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</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/122M/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 17 for more information about course prerequisites and/or co-requisites.

Recommendations
When a course description lists a recommendation, students are advised to complete the recommended course or courses before enrolling in the selected course. Recommendations 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 29 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](http://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](http://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](http://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](http://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>4</td>
<td>54</td>
<td>54</td>
<td>108</td>
<td>216</td>
<td>12+</td>
</tr>
<tr>
<td>KNACT-110A</td>
<td>1</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.
ADDICTION 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:  units
ADS-102  Introduction to Motivational Interviewing Skills .........................................................3
ADS-151* Ethical and Legal Concerns for ADS Counselors .........................................................1.5
ADS-152  Relapse Prevention ..........................................................3
ADS-154  Dual Disorders ...........................................................3
ADS-168*  Group Process and Leadership .....................................3
ADS-170  Introduction to Codependency and Family Issues .........................3
ADS-171*  ADS Field Work I ......................................................5.5
ADS-172*  ADS Field Work II .....................................................5.5
HSCI-127  Drugs, Health, and Society .......................................3
HSCI-137  Cultural Competence in Health and Social Service ...................3

total minimum units for the major 33.5

*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 an associate in science degree, students must complete each course used to meet a major requirement with a “C” grade or higher.

**Required courses:**

- ADS-102 Introduction to Motivational Interviewing Skills ............................................ 3
- ADS-152 Relapse Prevention ............................................ 3
- ADS-154 Dual Disorders ............................................ 3
- ADS-170 Introduction to Codependency and Family Issues ............................................ 3
- HSCI-127 Drugs, Health, and Society ............................................ 3
- HSCI-137 Cultural Competence in Health and Social Service ............................................ 3

**Total minimum required units** 33.5

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

**Certificate of achievement**

**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. identify the legal and ethical issues that workers may encounter in the addiction treatment field.

E. demonstrate an understanding of how 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.
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>
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<tbody>
<tr>
<td>ADS-102</td>
<td>Introduction to Motivational Interviewing Skills</td>
<td>3</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>3</td>
</tr>
<tr>
<td>ADS-170</td>
<td>Introduction to Codependency and Family Issues</td>
<td>3</td>
</tr>
<tr>
<td>HSCI-127</td>
<td>Drugs, Health, and Society</td>
<td>3</td>
</tr>
<tr>
<td>HSCI-137</td>
<td>Cultural Competence in Health and Social Service</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units:** 18

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**ADS-102 Introduction to Motivational Interviewing Skills**

3 units SC  
- **54 hours lecture per term**  
- **Recommended: Eligibility for ENGL-122 or equivalent**

This course presents an overview of basic communication skills, motivational interviewing techniques, and the theories of Change. Charting protocols and treatment planning techniques will also be covered. CSU

**ADS-150 Topics in Addiction Studies**

3-4 units SC  
- **Variable hours**

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

**ADS-155 Diverse Communities and Social Services**

3 units SC  
- **54 hours lecture per term**  
- **Recommended: Eligibility for ENGL-122 or equivalent**

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

**ADS-151 Ethical and Legal Concerns for ADS Counselors**

1.5 units SC  
- **27 hours lecture per term**  
- **Prerequisite: ADS-102 (may be taken concurrently) and HSCI-127 or equivalents**  
- **Recommended: Eligibility for ENGL-122 or equivalent**

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-152 Relapse Prevention**

3 units SC  
- **54 hours lecture per term**  
- **Recommended: Eligibility for ENGL-122 or equivalent**

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

**ADS-154 Dual Disorders**

3 units SC  
- **54 hours lecture per term**  
- **Recommended: Eligibility for ENGL-122 or equivalent**

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

**ADS-168 Group Process and Leadership**

3 units SC  
- **54 hours lecture per term**  
- **Prerequisite: ADS-102 and HSCI-127 or equivalents**  
- **Recommended: ADS-151 and 170 or equivalents**

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
ADS-170  Introduction to Codependency and Family Issues
3 units  SC
• 54 hours lecture per term
• Recommended: HSCI-127 and eligibility for ENGL-122 or equivalents

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, HSCI-127 and eligibility for ENGL-122 or equivalents
• 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 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

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 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:**

- 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

**plus at least 6 units from:**

Any course not used above or:

- ADJUS-250 Terrorism and Homeland Security ............................................................. 3
- POLSC-121 Introduction to United States Government ............................................... 3
- PSYCH-101 Introduction to Psychology ..................................................................... 3
- SOCIO-120 Introduction to Sociology ......................................................................... 3
- BUS-240 Business Statistics .......................................................................................... 3
- MATH-142 Elementary Statistics with Probability ....................................................... 4
- MATH-144 Statway II ....................................................................................................... 4

**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:  

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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 in criminal justice or related fields such as social services, social work, law, criminal law, and related fields. This certificate will also improve opportunities for employment and provide for advancement and promotion for those currently employed in these fields.

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total minimum required units  20
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.

required courses: units
ADJUS-120 Introduction to the Administration of Justice 3
ADJUS-130 Cultural Diversity in Criminal Justice 3
ADJUS-139 Gangs and Threat Groups in America 3

plus at least 3 units from:
ADJUS-280 Community-Based Corrections 3
ADJUS-284 Interviewing and Counseling 3

total minimum required units 12

Certificate of accomplishment
Administration of justice
Correctional specialist
Students completing the program will be able to...
A. demonstrate familiarity with the basic components of the criminal justice system with special emphasis on the correctional system.
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 in corrections such as working in prisons, jails, probation officers, parole agent, and counselors working with adult offenders. Completion of this certificate will greatly improve the opportunity for employment 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.

required courses: units
ADJUS-120 Introduction to the Administration of Justice 3
ADJUS-124 Elements of Corrections 3
ADJUS-139 Gangs and Threat Groups in America 3
ADJUS-284 Interviewing and Counseling 3

total minimum required units 12

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.

required courses: units
ADJUS-120 Introduction to the Administration of Justice 3
ADJUS-203 Crime Scene Investigation 4
ADJUS-206 Advanced Crime Scene Forensics 4
ADJUS-222 Criminal Investigation 3

total minimum required units 14

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

**Total Minimum Required Units:** 15

**Certificate of accomplishment**

**Administration of justice**

**Juvenile counseling**

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>Juvenile Procedures</td>
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<td>ADJUS-284</td>
<td>Interviewing and Counseling</td>
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</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>
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<td>ADJUS-010NC</td>
<td>Public Safety Employment Application</td>
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<tr>
<td>ADJUS-020NC</td>
<td>Public Safety Written Exam and Writing Skills Preparation</td>
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<td>ADJUS-030NC</td>
<td>Public Safety Oral Interview Preparation</td>
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<td>ADJUS-040NC</td>
<td>Public Safety Physical Fitness and Testing</td>
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**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 agility 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-120 Introduction to the Administration of Justice
3 units  SC
• IGETC: 4; CSU GE: D; DVC GE: IV
• 54 hours lecture per term
• Recommended: Eligibility for ENGL-122 or equivalent
• 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
• Recommended: Eligibility for ENGL-122 or equivalent
• 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
• Recommended: Eligibility for ENGL-122 or equivalent
• 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
• Recommended: Eligibility for ENGL-122 or equivalent
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
• Recommended: Eligibility for ENGL-122 or equivalent
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
- Eligibility for ENGL-122 or equivalent

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-130  Cultural Diversity in Criminal Justice
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL-122 or equivalent
- 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
- Recommended: Eligibility for ENGL-122 or equivalent

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
- Recommended: Eligibility for ENGL-122 or equivalent

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
- Recommended: Eligibility for ENGL-122, 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 autopsy, 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
- Recommended: Eligibility for ENGL-122 or equivalent
- 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  
• Recommended: Eligibility for ENGL-122 or equivalent  
• 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  
• Recommended: Eligibility for ENGL-122 or equivalent  
• 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  
• Recommended: Eligibility for ENGL-122 or equivalent  
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  
• Recommended: Eligibility for ENGL-122 or equivalent  
• 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 officers’ 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  
• Recommended: Eligibility for ENGL-122 or equivalent  
• Note: Participation in vigorous physical activity and 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  
• Recommended: Eligibility for ENGL-122 or equivalent  
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  
• Recommended: Eligibility for ENGL-122 or equivalent  
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 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 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

ADJUS-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

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

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, anthropology instructor, museum curator, population analyst, urban planner, social services consultation, and environmental impact analyst. 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.
Anthropology

The anthropology program at Diablo Valley College offers students the opportunity to study humankind from the broadest biological, historical, and geographical perspectives. Anthropology is a multidisciplinary and yet holistic way to study all aspects of humanity, from biological origins to ways of social behavior, past and present. Anthropology presents to the student a world view that is personally enriching as well as practical. Courses in the program offer knowledge of social and cultural aspects of behavior, as well as the biological nature of humans. Courses included in the anthropology major are intended to give a general understanding of human biology, ecology, evolution, prehistory, and the nature of human cultures.

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.

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>Code</th>
<th>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>
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**plus at least 3 units from:**

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<thead>
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<th>Title</th>
<th>Units</th>
</tr>
</thead>
<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-141</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>or MATH-142</td>
<td>Elementary Statistics with Probability</td>
<td>4</td>
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**plus at least 3 units from any course not used above or:**

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<tr>
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<th>Units</th>
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<tbody>
<tr>
<td>BIOSC-139</td>
<td>Human Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>GEG-125</td>
<td>Introduction to Geographic Information Systems (GIS)</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>

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

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<tr>
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</thead>
<tbody>
<tr>
<td>ANTHR-115</td>
<td>Primate Evolution and Adaptation</td>
<td>3</td>
</tr>
<tr>
<td>ANTHR-126</td>
<td>Introduction to Archaeological Field Methods</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-130</td>
<td>Cultural Geography</td>
<td>3</td>
</tr>
<tr>
<td>MUSIC-114</td>
<td>World Music</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** 18

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**ANTHR-115  Primate Evolution and Adaptation**

3 units  SC

- IGETC: 5B; CSU GE: B2; DVC GE: II
- 54 hours lecture per term
- Recommended: Eligibility for ENGL-122 or equivalent

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
• Recommended: Eligibility for ENGL-122 or equivalent
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
• Recommended: Eligibility for ENGL-122 or equivalent
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-126  Introduction to Archaeological Field Methods
3 units  SC
• 18 hours lecture/108 hours laboratory per term
• Prerequisite: ANTHR-125 or equivalent (may be taken concurrently)
• Recommended: Eligibility for ENGL-122 or equivalent
This course provides training in surface survey, mapping, scientific excavation, classification and analysis of excavated material, writing interpretive reports, and preparation of museum exhibits. Aspects emphasized will depend on available archaeological opportunities in the Bay Area. Students will spend a significant portion of class time in the field. CSU, UC

ANTHR-130  Cultural Anthropology
3 units  SC
• IGETC: 4; CSU GE: D; DVC GE: IV
• 54 hours lecture per term
• Recommended: Eligibility for ENGL-122 or equivalent
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
• Recommended: Eligibility for ENGL-122 or equivalent
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
• Recommended: Eligibility for ENGL-122 or equivalent
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
• Recommended: Eligibility for ENGL-122 or equivalent

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-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

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

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
• 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
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.
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.  
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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:  

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>ARCHI-120 Introduction to Architecture and Environmental Design</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI-126 Computer Aided Design and Drafting - AutoCAD</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI-130 Architectural Graphics I</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI-244 Architectural Practice and Working Drawings</td>
<td>3</td>
</tr>
<tr>
<td>CONST-124 Construction Details and Specifications</td>
<td>3</td>
</tr>
<tr>
<td>CONST-135 Construction Processes: Residential</td>
<td>4</td>
</tr>
<tr>
<td>CONST-144 Materials of Construction</td>
<td>3</td>
</tr>
</tbody>
</table>

plus at least 6 units from:  
ARCHI-131 Architectural Graphics II | 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.
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 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.

