

PHYS-231   Physics for Engineers and Scientists C: Optics and Modern Physics
4 units LR
- IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
- 54 hours lecture/72 hours laboratory per term
- Prerequisite: PHYS-230 or equivalent; MATH-294 (may be taken concurrently) or equivalent
- Advisory: College-level reading and writing are expected.

This course is a continuation of PHYS-130 and PHYS-230 and presents the study of optics and modern physics. Topics include geometric and wave optics, special relativity, quantum physics, atomic and molecular physics, condensed matter physics, and nuclear physics. C-ID PHYS 215, PHYS-130+PHYS-230+PHYS-231 = C-ID PHYS 200 S, CSU, UC (credit limits may apply to UC - see counselor)

PHYS-299   Student Instructional Assistant
.5-3 units SC
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

PLUMBING – PLUMB
Despina Prapavessi, Dean
Mathematics and Engineering Division
Mathematics Building, Room 267

Possible career opportunities
In collaboration with Plumbers and Steamfitters Union Local 159 email: info@plumbers159.org and Plumbers-Steamfitters-Refrigeration Union Local 342 www.ua342.org, DVC offers two five-year apprenticeship programs: steamfitting and plumbing. Apprenticeship is training that is designed to prepare an individual for a career in the skilled crafts and trades. Apprentices develop technical skills, experience the sharing of assignments and see how technical tasks relate specifically with theoretical knowledge and interpretation. Apprentices earn a wage while learning. Enrollment in this program is restricted. You must be registered as an apprentice with the State of California to participate in the program and accepted into the apprenticeship program by our Union partners.
General Education Option 2 (IGETC) or Option 3 (CSU GE). Students who intend to transfer are advised to select either General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer. Plumbing students who intend to transfer must consult with a counselor. Students who intend to transfer are advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE).

To earn an associate in science degree with a major in plumbing, students must complete each course used to meet a major requirement with a “C” grade or higher and complete general education requirements as listed in the catalog. Degree requirements can be completed by attending classes in the day, evening, or both. Certain courses may satisfy both major and general education requirements; however, the units are only counted once. General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer. Plumbing students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE).

### Associate in science degree

**Plumbing**

Students completing the program will be able to...

- A. discuss the role the plumber plays in a safe work site.
- B. apply mathematical formulae used in plumbing.
- C. demonstrate knowledge of the hazards of cross connection in the potable water system.
- D. use the proper method to install medical gas piping.
- E. explain the responsibilities of the many agencies, departments, and specific districts that require variances or permits for construction.
- F. demonstrate advanced worksite operations including T-drilling, hot taps, and freeze pipe installation.

Upon successful completion of the program, the student will have the necessary knowledge and skill for a career in residential, commercial, and industrial plumbing. Reading of blueprints, layout, estimating, installation of piping systems and fixtures, repair of supply and waste water systems are just some of the skills that will be mastered during this program.

A student is eligible for graduation with an associate in science degree after the satisfactory completion of a minimum of 60 units.

To earn an associate in science degree with a major in plumbing, students must complete each course used to meet a major requirement with a “C” grade or higher and complete general education requirements as listed in the catalog. Degree requirements can be completed by attending classes in the day, evening, or both. Certain courses may satisfy both major and general education requirements; however, the units are only counted once. General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer. Plumbing students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE).

#### Certificate of achievement

**Plumbing**

Students completing the program will be able to...

- A. discuss the role the plumber plays in a safe work site.
- B. apply mathematical formulae used in plumbing.
- C. demonstrate knowledge of the hazards of cross connection in the potable water system.
- D. use the proper method to install medical gas piping.
- E. explain the responsibilities of the many agencies, departments, and specific districts that require variances or permits for construction.
- F. demonstrate advanced worksite operations including T-drilling, hot taps, and freeze pipe installation.

Upon successful completion of the program, the student will have the necessary knowledge and skill for a career in residential, commercial, and industrial plumbing. Reading of blueprints, layout, estimating, installation of piping systems and fixtures, repair of supply and waste water systems are just some of the skills that will be mastered during this program.

A student is eligible for graduation with a certificate of achievement in plumbing after the satisfactory completion of a minimum of 28 units.

Complete at least 28 units from:

- PLUMB-110 OSHA-CPR .......................................................... 1.5-2.5
- PLUMB-111 Trade Mathematics .............................................. 1.5-2.5
- PLUMB-112 Water Supply Systems ........................................... 1.5-2.5
- PLUMB-113 Sewage Disposal .................................................. 1.5-2.5
- PLUMB-114 Plumbing System Service and Repair ...................... 1.5-2.5
- PLUMB-115 Construction Management in Plumbing .................... 1.5-3
- PLUMB-116 Medical Gas and Vacuum Systems ......................... 1.5-2.5
- PLUMB-117 Related Science in the Piping Trades ..................... 1.5-2.5
- PLUMB-118 Beginning Drawing and Plan Reading for the Piping Trades .................................................. 1.5-2.5
- PLUMB-119 Advanced Drawing in the Piping Trades .................... 1.5-2.5
- PLUMB-120 Plumbing Tool Workshop I .................................... 1.5-2.5
- PLUMB-121 Plumbing Tool Workshop II .................................... 1.5-2.5
- PLUMB-122 Plumbing Code I .................................................. 1.5-2.5
- PLUMB-123 Plumbing Code II .................................................. 1.5-2.5
- PLUMB-124 Welding for Plumbers ........................................... 1.5-2.5
- PLUMB-125 Electricity for Plumbing ......................................... 1.5-2.5
- PLUMB-126 Gas Installation in Plumbing .................................. 1.5-2.5
- PLUMB-127 Backflow Prevention ............................................. 1.5-2.5
- PLUMB-128 Plumbing Fixtures .................................................. 1.5-2.5
- PLUMB-129 Certification Preparation ....................................... 1.5-2.5

Total minimum units for the major: 30

### Required courses

Complete at least 28 units from:

- PLUMB-112 Water Supply Systems ........................................... 1.5-2.5
- PLUMB-113 Sewage Disposal .................................................. 1.5-2.5
- PLUMB-114 Plumbing System Service and Repair ...................... 1.5-2.5
- PLUMB-115 Construction Management in Plumbing .................... 1.5-3
- PLUMB-116 Medical Gas and Vacuum Systems ......................... 1.5-2.5
- PLUMB-117 Related Science in the Piping Trades ..................... 1.5-2.5
- PLUMB-118 Beginning Drawing and Plan Reading for the Piping Trades .................................................. 1.5-2.5
- PLUMB-119 Advanced Drawing in the Piping Trades .................... 1.5-2.5
- PLUMB-120 Plumbing Tool Workshop I .................................... 1.5-2.5
- PLUMB-121 Plumbing Tool Workshop II .................................... 1.5-2.5
- PLUMB-122 Plumbing Code I .................................................. 1.5-2.5
- PLUMB-123 Plumbing Code II .................................................. 1.5-2.5
- PLUMB-124 Welding for Plumbers ........................................... 1.5-2.5
- PLUMB-125 Electricity for Plumbing ......................................... 1.5-2.5
- PLUMB-126 Gas Installation in Plumbing .................................. 1.5-2.5
- PLUMB-127 Backflow Prevention ............................................. 1.5-2.5
- PLUMB-128 Plumbing Fixtures .................................................. 1.5-2.5
- PLUMB-129 Certification Preparation ....................................... 1.5-2.5

Total minimum required units: 28
Certificate of accomplishment
Plumbing

Students completing the program will be able to...
A. discuss the role the plumber plays in a safe work site.
B. apply mathematical formulae used in plumbing.
C. demonstrate knowledge of the hazards of cross connection in the potable water system.
D. use the proper method to install medical gas piping.

required courses:  

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<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>PLUMB-110 OSHA-CPR</td>
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<tr>
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<tr>
<td>PLUMB-115 Construction Management in Plumbing</td>
<td>1.5-3</td>
</tr>
<tr>
<td>PLUMB-116 Medical Gas and Vacuum Systems</td>
<td>1.5-2.5</td>
</tr>
</tbody>
</table>

total minimum required units 10

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PLUMB-112 Water Supply Systems
1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course presents an introduction to the principles and methods of water distribution and treatment regarding water supply systems.

PLUMB-113 Sewage Disposal
1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

The course introduces the principles and methods of sewage disposal for residential and commercial buildings.

PLUMB-114 Plumbing System Service and Repair
1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course presents an introduction to the planning, troubleshooting, and repair of plumbing systems.

PLUMB-115 Construction Management in Plumbing
1.5-3 units LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course offers an introduction to construction management in plumbing. Topics include administrative procedures, plans and specifications, scheduling, permits, variances, and forms of communication.
PLUMB-116 Medical Gas and Vacuum Systems
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course covers the requirements and standards of medical gas and vacuum system installation and maintenance.

PLUMB-117 Related Science in the Piping Trades
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section. This class is the same as STMFT-117.

This course covers the scientific and mechanical principles that are basic to the work of the piping industry. An overview of hydraulic and pneumatic systems as well as industrial plumbing and piping systems and materials will be covered.

PLUMB-118 Beginning Drawing and Plan Reading for the Piping Trades
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section. This class is the same as STMFT-118.

This course covers the interpretation of drawings and sketches associated with piping installation. An introduction to basic drawing and drafting methods, technical symbols, and notation will be covered in orthographic and isometric drawing views.

PLUMB-119 Advanced Drawing in the Piping Trades
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section. This class is the same as STMFT-119.

In this course students will interpret, coordinate and make drawings and sketches associated with piping installation.

PLUMB-120 Plumbing Tool Workshop I
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course covers the practical and theoretical aspects of plumbing tool processes. Topics include the proper use of basic trade tools for processes such as soldering, brazing, threading pipes, and installing drainage. Safe work practices will be emphasized.

PLUMB-121 Plumbing Tool Workshop II
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course covers the practical and theoretical aspects of plumbing tool processes. Topics will include the proper use and of advanced trade tools for processes such as T-drilling, hot taps, and freeze pipe installation. Safe work practices will be emphasized.

PLUMB-122 Plumbing Code I
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course presents articles 100-900 of the Uniform Plumbing Code.

PLUMB-123 Plumbing Code II
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course presents articles 901-1622 of the Uniform Plumbing Code.
PLUMB-124  Welding for Plumbers
1.5-2.5 units  LR
• Variable hours
• Note: This program is sponsored by the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course presents the techniques and methods of welding for plumbers. Standard safety practices from the Occupational Safety and Health Administration (OSHA), American National Standards Institute (ANSI), and Compliance, Safety, Accountability (CSA) are emphasized.

PLUMB-125  Electricity for Plumbing
1.5-2.5 units  LR
• Variable hours
• Note: This program is sponsored by the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course introduces the specialized knowledge and techniques required for the effective operation and function of electrical systems for plumbing applications.

PLUMB-126  Gas Installation in Plumbing
1.5-2.5 units  LR
• Variable hours
• Note: This program is sponsored by the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course presents the principles and installation methods of gas piping systems. Safety practices are emphasized.

PLUMB-127  Backflow Prevention
1.5-2.5 units  LR
• Variable hours
• Note: This program is sponsored by the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course presents the approved methods and appropriate devices to ensure backflow and cross-connection are eliminated.

PLUMB-128  Plumbing Fixtures
1.5-2.5 units  LR
• Variable hours
• Note: This program is sponsored by the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course presents modern plumbing fixtures and appliances. Topics include proper selection, installation, and maintenance.

PLUMB-129  Certification Preparation
1.5-2.5 units  LR
• Variable hours
• Note: This program is sponsored by the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course presents the information necessary to sit for the state plumbing certification examination. The course will expand upon information presented in other plumbing courses within the program to emphasize knowledge required for passing this exam.

PLUMB-130  Green Awareness
1.5-2.5 units  LR
• Variable hours
• Note: This program is sponsored by the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

The course provides an overview of “green” concepts as applied to mechanical systems and high-efficiency plumbing technologies that support water conservation.

PLUMB-131  Blueprint Reading for Plumbing
1.5-2.5 units  LR
• Variable hours
• Note: This program is sponsored by the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course introduces the interpretation of blueprints, specifications, and other construction documents for the plumbing industry.
PLUMB-150  Topics in Plumbing  
0.3-4 units SC  
• Variable hours  
A supplemental course in plumbing to provide a study of current concepts and problems in plumbing. Specific topics will be announced in the schedule of classes.

PLUMB-298  Independent Study  
0.5-3 units SC  
• Variable hours  
• Note: Submission of acceptable educational contract to department and Instruction Office is required.  
This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment.

PLUMB-299  Student Instructional Assistant  
0.5-3 units SC  
• Variable hours  
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.  
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled.

POLITICAL SCIENCE – POLSC

Obed Vazquez, Dean  
Social Sciences Division  
Faculty Office Building, Room 136

Possible career opportunities  
Political science courses offer insight into events at the local, state, national and international level. Students develop critical thinking and other useful skills for a broad range of careers including education, public service and law. Most career options require more than two years of college study.

Associate in arts in political science for transfer  
Students completing the program will be able to...  
A. recognize political values embedded in systems of political thought.  
B. describe the basic structures and procedures of American government.  
C. describe the relative impact of federal, state and local governments on the inhabitants of California.  
D. describe the content and origins of several world philosophies.  
E. demonstrate an understanding of fundamental political concepts.  
F. recognize and discuss various elements of power in political activity.

Political science courses offer insight into events at the local, state, national and international level. Students develop critical thinking and other useful skills for a broad range of careers including education, public service and law. Most career options require more than two years of college study. The associate in arts in political science for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.