<table>
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<tr>
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<tr>
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</tr>
<tr>
<td>ARCHI-130</td>
<td>Architectural Graphics I</td>
</tr>
<tr>
<td>ARCHI-244</td>
<td>Architectural Practice and Working Drawings</td>
</tr>
<tr>
<td>CONST-124</td>
<td>Construction Details and Specifications</td>
</tr>
<tr>
<td>CONST-135</td>
<td>Construction Processes: Residential</td>
</tr>
<tr>
<td>CONST-144</td>
<td>Materials of Construction</td>
</tr>
</tbody>
</table>

**total minimum required units 23**

### ARCHI-110 Design-Build Workshop
1 unit SC
- May be repeated three times
- 72 hours laboratory per term
- Recommended: IDSGN-105 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 and ARCHI-130 (may be taken concurrently) or equivalents
- Recommended: 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
- Recommended: ARCHI-119 or ENGT-119 or equivalent
- Note: Same as ENGT-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)

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
- Recommended: ARCHI-119 or ENGT-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 (3-D) 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 the campus 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
• Recommended: Eligibility for ENGL-122 or equivalent
• Note: ARCHI-156, 157 and 158 may be taken in any order
This course presents a survey of world architecture and urbanism prehistory 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
• Recommended: Eligibility for ENGL-122 or equivalent
• 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
• Recommended: Eligibility for ENGL-122 or equivalent
• 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, Postmodernism 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
• Recommended: Eligibility for ENGL-122 or equivalent
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
• Recommended: 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) and ARCHI-220 or equivalents
This course is a third-level studio design class continuing the study of architectural design. It focuses on the application of advanced design skills and spatial theories to projects of greater architectural complexity. It includes design problems and projects incorporate advanced concepts of site planning, urban design, integration of structural and mechanical systems, programming and circulation. CSU, UC
ARCI-226  Computer Aided Drafting Design, Advanced Concepts - AutoCAD
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Recommended: 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)

ARCI-244  Architectural Practice and Working Drawings I
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Prerequisite: ARCHI-130 or equivalent
- Recommended: CONST-144 or equivalent

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

ARCI-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 ARCI-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.

ARCI-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

ARCI-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 – 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>
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</thead>
<tbody>
<tr>
<td>ART-160</td>
<td>3</td>
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<tr>
<td>ARTDM-136</td>
<td>3</td>
</tr>
<tr>
<td>ARTHS-199</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>ART-161</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-137</td>
<td>3</td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>ART-163</td>
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<tr>
<td>ART-166</td>
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**plus at least 3 units from:**

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<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>ART-164</td>
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</tr>
<tr>
<td>ART-165</td>
<td>3</td>
</tr>
<tr>
<td>WRKX-180</td>
<td>2-4</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 24

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**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, art historian, graphic designer, photographer, sculptor, ceramist, jeweler, printmaker, painter, art illustrator, art technician, museum curator, art journalist, arts administrator, product designer, advertising specialist and other professions in creative endeavor.

The studio arts major is a two-year degree program of transferable 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:**

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<tr>
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<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>ART-101</td>
<td>Introduction to Two-Dimensional Design and Sculpture</td>
<td>3</td>
</tr>
<tr>
<td>ART-102</td>
<td>Introduction to Three-Dimensional Design and Sculpture</td>
<td>3</td>
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</table>

*plus at least 6 units from:*

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<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>ARTHS-193</td>
<td>History of Asian Art</td>
<td>3</td>
</tr>
<tr>
<td>ARTHS-195</td>
<td>History of Prehistoric and Ancient Art</td>
<td>3</td>
</tr>
<tr>
<td>ARTHS-196</td>
<td>History of Medieval and Renaissance Art</td>
<td>3</td>
</tr>
<tr>
<td>ARTHS-197</td>
<td>History of Baroque to 20th Century Art</td>
<td>3</td>
</tr>
<tr>
<td>ART-199</td>
<td>Contemporary Art History</td>
<td>3</td>
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</table>

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

**ceramics**

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<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>ART-151</td>
<td>Visual Theory and Practice - Ceramic Art</td>
<td>3</td>
</tr>
<tr>
<td>ART-152</td>
<td>Wheel-Thrown Pottery I</td>
<td>3</td>
</tr>
<tr>
<td>ART-153</td>
<td>Wheel-Thrown Pottery II</td>
<td>3</td>
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<tr>
<td>ART-154</td>
<td>Hand-Built Ceramics</td>
<td>3</td>
</tr>
<tr>
<td>ART-155</td>
<td>Ceramic Sculpture 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>
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<tr>
<td>ART-255</td>
<td>Ceramic Sculpture II</td>
<td>3</td>
</tr>
<tr>
<td>ART-256</td>
<td>Figurative Ceramics II</td>
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**color**

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<tbody>
<tr>
<td>ART-103</td>
<td>Visual Theory and Practice - Color Theory</td>
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**digital media**

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<tr>
<td>ARTDM-105</td>
<td>Introduction to Digital Imaging</td>
<td>3</td>
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<tr>
<td>ARTDM-112</td>
<td>Digital Imaging for the Artist</td>
<td>3</td>
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<tr>
<td>ARTDM-117</td>
<td>Digital Illustration</td>
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<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>
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<tr>
<td>ARTDM-160</td>
<td>3D Modeling and Animation I</td>
<td>3</td>
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<tr>
<td>ARTDM-161</td>
<td>3D Modeling and Animation II</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-171</td>
<td>Web Design I</td>
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</tr>
<tr>
<td>ARTDM-214</td>
<td>Introduction to Graphic Design</td>
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**drawing**

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<tr>
<td>ART-105</td>
<td>Drawing I</td>
<td>3</td>
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<tr>
<td>ART-106</td>
<td>Drawing and Color</td>
<td>3</td>
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<tr>
<td>ART-107</td>
<td>Figure Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ART-108</td>
<td>Figure Drawing II</td>
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**photography**

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<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>ART-135</td>
<td>Professional Practices for Artists</td>
<td>3</td>
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<tr>
<td>ARTDM-224</td>
<td>Typography</td>
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**metalsmithing**

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<tr>
<td>ART-146</td>
<td>Metalsmithing and Jewelry I</td>
<td>3</td>
</tr>
<tr>
<td>ART-147</td>
<td>Metalsmithing and Jewelry II</td>
<td>3</td>
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**painting**

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<th>Course Title</th>
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<tr>
<td>ART-120</td>
<td>Watercolor I</td>
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<tr>
<td>ART-121</td>
<td>Watercolor II</td>
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<tr>
<td>ART-126</td>
<td>Painting I: Introduction to Painting</td>
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</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 Theme Development</td>
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<tr>
<td>ART-129</td>
<td>Advanced Painting</td>
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<td>ART-130</td>
<td>Figure Painting</td>
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<tr>
<td>ART-131</td>
<td>Painting and Abstraction</td>
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**printmaking**

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<tr>
<td>ART-109</td>
<td>Monotype and Mixed Media</td>
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<tr>
<td>ART-110</td>
<td>Introduction to Printmaking</td>
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<tr>
<td>ART-111</td>
<td>Printmaking: Etching I</td>
<td>3</td>
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<tr>
<td>ART-112</td>
<td>Printmaking: Etching II</td>
<td>3</td>
</tr>
<tr>
<td>ART-114</td>
<td>Printmaking: Woodblock I</td>
<td>3</td>
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<tr>
<td>ART-116</td>
<td>Printmaking: Screen Print</td>
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</tbody>
</table>

**sculpture**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-138</td>
<td>Sculpture I</td>
<td>3</td>
</tr>
<tr>
<td>ART-139</td>
<td>Sculpture II</td>
<td>3</td>
</tr>
<tr>
<td>ART-141</td>
<td>From Clay to Bronze</td>
<td>3</td>
</tr>
<tr>
<td>ART-144</td>
<td>Metal Casting Techniques I</td>
<td>3</td>
</tr>
</tbody>
</table>

**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 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>ART-101</td>
<td>Introduction to Two-Dimensional 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>Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ARTHS-196</td>
<td>History of Medieval and Renaissance Art</td>
<td>3</td>
</tr>
<tr>
<td>ARTHS-197</td>
<td>History of Baroque to 20th Century Art</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>
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</thead>
<tbody>
<tr>
<td>ARTHS-193</td>
<td>History of Asian Art</td>
<td>3</td>
</tr>
<tr>
<td>ARTHS-195</td>
<td>History of Prehistoric and Ancient Art</td>
<td>3</td>
</tr>
<tr>
<td>ARTHS-199</td>
<td>Contemporary Art History</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 9 units from:**

**applied design**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-146</td>
<td>Metalsmithing and Jewelry I</td>
<td>3</td>
</tr>
<tr>
<td>ART-147</td>
<td>Metalsmithing and Jewelry II</td>
<td>3</td>
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</tbody>
</table>

**ceramics**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-152</td>
<td>Wheel-Thrown Pottery I</td>
<td>3</td>
</tr>
<tr>
<td>ART-154</td>
<td>Hand-Built Ceramics I</td>
<td>3</td>
</tr>
<tr>
<td>ART-153</td>
<td>Wheel-Thrown Pottery II</td>
<td>3</td>
</tr>
<tr>
<td>ART-155</td>
<td>Ceramic Sculpture I</td>
<td>3</td>
</tr>
<tr>
<td>ART-156</td>
<td>Figurative Ceramics I</td>
<td>3</td>
</tr>
</tbody>
</table>