In order to earn the degree, students must:  
• Complete 60 CSU-transferable units.  
• Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area IC requirement for Oral Communication.  
• Complete a minimum of 18 units in the major.  
• Attain a minimum grade point average (GPA) of 2.0.  
• Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSU GE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.
major requirements:

units

complete at least 3 units from:

POLSC-121 Introduction to U.S. Government ....................... 3
POLSC-122 Latinx Politics and American Government .......... 3
POLSC-123 Black Politics and American Government .......... 3

plus at least 9 units from:

BUS-240 Business Statistics .............................................. 3
or
MATH-142 Elementary Statistics with Probability ................. 4
or
MATH-144 Statway II .................................................... 4

POLSC-120 Introduction to Politics ..................................... 3
POLSC-210 Political Ideology ........................................... 3
POLSC-220 Comparative Politics ....................................... 3
POLSC-240 Political Theory ............................................. 3

POLSC-250 International Relations ..................................... 3

plus at least 6 units from any course not used above or:

ANTHR-130 Cultural Anthropology .................................. 3
ECON-220 Principles of Macroeconomics ............................ 3
ECON-221 Principles of Microeconomics ............................ 3
HIST-140 History of Western Civilization to the Renaissance 3
HIST-141 History of Western Civilization since the Renaissance 3

POLSC-127 Introduction to Law and Democracy .................... 3
POLSC-151 California Politics ........................................... 3
POLSC-252 Model United Nations ...................................... 3
SOCSC-101 Introduction to Social Justice ......................... 3

total minimum units for the major 18

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**POLSC-120 Introduction to Politics**

3 units SC

- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course presents an introduction to key concepts of politics, the state, and relations between the state and individual as applied to the United States political system. Comparison of the United States system with other political systems will also be discussed. C-ID POLS 150, CU, UC

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**POLSC-121 Introduction to United States Government**

3 units SC

- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

The course presents a survey of the American political framework and process. Students will examine the structure of the U.S. Constitution and functions of the legislative, executive and judicial branches at national, state and local levels, viewed in the context of political culture, political parties, pressure groups and citizenship. Emphasis will be placed on the impact of federal, state, and local governments in California. C-ID POLS 110, CU, UC

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**POLSC-122 Latinx Politics and American Government**

3 units SC

- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course provides an introduction to United States and California governments from the history and experiences of the Latinx population. Students will analyze the U.S. and California Constitutions as well the legislative, executive, and judicial branches of governance. Emphasis will be on Latinx political participation, social justice movements and their influence upon U.S. institutions at the local, state, and federal levels. Public policy issues including political economy, naturalization, immigration, health care, naturalization, immigration, health care, education and criminal justice will also be examined. C-ID POLS-110, CSU, UC

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**POLSC-123 Black Politics and American Government**

3 units SC

- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course provides an introduction to United States and California governments from the history and experiences of African Americans. Students will analyze the U.S. and California Constitutions as well the legislative, executive, and judicial branches of governance. Focusing on African-American and Black political participation, Civil Rights and social justice movements, this course will highlight the influence of Black Americans upon United States institutions at the local, state and federal levels. Public policy issues including mass incarceration, education, political economy, health care, and the legacy of slavery will also be examined. C-ID POLS 110, CSU, UC

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**POLSC-127 Introduction to Law and Democracy**

3 units SC

- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course is an introduction to legal concepts in American democracy and contemporary issues: Theories of historical social injustice and movements; examination of law, social justice, democracy, government, civil rights, civil liberties, and citizenship. C-ID LPPS 110, CSU, UC

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**POLSC-151 California Politics**

3 units SC

- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course provides investigation and analysis of selected major issues of California politics and government including: the roles and responsibilities of governmental agencies, the importance of local political entities, and evaluation of policy choices. CSU, UC
POLSC-155   Topics in Political Science
.3-4 units SC
• Variable hours
A supplemental course in political science to provide a study of current concepts and problems in political science and related substantive areas. Specific topics will be announced in the schedule of classes. CSU

POLSC-210   Political Ideology
3 units SC
• IGETC: 4; CSU GE: D; DVC GE: IV
• 54 hours lecture per term
This course presents a comparative, conceptual, and historical analysis of competing ideological approaches to government. Emphasis is placed on the theories, values, and assumptions that make up a political ideology and the effect of such theories on a political system. Contemporary political ideological movements are explored. C-ID POLS 120, CSU, UC

POLSC-220   Comparative Politics
3 units SC
• IGETC: 4; CSU GE: D; DVC GE: IV
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course presents a comparative analysis of the political systems of selected foreign states. The origins and nature of politics, philosophies, and cultures and their expression in political institutions and processes are investigated. C-ID POLS 130, CSU, UC

POLSC-240   Political Theory
3 units SC
• IGETC: 4; CSU GE: D; DVC GE: IV
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course will present a survey of selected political theories, concepts and issues from Plato to the present. Students will explore theoretical approaches used to explain, instruct, and justify the distribution of political power in societies. C-ID POLS 120, CSU, UC

POLSC-250   International Relations
3 units SC
• IGETC: 4; CSU GE: D; DVC GE: IV
• 54 hours lecture per term
This course is an introduction to various aspects of international relations and politics. Topics include sovereignty, the nation-state and international politics, the nature of the global community, international law, world economics, the United Nations and other international organizations, and contemporary world problems. C-ID POLS 140, CSU, UC

POLSC-252   Model United Nations
3 units LR
• IGETC: 4; CSU GE: D; DVC GE: IV
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course introduces students to the theory and practice of international diplomacy and intergovernmental organizations (IGOs). Focus is placed on history, structures and functions of the United Nations (UN), international bargaining and diplomacy, conflict resolution, and parliamentary procedures. Model UN will examine United States foreign and domestic policies related to the UN. Students will organize meetings modeled after the UN General Assembly, the Security Council and other organs of the UN as well as its specialized agencies and major IGOs. CSU, UC

POLSC-298   Independent Study
.5-3 units SC
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office is required.
This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

POLSC-299   Student Instructional Assistant
.5-3 units SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU
**PSYCHOLOGY – PSYCH**

Obed Vazquez, Dean  
Social Sciences Division  
Faculty Office Building, Room 136

**Possible career opportunities**

Psychology students will find classes related to helping them understand, predict, and deal with their own behavior and that of others. Careers include psychotherapist, school psychologist, college professor, researcher, counselor and administrator. Most career options require more than two years of college study.

**Associate in arts in psychology for transfer**

Students completing the program will be able to...

A. identify the major theoretical orientations in psychology and demonstrate knowledge of basic psychological concepts regarding behavior and mental processes.

B. demonstrate knowledge of research methods, ethical considerations in conducting research, and effective user of the American Psychological Association (APA) style in presenting information.

C. utilize critical thinking skills to analyze, evaluate, and make decisions concerning complex contemporary issues in psychology.

D. recognize the complexity of social, cultural, and international diversity.

E. apply psychological principles to the development of interpersonal, occupational, and social skills, and life-long personal growth.

F. demonstrate understanding of major theories, concepts, and research findings in selected content areas of psychology, such as lifespan development, personality and social psychology, neuroscience, and abnormal psychology.

G. correctly apply statistical concepts to organize and understand data from psychological research.

H. demonstrate an understanding of biological processes underlying behavior and experience.

The associate in arts in psychology for transfer major at Diablo Valley College (DVC) provides students with an introduction to psychology as the scientific study of thought, feeling, and behavior, and a helping profession dedicated to solving human problems. The associate degree curriculum meets lower division general education requirements for transfer to the CSU system baccalaureate-granting institutions. Transferring, completion of a bachelor’s degree, and graduate studies in psychology can lead to careers as psychotherapists, college professors, scientific researchers, administrators, and business consultants.

The associate in arts in psychology for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE) or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

**major requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>PSYCH-101</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH-215</td>
<td>Introduction to Research Methods in Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

**at least 3 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS-240</td>
<td>Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-142</td>
<td>Elementary Statistics with Probability</td>
<td>4</td>
</tr>
<tr>
<td>PSYCH-214</td>
<td>Introduction to Statistics for Psychology</td>
<td>4</td>
</tr>
</tbody>
</table>

**complete at least 3 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-102</td>
<td>Fundamentals of Biological Science with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-117</td>
<td>Human Biology with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>PSYCH-130</td>
<td>Introduction to Biological Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

Psychology includes a variety of sub-fields, including clinical, counseling, developmental, forensic, social, cognitive, biological, and personality psychology. Most career options require more than two years of college study. The associate in arts in psychology for transfer degree provides preparation for transfer to psychology programs at baccalaureate-granting institutions. Transferring, completion of a bachelor’s degree, and graduate studies in psychology can lead to careers as psychotherapists, college professors, scientific researchers, administrators, and business consultants.
Psychology

complete at least 3 units from:
PSYCH-145 Critical Thinking in Psychology ..................3
PSYCH-200 Life Span Development ........................................3
PSYCH-225 Social Psychology ........................................3

complete at least 3 units from:
PSYCH-122 Psychology in Modern Life ..................3
PSYCH-140 Psychology of African-Americans in a Multicultural Society ..................3
PSYCH-141 Psychology of Latinos/Chicanos in the U.S. ..................3
PSYCH-160 Psychology of Women ..................................3
PSYCH-190 Psychology of Adolescence ..................3
PSYCH-195 Psychology of Adult Development and Aging ..................3
PSYCH-220 Psychology of Personality: Personal, Social, Cultural Differences ..................3
PSYCH-230 Abnormal Psychology ..................................3
PSYCH-240 Transpersonal Psychology ..................3

total minimum units for the major 18

PSYCH-101 Introduction to Psychology
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Credit for prior learning available: Advanced Placement (AP). Transfer limitations may apply, see a counselor.
- Advisory: College-level reading and writing are expected.

This course is a study of the major theories, methods and concepts of modern psychology. The orientation of the course is the scientific study of behavior and mental processes, and covers such areas as: the history and systems of psychology, the biological foundations of behavior, perception, states of consciousness, learning, memory, motivation, emotion, human development, personality, stress and health, psychological disorders and therapeutic approaches, social psychology, research findings, and applied psychology. C-ID PSY 110, CSU, UC

PSYCH-122 Psychology in Modern Life
3 units SC
- IGETC: 4; CSU GE: D, E; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course examines the psychological, physiological, and cultural factors involved in personality development, and interpersonal relationships. The relevance of psychology to social processes is also examined. This course is designed with an applied focus for students interested in how psychology is used in everyday life and is related to other social sciences. The course surveys different psychological perspectives and theoretical foundations and how these are applied across a person’s life taking into account the influence of factors such as culture, gender, ethnicity, historical cohort, and socio-economic status. C-ID PSY 115, CSU, UC

PSYCH-130 Introduction to Biological Psychology
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Prerequisite: PSYCH-101 or equivalent
- Advisory: College-level reading and writing are expected.

This course explores the biological bases of behavior, emotions, and psychological processes. Brain-behavior relationships underlying psychological processes such as sensation, perception, learning, memory, emotions, and psychological disorders will be examined. Historical contributions, prominent theories and models, current research principles and ethical standards in research will be addressed. C-ID PSY 150, CSU, UC

PSYCH-140 Psychology of African-Americans in a Multicultural Society
3 units SC
- IGETC: 4; CSU GE: D, E; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course is a study of the behavioral, physiological, and psychological experiences of African-Americans in the multicultural U.S. Topics chosen reflect the reciprocal impacts among majority European-American cultures and historical waves of immigration of various different minority groups, using African-Americans as a historical starting place, including assimilation, resistance, and acculturation. Particular attention will be paid to cultural, social, and historical contributions of African-Americans, and how they have been viewed in relation to Latino/as, Native Americans, and Asian-Pacific Americans over time. CSU, UC

PSYCH-141 Psychology of Latinos/Chicanos in the U.S.
3 units SC
- IGETC: 4; CSU GE: D, E; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course is a study of the behavioral, physiological, and psychological experiences of a variety of different groups within the Latino/Chicano cultural collective. Topics chosen reflect the reciprocal impacts among majority European American culture and historical waves of immigration of various different Latino groups, and other minority groups in the U.S., including assimilation, resistance, and acculturation. Particular attention will be paid to cultural, social, and historical contributions of groups within the Latino collective, and how Latino groups have been viewed in relation to African Americans, Native Americans, and Asian-Pacific Americans over time. CSU, UC
PSYCH-145  Critical Thinking in Psychology
3 units SC
• IGETC: 1B; CSU GE: A3; DVC GE: IB
• 54 hours lecture per term
• Prerequisite: ENGL-122 or equivalent
This course presents critical thinking and writing skills necessary to analyze, evaluate, and make decisions concerning complex contemporary issues in psychology. Topics include the principles of inductive and deductive reasoning, the philosophy of science, strengths and weaknesses of the scientific method, distinguishing knowledge from beliefs, and the examination of paradigms in psychology. The course integrates critical thinking and writing skills with effective written expression. C-ID ENGL 105, CSU, UC

PSYCH-155  Topics in Psychology
3-4 units SC
• Variable hours
A supplemental course in psychology to provide a study of current concepts and problems in psychology and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

PSYCH-160  Psychology of Women
3 units SC
• IGETC: 4; CSU GE: D, E; DVC GE: IV
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course is an examination of various factors in the development of gender identity, including personality, social processes, biology, and culture. Topics include interpersonal relations, communication styles, and psychological similarities and differences between people as a function of gender identity. CSU, UC

PSYCH-190  Psychology of Adolescence
3 units SC
• IGETC: 4; CSU GE: D; DVC GE: IV
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course presents a survey of adolescent development and the psychological challenges faced by adolescents. Topics include adolescent values and attitudes; adolescent self-concept, self-esteem and identity; adolescent sex-role socialization; parent and family influence on adolescent socialization and peer group influence on adolescent development. CSU, UC

PSYCH-195  Psychology of Adult Development and Aging
3 units SC
• IGETC: 4; CSU GE: D, E; DVC GE: IV
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course examines the physical, psychological, cognitive, social, and emotional aspects of the aging process including the interactions between the elderly and society. Topics include an analysis of stereotypes, social connections, environmental influences, sexuality, physical health, cognitive changes, mental health, death, and bereavement, and self-reflection on life’s meaning and purpose. CSU, UC

PSYCH-200  Life Span Development
3 units LR
• IGETC: 4; CSU GE: D, E; DVC GE: IV
• 54 hours lecture per term
• Advisory: College-level reading and writing are expected.
This course examines the developmental changes and sociocultural events that take place during an individual’s life span from conception to death. Students are introduced to the psychological characteristics, personal or social developmental problems and opportunities for each of life’s age periods. Students are also exposed to classic and contemporary theories and research (including the role of heredity and the environment) in the area of human development. Life stages will be viewed in terms of a variety of theoretical frameworks that address the following domains of human development: physical, cognitive, social and personality. C-ID PSY 180, CSU, UC

PSYCH-214  Introduction to Statistics for Psychology
4 units SC
• IGETC: 2A; CSU GE: B4; DVC GE: IB, 1C
• 72 hours lecture per term
• Prerequisite: Placement into MATH-121 or higher or MATH-119 or MATH-119SP or intermediate algebra or equivalent
This course presents an introduction to the use of statistics and probability in the scientific study of people. Topics include descriptive statistics, linear regression, design of experiments, introductory probability, random variables, normal distribution and t-distribution, and statistical inference including confidence intervals and tests of significance. Emphasis will be given to the methods psychologists use to collect, describe, graph, and interpret patterns in data about people, and how psychologists report these results in research papers. Use of a computer for statistical analysis is required. CSU, UC (Credit limits may apply to UC - see counselor)
Psychology

**PSYCH-215  Introduction to Research Methods in Psychology**
3 units  SC
- CSU GE: D
- 54 hours lecture per term
- Prerequisite: PSYCH-101 and BUS-240 or MATH-142 or PSYCH-214 or equivalent
- Advisory: College-level reading and writing are expected.

This course is an introduction to the methods psychologists use to understand human behavior. The course examines the scientific method, operationalization of variables, inductive and deductive reasoning, experimental and non-experimental designs (including descriptive methods), experimental instrumentation, group and single-subject designs, and research ethics. Research in a variety of subfields within psychology will be utilized to demonstrate research design and the collection, analysis, interpretation, and reporting of research data. Students will perform a literature review, design an original research study, and prepare research reports using American Psychological Association (APA) style report writing. C-ID PSY 200, CSU, UC

**PSYCH-220  Psychology of Personality: Personal, Social, Cultural Differences**
3 units  SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course examines the dynamics of personality development, adjustment, and growth. Particular emphasis is placed on contrasting the ideas and methodologies of various schools of psychology, including Western and non-Western views. CSU, UC

**PSYCH-225  Social Psychology**
3 units  SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

Social psychology is the scientific study of the way people think, feel, and behave in social situations. This course is an introduction to the perspectives, research methods, and empirical findings in social psychology. Topics include how people influence each other, interpersonal attraction, person perception, social cognition, aggression, the power of social situations, developing critical and integrative ways of thinking about theory and research, and the application of social psychological theories to everyday life experiences. C-ID PSY 170 CSU, UC

**PSYCH-230  Abnormal Psychology**
3 units  SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course introduces the scientific study of the symptoms, causes, treatments, and prevention of psychological disorders. Multiple theoretical perspectives are used to examine the biological, psychological, and sociocultural factors creating abnormality. The course examines the Diagnostic and Statistical Manual of Mental Disorders (DSM) classification system, cultural and gender differences in abnormality, current research and ethical issues, and case illustrations of behavioral disorders. C-ID PSY 120, CSU, UC

**PSYCH-240  Transpersonal Psychology**
3 units  SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course examines the psychological study of consciousness, mind-body relationship, and the role of spiritual inquiry in human transformation. Students will learn about ultimate human capacities such as peak and transcendent experiences, inspired creativity, altruistic ideals, and peak performance. Transpersonal psychology suggests such capacities and experiences may be latent and can be developed. In exploring this theme, various approaches from ancient spiritual to modern scientific are critically examined. CSU, UC

**PSYCH-298  Independent Study**
.5-3 units  SC
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

**PSYCH-299  Student Instructional Assistant**
.5-3 units  SC
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU
**PUBLIC HEALTH - PH**

Diablo Valley College is approved by the California Board of Registered Nurses for continuing education credits (provider #CEP 7992). Health Science courses that can be used are: PH-124, 140, 164 and 170.

Christine Worsley, Dean  
Kinesiology, Athletics, and Health Sciences Division  
Kinesiology Office, Room 1

**Possible career opportunities**  
A health science graduate may work in federal, state or county health agencies, community clinics, voluntary health agencies and hospitals, insurance or pharmaceutical companies.

**Associate in science degree**  
**Health education**

Students completing the program will be able to...

A. apply a multi-dimensional approach to health that incorporates the study of social, behavioral and physiological sciences.  
B. identify risk factors for disease and disability.  
C. analyze the psychological, physical, social, sexual, and environmental influences on health and wellness.  
D. demonstrate behavior-changing techniques to maximize health and wellness.  
E. evaluate information and its sources by articulating and applying fundamental evaluation and selection criteria.

The associate of science degree in health education exposes the student to a multi-dimensional approach to health by incorporating the study of social, behavioral and physiological sciences. Students will learn about individual and sociocultural risk factors for disease and disability and be taught behavior-changing skills and public health strategies to improve quality and quantity of life, all of which have broad applications in fields that teach health education such as academic, community, corporate, and/or medical. The course of study also provides a broad foundation in health sciences for those students who want to pursue specialized occupations in the public health profession.

Students may apply the knowledge to work areas, such as workplace wellness, hospital health education center, state or university health center, health club, and/or government and public health agencies that focus on improving individual and societal health. Students wishing to pursue a career in the field of health education should consider this two-year program as it satisfies the general education and/or elective requirements necessary to transfer, and will prepare students for a bachelor's of science (B.S.) degree program in the field of public health science.

DVC health education students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select either General Education Option 2 (IGETC) or Option 3 (CSUGE). General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

To earn an associate in science degree with a major in health education, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all general education requirements as listed in the catalog. Degree requirements can be completed by attending classes in the day, the evening, or both. Certain courses may satisfy both a major and a graduation requirement; however the units are only counted once.

**major requirements:**  

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH-124</td>
<td>Health and Wellness</td>
<td>3</td>
</tr>
<tr>
<td>PH-130</td>
<td>Introduction to Public Health</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 4 units from:**  

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-102</td>
<td>Fundamentals of Biological Science with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-117</td>
<td>Human Biology with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-119</td>
<td>Fundamentals of Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-139</td>
<td>Human Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-140</td>
<td>Human Physiology</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-146</td>
<td>Principles of Microbiology</td>
<td>5</td>
</tr>
</tbody>
</table>

**plus at least 3 units from:**  

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUTRI-160</td>
<td>Nutrition: Science and Applications</td>
<td>3</td>
</tr>
<tr>
<td>PH-127</td>
<td>Drugs, Health, and Society</td>
<td>3</td>
</tr>
<tr>
<td>PH-135</td>
<td>Health and Social Justice</td>
<td>3</td>
</tr>
<tr>
<td>PH-137</td>
<td>Cultural Competence in Health and Social Service</td>
<td>3</td>
</tr>
<tr>
<td>PH-140</td>
<td>Human Sexuality</td>
<td>3</td>
</tr>
<tr>
<td>PH-164</td>
<td>Health and Healing Systems: Cross-Cultural Perspectives</td>
<td>3</td>
</tr>
<tr>
<td>PH-170</td>
<td>Women's Health</td>
<td>3</td>
</tr>
<tr>
<td>PH-298</td>
<td>Independent Study</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 6 units from any course not used above, or:**  

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS-240</td>
<td>Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-142</td>
<td>Elementary Statistics with Probability</td>
<td>4</td>
</tr>
<tr>
<td>MATH-144</td>
<td>Statway II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-108</td>
<td>Introduction to Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>PSYCH-101</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO-120</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major**  

19
Public health

Associate in science in public health science for transfer

Students completing the program will be able to...

A. identify the basic concepts and terminologies of the public health discipline.
B. access credible public health information from various local, state and national public health organizations and agencies.
C. analyze the social determinants of health and strategies for eliminating disease, illness and health disparities among various populations.
D. demonstrate the steps of community organizing and health promotion programming.
E. develop the preliminary skills to serve as an effective advocate for community/public health.

The associate in science in public health science for transfer degree is primarily intended for students who plan to complete a bachelor’s degree at a California State University (CSU) in areas of study such as health science, health science with health education option, health science with public health option, health science with community health option, health science with health promotion and disease prevention, health education, public health, public health promotion, kinesiology with health education, kinesiology with health science, kinesiology with health promotion and disease prevention, and collaborative health and human services with community health option. Students completing this degree are guaranteed admission to the CSU system, but not necessarily to a particular major or campus.

In order to earn the degree, students must:

• Complete 60 CSU-transferable units.
• Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area IC requirement for Oral Communication.
• Complete a minimum of 18 units in the major.
• Attain a minimum grade point average (GPA) of 2.0.
• Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system, or those students who do not intend to transfer.

Students must complete each course used to meet a major requirement with a “C” grade or higher. Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

major requirements:  units
BIOSC-101 Fundamentals of Biological Science ....................3
or
BIOSC-102 Fundamentals of Biological Science with Laboratory ..................................................4
BIOSC-139 Human Anatomy ..................................................5
BIOSC-140 Human Physiology ..............................................5
BUS-240 Business Statistics ..................................................3
or
MATH-142 Elementary Statistics with Probability ..................4
CHEM-108 Introductory Chemistry ........................................4
or
CHEM-120 General College Chemistry I ................................5
PH-124 Health and Wellness ...........................................3
PH-130 Introduction to Public Health ..................................3
PSYCH-101 Introduction to Psychology ................................3

plus at least 3 units from:
ECON-220 Principles of Macroeconomics ............................3
ECON-221 Principles of Microeconomics ............................3
NUTRI-160 Nutrition: Science and Applications ....................3
PH-127 Drugs, Health, and Society ....................................3
PH-135 Health and Social Justice ....................................3
PH-140 Human Sexuality ..................................................3
SOCIO-120 Introduction to Sociology ................................3

total minimum units for the major 33

PH-100 Introduction to Health Care Careers
3 units SC

• 54 hours lecture per term
• Note: Credit by examination available.
• Formerly HSCI-100 (22-23)

This course provides an overview of health care careers and their respective career paths, educational and skill requirements, and professional responsibilities. Basic skills required by health-related careers such as emphasizing personal attributes, demonstrating professionalism, engaging in teamwork, and building communication skills will be covered. This course is designed to assist students in making educational and career decisions for a wide variety of health care occupations. CSU
PH-124 Health and Wellness  
3 units SC  
- CSU GE: E  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.  
- Note: The nutrition, tobacco and substance abuse components of this course fulfill a portion of the state health education requirements for a teaching credential. For CPR training see PH-131.  
- Formerly HSCI-124 (22-23)

This course will require students to explore, analyze, personalize, and discuss the following issues as they relate to the essential components of health and wellness: nutrition, physical activity/exercise/fitness, weight control, eating disorders and body image, media influences, mental health, stress, violence, substance use/abuse, sexuality and sexual orientation, sexually transmitted infections, reproductive choices/contraception, relationships, disease prevention, environment, health care, aging, and general public health issues. Students will be taught the knowledge and skills necessary to implement lifestyle behaviors that can improve their health and well-being. C-ID PHS 100, CSU, UC (credit limits may apply to UC - see counselor)

PH-126 Stress Management and Health  
3 units SC  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.  
- Formerly HSCI-126 (22-23)

This course covers theoretical and research-based frameworks of stress, stress response, and stress management techniques. Topics include the definition of stress, physiological and psychological effects of stress, sources and causes of stress, and health consequences of chronic stress. Numerous evidence-based techniques to manage and cope with stress will also be covered and practiced. CSU

PH-127 Drugs, Health and Society  
3 units SC  
- IGETC: 4; CSU GE: D, E; DVC GE: IV  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.  
- Formerly HSCI-127 (22-23)

This course explains concepts and theories relating to the epidemiology and toxicology of substance use, misuse, abuse and dependence, and the impact on personal, community and societal health. The biological/physiological, neurological, and psychological short and long-term effects of selected pharmacological substances on the human brain and body are explored, including an analysis of risk factors associated with abuse and dependence. Historical, political, social, socioeconomic, and legal factors involved in the practice, marketing, distribution, and government regulations of legal and illegal drugs will be covered. An overview of contemporary methods used in prevention, diagnosis and treatment will be reviewed, including an analysis of effective evidence-based strategies and local recovery resources. C-ID ADS 110 X, C-ID PHS 103, CSU, UC (credit limits may apply to UC - see counselor)

PH-128 Medical Terminology  
3 units SC  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.  
- Formerly HSCI-128 (22-23)

This course covers terminology relevant to various medical and allied health care fields. The construction, pronunciation, spelling, definition, and common usage for all medical terms in anatomy, physiology, pathology, and health care will be covered. C-ID HIT 103 X, CSU

PH-130 Introduction to Community and Public Health  
3 units SC  
- IGETC: 4; CSU GE: D, E; DVC GE: IV  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.  
- Formerly HSCI-130 (22-23)

This course presents an overview of the disciplines of community and public health. Topics include the basic concepts and terminologies of public health; an overview of various public health sectors, professions and organizations; the study, prevention and control of diseases in the community; the analysis of the social determinants of health and how they impact individual, community, and population outcomes; strategies for eliminating disease, illness, and health disparities among various populations; community organizing and health promotion programming; school health promotion; environmental health and safety; and an overview of the healthcare delivery system in the United States within a paradigm emphasizing social determinants. Emphasis will be placed on the development of knowledge and preliminary skills to serve as an effective advocate for community and public health. C-ID PHS 101, CSU, UC