**color**

<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>
</tbody>
</table>

**digital art**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTDM-112</td>
<td>Digital Imaging for the Artist</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-171</td>
<td>Web Design I</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-214</td>
<td>Introduction to Graphic Design</td>
<td>3</td>
</tr>
</tbody>
</table>

**drawing**

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-106</td>
<td>Drawing and Color</td>
<td>3</td>
</tr>
<tr>
<td>ART-107</td>
<td>Figure Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ART-108</td>
<td>Figure Drawing II</td>
<td>3</td>
</tr>
</tbody>
</table>

**other media**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTDM-224</td>
<td>Typography</td>
<td>3</td>
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</table>

**painting**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>ART-120</td>
<td>Watercolor I</td>
<td>3</td>
</tr>
<tr>
<td>ART-126</td>
<td>Painting I: Introduction to Painting</td>
<td>3</td>
</tr>
<tr>
<td>ART-127</td>
<td>Painting II: Intermediate Painting</td>
<td>3</td>
</tr>
</tbody>
</table>

**photography**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-160</td>
<td>Photography I</td>
<td>3</td>
</tr>
<tr>
<td>ART-161</td>
<td>Photography II</td>
<td>3</td>
</tr>
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</table>

**printmaking**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-109</td>
<td>Monotype and Mixed Media</td>
<td>3</td>
</tr>
<tr>
<td>ART-110</td>
<td>Introduction to Printmaking</td>
<td>3</td>
</tr>
<tr>
<td>ART-111</td>
<td>Printmaking: Etching I</td>
<td>3</td>
</tr>
</tbody>
</table>

**sculpture**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-138</td>
<td>Sculpture I</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major**: 27

**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, hone 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>Art Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-105</td>
<td>3</td>
</tr>
<tr>
<td>ART-152</td>
<td>3</td>
</tr>
<tr>
<td>ART-155</td>
<td>3</td>
</tr>
<tr>
<td>ART-299</td>
<td>3</td>
</tr>
<tr>
<td>ARTHS-199</td>
<td>3</td>
</tr>
</tbody>
</table>

*minimum 2 units required

**plus at least 9 units from:**

<table>
<thead>
<tr>
<th>Art Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-153</td>
<td>3</td>
</tr>
<tr>
<td>ART-154</td>
<td>3</td>
</tr>
<tr>
<td>ART-156</td>
<td>3</td>
</tr>
<tr>
<td>ART-252</td>
<td>3</td>
</tr>
<tr>
<td>ART-253</td>
<td>3</td>
</tr>
<tr>
<td>ART-254</td>
<td>3</td>
</tr>
<tr>
<td>ART-255</td>
<td>3</td>
</tr>
<tr>
<td>ART-256</td>
<td>3</td>
</tr>
<tr>
<td>ART-298</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.

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>Art Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-105</td>
<td>3</td>
</tr>
<tr>
<td>ART-126</td>
<td>3</td>
</tr>
<tr>
<td>ART-197</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 6 units from:**

<table>
<thead>
<tr>
<th>Art Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-103</td>
<td>3</td>
</tr>
<tr>
<td>ART-106</td>
<td>3</td>
</tr>
<tr>
<td>ART-107</td>
<td>3</td>
</tr>
<tr>
<td>ART-120</td>
<td>3</td>
</tr>
<tr>
<td>ART-135</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-112</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: 

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-160</td>
<td>Photography I</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-136</td>
<td>Introduction to Digital Photography</td>
<td>3</td>
</tr>
<tr>
<td>ARTHS-199</td>
<td>Contemporary Art History</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>ART-161</td>
<td>Photography II</td>
<td>3</td>
</tr>
<tr>
<td>ART-163</td>
<td>Documentary Photography</td>
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<tr>
<td>ART-166</td>
<td>Experimental Photography</td>
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</tr>
<tr>
<td>ARTDM-137</td>
<td>Intermediate Digital Photography</td>
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</tr>
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</table>

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>Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-112</td>
<td>Digital Imaging for the Artist</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>ART-109</td>
<td>Monotype and Mixed Media</td>
<td>3</td>
</tr>
<tr>
<td>ART-110</td>
<td>Introduction to Printmaking</td>
<td>3</td>
</tr>
<tr>
<td>ART-111</td>
<td>Printmaking: Etching I</td>
<td>3</td>
</tr>
<tr>
<td>ART-112</td>
<td>Printmaking: Etching II</td>
<td>3</td>
</tr>
<tr>
<td>ART-114</td>
<td>Printmaking: Woodblock</td>
<td>3</td>
</tr>
<tr>
<td>ART-116</td>
<td>Printmaking: Screen Print</td>
<td>3</td>
</tr>
</tbody>
</table>

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, interns, and paid apprenticeships in print publishers, and work in print shops including those specializing in etching, woodblock, letterpress, monotype, and silk-screen 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: 

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-105</td>
<td>Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-112</td>
<td>Digital Imaging for the Artist</td>
<td>3</td>
</tr>
</tbody>
</table>

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-109</td>
<td>Monotype and Mixed Media</td>
<td>3</td>
</tr>
<tr>
<td>ART-110</td>
<td>Introduction to Printmaking</td>
<td>3</td>
</tr>
<tr>
<td>ART-111</td>
<td>Printmaking: Etching I</td>
<td>3</td>
</tr>
<tr>
<td>ART-112</td>
<td>Printmaking: Etching II</td>
<td>3</td>
</tr>
<tr>
<td>ART-114</td>
<td>Printmaking: Woodblock</td>
<td>3</td>
</tr>
<tr>
<td>ART-116</td>
<td>Printmaking: Screen Print</td>
<td>3</td>
</tr>
</tbody>
</table>

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”.

<table>
<thead>
<tr>
<th>ART</th>
<th>Family: Design</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>

<table>
<thead>
<tr>
<th>ART</th>
<th>Family: Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-105</td>
<td>Drawing I</td>
</tr>
<tr>
<td>ART-106</td>
<td>Drawing and 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>
</tr>
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</table>

<table>
<thead>
<tr>
<th>ART</th>
<th>Family: Printmaking</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>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ART</th>
<th>Family: Painting</th>
</tr>
</thead>
<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>
</tr>
<tr>
<td>ART-128</td>
<td>Painting Concepts and Theme Development</td>
</tr>
<tr>
<td>ART-129</td>
<td>Advanced Painting</td>
</tr>
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<tr>
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<tr>
<td>ART-150FM</td>
<td>Figurative Monotype and Mixed Media</td>
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</table>
ART-101 Introduction to Two-Dimensional Design
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Recommended: Eligibility for ENGL 116/118 or 117 or equivalent

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
• Recommended: Eligibility for ENGL-116/118 or 117 or equivalent

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-mache, 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
• Recommended: ART 101 or equivalent; eligibility for ENGL 116/118 or 117 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 reinterpreting the cultural traditions they study into a contemporary context with an emphasis on creative problem solving skills. CSU, UC

ART-105 Drawing I
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART-101 or equivalent; eligibility for ENGL-116/118 or equivalent

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

ART-106 Drawing and Color
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART-101, ART-105 or equivalent. Eligibility for ENGL-116/118 or equivalent
• Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

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
• Recommended: ART-105 or equivalent; eligibility for ENGL-116/118 or equivalent

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
• Recommended: Eligibility for ENGL-116/118 or equivalent
• Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This course builds on concepts and techniques developed in ART-107. The focus is on drawing the human figure and applying ink wash and color materials such as pastel, gouache, and watercolor. CSU, UC
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<th>ART-114</th>
<th>Printmaking: Woodblock I</th>
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<td>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</td>
<td>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</td>
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<tr>
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<th>ART-116</th>
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<td>• Note: Mandatory materials fee required</td>
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<td>This course provides an introduction to various printmaking techniques: relief (linocut/woodcut), intaglio (drypoint, etching and collagaph), planography (lithograph and monotype), and stencil (screenprint). CSU, UC</td>
<td>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</td>
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<th>ART-111</th>
<th>Printmaking: Etching I</th>
<th>ART-120</th>
<th>Watercolor I</th>
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<td>• Recommended: ART-110 or equivalent; eligibility for ENGL-122 or equivalent</td>
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<td>• Note: Mandatory materials fee required</td>
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<td>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</td>
<td>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</td>
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<td>• Prerequisite: ART-111 or equivalent</td>
<td>• Prerequisite: ART-120 or equivalent</td>
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<td>• Recommended: Eligibility for ENGL-122 or equivalent</td>
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<td>• Note: Students may meet prerequisite equivalency in a variety of ways. Students should seek assistance at Admissions and Records. Mandatory materials fee required</td>
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<td>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</td>
<td>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</td>
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ART-126  Painting I: Introduction to Painting  
3 units  SC  
- 36 hours lecture/72 hours laboratory per term  
- Recommended: ART-101, ART-105 and eligibility for ENGL-116/118 or equivalents  
- 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  
- Recommended: ART-103 or equivalent; eligibility for ENGL-116/118 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 Theme Development  
3 units  SC  
- 36 hours lecture/72 hours laboratory per term  
- Recommended: ART-127 or equivalent; eligibility for ENGL-116/118 or equivalent  
This course is designed to help students transition to initiating a series of paintings with a unifying theme. 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  
- Recommended: ART-127 or equivalent; eligibility for ENGL-116/118 or equivalent  
This course is an advanced-level painting class. Approaches to painting issues concerning subject matter, composition, and expression will be studied. Students will complete a portfolio consisting of a cohesive and thematic series of paintings. CSU, UC

ART-130  Figure Painting  
3 units  SC  
- 36 hours lecture/72 hours laboratory per term  
- Recommended: ART-107, ART-127 and eligibility for ENGL-116/118 or equivalents  
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  
- Recommended: ART-127 or Equivalent; Eligibility for ENGL-117 or Equivalent  
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  
- Recommended: Eligibility for ENGL-117 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  
- Recommended: ART-102 or equivalent; eligibility for ENGL-116/118 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: woodworking, 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  
- Recommended: 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  
• Recommended: ART-102 or equivalent; eligibility for ENGL-116/118 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  
• Recommended: 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  
• Recommended: ART-102 and ART-144 or equivalents  
• Note: Mandatory materials fee required  
This course expands on foundry 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  
• Recommended: 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  
• Recommended: ART 102 and ART 146 or equivalents  
• 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  
• Recommended: Eligibility for ENGL-116/118 or equivalent  
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  
• Recommended: 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  
• Recommended: 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  
- Recommended: 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  
- Recommended: Eligibility for ENGL-116/118 or equivalent  
- Note: Mandatory materials fee required  