PH-131 Cardiopulmonary Resuscitation (CPR)  
.5 unit SC  
- 9 hours lecture/3 hours laboratory per term  
- Formerly HSCI-131 (22-23)

This course covers lifesaving skills used in respiratory and cardiac emergencies, and re-certifies students who have already attained Cardio Pulmonary Resuscitation (CPR) certification. CSU

PH-135 Health and Social Justice  
3 units SC  
- IGETC: 4; CSU GE: D, E; DVC GE: IV  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.  
- Formerly HSCI-135 (22-23)

This course provides an introduction to the health inequities in the United States that stem from unequal living conditions. Students will explore how education, socioeconomic status, racism, and gender shape health epidemics and policy development. Fundamental theories to advocate for health and social justice will be explored, and community organizing approaches will be practiced. C-ID PHS 102, CSU, UC
PH-137  Cultural Competence in Health and Social Service  
3 units  SC  
- IGETC: 4; CSU GE: D, E; DVC GE: IV  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.  
- Formerly HSCI-137 (22-23)  
This course examines the political, social, and theoretical perspectives of diverse populations as they relate to health and social services settings. The impact of health status, lifestyle and behavioral patterns, communication styles, socioeconomic status, personal prejudices, ethnic stereotyping, and cultural beliefs on individual and group access to health and social services will be investigated. Emphasis is placed on developing effective strategies to use with diverse populations as well as evaluating the effectiveness of existing health and social service programs. C-ID ADS 195X, CSU, UC

PH-140  Human Sexuality  
3 units  SC  
- IGETC: 4; CSU GE: D, E; DVC GE: IV  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.  
- Formerly HSCI-140 (22-23)  
This course presents an overview of the field of human sexuality from a biological, psychological, sociocultural, and research-based perspective. Topics include the dimensions of sexuality, sex in the media including the effects of pornography, cultural differences, Sexology research, reproductive anatomy and sexual response, contraception, reproductive options, sexually transmitted infections, sexual problems and solutions, gender, intimate relationships and communication, sexual orientation, sexual development through the lifespan, atypical (paraphilia) behaviors, violence including rape and sexual assault, and the sexual marketplace including human trafficking and prostitution. Students will be encouraged to examine their own sexual beliefs, values, and behaviors and cultivate unprejudiced attitudes toward diversity in human sexuality. C-ID PSY 130, CSU, UC

PH-150  Topics in Health Science  
.3-4 units  SC  
- Variable hours  
- Formerly HSCI-150 (22-23)  
A supplemental course in Health Science to provide a study of current concepts and problems in health science. Specific topics will be announced in the schedule of classes. CSU

PH-164  Health and Healing Systems: Cross-Cultural Perspectives  
3 units  SC  
- IGETC: 4; CSU GE: D, E; DVC GE: IV  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.  
- Note: Continuing Education Units (CEUs) for nurses  
- Formerly HSCI-164 (22-23)  
This course examines health, disease, healing and medicine from an interdisciplinary perspective. Concepts and philosophies from traditional cultural healing systems and contemporary western medicine will be examined from psychological, sociological, biological, historical and cultural perspectives. Topics covered include the history of western medical practices, principles of indigenous healing systems, the role of gender in healing, the effects of personality and emotions on health and disease, and integrative medicine. CSU, UC

PH-170  Women's Health  
3 units  SC  
- IGETC: 4; CSU GE: D, E; DVC GE: IV  
- 54 hours lecture per term  
- Advisory: College-level reading and writing are expected.  
- Formerly HSCI-170 (22-23)  
This course analyzes the biological, psychological and sociocultural aspects of women's health and explores health services, health education, and healthcare delivery systems. Social determinants of health and health inequities are examined, as well as contemporary issues relating to LGBTQ+ rights, racism, ageism, gender stereotypes and gender roles, politics, and the role of women in the family, workforce, community, and society. Strategies for social and political change are developed. CSU, UC (credit limits may apply to UC - see counselor)

PH-230  Advanced First Aid/CPR  
3 units  SC  
- 54 hours lecture per term  
- Note: Continuing Education Units (CEUs) for nurses  
- Formerly HSCI-230 (22-23)  
This course involves the theory and practice of emergency care of the injured. Students will learn to assess a victim's condition and incorporate proper treatment. Standard first aid, cardio-pulmonary resuscitation (CPR), and automatic external defibrillator (AED) certification(s) will be granted upon successful completion of requirements. This course is appropriate training for medical professionals. C-ID KIN 101, CSU, UC
**PH-296**  Internship in Occupational Work Experience Education in PH

2-4 units  SC  
- May be repeated eight times  
- Variable hours  
- Note: In order to enroll in the PH-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.  
- Formerly HSCI-296 (22-23)

PH-296 is a supervised internship in a skilled or professional level assignment in the student’s major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Each unit represents five hours of paid work or four hours of unpaid work per week or 75 hours of paid work or 60 hours of unpaid work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253. CSU

**PH-298**  Independent Study  

.5-3 units  SC  
- Variable hours  
- Note: Submission of acceptable educational contract to department and Instruction Office is required.  
- Formerly HSCI-298 (22-23)

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

**PH-299**  Student Instructional Assistant  

.5-3 units  SC  
- Variable hours  
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.  
- Formerly HSCI-299 (22-23)

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

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**RESPIRATORY THERAPY – RT**

Charles Ramos, Dean  
Sciences Division  
Physical Sciences Building, Room 263

**Associate in science degree**  
Respiratory therapy

**Associate in science degree**  
Respiratory therapy

Students completing the program will be able to...

A. demonstrate the cognitive, psychomotor, and affective skills necessary to assist the physician in the diagnosis and disorders.  
B. demonstrate appropriate critical thinking skills, time management skills, interpersonal communication skills, and technical skills necessary to provide competent respiratory care in multidisciplinary care settings.  
C. qualify for licensure in the State of California.  
D. qualify nationally for Registered Respiratory Therapist status.

The respiratory therapy (RT) program is offered in collaboration with Ohlone College in Newark. Students complete general education courses at DVC, laboratory and clinical courses at Ohlone College, and have supervised clinical practice at local hospitals.

This program prepares students to be respiratory therapists in one of the fastest growing allied health professions in the nation. Therapists are involved in the diagnosis, treatment, management and care of patients with deficiencies and abnormalities associated with the cardio respiratory system, in both hospital and home environments. Completion of this CoARC (Committee on Accreditation for Respiratory Care) program makes graduates eligible for the California state license examination for respiratory care practitioner (RCP) and the registered respiratory therapist (RRT) credentialing examination of the National Board for Respiratory Care (NBRC).

By completing the general education coursework at DVC and the RT coursework at Ohlone, students will receive an associate in science degree from Ohlone College. Students must maintain a minimum of a “C” grade or higher in all program courses. In order for a respiratory therapy program application to be considered at Ohlone College, both overall GPA and science GPA must be 2.7 or higher. For applications and information, contact the Ohlone College RT program director at www.ohlone.edu/instr/rt. All applicants are required to attend a Pre-Application Orientation. Dates are posted annually on the Ohlone website.

**required program prerequisites or equivalents:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSCI-119</td>
<td>Fundamentals of Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOSCI-139</td>
<td>Human Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>BIOSCI-140</td>
<td>Human Physiology</td>
<td>5</td>
</tr>
<tr>
<td>ENGL-122</td>
<td>First-Year College Writing and Reading</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH-200</td>
<td>Life Span Development</td>
<td>3</td>
</tr>
</tbody>
</table>

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**DIABLO VALLEY COLLEGE  CATALOG 2022-2023  chapter four  PROGRAM/COURSE DESCRIPTIONS  421**
Respiratory therapy

plus at least 4 units from:
CHEM-107 Integrated Inorganic, Organic, and Biological Chemistry ..........................5
CHEM-108 Introductory Chemistry .........................................................4
CHEM-109 Introduction to Organic and Biochemistry .................................4
CHEM-120 General College Chemistry I ................................................5

plus at least 4 units from:
MATH-119 Beginning and Intermediate Algebra ........................................4
MATH-119SP Beginning and Intermediate Algebra – Self-Paced .....................4

**total minimum units of program prerequisites** 28

recommended course before entering the program:
complete at least 3 units from:
COMM-120 Public Speaking ........................................................................3
COMM-128 Interpersonal Communication .................................................3
COMM-130 Small Group Communication ................................................3

major requirements:
AH 151* Applied Clinical Pharmacology ...............................................2
RT 220* Beginning Clinical Practice .........................................................1.5
RT 222* Respiratory Therapy I .................................................................5
RT 223* Patient Care I ..............................................................................1
RT 225* Beginning Laboratory .................................................................3.5
RT 251 Clinical Pharmacology for Respiratory Therapists ..........................2
RT 252* Respiratory Therapy II .................................................................4.5
RT 258* Patient Care II: Respiratory Pathophysiology .............................1.5
RT 265* Intermediate Laboratory ...............................................................2
RT 270* Mechanical Ventilation Laboratory I ..............................................1.5
RT 275* Intermediate Clinical Rotation ...................................................3.5
RT 297* Neonatal and Pediatric Respiratory Care ......................................2
RT 298* Principles of Mechanical Ventilation I .........................................2.5
RT 302* Advanced Mechanical Ventilation and Advanced Laboratory ........4.5
RT 303* Respiratory Therapy III .................................................................2.5
RT 323* Advanced Respiratory Therapy Respiratory Care .........................2
RT 330* Clinical Practicum in Neonatal and Pediatric Respiratory Care ......1.5
RT 340* Advanced Clinical Rotation .........................................................3
RT 360* Pulmonary Function Testing .........................................................1.5
RT 370* Care for Critically Ill Patients and Pulmonary Rehabilitation ..........0.5
RT 380* Respiratory Therapy IV .................................................................2.5
RT 385* Computer Simulation, Graduation, and NBRC Preparation ..........1.5
RT 399 Respiratory Practicum .................................................................6

**total minimum required RT program units** 58

*These are Ohlone College courses.

**Prerequisites and support course may be “in progress” at the time of application. These courses must be completed no later than the end of the spring term during the year of application.

In addition to above courses, students must complete Ohlone College general education requirements:

**Ohlone**
Area III, Fine Arts/Humanities
3 units required

Area V, Physical Education/Wellness
1 unit required

Area VI, Intercultural/International Studies
3 units required

**DVC**
Area III, Arts and Humanities

Minimum of 1 unit of activity courses including:

KNACT, DANCE (formerly KNDA) 100-199, 1 unit or PH-124, 126, 127, 130, 135, 140, 164, 170

Area VII, Information competency
1 unit required

One course from:

Area VII, Information competency
1 units required

LS-121 required
RUSSIAN – RUSS
Janette Funaro, Dean
Arts and Communication Division

Possible career opportunities
The study of Russian can open up opportunities in communications, foreign trade and banking, transportation, government, the Foreign Service, tourism, library services, teaching, professional translating, journalism, and all levels of education, including university teaching. Most foreign language careers require more than two years of study.

Associate in arts degree
Russian
Students completing the program will be able to...
A. communicate verbally in the target language with accurate pronunciation in meaningful situation present in both informal and formal contexts.
B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.
C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.
D. discuss, describe, and infer information from authentic texts in the target language.
E. demonstrate cultural appreciation by making (comparative) connections, on both an individual and societal level, between the target cultures and students’ own cultures.
F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

The associate in arts degree in Russian at DVC will provide students with skills in understanding, speaking, reading and writing Russian. It also gives students a greater understanding of Russian culture and civilization and will prepare them for a broad range of international and domestic career opportunities and professions. The degree will also provide students the opportunity to transfer to UC, CSU and other four year colleges and universities to earn a bachelor’s degree.

The DVC Russian major is intended for transfer. Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to baccalaureate-granting institutions of their choice are met. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSUGE). Option 1 (DVC General Education) is appropriate for those students who do not intend to transfer. Students may not take a credit/no credit option for major courses and each of the major requirements must be completed with a “C” grade or higher. Certain courses may satisfy both a major and a general education requirement; however, the units are counted only once.

To earn an associate in arts degree in Russian, students must complete 20 units from the list of major requirements, which will provide students with the essential grammar of the language, culture and basic literature of the Russian speaking countries.

required courses:  

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUSS-120 First Term Russian</td>
<td>5</td>
</tr>
<tr>
<td>RUSS-121 Second Term Russian</td>
<td>5</td>
</tr>
<tr>
<td>RUSS-220 Third Term Russian</td>
<td>5</td>
</tr>
<tr>
<td>RUSS-221 Fourth Term Russian</td>
<td>5</td>
</tr>
</tbody>
</table>

total minimum units for the major 20

Certificate of achievement
Russian
Students completing the program will be able to...
A. communicate verbally in the target language with accurate pronunciation in meaningful situation present in both informal and formal contexts.
B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.
C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.
D. discuss, describe, and infer information from authentic texts in the target language.
E. demonstrate cultural appreciation by making (comparative) connections, on both an individual and societal level, between the target cultures and students’ own cultures.
F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

This certificate of achievement was created to give students the opportunity to show potential employers in this country and in other countries that the student has completed a certain number of courses in Russian and prepares students with an intermediate to advanced knowledge of Russian and familiarizes them with the culture of Russia and other Russian-speaking countries.
This certificate of achievement provides students, prospective employers and others with documented evidence of persistence and academic accomplishment in the language. The certificate requires completion of a minimum of 15 units from the following list of courses. Students may not take a credit/no credit option for required courses and each course must be completed with a “C” grade or higher.

complete at least 15 units from: units

RUSS-120 First Term Russian ...............................................5
RUSS-121 Second Term Russian ..........................................5
RUSS-220 Third Term Russian ..............................................5
RUSS-221 Fourth Term Russian ............................................5

**total minimum required units**  15

**RUSS-120  First Term Russian**

5 units  SC
- IGETC: 6A
- 90 hours lecture per term
- Note: This course is equivalent to two years of high school study.