Using functional objects as a starting point, students will learn traditional and contemporary hand-building techniques. This will involve the study of hand-built ceramics from various western and non-western cultures. Students will 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  
- Recommended: Eligibility for ENGL-116/118 or equivalent  
- 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  
- Recommended: Eligibility for ENGL-116/118 or equivalent  
- 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  
- Recommended: Eligibility for ENGL-122 or equivalent  
- Note: Students will need to have a working SLR film camera with manual capability. 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. Technical aspects of photography along with the historical and contemporary role of photography in visual expression, including contributions from diverse cultures 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  
- Recommended: ART-160 or equivalent; eligibility for ENGL-122 or equivalent  
- Note: Students supply a working SLR film camera with manual capability and a light meter (either hand held or built into the camera). 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  
- Recommended: ART-161 or equivalent; eligibility for ENGL-122 or equivalent  
- Note: Students supply cameras (film or DSLR), laptop, and external drive. 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
- Recommended: ART-161 or equivalent; eligibility for ENGL-122 or equivalent
- Note: Students supply a working SLR film or DSLR camera with manual capability. 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
- Recommended: ART-161 or equivalent; eligibility for ENGL-122 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
- Recommended: ART-160 and ARTDM-136 or equivalents
- 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-252 Wheel-Thrown Pottery III
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Recommended: 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
- Recommended: 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
- Recommended: ART-154 or equivalent; eligibility for ENGL-116/118 or equivalent
- 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
- Recommended: ART-155 or equivalent; eligibility for ENGL-116/118 or equivalent
- 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-250 Projects in 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-256    Figurative Ceramics II
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Recommended: ART-156 or equivalent; eligibility for ENGL-116/118 or equivalent
- 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-graphics 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.

major requirements:    units
ARTDM-105    Introduction to Digital Imaging          3
ARTDM-167    Digital Animation                          3
DRAMA-122    Basic Principles of Acting                 3
FTVE-160    Introduction to Film Production              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                      21
**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:**

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>ARTDM-105 Introduction to Digital Imaging</td>
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<td>ARTDM-115 Digital Interface Design</td>
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<td>ARTDM-117 Digital Illustration</td>
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</tr>
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<td>ARTDM-140 Motion Graphics</td>
<td>3</td>
</tr>
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<td>ARTDM-160 3D Modeling and Animation I</td>
<td>3</td>
</tr>
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<td>ARTDM-171 Web Design I</td>
<td>3</td>
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<td>ARTDM-190 Digital Media Projects</td>
<td>3</td>
</tr>
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<td>ARTDM-214 Introduction to Graphic Design</td>
<td>3</td>
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<td>CARER-140 Job Search Strategies</td>
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<tr>
<td>CIS-108 Introduction to WordPress</td>
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**plus at least 6 units from:**

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<td>ART-106 Drawing and Color</td>
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<td>ART-107 Figure Drawing I</td>
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<td>ARTDM-100 Introduction to the History and Development of Digital Media</td>
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<td>ARTDM-101 Introduction to the Production of Digital Media</td>
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<td>ARTDM-112 Digital Imaging for the Artist</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-130 Introduction to Digital Audio</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-136 Introduction to Digital Photography</td>
<td>3</td>
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<tr>
<td>ARTDM-161 3D Modeling and Animation II</td>
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<td>ARTDM-165 Drawing for Digital Animation</td>
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<td>ARTDM-166 Intermediate Drawing for Digital Animation</td>
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<td>ARTDM-170 Animation for Interaction Design</td>
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<td>ARTDM-172 User Experience Design for Web and Mobile Devices</td>
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<td>ARTDM-174 Web and Mobile Design with JavaScript</td>
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<td>ARTDM-180 Game Design I</td>
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<td>ARTDM-224 Typography</td>
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<td>BUS-109 Introduction to Business</td>
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<td>BUSMG-191 Small Business Management</td>
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<td>COMSC-110 Introduction to Programming</td>
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<td>FTVE-165 Digital Editing</td>
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<td>FTVE-166 Intermediate Digital Editing</td>
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<tr>
<td>MUSX-172 Introduction to Electronic Music and MIDI</td>
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<td>MUSX-173 Advanced Electronic Music</td>
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<tr>
<td>MUSX-174 Introduction to Music Technology and Pro Tools</td>
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<tr>
<td>WRKX-170 Internship in Occupational Work Experience Education</td>
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<td>WRKX-180 Internship in Occupational Work</td>
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</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:**

<table>
<thead>
<tr>
<th>Course</th>
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<td>ARTDM-105 Introduction to Digital Imaging</td>
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<tr>
<td>ARTDM-160 3D Modeling and Animation I</td>
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<td>ARTDM-161 3D Modeling and Animation II</td>
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<td>ARTDM-167 Digital Animation</td>
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<td>ARTDM-115 Digital Interface Design</td>
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<td>COMSC-110 Introduction to Programming</td>
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<tr>
<td>DRAMA-122 Basic Principles of Acting</td>
<td>3</td>
</tr>
</tbody>
</table>

**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.

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<tr>
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<td>Digital Media Projects</td>
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<td>ARTDM-214</td>
<td>Introduction to Graphic Design</td>
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</tr>
<tr>
<td>ARTDM-224</td>
<td>Typography</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 24

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**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 are available in online and traditional formats. Some courses may satisfy both major and general education requirements; however, the units are only counted once.

**major requirements:**

<table>
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<tr>
<th>Course</th>
<th>Title</th>
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<td>ARTDM-105</td>
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<td>Digital Interface Design</td>
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<td>Web and Mobile Design with JavaScript</td>
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<td>ARTDM-136</td>
<td>Introduction to Digital Photography</td>
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<td>Animation for Interaction Design</td>
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<td>ARTDM-295</td>
<td>Occupational Work Experience in ARTDM</td>
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<td>ARTDM-296</td>
<td>Internship in Occupational Work Experience in ARTDM</td>
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**plus at least 3 units from:**

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<td>BUS-250</td>
<td>Business Communication</td>
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<td>BUSMK-259</td>
<td>Digital Marketing Fundamentals</td>
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<td>BUSMK-260</td>
<td>Social Media Marketing</td>
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</table>

**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>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tr>
<td>ARTDM-105</td>
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<td>DRAMA-122</td>
<td>Basic Principles of Acting</td>
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<td>FTVE-160</td>
<td>Introduction to Film Production</td>
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plus at least 3 units from:

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plus at least 6 units from:

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<td>3D Modeling and Animation II</td>
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<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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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:  

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plus at least 12 units from:

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<td>Digital Imaging for the Artist</td>
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<tr>
<td>ARTDM-115</td>
<td>Digital Interface Design</td>
<td>3</td>
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<td>ARTDM-117</td>
<td>Digital Illustration</td>
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<td>ARTDM-130</td>
<td>Introduction to Digital Audio</td>
<td>3</td>
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<tr>
<td>ARTDM-136</td>
<td>Introduction to Digital Photography</td>
<td>3</td>
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<tr>
<td>ARTDM-140</td>
<td>Motion Graphics</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-149</td>
<td>Fundamentals of Digital Video</td>
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<td>ARTDM-150</td>
<td>Topics in Digital Media</td>
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<td>ARTDM-160</td>
<td>3D Modeling and Animation I</td>
<td>3</td>
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<td>ARTDM-161</td>
<td>3D Modeling and Animation II</td>
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<td>ARTDM-165</td>
<td>Drawing for Digital Animation</td>
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<td>ARTDM-166</td>
<td>Intermediate Drawing for Animation</td>
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<td>ARTDM-167</td>
<td>Digital Animation</td>
<td>3</td>
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<td>ARTDM-170</td>
<td>Animation for Interaction Design</td>
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<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>
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<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>
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<tr>
<td>ARTDM-190</td>
<td>Digital Media Projects</td>
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<td>ARTDM-191</td>
<td>Digital Media Portfolio Development</td>
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</tr>
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<td>ARTDM-195</td>
<td>Applied Production For Digital Media</td>
<td>3</td>
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<tr>
<td>ARTDM-214</td>
<td>Introduction to Graphic Design</td>
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</tr>
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<td>ARTDM-224</td>
<td>Typography</td>
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<td>ARTDM-295</td>
<td>Occupational Work Experience</td>
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<td>ARTDM-296</td>
<td>Internship in Occupational Work</td>
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<td>ARTDM-298</td>
<td>Independent Study</td>
<td>0.5-3</td>
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<tr>
<td>ARTDM-299</td>
<td>Student Instruction Assistant</td>
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</tr>
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</table>

total minimum required units  15
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>
<tr>
<td>ARTDM-160</td>
<td>3D Modeling and Animation I</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-161</td>
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</tr>
<tr>
<td>ARTDM-181</td>
<td>Game Design II</td>
<td>3</td>
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</table>

plus at least 3 units from:

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
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<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:

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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>Drawing I</td>
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<tr>
<td>ARTDM-105</td>
<td>Introduction to Digital Imaging</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-117</td>
<td>Digital Illustration</td>
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<td>Web Design I</td>
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<tr>
<td>ARTDM-224</td>
<td>Typography</td>
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</table>

**total minimum required units** 24
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:

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<tr>
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<tbody>
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<td>ARTDM-171</td>
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<tr>
<td>ARTDM-172</td>
<td>3</td>
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<tr>
<td>ARTDM-190</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>ARTDM-173</td>
<td>3</td>
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<tr>
<td>ARTDM-174</td>
<td>3</td>
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</tbody>
</table>

the total minimum required units is 21 units.

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:

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<tr>
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<tbody>
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<tr>
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<td>ARTDM-115</td>
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<td>ARTDM-140</td>
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<td>ARTDM-160</td>
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<td>ARTDM-170</td>
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<td>ARTDM-190</td>
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<td>CIS-108</td>
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<tr>
<td>FTVE-165</td>
<td>3</td>
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</table>

the total minimum required units is 36 units.

Certificate of achievement
Web design
Students completing the program will be able to...

A. develop and publish web pages using industry best practices.
B. create planning and user experience design deliverables for web and mobile projects.
C. implement rich media, visual design, and interaction design concepts.
D. build foundation knowledge in digital media production.
E. qualify for entry-level employment in the art digital media field.
F. gain skills in a range of creative media tools.
The art digital media program prepares students for entry level employment in the digital media industry with a specialization in web design. This program of study will provide students with the design and technical skills needed for creating interactive digital media. 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.