This course provides an introduction to the Russian language and the culture of Russian-speaking countries. Topics include the four language skills: speaking, listening, reading and writing. Emphasis is placed on active use of the language in class as well as basic communicative functions and structures. CSU, UC

**RUSS-121  Second Term Russian**

5 units  SC
- IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
- 90 hours lecture per term
- Prerequisite: RUSS-120 or two years of high school study or equivalent
- Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the second course in a sequence of Russian language courses. It addresses the understanding, speaking, reading and writing of the Russian language. The course continues to expand vocabulary, communicative functions, and structures. The course will continue the examination of the cultures of the Russian-speaking countries. CSU, UC

**RUSS-220  Third Term Russian**

5 units  SC
- IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
- 90 hours lecture per term
- Prerequisite: RUSS-121 or three years of high school study or equivalent
- Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the third term Russian course in the sequence that develops early intermediate fluency in understanding, speaking, reading and writing Russian. All verbal tenses are reviewed, expanded and refined. Advanced grammar concepts, new vocabulary, and idiomatic expressions are introduced. Selected readings about the culture and literature of Russian speaking countries will be explored. This course is taught mainly in Russian. CSU, UC

**RUSS-221  Fourth Term Russian**

5 units  SC
- IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
- 90 hours lecture per term
- Prerequisite: RUSS-220 or four years of high school study or equivalent
- Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the fourth term Russian course in the sequence that develops intermediate fluency in understanding, speaking, reading, and writing Russian. The grammatical moods are reviewed and developed; the sequences of tenses are introduced. Additional vocabulary and idiomatic expressions are introduced and connected to the selected readings. These readings about Russian culture and literature will be analyzed. This course is taught mainly in Russian. CSU, UC

**RUSS-299  Student Instructional Assistant**

.5-3 units  SC
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

**RUSS-150  Topics in Russian**

.3-4 units  SC
- Variable hours

A supplemental course in Russian to provide a study of current concepts and problems in Russian and related subdivisions. Specific topics will be announced in the schedule of classes. CSU
SIGN LANGUAGE – SIGN
Janette Funaro, Dean
Arts and Communication Division

Possible career opportunities
Sign language will help to prepare the student to communicate and work with deaf and hard of hearing people. There is a need for skilled, qualified sign language interpreters in educational and social service agencies. Teachers, human services providers, or independent living attendants also sometimes use sign language in their work. Some career options require more than two years of college study.

SIGN-280 American Sign Language (ASL) I
3 units SC
• 54 hours lecture per term
The course provides an introduction to American Sign Language (ASL) including expressive and receptive sign, the manual alphabet, facial expression, and body gestures. Conversational skills in everyday situations, utilizing ASL vocabulary and grammatical expression, are emphasized. An introduction to Deaf culture, community, and history is woven throughout the course. CSU, UC

SIGN-281 American Sign Language (ASL) II
3 units SC
• IGETC: 6A; CSU GE: C2
• 54 hours lecture per term
• Prerequisite: SIGN-280 or equivalent
This course builds on American Sign Language (ASL) fundamentals introduced in SIGN-280. Students will develop beginning-intermediate ASL skills including expressive and receptive sign, the manual alphabet, expanded vocabulary, grammar, facial grammar, and body gestures. An emphasis will be placed on an appreciation of Deaf culture and community through conversational skills in functional situations. CSU, UC

SIGN-282 American Sign Language (ASL) III
3 units SC
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Prerequisite: SIGN-281 or equivalent
This course in American Sign Language (ASL) expands receptive and expressive vocabulary and grammatical skills presented in SIGN-282. Communication skills essential for advanced conversations in a variety of functional settings are developed. Emphasis is placed on understanding Deaf culture stories and storytelling techniques as well as history of Deaf people who influenced the rich Deaf cultural heritage. CSU, UC

SIGN-283 American Sign Language (ASL) IV
3 units SC
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Prerequisite: SIGN-282 or equivalent
This course is an advanced study of American Sign Language (ASL), expanding receptive and expressive vocabulary and grammatical skills presented in SIGN-282. Communication skills essential for advanced conversations in a variety of functional settings are developed. Emphasis is placed on understanding Deaf culture stories and storytelling techniques as well as history of Deaf people who influenced the rich Deaf cultural heritage. CSU, UC

SIGN-299 Student Instructional Assistant
.5-3 units SC
• Variable Hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

SOCIAL SCIENCE – SOCSC
Obed Vazquez, Dean
Social Sciences Division
Faculty Office Building, Room 136

Possible career opportunities
Social science fields are many and varied, as are the associated career opportunities. Careers with all levels of government, research and teaching are all possibilities. Most career options require more than two years of college study.

Associate in arts in social justice studies for transfer
Students completing the program will be able to...
A. demonstrate a basic understanding of social injustices and inequities, and proposed approaches to their remediation and/or resolution, drawn from a variety of historic, cultural and regional settings.
B. analyze the processes through which communities attempt to overcome and heal from problems associated with inequality, stigma, prejudice and discrimination.
C. demonstrate analytical writing ability that effectively integrates theoretical frameworks, research findings and experiential knowledge about social justice.
D. be empowered through their participation in community engagement projects to be civically engaged participants in college and community life.
The associate in arts in social justice studies for transfer degree provides students with a community-engagement model of learning about inequalities, stigma, prejudice and discrimination and efforts to remediate, heal and overcome them. It offers a wide range of courses in sociology, interdisciplinary social sciences, history, psychology, drama, music, fine arts, and literature.

Completion of the degree is valuable in its own right, as it empowers students to be effective agents for social change. This program is also an excellent starting point for students contemplating a career in law, law enforcement, social work, clinical psychology, any social science, health and medical fields, education, public policy, politics, business, music, drama, or fine arts.

The associate in arts in social justice studies for transfer degree is primarily intended for students who plan to complete a bachelor’s degree at a California State University (CSU) in areas of study such as african american studies; africana studies; american indian studies; american studies; arabic language, literature and culture; asian american studies; chicano/chicana studies; ethnic studies; gender studies; labor and employment studies; labor studies; latin american studies; liberal studies w/option in interdisciplinary studies in culture and society; liberal studies - border studies option; mexican-american studies; modern jewish studies; negotiation, conflict resolution and peace building; sociology - concentration in critical race studies; sociology - concentration race, class, and gender; sociology with inequalities and diversity option; social science with emphasis in islamic and arabic studies; women, gender, and sexuality studies; women’s studies. Students completing this degree are guaranteed admission to the CSU system, but not necessarily to a particular major or campus.

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University—General Education-Breadth pattern (CSU GE-Breadth); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system, or those students who do not intend to transfer.

Students must complete each course used to meet a major requirement with a “C” grade or higher. Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

required courses:

- SOCC-101 Introduction to Social Justice ......................... 3
- SOCO-135 Introduction to Race and Ethnicity ................. 3
- SOCO-124 Gender, Culture and Society .......................... 3

plus at least 3 units from:

- ENGL-163 Asian American Literature ............................ 3
- ENGL-167 Latin American Literature ............................. 3
- HIST-125 History of the United States: A Mexican American Perspective ......................................................... 3
- HIST-127 African American Perspective .......................... 3
- HIST-128 History of the US after 1865 ............................. 3
- HIST-129 History of Asian and Pacific Islanders in the United States ................................................................. 3
- POLS-122 Latinx Politics and American Government ....... 3
- PSYCH-140 Psychology of African Americans in a Multicultural Society ............................................................... 3
- SOCSC-120 Women and Social Change in the United States: 1890-Present .......................................................... 3
- SOCSC-220 Women in United States Society ..................... 3

plus at least 3 courses from two areas:

history or government

- HIST-170 History of Women in the United States before 1877 ............................................................... 3
- HIST-171 History of Women in the United States after 1865 ............................................................... 3
- POLS-123 Black Politics and American Government .......... 3

arts and humanities

- ENGL-164 Native American Literature ........................... 3
- ENGL-166 African American Literature ......................... 3
- ENGL-168 Multiethnic Literatures of the United States ....... 3
- ENGL-173 Queer Literature Across Cultures .................... 3
- ENGL-190 Multicultural Literature by American Women .... 3
- FTVE-210 American Ethnic Cultures in Film .................. 3
- FTVE-260 Ethnic Images in United States (U.S.) Television ................................................................. 3
- HUMAN-115 Humanities: The Multicultural American Experience ................................................................. 3
- MUSIC-112 America's Music: A Multicultural Perspective ................................................................. 3
- MUSIC-117 History of Rock and R&B ........................... 3
- MUSIC-118 The History of Jazz .................................... 3

social science

- PSYCH-141 Psychology of Latinos/Chicanos in the US ..... 3
- SOCSC-121 Introduction to Social Problems ...................... 3
- SOCSC-125 Families, Relationships, and Commitment .... 3

quantitative reasoning and research methods

- MATH-142 Elementary Statistics and Probability ........... 4
- MATH-144 Statway II .................................................. 4
- PSYCH-215 Introduction to Research Methods in Psychology ................................................................. 3
- SOCC-123 Introduction to Social Research ...................... 3
Social science

major preparation
PH-135  Health and Social Justice ................................. 3
PH-170  Women’s Health ................................................3

Social science

Certificate of accomplishment
Social justice

Students completing the program will be able to...
A. demonstrate a basic understanding of social injustices and inequities, and proposed approaches to their remedia-
tion and/or resolution, drawn from a variety of historic,
cultural and regional settings.
B. analyze the processes through which communities at-
tempt to overcome and heal from problems associated
with inequality, stigma, prejudice and discrimination.
C. demonstrate analytical writing ability that effectively
integrates theoretical frameworks, research findings and
experiential knowledge about social justice.
D. be empowered through their participation in community
engagement projects to be civically engaged participants
in college and community life.

Completion of the certificate empowers students to be
effective agents for social change. This certificate is an
excellent starting point for students who are seeking a social
justice orientation. In addition, the certificate complements
many degrees in the social sciences, health and medical
fields, politics and public policy, music, drama, and the fine
arts.

To earn a certificate of accomplishment, students must
complete each course used to meet a requirement with a “C”
grade or higher.

required courses:
SOCSC-101  Introduction to Social Justice ...........................3

plus at least 6 units from:
HIST-125  History of the United States: A Mexican
American Perspective .............................................. 3
HIST-127  African American Perspective
History of the US to 1865 .......................................... 3
HIST-128  African American Perspective
History of the US after 1865 ....................................... 3
POLSC-122  Latinx Politics and American Government ....... 3
POLSC-123  Black Politics and American Government ...... 3
PSYCH-140  Psychology of African-Americans in a
Multicultural Society ..................................................3
PSYCH-141  Psychology of Latinos/Chicanos in the U.S.... 3
SOCIO-124  Gender, Culture, and Society ............................3
SOCIO-135  Introduction to Race and Ethnicity ............... 3

SOCSC-101  Introduction to Social Justice
3 units  SC
• IGETC: 4; CSU GE: D; DVC GE: IV
• 54 hours lecture
• Advisory: College-level reading and writing are expected.

This course examines social justice movements and policies
as they advocate for people marginalized on the basis of race,
nationality, gender, sexuality, and/or religion in the United
States. A holistic approach is utilized to explore theories of jus-
tice, the history of social justice movements, and contemporary
issues through the lenses of sociology, history, media studies,
art and music. An introduction to the study and practice of
community engagement is also presented. C-ID SJS 110, CSU,
UC

SOCSC-110  The American Social Experience
3 units  SC
• IGETC: 4; CSU GE: D; DVC GE: IV
• 54 hours lecture per term

This course is an interdisciplinary examination of the various
interpretations developed within the social sciences of the roles
of individuals and their experiences in the United States of
America. The course considers the roles of social institutions,
federal, state, and local governments, and surveys the ideas and
values that played a part in shaping America’s cultural image.
The course surveys the significant contributions of Asian-
Americans, Latinx, African-Americans, Native-Americans, and
women in shaping the evolution of the concept of American
individualism. The course also examines critical events in
the shaping of social, political, and economic identity among
national and gender groups in American society and culture.
CSU, UC

SOCSC-111  Money, Power, and Politics in the
United States
3 units  SC
• IGETC: 4; CSU GE: D; DVC GE: IV
• 54 hours lecture per term

This course is a multidisciplinary, integrative study of the con-
cepts of democracy and the historical, political and economic
processes through which democracy has arisen in the United
States. The United State Constitution and state and local gov-
ernment in California will be emphasized. Particular attention
is given to the contributions to American democracy by diverse
social groups and the international context of American politi-
cal and economic life. CSU, UC
Social science

SOCSC-120   Women and Social Change in the United States: 1890-Present  
3 units   SC  
• IGETC: 4; CSU GE: D; DVC GE: IV  
• 54 hours lecture per term  
• Advisory: College-level reading and writing are expected.

This course presents an overview of the history of U.S. women from the Progressive Era (1890) to the present, emphasizing the commonalities of women’s experiences. It examines differences among women based on their ethnic identification, social class and region, including the interaction between and contributions of Native American, African American, Asian American and Latina women. Topics of emphasis will include political, economic and cultural change in the U.S., change fostered by women, and the transformed roles of women in the family within the continuity of the United States experience. Students will analyze the political philosophies of the framers of the U.S. Constitution and the rights and obligations of citizens under the U.S. Constitution with an emphasis on gender issues. CSU, UC

SOCSC-123   American Popular Culture  
3 units   SC  
• IGETC: 4; CSU GE: D; DVC GE: IV  
• 54 hours lecture per term  
• Advisory: College-level reading and writing are expected.