To earn a certificate of achievement, 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:**

- 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

*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

**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.
ARTDM-115  Digital Interface Design
3 units SC
• 36 hours lecture/54 hours laboratory per term
• Recommended: 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 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

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, UC

ARTDM-136  Introduction to Digital Photography
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART-160 or equivalent
• Note: Students must have digital camera with manual functions. 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/54 hours laboratory per term
• Recommended: 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
• Recommended: 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  
• Recommended: 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  
• Recommended: 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  
• Recommended: 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  
• Recommended: 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  
• Recommended: ARTDM-160 and ARTDM-165 or equivalents  
• Formerly ARTDM-175 (18-19)  

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  
• Recommended: ARTDM 115 and ARTDM 171 or equivalents  

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  
• Recommended: 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
- Recommended: 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
- Recommended: 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
- Recommended: 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-191  Digital Media Portfolio Development
3 units  SC
- 36 hours lecture/54 hours laboratory per term
- Recommended: ART-105, ARTDM-105, ARTDM-115, ARTDM-171, ARTDM-214 or equivalents
This advanced course is designed for students who are preparing for employment in the digital media industry. Students explore career opportunities along with principles of professional portfolio preparation for digital media. Students have the opportunity to view professional portfolios and present their own portfolios to their class peers. CSU
ARTDM-195  Applied Production for Digital Media
3 units SC
• 36 hours lecture/54 hours laboratory per term
• Recommended: ARTDM-190 or equivalent
This course is designed to give students applied production and business experience with a wide variety of client-driven digital media projects. Working independently and in teams, students will build upon the design, tools, and business skills developed in prior coursework. Students will involve themselves in the production process and create projects to meet client specifications. Students will also be intimately involved with the decision making process for running an independent multimedia business. Projects will vary significantly from term to term as well as within the course of a term. CSU

ARTDM-214  Introduction to Graphic Design
3 units SC
• IGETC: A3; CSU GE: C1; DVC GE: III
• 36 hours lecture/54 hours laboratory per term
• Recommended: Eligibility for ENGL-122 or equivalent
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
• Recommended: Eligibility for ENGL-122 or equivalent
This course presents fundamentals of typography including history, theory, and practice, study of letterforms and type design. Emphasis is placed on the vocabulary of typographic form and its relationship to message and purpose. 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.

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

ART-105  Drawing I.................................................  3
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

plus at least 3 units from:
ART-101  Introduction to Two-Dimensional Design.........................  3
ART-102  Introduction to Three-Dimensional Design and Sculpture.............  3
ART-107  Figure Drawing I...................................................  3
ART-138  Sculpture I.........................................................  3
ART-152  Wheel-Thrown Pottery I..................................................  3
ART-160  Photography I..........................................................  3
ARTDM-112  Digital Imaging for the Artist.......................................  3

plus at least 3 units from:
ARTHS-199  Contemporary Art History.........................................  3
ENGL-176  The Graphic Novel as Literature.....................................  3
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
GRMAN-121  Second Term German..................................................  5
GRMAN-220  Third Term German....................................................  5
GRMAN-221  Fourth Term German...................................................  5
GRMAN-230  Fifth Term German.....................................................  3
GRMAN-231  Sixth Term German....................................................  3
HUMAN-110  Humanities: Ancient Civilizations..................................  3
HUMAN-111  Humanities: The Middle Ages and Renaissance......................  3
HUMAN-112  Humanities: The Modern World......................................  3
HUMAN-115  Humanities: The Multicultural American Experience...............  3
HUMAN-116  Humanities: The Arts and Culture of Asia..........................  3
ITAL-121  Second Term Italian...................................................  5
ITAL-220  Third Term Italian......................................................  5
ITAL-221  Fourth Term Italian......................................................  5
ITAL-230  Fifth Term Italian.......................................................  3
ITAL-231  Sixth Term Italian.......................................................  3

total minimum units for the major  21

ARTHS-190  Topics in Art History
.3-4 units  SC
- Variable hours
- Recommended: Eligibility for ENGL-116/118 or equivalent
A supplemental course in art history to provide a study of current concepts and problems in art history. Specific topics will be announced in the schedule of classes. CSU

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
- Recommended: Eligibility for ENGL-122 or equivalent
This course provides an introduction to major art forms and traditions in Asia from prehistory to the present. Artists, patrons, cultures, religions, and their intersections will be covered. Comparisons will be drawn between the course material and other artistic traditions. 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
- Recommended: Eligibility for ENGL-122 or equivalent
A history of Western art from the Paleolithic through the end of the Roman period and the beginning of early Christian art. Archaeological and anthropological problems are discussed in relation to the study of art styles. The social and cultural background of ancient civilizations and role of the artist will be considered. C-ID: ARTHS-195 + ARTHS-196 = 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  
- Recommended: Eligibility for ENGL-122 or equivalent  
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 196 + 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  
- Recommended: Eligibility for ENGL-122 or equivalent  
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  
- Recommended: Eligibility for ENGL-122 or equivalent  
This course presents a survey of contemporary art in the United States and Europe from 1945 to the present. Recent global trends in art will also be considered. 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

ASTRO-110  The Visible Universe  
3 units  LR  
- IGETC: 5A; CSU GE: B1; DVC GE: II  
- 54 hours lecture per term  
- Recommended: MATH-085 or equivalent, eligibility for ENGL-122 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  
- 54 hours lecture/54 hours laboratory per term  
- Recommended: MATH-085 or equivalent, eligibility for ENGL-122, 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 the 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  
• Recommended: MATH-090 or MATH-090SP or MATH-090E or one year of high school algebra or equivalent and MATH-114 and eligibility for ENGL-122 or 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-128  The Universe for Beginners  
4 units  LR  
• IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II  
• 54 hours lecture/54 hours laboratory per term  
• Recommended: MATH-090, and eligibility for ENGL-122 or equivalents  
This course provides an overview of current theories regarding the universe and the methods astronomers use to arrive at conclusions. Students will observe the sky and physical phenomena and will solve astronomical problems to reinforce knowledge and skills. 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

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.

Joseph Gorga, 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:  
BIOSCI-130 Principles of Cellular and Molecular Biology ...........................................5
BIOSCI-131 Principles of Organismal Biology, Evolution and Ecology .................................5
CHEM-120 General College Chemistry I .................................................................5
CHEM-121 General College Chemistry II .........................................................5

total minimum units for the major 20

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 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.

major requirements:  
BIOSCI-130 Principles of Cellular and Molecular Biology ...........................................5
BIOSCI-131 Principles of Organismal Biology, Evolution and Ecology .................................5
CHEM-120 General College Chemistry I .................................................................5
CHEM-121 General College Chemistry II .........................................................5

total minimum units for the major 20

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 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.

**Major Requirements:**

**Units**

<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>BIOSC-130</td>
<td>Principles of Cellular and Molecular Biology</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-131</td>
<td>Principles of Organisinal Biology, Evolution and Ecology</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-107</td>
<td>Integrated Inorganic, Organic, and Biological Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-109</td>
<td>Introduction to Organic and Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-120</td>
<td>General College Chemistry I</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>plus at least 4 units from:</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-107 Genetics and Evolution</td>
</tr>
<tr>
<td>BIOSC-119 Fundamentals of Microbiology</td>
</tr>
<tr>
<td>BIOSC-130 Principles of Cellular and Molecular Biology</td>
</tr>
<tr>
<td>BIOSC-146 Principles of Microbiology</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>plus at least 12 units from the following areas of specialization; with at least 3 units from each area:</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-126 Ecology and Field Biology</td>
</tr>
<tr>
<td>BIOSC-131 Principles of Organisinal Biology, Evolution and Ecology</td>
</tr>
<tr>
<td>BIOSC-161 Fundamentals of Marine Biology</td>
</tr>
<tr>
<td>BIOSC-162 Fundamentals of Marine Biology with Laboratory</td>
</tr>
<tr>
<td>BIOSC-170 Environmental Science</td>
</tr>
<tr>
<td>BIOSC-171 Environmental Science with Laboratory</td>
</tr>
<tr>
<td>HORT-148L California Native Plants Laboratory</td>
</tr>
<tr>
<td>OCEAN-101 Fundamentals of Oceanography</td>
</tr>
<tr>
<td>OCEAN-102 Fundamentals of Oceanography with Laboratory</td>
</tr>
</tbody>
</table>

**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:**
### Biological science

**required biological science core: at least 4 units from the following biological science courses with a laboratory:**

<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-107</td>
<td>Genetics and Evolution</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-120</td>
<td>Introduction to Human Anatomy and Physiology</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-126</td>
<td>Ecology and Field Biology</td>
<td>4</td>
</tr>
<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 Organismal Biology, Evolution and Ecology</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-139</td>
<td>Human Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-146</td>
<td>Principles of Microbiology</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-162</td>
<td>Fundamentals of Marine Biology with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-171</td>
<td>Environmental Science with Laboratory</td>
<td>4</td>
</tr>
</tbody>
</table>

### Physical science

**required physical science core: at least 4 units from the following physical science courses with a laboratory:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTRO-110</td>
<td>The Visible Universe</td>
<td>3</td>
</tr>
<tr>
<td>ASTRO-130</td>
<td>Astronomy Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>ASTRO-120</td>
<td>Elementary Astronomy</td>
<td>3</td>
</tr>
<tr>
<td>ASTRO-130</td>
<td>Astronomy Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>CHEM-106</td>
<td>Chemistry for Non-Science Majors</td>
<td>4</td>
</tr>
<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>
<td>4</td>
</tr>
<tr>
<td>CHEM-120</td>
<td>General College Chemistry I</td>
<td>5</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>
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<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>
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<tr>
<td>GEOL-120</td>
<td>Physical Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-122</td>
<td>Physical Geology Laboratory</td>
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</tr>
<tr>
<td>GEOL-121</td>
<td>Earth and Life Through Time</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-124</td>
<td>Earth and Life Through Time Laboratory</td>
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</tr>
<tr>
<td>GEOL-130</td>
<td>Earth Science</td>
<td>4</td>
</tr>
<tr>
<td>OCEAN-102</td>
<td>Fundamentals of Oceanography with Laboratory</td>
<td>4</td>
</tr>
</tbody>
</table>