This course is an interdisciplinary examination of popular culture’s changing nature in the United States of America. Looking through the lens of popular culture, this course will examine social and political institutions, such as federal and California state government, and various values that shape American popular culture. The course considers the significant contributions of Asian-American, Latinx, African-American, Native-American, and Jewish communities in shaping the evolution of American popular culture, and considers the importance of women as both producers and consumers of popular culture. CSU, UC

SOCSC-155   Topics in Social Science  
.3-4 units   SC  
• Variable hours

A supplemental course in the social sciences to provide a study of current concepts and problems in social sciences and related substantive areas. Specific topics will be announced in the schedule of classes. CSU

SOCSC-220   Women in United States Society  
3 units   SC  
• IGETC: 4; CSU GE: D; DVC GE: IV  
• 54 hours lecture per term  
• Advisory: College-level reading and writing are expected.

This course is a multicultural and interdisciplinary examination of women’s changing roles in U.S. society. The social institutions and values that shape those roles, including federal, state, and local governments, as well as the U.S. and California Constitutions will be explored. Significant events and developments that shape the social, political, and economic status of women, as well as the importance of race/ethnicity, class, region, and sexual orientation in differentiating the experiences and opportunities for women will also be presented. CSU, UC

SOCSC-298   Independent Study  
.5-3 units   SC  
• Variable hours  
• Note: Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU

SOCSC-299   Student Instructional Assistant  
.5-3 units   SC  
• Variable hours  
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

SOCIOLOGY – SOCIO

Obed Vazquez, Dean  
Social Sciences Division  
Faculty Office Building, Room 136

Possible career opportunities
Sociology provides students with career opportunities including criminologist, employment counselor, interviewer, researcher, social worker, and urban planner. Most career options require more than two years of college study.
**Associate in arts in sociology for transfer**

Students completing the program will be able to...

A. define and apply sociological concepts.
B. identify and explain and provide possible solutions to social problems.
C. identify and apply the major theoretical paradigms, functionalist, conflict and interactionist perspectives to analyze social and cultural issues.
D. demonstrate knowledge of research methods and ethical considerations in conducting research.
E. utilize critical thinking skills to analyze and evaluate complex social issues.
F. utilize data to study social phenomena.
G. make connections between individuals’ lives, their biographies and their social context.

The sociology major is a valuable liberal arts major for students planning careers in social research, criminology, demography, or social psychology, but also for those pursuing a course of study in public administration, gerontology, education, social work and market research. Sociology provides a useful background for those planning to enter law, business, marketing, medicine, community planning and services, architecture, and politics. In many professional programs in human services, courses in sociology are part of the required training. Sociologists with graduate degrees may teach at the high school, college or graduate levels. They may also become research sociologists in both the public and private sectors and work in areas of public policy, the law and international studies. Applied sociologists may work with social service agencies and community programs on behalf of others, including underrepresented or neglected populations.

Sociology at Diablo Valley College offers a broad range of courses including the urban environment, marriage and families, minority and race relations, social problems, social research and gender studies.

The associate in arts in sociology for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

**major requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCIO-120 Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 6 units from:</td>
<td></td>
</tr>
<tr>
<td>BUS-240 Business Statistics with Probability</td>
<td>3</td>
</tr>
<tr>
<td>or MATH-142 Elementary Statistics with Probability</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO-121 Introduction to Social Problems</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO-123 Introduction to Social Research</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 6 units from any course not used above, or:</td>
<td></td>
</tr>
<tr>
<td>PSYCH-225 Social Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO-122 Critical Thinking About Social and Cultural Issues</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO-124 Gender, Culture and Society</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO-125 Families, Relationships, and Commitment</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO-135 Introduction to Race and Ethnicity</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from any course not used in either group above, or:</td>
<td></td>
</tr>
<tr>
<td>SOCIO-131 The Urban Community</td>
<td>3</td>
</tr>
<tr>
<td>SOCSC-120 Women and Social Change in the United States: 1890-Present</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 18

**SOCIO-120 Introduction to Sociology**

3 units  
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course provides an introduction to the theory and scientific methodology of sociology: a survey of the interactions, interrelationships, and processes of society as an organized structure. Sociology’s substantive areas including methodology, socialization, culture, social stratification, race and ethnic minorities, gender and sexual orientation will be discussed. Institutional analysis of the economy, family, religion, and education are also introduced. C-ID SOCI 110, CSU, UC
**Sociology**

**SOCIO-121 Introduction to Social Problems**
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course is a survey of perspectives on major social problems, primarily in the urban, industrial settings. Sources, consequences of and means of coping with a variety of social problems will be investigated. The scientific methodology required for accurate analysis is emphasized. Topics will be selected from social problems such as aging, health care, mental illness, environmental issues, labor force conditions, gender and sexuality, poverty, crime, juvenile delinquency, suicide, addiction, abuse, migration and relations with minority groups, or membership in deviant subcultures. C-ID SOCI 115, CSU, UC

**SOCIO-122 Critical Thinking About Social and Cultural Issues**
3 units SC
- IGETC: 1B; CSU GE: A3; DVC GE: IB
- 54 hours lecture per term
- Prerequisite: ENGL-122 or equivalent

Critical reasoning in sociology is a process of questioning, analyzing and evaluating oral and written ideas, concepts, and interpretations of the political, economic and social issues and patterns found in human societies. This course will include an introduction to the principles of logic, the structure of language, research methodologies, and prevailing theoretical models in sociology. Students will complete a series of increasingly complex analytical essays that identify sociological perspectives, gather and analyze sociological information, recognize sociological relationships and patterns, and discuss the relevancy of sociological insights and theories as a background for understanding current events and issues. CSU, UC

**SOCIO-123 Introduction to Social Research**
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Prerequisite: SOCIO-120 or equivalent
- Advisory: College-level reading and writing are expected.

This course examines various social research methods and the ways in which sociologists gather, evaluate, and analyze social data. Topics include: posing a sociological problem, data-gathering techniques, sampling, measurement, and establishing relationships among data. This class allows students to become involved in the process of conducting survey research and to participate in the use of other social research techniques. C-ID SOCI 120, CSU, UC

**SOCIO-124 Gender, Culture, and Society**
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course provides a multidimensional examination of gender in the United States and other societies, exploring the mechanisms by which gender roles develop and the consequences for society. It also examines the social and cultural processes and institutional arrangements that give meaning to being a woman and a man in a gendered society. C-ID SOCI 140, CSU, UC

**SOCIO-125 Families, Relationships, and Commitment**
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term

This course examines current issues concerning families and personal relationships in African-American, Euro-American, Latino, Asian, and Native American families. Emphasis is placed on cross-cultural and cross-societal comparisons of diverse family groups. This course will also examine the relation of families to other social institutions, as well as child rearing, plural marriages, family politics, and speculations concerning the future of the family. C-ID SOCI 130, CSU, UC

**SOCIO-131 The Urban Community**
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course examines current and historical social change in cities and suburbs through the experience of African Americans, Latinx, Asian Americans, Native Americans and European Americans. Challenges faced by multicultural communities, neighborhoods and suburbs, and programs and strategies that are designed to meet these challenges will be covered. CSU, UC

**SOCIO-135 Introduction to Race and Ethnicity**
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Advisory: College-level reading and writing are expected.

This course is a sociological analysis of race and ethnicity in the United States. The course examines the ways in which changing U.S. demographics and recent immigration history have complicated both racial and ethnic categories as well as the relationships between and among group within those categories. Students will utilize the conceptual tools needed to recognize some of the ways in which race is embedded in ordinary discourse and life. The avenues to and potential for bringing about social change and racial justice will be explored. C-ID SOC 150, CSU, UC
**Associate in arts degree**

**Spanish**

Students completing the program will be able to...

A. communicate verbally in the target language with accurate pronunciation in meaningful situations present in both informal and formal contexts.

B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.

C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.

D. discuss, describe, and infer information from authentic texts in the target language.

E. demonstrate cultural appreciation by making (comparative) connections, on both an individual and societal level, between the target cultures and students’ own cultures.

F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

The associate in arts degree in Spanish at DVC will provide students with skills in understanding, speaking, reading and writing Spanish. It also gives students a greater understanding of Spanish culture and civilization and will prepare them for a broad range of international and domestic career opportunities and professions. The degree will also provide students the opportunity to transfer to UC, CSU and other four-year colleges and universities to earn a bachelor’s degree.

The DVC Spanish major is intended for transfer. Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to baccalaureate-granting institutions of their choice are met. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE). Option 1 (DVC General Education) is appropriate for those students who do not intend to transfer. Students may not take a pass/no pass option for major courses and each of the major requirements must be completed with a “C” grade or higher. Certain courses may satisfy both major and general education requirements; however, the units are counted only once.

To earn an associate in arts degree in Spanish, students must complete 20 units from the list of major requirements, which will provide students with the essential grammar of the language, culture and basic literature of the Spanish speaking world. Students with no previous knowledge of Spanish when entering DVC will take the first four courses in the list for a total of 20 units. If students enter the program with previous knowledge of Spanish, they may start at the second term level and take fifth and sixth terms to achieve a total of 21 units.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN-120</td>
<td>First Term Spanish</td>
<td>5</td>
</tr>
<tr>
<td>SPAN-121</td>
<td>Second Term Spanish</td>
<td>5</td>
</tr>
<tr>
<td>SPAN-220</td>
<td>Third Term Spanish</td>
<td>5</td>
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<tr>
<td>SPAN-221</td>
<td>Fourth Term Spanish</td>
<td>5</td>
</tr>
<tr>
<td>SPAN-230</td>
<td>Fifth Term Spanish</td>
<td>3</td>
</tr>
<tr>
<td>SPAN-231</td>
<td>Sixth Term Spanish</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 20
Spanish

Associate in arts in Spanish for transfer

Students completing the program will be able to...

A. communicate verbally in the target language with accurate pronunciation in meaningful situations present in both informal and formal contexts.

B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.

C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.

D. discuss, describe and infer information from authentic texts in the target language.

E. demonstrate cultural appreciation by making (comparative) connections, on both individual and societal level, between target cultures and students’ own cultures.

F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

The study of Spanish can open up opportunities in communications, foreign trade and banking, transportation, government, the Foreign Service, tourism, library services, teaching, professional translating, journalism, and all levels of education, including university teaching. Most foreign language careers require more than two years of study.

The associate in arts in Spanish for transfer is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major.

In order to earn the degree, students must:

• Complete 60 CSU-transferable units.
• Complete the California State University-General Education-Breadth pattern (CSU GE-Breadth); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
• Complete a minimum of 18 units in the major.
• Attain a minimum grade point average (GPA) of 2.0.
• Earn a grade of “C” or higher in all courses required for the major.

Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Students must complete each course used to meet a major requirement with a “C” grade or higher. Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

Certificate of achievement

Spanish

Students completing the program will be able to...

A. communicate verbally in the target language with accurate pronunciation in meaningful situations present in both informal and academic contexts.

B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.

C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.

D. discuss, describe and infer information from authentic texts in the target language.

E. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

This certificate of achievement was created to give students the opportunity to show potential employers in this country and in other countries that the student has completed a certain number of courses in Spanish and prepares students with an intermediate to advanced knowledge of Spanish and familiarizes them with the culture of Spain and Latin America.

This certificate of achievement provides students, prospective employers and others with documented evidence of persistence and academic accomplishment in the language. The certificate requires completion of at least 13 units from one of the following lists of courses. Students may not take a credit/no credit option for required courses and each course must be completed with a “C” grade or higher.

List A

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN-120</td>
<td>5</td>
</tr>
<tr>
<td>SPAN-121</td>
<td>5</td>
</tr>
<tr>
<td>SPAN-220</td>
<td>5</td>
</tr>
<tr>
<td>SPAN-221</td>
<td>5</td>
</tr>
<tr>
<td>SPAN-230</td>
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</tr>
<tr>
<td>SPAN-231</td>
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</table>

major requirements: 23 units

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>SPAN-120</td>
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<td>SPAN-220</td>
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<td>3</td>
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<tr>
<td>SPAN-231</td>
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</table>

total minimum units for the major 23
**List B**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
<th>SC</th>
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</tr>
</thead>
<tbody>
<tr>
<td>SPAN-120</td>
<td>First Term Spanish</td>
<td>5</td>
<td>SC</td>
<td>IGETC: 6A, 90 hours lecture per term</td>
</tr>
<tr>
<td></td>
<td>Note: This course is equivalent to two years of high school study.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

This course provides an introduction to the Spanish language and the culture of Spanish-speaking countries. Topics include the four language skills: speaking, listening, reading, and writing. Emphasis is placed on active use of the language in class as well as basic communicative functions and structures. C-ID SPAN 100, CSU, UC

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
<th>SC</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN-121</td>
<td>Second Term Spanish</td>
<td>5</td>
<td>SC</td>
<td>IGETC: 3B, 6A; CSU GE: C2; DVC GE: III, 90 hours lecture per term</td>
</tr>
<tr>
<td></td>
<td>Prerequisite: SPAN-120 or two years of high school study or equivalent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This is the second course in a sequence of Spanish language courses. It addresses the understanding, speaking, reading and writing of the Spanish language. The course continues to expand vocabulary, communicative functions and structures. The course will continue the examination of the culture of the Spanish-speaking world. C-ID SPAN 110, CSU, UC

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
<th>SC</th>
<th>Notes</th>
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<tbody>
<tr>
<td>SPAN-150</td>
<td>Topics in Spanish</td>
<td>.3-4</td>
<td></td>
<td>Variable hours</td>
</tr>
</tbody>
</table>

A supplemental course in Spanish to provide a study of current concepts and problems in Spanish and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

**SPAN-155**  
First Term Beginning Conversational Spanish  
3 units SC  
- 54 hours lecture per term  
- Note: This course does not satisfy major or general education requirements.  
This is the first term of the conversational Spanish series. Basic grammar and vocabulary as well as an introduction to Spanish culture will be covered. CSU

**SPAN-156**  
Second Term Beginning Conversational Spanish  
3 units SC  
- 54 hours lecture per term  
- Advisory: SPAN-155 or equivalent  
- Note: This course does not satisfy the academic requirements of the SPAN-120-121 series.  
This is the second term of the beginning Spanish conversation series. It is a participatory class based on oral-aural practice. The preterit and imperfect tenses are introduced and contrasted. New vocabulary and cultural material are also covered. CSU

**SPAN-157**  
Third Term Beginning Conversational Spanish  
3 units SC  
- 54 hours lecture per term  
- Advisory: SPAN-156 or equivalent  
- Note: This course does not satisfy the academic requirements of the SPAN-120-121 series.  
This is the third term of the beginning Spanish conversation series. It is a participatory class based on practical material with oral-aural practice. The future and conditional tenses are emphasized and the subjunctive mood is introduced. New vocabulary and the examination of some of the cultures of the Spanish speaking world are covered. CSU

**SPAN-220**  
Third Term Spanish  
5 units SC  
- IGETC: 3B, 6A; CSU GE: C2; DVC GE: III, 90 hours lecture per term  
- Prerequisite: SPAN-121 or three years of high school study or equivalent  
- Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.  
This is the third term Spanish course in the sequence that develops intermediate fluency in understanding, speaking, reading and writing Spanish. All verbal tenses are reviewed, expanded and refined. Advanced grammar concepts, new vocabulary, and idiomatic expressions are introduced. Selected readings about the culture and literature of Spain and Latin American countries will be explored. This course is taught entirely in Spanish. C-ID SPAN 200, CSU, UC
Spanish

**SPAN-221  Fourth Term Spanish**

5 units SC  
- IGETC: 3B, 6A; CSU GE: C2; DVC GE: III  
- 90 hours lecture per term  
- Prerequisite: SPAN-220 or four years of high school study or equivalent  
- Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the fourth term Spanish course in the sequence that develops high-intermediate fluency in understanding, speaking, reading and writing Spanish. The grammatical moods are reviewed and developed; the sequences of tenses are introduced. Additional vocabulary and idiomatic expressions are introduced and connected to the selected readings. These readings about Latin American and Spanish culture and literature will be analyzed. This course is conducted entirely in Spanish. C-ID SPAN 210, CSU, UC

**SPAN-230  Fifth Term Spanish**

3 units SC  
- IGETC: 3B, 6A; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Prerequisite: SPAN-221 or equivalent  
- Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the fifth term advanced Spanish language course emphasizing reading, writing (prioritizing the mechanics of academic writing), listening, and speaking skills. The rich Hispanic heritage is explored through a wide range of materials including short stories, articles, poems, films, and documentaries. This course is taught entirely in Spanish. CSU, UC

**SPAN-231  Sixth Term Spanish**

3 units SC  
- IGETC: 3B, 6A; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Prerequisite: SPAN-230 or equivalent

This is the sixth term advanced Spanish language course strengthening reading, writing (prioritizing the mechanics of academic writing), listening, and speaking skills. Deepening the exploration of the rich Hispanic heritage through a wide range of materials including novels, articles, poems, films, documentaries, and dramas. This course is taught entirely in Spanish. CSU, UC

**SPAN-240  Spanish for Heritage Speakers I**

5 units SC  
- CSU GE: C2  
- 90 hours lecture per term  
- Prerequisite: SPAN-121 or equivalent

This course is designed for heritage speakers of Spanish or other linguistically qualified students. It explores and increases awareness of formal and informal linguistic registers and builds on existing listening, speaking, reading, and writing skills of heritage speakers of Spanish. Formal grammatical concepts are introduced and practiced. Special emphasis is given to the development of academic reading and writing skills and cultural literacy skills including an understanding and appreciation for the linguistic and cultural variations of Spanish speakers in and outside of the United States. This course is conducted entirely in Spanish. C-ID SPAN 220, CSU, UC

**SPAN-241  Spanish for Heritage Speakers II**

5 units SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 90 hours lecture per term  
- Prerequisite: SPAN-240 or Equiv.

This course continues the study presented in SPAN-240 and is designed for heritage speakers of Spanish or other linguistically qualified students, emphasizing development of advanced formal Spanish language skills and structures. This course includes the refinement and integration of the essential principles of grammar and usage through reading, discussion and analysis of authentic fiction and non-fiction texts, as well as through required critical and creative writing and oral activities. Comparative linguistic and cultural materials are presented to further develop understanding and knowledge of the linguistic and cultural diversity of the Spanish-speaking world. This course is conducted entirely in Spanish. C-ID SPAN 230, CSU, UC

**SPAN-298  Independent Study**

.5-3 units SC  
- Variable hours  
- Note: Submission of acceptable educational contract to department and Instruction Office is required.

This course is designed for advanced students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course. The student and instructor develop a written contract that includes objectives to be achieved, activities and procedures to accomplish the study project, and the means by which the supervising instructor may assess accomplishment. CSU
Steamfitting

SPAN-299  Student Instructional Assistant
.5-3 units SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

SPECIAL EDUCATION – SPEDU

See Education - Special education - EDUSP

SPORTS MEDICINE/ATHLETIC TRAINING

See Kinesiology theory - KINES

STEAMFITTING – STMFT

Despina Prapavessi, Dean
Mathematics and Engineering Division
Mathematics Building, Room 267

Possible career opportunities

In collaboration with Plumbers and Steamfitters Union Local 159 email: info@plumbers159.org and Plumbers-Steamfitters-Refrigeration Union Local 342 www.ua342.org, DVC offers two five-year apprenticeship programs: steamfitting and plumbing. Apprenticeship is training that is designed to prepare an individual for a career in the skilled crafts and trades. Apprentices develop technical skills, experience the sharing of assignments and see how technical tasks relate specifically with theoretical knowledge and interpretation. Apprentices earn a wage while learning. Enrollment in this program is restricted. You must be registered as an apprentice with the State of California to participate in the program and accepted into the apprenticeship program by our union partners.

This program prepares students to become steamfitters and includes an introduction to the installation, maintenance, and repair of different types of pipe systems; tool use; material applications and storage; and safety. Upon completion of the program, students will be able to install pipe systems that move liquids or gases under high pressure and use many different materials and construction techniques, depending on the type of project. They will be able to follow building plans or blueprints and instructions from supervisors to lay out the job and work efficiently with the materials and tools of the trade.

To earn an associate in science degree with a major in steamfitting, students must complete 20 out of 31 core courses to meet their individual educational and career goals. In addition they must complete General Education Option 1 (DVC General Education). Students must complete each course used to meet a major requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the major. The associate in science degree with a major in steamfitting is not a transfer program.

DVC steamfitting students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to baccalaureate institutions of their choice are met.

Associate in science degree
Steamfitting

Students completing the program will be able to...
A. discuss safety harness practices during rigging.
B. apply mathematical formulas for calculating travel on a spool.
C. demonstrate knowledge of using a band saw.
D. use proper method in fabricating a copper spool.
E. explain the responsibilities of a journey person with regards to training an apprentice on the job.
F. demonstrate use of tubing benders.
G. explain the attributes of a successful apprentice

This program is offered in collaboration with Plumbers and Steamfitters Union Local 159 and Plumbers-Steamfitters-Refrigeration (HVACR) Union Local 342. Apprenticeship is training that is designed to prepare an individual for a career in the skilled crafts and trades. Apprentices develop technical skills, experience the sharing of assignments and see how technical tasks relate specifically with theoretical knowledge and interpretation. Apprentices earn a wage while learning. Enrollment in this program is restricted. You must be registered as an apprentice with the State of California to participate in the program and accepted into the apprenticeship program by our union partners.

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DVC steamfitting students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to baccalaureate institutions of their choice are met.

935 Detroit Avenue
Concord, CA 94518-2501
925-686-0730
Plumbers and Steamfitters Local 159
1308 Roman Way
Martinez, CA 94553
800-443-0220 or
925-229-0883
email: info@plumbers159.org
This program prepares students to become steamfitters and includes an introduction to the installation, maintenance, and repair of different types of pipe systems; tool use; material applications and storage; and safety. Upon completion of the program, students will be able to install pipe systems that move liquids or gases under high pressure and use many different materials and construction techniques, depending on the type of project. They will be able to follow building plans or blueprints and instructions from supervisors to lay out the job and work efficiently with the materials and tools of the trade.

To earn a certificate of achievement, students must complete 14 out of 19 core courses. Students must complete each course used to meet a major requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate. The courses required for the certificate of achievement also meet some of the requirements of the major for the associate of science degree.

students completing the program will be able to...
A. demonstrate proper isometric drawing technique.
B. apply mathematical formula for calculating load weight on pipe.
C. use the proper method to cut a steel plate, using an OXY/ACT torch.
D. explain proper brazing technique for copper.
E. demonstrate proper knot tying.
F. demonstrate proper preparation for a beveled coupon.
G. explain the attributes of a successful apprentice.

This program is offered in collaboration with Plumbers and Steamfitters Union Local 159 and Plumbers-Steelfitters-Refrigeration (HVACR) Union Local 342. Apprenticeship training is that designed to prepare an individual for a career in the skilled crafts and trades. Apprentices develop technical skills, experience the sharing of assignments and see how technical tasks relate specifically with theoretical knowledge and interpretation. Apprentices earn a wage while learning. Enrollment in this program is restricted. You must be registered as an apprentice with the State of California to participate in the program and accepted into the apprenticeship program by our union partners.

Certificate of achievement
Steamfitting

Students completing the program will be able to...
A. demonstrate proper isometric drawing technique.
B. apply mathematical formula for calculating load weight on pipe.
C. use the proper method to cut a steel plate, using an OXY/ACT torch.
D. explain proper brazing technique for copper.
E. demonstrate proper knot tying.
F. demonstrate proper preparation for a beveled coupon.
G. explain the attributes of a successful apprentice.
Steamfitting

Program content includes an introduction to the installation, maintenance, and repair of different types of pipe systems; tool use; material applications and storage; and safety. Upon completion of the program, students will be able to install pipe systems that move liquids or gases under high pressure and use many different materials and construction techniques, depending on the type of project. They will be able to follow building plans or blueprints and instructions from supervisors to lay out the job and work efficiently with the materials and tools of the trade.

To earn a certificate of accomplishment students must complete five out of seven core courses. Students must complete each course used to meet a major requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate. The courses required for the certificate of accomplishment also meet some of the requirements of the certificate of achievement and major for the associate of science degree.

complete at least 10 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>STMFT-110</td>
<td>OSHA-CPR</td>
<td>1.5-2.5 LR</td>
<td>Note: This program is sponsored by the United Association of Union Plumbers, Fitters, Welders, and Service Technicians and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section. This class is the same as PLUMB-110.</td>
</tr>
<tr>
<td>STMFT-111</td>
<td>Trade Mathematics</td>
<td>1.5-2.5 LR</td>
<td>Note: This program is sponsored by the United Association of Union Plumbers, Fitters, Welders, and Service Technicians and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section. This class is the same as PLUMB-111.</td>
</tr>
<tr>
<td>STMFT-112</td>
<td>Use and Care of Tools</td>
<td>1.5-2.5 LR</td>
<td>Note: This program is sponsored by the United Association of Union Plumbers, Fitters, Welders, and Service Technicians and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.</td>
</tr>
<tr>
<td>STMFT-113</td>
<td>Welding Safety/Plate Welding</td>
<td>1.5-2.5 LR</td>
<td>Note: This program is sponsored by the United Association of Union Plumbers, Fitters, Welders, and Service Technicians and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.</td>
</tr>
<tr>
<td>STMFT-114</td>
<td>Oxygen/Acetylene Cutting</td>
<td>1.5-2.5 LR</td>
<td>Note: This program is sponsored by the United Association of Union Plumbers, Fitters, Welders, and Service Technicians and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.</td>
</tr>
<tr>
<td>STMFT-115</td>
<td>Pipe Shop I</td>
<td>1.5-2.5 LR</td>
<td>Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.</td>
</tr>
<tr>
<td>STMFT-116</td>
<td>Pipe Shop II</td>
<td>1.5-2.5 LR</td>
<td>Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.</td>
</tr>
</tbody>
</table>

**STMFT-110 OSHA-CPR**

1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the United Association of Union Plumbers, Fitters, Welders, and Service Technicians and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section. This class is the same as PLUMB-110.

This course covers the regulations governed by OSHA 30 that provide and recognize safe work practices. The student will receive certification in Cardio-Pulmonary Resuscitation and First Aid.

**STMFT-111 Trade Mathematics**

1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the United Association of Union Plumbers, Fitters, Welders, and Service Technicians and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section. This class is the same as PLUMB-111.

This course covers the approaches to mathematical problem solving used in pipe fitting and plumbing.

**STMFT-112 Use and Care of Tools**

1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the United Association of Union Plumbers, Fitters, Welders, and Service Technicians and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course presents an introduction to the identification of tools encountered in the industrial environment and the proper use of trade-related tools.

**STMFT-113 Welding Safety/Plate Welding**

1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the United Association of Union Plumbers, Fitters, Welders, and Service Technicians and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course presents an introduction to welding safety and theory. Students will also be introduced to plate arc welding.

**STMFT-114 Oxygen/Acetylene Cutting**

1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the United Association of Union Plumbers, Fitters, Welders, and Service Technicians and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course presents an introduction to oxygen and acetylene cutting and safety. The processes to cut various plate/pipe thicknesses and layouts will also be discussed and practiced.

**STMFT-115 Pipe Shop I**

1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the United Association of Union Plumbers, Fitters, Welders, and Service Technicians and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course gives related technical instruction to enhance the apprentice's on-the-job training in pipefitting and related technology. The use of various pipe and fitting materials and their applications to piping projects as described in technical drawings will be covered.
Steamfitting

STMFT-116  Pipe Shop II
1.5-2.5 units  LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course gives related technical instruction to enhance the apprentice’s on-the-job training in pipefitting and related technology. Students will be introduced to basic isometric drawing and steam systems with copper connections to be made with soldering, brazing, and welding procedures.