**PHYS-110** Elementary Physics ........................................ 3
**PHYS-111** Physics Laboratory ........................................ 1
**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:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>ASTRO-110</td>
<td>The Visible Universe</td>
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</tr>
<tr>
<td>ASTRO-120</td>
<td>Elementary Astronomy</td>
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</tr>
<tr>
<td>ASTRO-128</td>
<td>The Universe for Beginners</td>
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</tr>
<tr>
<td>ASTRO-130</td>
<td>Astronomy Laboratory</td>
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<tr>
<td>BIOSC-101</td>
<td>Fundamentals of Biological Science with Laboratory</td>
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</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>
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<tr>
<td>BIOSC-119</td>
<td>Fundamentals of Microbiology</td>
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</tr>
<tr>
<td>BIOSC-120</td>
<td>Introduction to Human Anatomy and Physiology</td>
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<tr>
<td>BIOSC-126</td>
<td>Ecology and Field Biology</td>
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<tr>
<td>BIOSC-130</td>
<td>Principles of Cellular and Molecular Biology</td>
<td>5</td>
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<td>BIOSC-131</td>
<td>Principles of Organismal Biology, Evolution and Ecology</td>
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<td>BIOSC-139</td>
<td>Human Anatomy</td>
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<td>BIOSC-140</td>
<td>Human Physiology</td>
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<td>BIOSC-146</td>
<td>Principles of Microbiology</td>
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<td>BIOSC-161</td>
<td>Fundamentals of Marine Biology</td>
<td>3</td>
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<td>BIOSC-162</td>
<td>Fundamentals of Marine Biology with Laboratory</td>
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<td>BIOSC-170</td>
<td>Environmental Science</td>
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<td>BIOSC-171</td>
<td>Environmental Science with Laboratory</td>
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<tr>
<td>CHEM-101</td>
<td>Integrated Inorganic, Organic, and Biological Chemistry</td>
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<tr>
<td>CHEM-108</td>
<td>Introductory Chemistry</td>
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<tr>
<td>CHEM-109</td>
<td>Introduction to Organic and Biochemistry</td>
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<td>CHEM-120</td>
<td>General College Chemistry I</td>
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<td>General College Chemistry II</td>
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<tr>
<td>CHEM-226</td>
<td>Organic Chemistry I</td>
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<td>CHEM-227</td>
<td>Organic Chemistry II</td>
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<td>GEOG-120</td>
<td>Physical Geography</td>
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<td>GEOG-121</td>
<td>Physical Geography Laboratory</td>
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<tr>
<td>GEOG-125</td>
<td>Introduction to Geographic Information Systems (GIS)</td>
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<tr>
<td>GEOG-126</td>
<td>Advanced Geographic Information Systems</td>
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</tr>
<tr>
<td>GEOG-140</td>
<td>Introduction to Weather</td>
<td>3</td>
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<tr>
<td>GEOG-141</td>
<td>Introduction to Weather Laboratory</td>
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<tr>
<td>GEOG-160</td>
<td>Introduction to Remote Sensing</td>
<td>4</td>
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<tr>
<td>GEOG-162</td>
<td>Map Design and Visualization</td>
<td>3</td>
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<td>GEOL-120</td>
<td>Physical Geology</td>
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<td>GEOL-121</td>
<td>Earth and Life Through Time</td>
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<td>Physical Geology Laboratory</td>
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<td>GEOL-124</td>
<td>Earth and Life Through Time Laboratory</td>
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<td>GEOL-125</td>
<td>Geology of California</td>
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<td>GEOL-130</td>
<td>Earth Science</td>
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<td>HORT-110</td>
<td>Introduction to Horticulture and Plant Science</td>
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<tr>
<td>HORT-148L</td>
<td>California Native Plants Laboratory</td>
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<tr>
<td>NUTRI-160</td>
<td>Nutrition: Science and Applications</td>
<td>3</td>
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</table>
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.

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.

**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.

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Units</th>
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<tbody>
<tr>
<td>OCEAN-101</td>
<td>Fundamentals of Oceanography</td>
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<tr>
<td>OCEAN-102</td>
<td>Fundamentals of Oceanography with Laboratory</td>
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<tr>
<td>PHYS-110</td>
<td>Elementary Physics</td>
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<td>PHYS-111</td>
<td>Physics Laboratory</td>
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<tr>
<td>PHYS-113</td>
<td>Elementary Modern Physics: From Atoms to the Big Bang</td>
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<td>PHYS-120</td>
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<td>PHYS-124</td>
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<td>PHYS-129</td>
<td>Introductory Physics for Engineers</td>
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<td>PHYS-130</td>
<td>Physics for Engineers and Scientists A: Mechanics and Wave Motion</td>
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<td>PHYS-230</td>
<td>Physics for Engineers and Scientists B: Heat and Electro-Magnetism</td>
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<tr>
<td>PHYS-231</td>
<td>Physics for Engineers and Scientists C: Optics and Modern Physics</td>
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<tr>
<td>PHYS-112</td>
<td>Fundamentals of Physical Science</td>
<td>3</td>
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</table>

**total minimum units for the major** 18

**required courses**

- **BIOSC-130** Principles of Cellular and Molecular Biology | 5
- **BIOSC-131** Principles of Organismal Biology, Evolution and Ecology | 5
- **CHEM-120** General College Chemistry I | 5
- **CHEM-121** General College Chemistry II | 5
- **plus at least 4 units from:**
  - **MATH-182** Calculus for Management, Life Science and Social Science | 4
  - **MATH-192** Analytic Geometry and Calculus | 5
- **plus at least 8 units from:**
  - **PHYS-120** General College Physics I | 4
  - **PHYS-121** General College Physics II | 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
- **plus at least 3 units from:**
  - **BIOSC-119** Fundamentals of Microbiology | 4
  - **BIOSC-146** Principles of Microbiology | 5
  - **CHEM-226** Organic Chemistry I | 5
  - **MATH-142** Elementary Statistics with Probability | 4
  - **PSYCH-101** Introduction to Psychology | 3

**total minimum units for the major** 35
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 who intend to transfer to a four-year program should consult with a counselor regarding course and program requirements.

required courses:  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

BIOSC-101 Fundamentals of Biological Science
3 units  SC
- IGETC: 5B; CSU GE: B2; DVC GE: II
- 54 hours lecture per term
- Recommended: Eligibility for ENGL-122 or equivalent
- 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-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
- Recommended: Eligibility for ENGL-122 or equivalent
- 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; 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 the 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
- Recommended: High school or college biology; eligibility for ENGL-122; and MATH-120 or equivalents
- 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  
- IGETC: 5B, 5C; CSU GE: B2, B3; DVC GE: II  
- 54 hours lecture/108 hours laboratory per term  
- Recommended: High school or college biology or chemistry and eligibility for ENGL-122 or equivalents  

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  
- IGETC: 5B, 5C; CSU GE: B2, B3; DVC GE: II  
- 54 hours lecture/54 hours laboratory per term  
- Recommended: Eligibility for ENGL-122 or equivalent  

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 influences 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**  
5 units  
- IGETC: 5B, 5C; CSU GE: B2, B3; DVC GE: II  
- 54 hours lecture/108 hours laboratory per term  
- Prerequisite: CHEM-120 or equivalent  
- Recommended: BIOSC-101 or BIOSC-102 and eligibility for ENGL-122 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-131  Principles of Organismal Biology, Evolution, and Ecology**  
5 units  
- IGETC: 5B, 5C; CSU GE: B2, B3; DVC GE: II  
- 54 hours lecture/108 hours laboratory per term  
- Prerequisite: CHEM-120 (may be taken concurrently) or equivalent  
- Recommended: BIOSC-101 or 102 or BIOSC-130 and eligibility for ENGL-122 or equivalents  

This course is formed around three main biological principles: evolution, unity/diversity of life, and ecology and is intended for biology majors or other students with an in-depth interest in the biological sciences. The focus is on universal biological processes with emphasis on the whole organism and higher levels of organization. Evidence and mechanisms of evolution and speciation; evolutionary history and diversity of life; structure, function and evolutionary adaptations of organisms (including plants, fungi, animals, and unicellular organisms); general, population and community ecology; ecosystems and environmental concerns are covered. In laboratory, students will explore these themes with hands-on observations, dissections, laboratory activities and field exercises. BIOSC-130 + BIOSC-131=C-ID BIOL 135S, CSU, UC

**BIOSC-139  Human Anatomy**  
5 units  
- IGETC: 5B, 5C; CSU GE: B2, B3; DVC GE: II  
- 54 hours lecture/108 hours laboratory per term  
- Recommended: BIOSC-102 and eligibility for ENGL-122 or equivalents  
- Note: The course content is appropriate for majors in Physical and Health Education; Public Health; Nursing; Physical, Occupational and Respiratory Therapy; Paramedical; Nurse Practitioner, and Physician Assistant programs.  

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  
5 units  SC  
- 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  
- Recommended: BIOSC-102, eligibility for ENGL-122, MATH-120 and MATH-119 or equivalents  
- Note: This course is primarily intended for allied health and medical professions including nursing, dental hygiene, kinesiology, physical therapy, occupational therapy, respiratory therapy, physician assistant, pharmacy and other health related majors.

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  
- Recommended: Eligibility for ENGL-122 or High school or College biology or College biology or equivalents

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  
- Recommended: Eligibility for ENGL-122 or equivalent  
- 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-162 should not enroll in BIOSC-161. Students who have successfully completed BIOSC-162 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  
- Recommended: Eligibility for ENGL-122 or equivalent  
- 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
- Recommended: BIOSC-101 or 102; eligibility for ENGL-122 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
- Recommended: BIOSC-101 or BIOSC-102 or equivalent; eligibility for ENGL-122 or equivalent
- 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.