STMFT-117  Related Science in the Piping Trades
1.5-2.5 units  LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section. This class is the same as PLUMB-117.

This course covers the scientific and mechanical principles that are basic to the work of the piping industry. An overview of hydraulic and pneumatic systems as well as industrial plumbing and piping systems and materials will be covered.

STMFT-118  Beginning Drawing and Plan Reading for the Piping Trades
1.5-2.5 units  LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section. This class is the same as PLUMB-118.

This course covers the interpretation of drawings and sketches associated with piping installation. An introduction to basic drawing and drafting methods, technical symbols, and notation will be covered in orthographic and isometric drawing views.

STMFT-119  Advanced Drawing in the Piping Trades
1.5-2.5 units  LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section. This class is the same as PLUMB-119.

In this course students will Interpret, coordinate and make drawings and sketches associated with piping installation.

STMFT-120  Instrumentation I
1.5-2.5 units  LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course gives related technical instruction to enhance the apprentice’s on-the-job training in pipefitting and related technology. Students will be introduced to instrumentation, which includes basic descriptions of processes, loop diagrams and documentation in the instrumentation field.

STMFT-121  Instrumentation II
1.5-2.5 units  LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course gives related technical instruction to enhance the apprentice’s on-the-job training in pipefitting and related technology. Students will be introduced to more advanced Instrumentation including pneumatic controls, liquid level instruments, analyzers, and fiber optic signals.

STMFT-122  Steam Systems
1.5-2.5 units  LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course gives related technical instruction to enhance the apprentice’s on-the-job training in pipefitting and related technology. Students will be introduced to the properties of saturated steam, traps, boilers, and heating systems.

STMFT-123  Electricity for Steamfitting
1.5-2.5 units  LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This is an introductory course in electrical concepts, components, systems, and equipment. Ohm’s and Kirchoff’s laws are used to calculate and measure resistance, voltage, amperage, power in circuits, and safety in the field of steamfitting.
Steamfitting

STMFT-124 Industrial Rigging
1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course presents the study of rigging for the pipe trades and emphasizes principles of safety. Topics will include safety, load limits, crane ratings, basic knots, and organizing a rigging plan.

STMFT-125 Beginning AutoCAD
1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This introductory course presents the fundamentals of AutoCAD and its application to the creation of technical drawings. Hands-on training is utilized to provide a comprehensive overview of the software package and its applications to technical drafting.

STMFT-126 Advanced AutoCAD
1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course is designed for students with previous knowledge and experience in using AutoCAD. Three-dimensional modeling, solid models, customization, and optimal application of AutoCAD are presented.

STMFT-127 Pumps
1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course presents the practical and theoretical aspects of pump systems. Topics include concepts and theory as well as common systems, components, devices, installation, and operation. The laboratory emphasizes hands-on exercises in the installation, operation, and maintenance of industrial pumps.

STMFT-128 Tube Bending
1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course presents the practical and theoretical aspects of tube bending. Topics include theory and concepts of tube bending, as well as components, tools, and installation. The laboratory emphasizes hands-on exercises in the mechanical skills of industrial tube bending including calculating angles, different types of tubing, valves, fittings, clamps and installation.

STMFT-129 Union Heritage
3 units LR
- 54 hours lecture per term
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course presents the heritage and traditions of the United Association, which represents plumbers, steamfitters, and welders among other occupations. Topics include partnerships between the United Association and local union contractors, good work practices, and history of the pipe trades.

STMFT-131 Pipe Welding 1
1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course covers the practical and theoretical aspects of welding processes for the steamfitting apprentice. Safe procedures, components, regulator settings and practices for use of the cutting torch, and groove pipe welding are presented.

STMFT-132 Welding 5
1.5-3.5 units LR
- Variable hours
- Note: This program is sponsored by the United Association of Union Plumbers, Fitters, Welders, and Service Technicians and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course is an introduction to the techniques and methods for welding processes for the steamfitting apprentice. Students will learn how to identify various welding rods, electrodes, and their applications.
Steamfitting

STMFT-133  Welding 6
1.5-3.5 units LR
- Variable hours
- Note: This program is sponsored by the United Association of Union Plumbers, Fitters, Welders, and Service Technicians and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course is an introduction to the techniques and methods for welding processes for the steamfitting apprentice. Techniques studied will include string beads on an open groove pipe weld.

STMFT-134  Welding 7
1.5-3.5 units LR
- Variable hours
- Note: This program is sponsored by the United Association of Union Plumbers, Fitters, Welders, and Service Technicians and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course is an introduction to the techniques and methods for welding processes for the steamfitting apprentice. The topics will include proper handling of grinders, weld coupons, identification of hazards, and an introduction to bevel groove welding processes on pipe.

STMFT-135  Welding 8
1.5-3.5 units LR
- Variable hours
- Note: This program is sponsored by the United Association of Union Plumbers, Fitters, Welders, and Service Technicians and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course is an introduction to the techniques and methods for welding processes for the steamfitting apprentice. Techniques studied will include gas tungsten arc welding (GTAW) process.

STMFT-136  Welding 9
1.5-3.5 units LR
- Variable hours
- Note: This program is sponsored by the United Association of Union Plumbers, Fitters, Welders, and Service Technicians and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course introduces the techniques and methods for welding processes for steamfitting apprentices. Topics include gas metal arc welding (GMAW) and metal arc welding equipment, processes, and applications.

STMFT-137  Welding 10
1.5-3.5 units LR
- Variable hours
- Note: This program is sponsored by the United Association of Union Plumbers, Fitters, Welders, and Service Technicians and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course is an introduction to the techniques and methods for welding processes for the steamfitting apprentice. The topics will include identification of materials, dissimilar metal, distortion control, welding symbols for materials, fabrication standards, and codes.

STMFT-138  Orbital Welding
1.5-3.5 units LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course covers the practical and theoretical aspects of automatic orbital welding machine processes for the steamfitting apprentice. Topics include safety procedures, components, settings, calibration, and practice using the orbital welding machine.

STMFT-140  Construction Management in Steamfitting
1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course offers an introduction to construction management in steamfitting. Topics include administrative procedures, plans and specifications, scheduling, permits, variances, and forms of communication.

STMFT-141  Hydrostatic Testing
1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local Union responsible for this section.

This course presents the proper procedures to successfully complete a hydrostatic test on a piping system. Demonstrations of test packages, hydrostatic pump test procedures, pressure and safely securing the testing area will be included.
STMFT-150  Topics in Steamfitting
.3-4 units  SC
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

A supplemental course in steamfitting to provide a study of current concepts and problems in steamfitting and related subdivisions. Specific topics will be announced in the schedule of classes.

STMFT-299  Student Instructional Assistant
.5-3 units  SC
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled.

TRANSFER STUDIES – CSU
Certificate of achievement
CSU general education breadth

Students completing the program will be able to...
A. communicate effectively, both verbally and in writing.
B. critically analyze and solve problems using the appropriate technique for the issue at hand, including appropriate use of logic, mathematics, multi-disciplinary, and cultural considerations where applicable.
C. critically examine the function, media, subject matter, organization, aesthetic, style, and relative excellence of representative examples of the arts, literature, philosophy, and foreign languages including approaches from various historical, cultural, and gender-based origins.
D. develop an understanding of the information available, the perspectives and approaches of the physical, biological, social, and behavioral sciences, appreciating the power and limits of these methods of inquiry and both individual, ethical, and societal responsibilities.

This certificate is designed for students planning to transfer to the California State University (CSU) System. It offers students a program of study which meets the CSU General Education requirements. Although the certificate recognizes the completion of lower division CSU general education requirements, it does not guarantee admission to a specific campus within the CSU system nor does it guarantee admission to a specific major. Some majors and colleges may require a different lower division preparation and/or a higher GPA than is necessary for this certificate.

Students who intend to transfer must meet all current CSU transfer requirements including minimum GPA and eligibility for certification. Students are strongly advised to meet with a counselor to discuss transfer requirements and lower division major preparation that is needed for their intended transfer school. (Also see CSU GE transfer information in this catalog.)

total minimum required units (CSU GE) 39

TRANSFER STUDIES – IGETC
Certificate of achievement
Intersegmental General Education Transfer Curriculum (IGETC)

Students completing the program will be able to...
A. communicate effectively, both verbally and in writing.
B. critically analyze and solve problems using the appropriate technique for the issue at hand, including appropriate use of logic, mathematics, multi-disciplinary, and cultural considerations where applicable.
C. critically examine the function, media, subject matter, organization, aesthetic, style, and relative excellence of representative examples of the arts, literature, philosophy, and foreign languages including approaches from various historical, cultural, and gender-based origins.
D. develop an understanding of the information available, the perspectives and approaches of the physical, biological, social, and behavioral sciences, appreciating the power and limits of these methods of inquiry and both individual, ethical, and societal responsibilities.
E. organize and present information in person in a logical and understandable manner.
F. demonstrate proficiency in a language other than English, and knowledge of the associated history and culture, at the level expected from two years of high school study (for UC transfer).
Transfer studies

This certificate is designed for students planning to transfer to either the University of California (UC) or the California State University (CSU) System. It offers students a program of study which meets IGETC requirements. Although the certificate recognizes the completion of lower division IGETC requirements, it does not guarantee admission to a specific campus or school within the UC or CSU systems nor does it guarantee admission to a specific major. Some majors and colleges may require a different lower division preparation and/or a higher GPA than is necessary for this certificate.

Students who intend to transfer must meet all current IGETC transfer requirements including minimum GPA and eligibility for certification. Students are strongly advised to meet with a counselor to discuss transfer requirements and lower division major preparation that is needed for their intended transfer school. (Also see IGETC transfer information in this catalog)

| total minimum required units (IGETC) | 34 |

Note: Students intending to transfer to the CSU system are advised that an additional six units of study are required for the American Institutions graduation requirement from CSU.

WORK EXPERIENCE - WRKX

Beth Arman, Senior Dean
Career and Community Partnerships
Administration Building, Room 121

Students may earn units for learning on-the-job through Work Experience Education. It is part of the total educational process that assists students in exploring and wisely choosing a career, preparing for full-time employment, and advancing in careers of their choice.

These courses are for students who are working full or part-time and interested in earning units while gaining practical work experience, either for pay, as interns, or as volunteers. College credit is granted for the following:

WRKX-160 General Work Experience Education
2-3 units SC
- May be repeated eight times
- Variable hours
- Note: In order to enroll in a WRKX course, students must be employed, register for the course, complete an online Employment Form and participate in an orientation. Does not meet requirements for veterans' benefits. Incomplete grades are not awarded for WRKX.

WRKX-160 is supervised employment for students whose jobs do not relate to their college major or area of career interest. Under the supervision of a college instructor, students will acquire employability skills, desirable work habits, and career awareness through on-the-job and other learning experiences. Each unit represents five hours of work per week or 75 hours work per term. Students may earn up to a total of 16 in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253, CSU

WRKX-170 Occupational Work Experience Education
2-4 units SC
- May be repeated eight times
- Variable hours
- Note: In order to enroll in a WRKX-170, students must be employed, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.

WRKX-170 is supervised employment that extends classroom learning to the job site and relates to the student's chosen field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Each unit represents five hours of work per week or 75 hours work per term. Students may earn up to a total of 16 in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253, CSU

WRKX-180 Internship in Occupational Work Experience Education
2-4 units SC
- May be repeated eight times
- Variable hours
- Note: In order to enroll in the WRKX-180 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. Incomplete grades are not awarded for this course.

WRKX-180 is a supervised internship in a skilled or professional level assignment in the student's major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Each unit represents five hours of paid work or four hours of unpaid work per week or 75 hours of paid work or 60 hours of unpaid work per term. Students may earn up to a total of 16 units in any combination of WRKX courses. Repetition allowed per Title 5, Section 55253, CSU
WORKFORCE PREPARATION - WRKP

Emily Stone, Dean
Student Services Center, Room 122

Certificate of completion

Workforce preparation for people with barriers to employment

Students completing this program will be able to...
A. summarize legal protections for job applicants with disabilities or criminal records.
B. explain desirable skills for employment, such as empathy, mindset, communication, self-awareness, and resilience.
C. determine if and when to disclose a barrier to employment, such as a disability, criminal record, etc.

This certificate of completion presents job search and retention skill development to students with challenges in obtaining employment, such as those with a disability or a criminal record. To earn a certificate of completion, students must complete both courses. The courses are noncredit. They are non degree applicable and do not transfer to the California State University (CSU) or University of California (UC) systems or other private universities.

required courses:  units
WRKP-090NC  Addressing Barriers to Employment I: Getting a Job ..................................................... 0
WRKP-091NC  Addressing Barriers to Employment II: Keeping a Job .................................................... 0

total minimum required units 0

WRKP-090NC  Addressing Barriers to Employment I: Getting a Job
0 units  P/NP
• 18 hours lecture
This course prepares students with barriers to employment for the job search. Skills and tools needed by all applicants, such as a resume, cover letter, and networking are presented. Strategies to modify these skills and tools for specific populations, such as people with a disability, criminal record, former foster youth, or CalWORKs recipient are also covered. Students will tailor their own job search based on their objectives and specific circumstances.

WRKP-091NC  Addressing Barriers to Employment II: Keeping a Job
0 units  P/NP
• 18 hours lecture
This course prepares students with barriers to employment for the job search. Skills and tools needed by all applicants, such as a resume, cover letter, and networking are presented. Strategies to modify these skills and tools for specific populations, such as people with a disability, criminal record, former foster youth, or CalWORKs recipient are also covered. Students will tailor their own job search based on their objectives and specific circumstances.