130 PROGRAM/COURSE DESCRIPTIONS chapter four DIABLO VALLEY COLLEGE CATALOG 2021-2022
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

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. DVC business 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: units
BUS-109 Introduction to Business ......................... 3
BUS-250 Business Communications ...................... 3
BUS-294 Business Law ........................................ 3
BUSMG-120 Introduction to Management Studies ....... 3

plus at least 3 units from:
BUSAC-181 Applied Accounting ......................... 3
BUSAC-186 Financial Accounting ....................... 4

plus at least 9 units from:
BUS-161 Personal Financial Management .............. 3
BUS-209 International Business ......................... 3
BUS-210 Introduction to e-Business ..................... 3
BUS-240 Business Statistics ............................. 3
BUS-261 Investments ......................................... 3
BUSAC-185 QuickBooks Accounting for Business I .. 1.5
BUSAC-187 Managerial Accounting .................... 4
BUSAC-188 QuickBooks Accounting for Business II .. 1.5
BUSAC-285 Federal Income Taxes – Individuals ...... 3
BUSMG-121 Practices and Concepts of Supervision .... 3
BUSMG-131 Managing Diversity in the Workplace ... 3
BUSMG-132 Human Resource Management ........... 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 Legal Aspects of Real Estate .......... 3
RE-162 Real Estate Appraisal I ........................... 3
RE-163 Real Estate Practice ............................... 3
RE-164 Real Estate Finance ............................... 3
RE-165 Real Estate Economics ...................... 3
RE-166 Escrow Procedures ............................... 3
RE-167 Real Estate Property Management .......... 3

total minimum units for the major 24
Associate in science in business administration for 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 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 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: units
BUS-294 Business Law ........................................3
BUSAC-186 Financial Accounting ..................................4
BUSAC-187* Managerial Accounting .........................4
ECON-220* Principles of Macroeconomics ..................3
ECON-221* Principles of Microeconomics ..................4

plus at least 3 units from**:
BUS-240* Business Statistics ..................................3
or
MATH-142* Elementary Statistics with Probability ..........4
MATH-181* Finite Mathematics .................................3
MATH-182* Calculus for Management, Life Science and Social Science I........................................4

or
MATH-192* Analytic Geometry and Calculus I ..................5

plus at least 5 units (minimum 2 courses) from any course not used above or:
BUS-109 Introduction to Business .................................3
CIS-116 Microsoft Excel – Comprehensive ....................2
COMSC-101 Computer Literacy ..................................4

total minimum units for the major 25

*These courses have specific prerequisites. See course description for details.
**Students are advised that most universities require both a mathematics and a statistics course. Consult with a counselor.

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-faceted 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 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 better. Students who intend to transfer are advised to select 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 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.

### 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:

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<thead>
<tr>
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<td>BUSMG-168</td>
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<td>BUSMG-174</td>
<td>0.5</td>
</tr>
<tr>
<td>CIS-116</td>
<td>2</td>
</tr>
<tr>
<td>COMM-120</td>
<td>3</td>
</tr>
<tr>
<td>COMSC-101</td>
<td>4</td>
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</table>

Complete all units from one of the following specializations:

helpdesk and desktop support:

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<tr>
<th>Course</th>
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<tr>
<td>CNT-104</td>
<td>4</td>
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or

project management support

<table>
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<tr>
<th>Course</th>
<th>Units</th>
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<tr>
<td>CIS-180</td>
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<tr>
<td>CIS-185</td>
<td>2</td>
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plus at least 0-9 units from:

<table>
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<th>Units</th>
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<td>BUS-296</td>
<td></td>
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<tr>
<td>WRKX-180</td>
<td></td>
</tr>
</tbody>
</table>

**total minimum units for the major** 18

...
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: units
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

*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: units
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-181 Professional Selling......................3
BUSMK-255 Advertising.................................3
BUSMK-259 Digital Marketing Fundamentals........3
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
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.
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:**

- **BUS-109** Introduction to Business ....................... 3
- **BUS-250** Business Communications ...................... 3
- **BUS-294** Business Law ....................................... 3
- **BUSMG-120** Introduction to Management Studies ....... 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
- **BUS-298** Independent Study ................................. 0.5-3
- **BUSMG-121** Practices and Concepts of Supervision .... 3
- **BUSMG-131** Managing Diversity in the Workplace .... 3
- **BUSMG-132** Human Resource Management ............. 3
- **BUSMG-226** Group Behavior and Leadership ............ 3

**total minimum required units** 16

Course substitutions for program requirements require department chairperson approval. Substitutions are limited to 6 units outside the management department.

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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:**

- **BUS-100** Keyboarding ....................................... 1
- **BUS-101** Business English ................................. 3
- **BUS-102** Applied Business Math Calculations .......... 1
- **BUS-103** Applied Business Mathematics ............... 3
- **BUS-109** Introduction to Business ....................... 3
- **BUS-250** Business Communication ....................... 3

**plus at least 3 units from:**

- **BUS-295** Occupational Work Experience
  Education in BUS ........................................... 2-4
- **BUS-296** Internship in Occupational Work Experience
  Education in BUS ........................................... 2-4
- **BUSMG-168** Customer Service ............................. 0.5
- **BUSMG-174** Business Ethics ............................... 0.5

**total minimum required units** 25

- **CIS-115** Microsoft Word – Comprehensive .............. 2
- **CIS-116** Microsoft Excel – Comprehensive ............... 2
- **CIS-118** Microsoft PowerPoint – Comprehensive ........ 2
- **CIS-119** Microsoft Outlook – Comprehensive .......... 2
- **COMSC-101** Computer Literacy ........................... 4
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. 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
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.

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. produce basic graphical user interface operations in a computer environment.
E. illustrate enterprise structure, workflow, and scheduling.

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 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.

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.

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 required courses are available in the evening. All coursework required for the certificate must be completed within seven years of the certificate date.

required courses:

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<th>Title</th>
<th>Units</th>
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<td>Occupational Work Experience</td>
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<tr>
<td>BUS-296</td>
<td>Internship in Occupational Work Experience</td>
<td>2-4</td>
</tr>
<tr>
<td>WRKX-180</td>
<td>Internship in Occupational Work Experience</td>
<td>2-4</td>
</tr>
<tr>
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<td>total minimum required units</td>
<td>18</td>
</tr>
</tbody>
</table>

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 required courses are available in the evening. All coursework required for the certificate must be completed within seven years of the certificate date.

required courses:

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<th>Title</th>
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<td>RE-161</td>
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<td>Real Estate Appraisal I</td>
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<td>RE-163</td>
<td>Real Estate Practice</td>
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<td>RE-164</td>
<td>Real Estate Finance</td>
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<td>RE-165</td>
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<td>3</td>
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<tr>
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<td>total minimum required units</td>
<td>18</td>
</tr>
</tbody>
</table>
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:  
BUSMG-120 Introduction to Management Studies 3

plus at least 3 units from:  
BUSMG-191 Small Business Management 3
BUSMG-192 Entrepreneurship/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 4 units from:  
BUS-104 Exploring Careers in Business Administration 1.5
BUS-109 Introduction to Business 3
BUS-209 International Business 3
BUS-210 Introduction to e-Business 3
BUS-250 Business Communications 3
BUS-294 Business Law 3
BUS-295 Occupational Work Experience 2-4
BUS-296 Internship in Occupational Work Experience 2-4
BUS-298 Independent Study 0.5-3
BUSAC-187 Managerial Accounting 4

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.

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.

required courses:  
BUS-109 Introduction to Business 3
BUSMG-120 Introduction to Management Studies 3

plus at least 3 units from:  
BUSMG-121 Practices and Concepts of Supervision 3
BUSMG-131 Managing Diversity in the Workplace 3
BUSMG-132 Human Resource Management 3
BUSMG-226 Group Behavior and Leadership 3

Course substitutions for program requirements require department chairperson approval. Substitutions are limited to 3 units outside the management department.
Certificate of accomplishment
Office professional

Students completing the program will be able to...

A. apply standard business English to oral and written communication, including grammar, punctuation, mechanics, vocabulary, style, and usage.
B. complete basic business-related mathematical problems with reasonable speed and accuracy, both manually and using calculators.
C. plan, design, and produce documents and reports using a word processing program.
D. evaluate business situations and prioritize activities.

To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement 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 - 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.
plus at least 4.5 unit from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>SC</th>
<th>Lecture/Laboratory Hours</th>
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<td>BUS-210</td>
<td>Introduction to e-Business</td>
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<td>BUS-295</td>
<td>Occupational Work Experience Education in BUS</td>
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<td>BUS-296</td>
<td>Internship in Occupational Work Experience</td>
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<td>Independent Study</td>
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<td>QuickBooks Accounting for Business II</td>
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<td>Digital Marketing Fundamentals</td>
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<td>BUSMK-260</td>
<td>Social Media Marketing</td>
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**Total minimum required units:** 9

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**BUS-100 Keyboarding**

1 unit \( \text{SC} \)
- 9 hours lecture/27 hours laboratory per term
- *Note: Credit by examination option available.*

This course presents the theory and practical applications of touch-typing. Emphasis will also be placed on typing speed and accuracy as well as postural principles to minimize fatigue and prevent injury. CSU

**BUS-101 Business English**

3 units \( \text{SC} \)
- 54 hours lecture per term
- *Recommended: Eligibility for ENGL-122 or equivalent*

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-102 Applied Business Math Calculations**

1 unit \( \text{SC} \)
- 18 hours lecture per term
- *Note: Credit by examination option available.*

This course presents basic mathematical problem solving techniques applied to business contexts. Topics include operations with whole numbers, integers, decimals, and fractions as well as basic linear equations using arithmetic operators. CSU

**BUS-103 Applied Business Mathematics**

3 units \( \text{SC} \)
- 54 hours lecture/18 hours laboratory per term
- *Recommended: Eligibility for ENGL-122 or equivalent*

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 \( \text{SC} \)
- 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 \( \text{SC} \)
- 54 hours lecture per term
- *Recommended: Eligibility for ENGL-122 or equivalent*

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 and evaluate the global, financial, and social environment in which businesses exist and operate. Moreover, the course will describe the evolution, formation and management of American and international businesses, and provide a basic understanding of various functional areas of business, including economics, marketing, finance, management, human resources, international operations, and business decision-making using information technology. C-ID BUS 110, CSU, UC
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
- Recommended: BUS-103 and eligibility for ENGL-122 or equivalents
This is an introductory course for planning and managing individual finances. Topics include purchasing decisions, sources of credit, personal tax strategies, budgeting, saving, investing in real estate and securities, insuring personal resources and retirement planning. CSU

BUS-209 International Business
3 units SC
- 54 hours lecture per term
- Recommended: BUS-109 and eligibility for ENGL-122 or equivalents
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
- Recommended: Eligibility for ENGL-122 or equivalent
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; MATH-119SP; or MATH-120; or MATH-120SP; or assessment process or equivalent.
This course is an introduction to concepts, tools, methods and models employed in reasoning with numbers and in presenting cogent statistical arguments or solutions. Students are introduced to organizational, analytical and inference-making processes, using sample data to graphically and numerically describe samples, including identifying varying levels of measurement possible in variables and their implications for statistical computation and inference-making. The course details how to estimate confidence intervals, test hypotheses and develop 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: poisson, binomial, normal, student-t, chi-sq, F-distribution and others. Performing Analysis of Variance (ANOVA), estimating simple and multiple regressions, and making inference from such analysis is a major theme of this course. The use of spreadsheet-based software to compute statistics in large-data applications is an important part of lab 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
- Recommended: BUS-101 and eligibility for ENGL-122 or equivalents
- 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
• Recommended: BUS-109 or equivalent
This is a comprehensive course that provides an overview of financial markets and financial assets such as stocks, bonds and mutual funds, develops a basic understanding of how to value different financial assets and select investment opportunities, and improves research and analytical skills for better investment decision making. CSU

BUS-294 Business Law
3 units SC
• 54 hours lecture per term
• Recommended: BUS-109 and eligibility for ENGL-122 or equivalents
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 units 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. CSU

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.

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:**

- **BUSAC-186** Financial Accounting ................................. 4
- **BUSAC-187** Managerial Accounting ................................. 4
- **CIS-116** Microsoft Excel – Comprehensive ......................... 2

plus at least 3 units from:

- **BUS-240** Business Statistics ........................................ 3
- **BUS-250** Business Communications ............................... 3
- **BUS-295** Occupational Work Experience ........................... 2-4

**BUSAC-182** Computer Income Tax Return Preparation - Individuals ......................................................... 1.5

**BUSAC-185** QuickBooks Accounting for Business I .......... 1.5

**BUSAC-188** QuickBooks Accounting for Business II ........ 1.5

**BUSAC-190** Payroll Accounting ........................................ 1.5

plus at least 12 units from:

- **BUS-294** Business Law ................................................. 3
- **BUSAC-282** Intermediate Accounting I ............................. 4
- **BUSAC-283** Auditing .................................................... 3
- **BUSAC-284** Cost Accounting .......................................... 3
- **BUSAC-285** Federal Income Taxes – Individuals ............... 3
- **BUSAC-286** Governmental and Not-For-Profit Accounting ................................................................. 3
- **BUSAC-290** Financial Statement Analysis .......................... 4
- **BUSAC-292** Intermediate Accounting II ............................ 4
- **BUSAC-293** Accounting Ethics and Accountants’ Professional Responsibilities ........................................... 4

plus at least 3 units from:

- **BUS-209** International Business ...................................... 3
- **BUS-240** Business Statistics ........................................... 3
- **BUS-250** Business Communications ............................... 3
- **BUSMG-191** Small Business Management .................... 3
- **BUSMG-192** Entrepreneurship and Venture Management .... 3

**total minimum required units** 28

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**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:**

at least 3 units from:

- **BUSAC-181** Applied Accounting .................................... 3
- **BUSAC-186** Financial Accounting ................................... 4

plus at least 9 units from:

- **BUS-250** Business Communications ............................... 3
- **BUS-295** Occupational Work Experience ........................... 2-4

**BUSAC-182** Computer Income Tax Return Preparation - Individuals ......................................................... 1.5

**BUSAC-185** QuickBooks Accounting for Business I .......... 1.5

**BUSAC-188** QuickBooks Accounting for Business II ........ 1.5

**BUSAC-190** Payroll Accounting ........................................ 1.5

**CIS-116** Microsoft Excel – Comprehensive ......................... 2

**total minimum required units** 12

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**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.
### 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-181  Applied Accounting
3 units SC
- 54 hours lecture/18 hours laboratory per term
- Recommended: BUS-103 and eligibility for ENGL-122 or equivalents
- Note: This course is recommended as preparation for BUSAC-186. 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
- Recommended: BUSAC-285 and eligibility for ENGL-122 or equivalents
- 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
- Recommended: BUSAC-181 and eligibility for ENGL-122 or equivalents
- 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-186  Financial Accounting
4 units SC
- 72 hours lecture per term
- Recommended: Eligibility for ENGL-122 or equivalent
- 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
• Recommended: BUSAC-185 and eligibility for ENGL-122 or equivalents
• 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
• Recommended: Eligibility for ENGL-122 or equivalent

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
• Recommended: 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
• Recommended: 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-186 or equivalent
• Recommended: 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
• Prerequisite: BUSAC-186 and eligibility for ENGL-122 or equivalents

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
- Recommended: 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-290 Financial Statement Analysis
4 units SC
- 72 hours lecture per term
- Prerequisite: BUSAC-282 or equivalent
- Recommended: Eligibility for ENGL-122 or equivalent
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) licenser. 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 MANAGEMENT – BUSMG
Charlie Shi, Dean
Business, Computer Science, and Culinary Arts Division

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
- Recommended: BUS-109 or equivalent; eligibility for ENGL-122 or equivalent
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**
- **Recommended:** Eligibility for ENGL-122 or equivalent

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** LR
- **54 hours lecture per term**
- **Recommended:** BUS-109 and eligibility for ENGL-122 or equivalents

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**
- **Recommended:** BUS-109 and eligibility for ENGL-122 or equivalents

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 to develop a joint purpose, show compassion, and be generous and trustworthy with customers, co-workers, and external stakeholders. The relationship of customer service skills to career success will 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**
- **Recommended:** BUS-103, BUS-109; eligibility for ENGL-122 or equivalents

This course presents the functional areas of marketing, finance, and human resources unique to small businesses. This course is particularly relevant for students who want to start a small business or are involved in the ongoing management of an existing small business. Topics include creating a business plan, managing a family-owned business, becoming a franchisee, and applying for a Small Business Administration (SBA) loan. CSU

### BUSMG-192 Entrepreneurship and Venture Management
- **3 units** SC
- **54 hours lecture per term**
- **Recommended:** BUS-103, 109; eligibility for ENGL-122 or equivalents

This course is designed for students who want to become entrepreneurs and successfully launch new business ventures. This course will cover the process of successfully launching, managing and growing an entrepreneurial firm, emphasizing opportunity recognition and feasibility analysis. It will also cover important topics such as developing an effective business model, protecting intellectual property and obtaining venture capital financing. 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** LR
- **54 hours lecture per term**
- **Recommended:** BUS-109 and eligibility for ENGL-122 or equivalents

This course will provide theoretical foundations and practical experiences with group behavior and leadership. Emphasis will be placed on self-awareness in a group setting. The course includes the examination of workforce diversity, motivation, decision-making, and organizational politics. CSU
BUSINESS MARKETING - BUSMK

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

Certificate of achievement
Business marketing - see BUS
Digital marketing - see BUS

BUSMK-158  Professional Selling
3 units  SC
• 54 hours lecture per term
• Recommended: BUS-109 and eligibility for ENGL-122 or equivalents
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
• Recommended: Eligibility for ENGL-122 or equivalent
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
• Recommended: 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
• Recommended: BUSMK-255 or eligibility for ENGL-122 or equivalents
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
• Recommended: BUSMK-255 or eligibility for ENGL-122 or equivalents
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
• Recommended: BUSMK-255 or eligibility for ENGL-122 or equivalents
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
• Recommended: BUS-240 or eligibility for ENGL-122 or equivalents
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  
- Recommended: BUSMK-255 or eligibility for ENGL-122 or equivalents  
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  
- Recommended: BUSMK-255 or eligibility for ENGL-122 or equivalents  
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  
- Recommended: BUSMK-255 or eligibility for ENGL-122 or equivalents  
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 copy writing, 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  

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  
- Recommended: Eligibility for ENGL-122 or equivalent  
- Note: Applies toward 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 essential topics. It will also assist persons preparing for the real estate salesperson’s license examination, although it is not specifically or solely designed as a pre-licensing course. CSU  

RE-161  Legal Aspects of Real Estate  
3 units  SC  
- 54 hours lecture per term  
- Recommended: RE-160 or valid California real estate license and eligibility for ENGL-122 or equivalents  
- Note: Applies toward CA Board of Real Estate continuing education and licensing.  
This course will provide an overview of California law as it pertains to the practice of real estate. CSU  

RE-162  Real Estate Appraisal I  
3 units  SC  
- 54 hours lecture per term  
- Recommended: RE-160 or valid California real estate license and eligibility for ENGL-122 or equivalents  
- Note: Applies toward CA Department of Real Estate educational requirements for real estate licenses  
This is a basic course in real estate valuation with emphasis on residential property. Topics will include definitions and concepts, principles of valuation, and the appraisal process. CSU
RE-163 Real Estate Practice 3 units SC
• 54 hours lecture per term
• Recommended: RE-160 or valid California real estate license and eligibility for ENGL-122 or equivalents
• Note: Applies toward the state educational requirements for brokers license

This course is a comprehensive and practical presentation of the knowledge necessary to be effective in the real estate industry. Topics include: techniques of prospecting, listing, selling, financing, purchase agreements, escrow, exchange, and property management. CSU

RE-164 Real Estate Finance 3 units SC
• 54 hours lecture per term
• Recommended: RE-160 and eligibility for ENGL-122 or equivalents
• Note: Applies toward the state educational requirements for the sales or broker's license

This course is an overview of real estate finance including conventional, Federal Housing Authority (FHA), Veterans Administration (VA) and non-institutional loans. Other topics include construction, investment, and creative financing. CSU

RE-165 Real Estate Economics 3 units SC
• 54 hours lecture per term
• Recommended: RE-160 or valid CA real estate license or equivalent
• Note: Applies toward CA Board of Real Estate continuing education and licensing.

This course is an overview of economic concepts and theories as they apply to the functioning of real estate markets. Special attention to the role of government and other economic sectors in the observed value and returns on residential and commercial real estate will be observed. CSU

RE-166 Escrow Procedures 3 units SC
• 54 hours lecture per term
• Recommended: RE-160 or valid California real estate license and eligibility for ENGL-122 or equivalents
• Note: Applies toward CA Board of Real Estate continuing education and licensing.

This course is 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

RE-167 Real Estate Property Management 3 units SC
• 54 hours lecture per term
• Recommended: RE-160 and eligibility for ENGL-122 or equivalents

This course presents the fundamental elements of managing residential and apartment properties. Topics include commercial and business property management, acquisition, marketing, financing, financial reporting, contracts, leases, Fair Housing Laws, valuation, maintenance, taxes, risk management, insurance, furnishings, and tenant relations. CSU

CAREER DEVELOPMENT – CARER

See also Counseling - COUNS

Emily Stone, Dean
Counseling Division
Student Services Center, Room 122

Possible career opportunities
Diablo Valley College's career development courses are designed to provide students with opportunities to explore career fields and become familiar with the skills needed to successfully obtain and maintain employment.

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
• Recommended: Eligibility for ENGL-122 or equivalent
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
In this course, students will utilize self-assessment inventories to identify individual interests, values, skills and personality types as they relate to college/career and major options. Career development software and related technologies to develop skills to enhance the career exploration process will be utilized. CSU

CARER-130  Career and Major Exploration
1 unit P/NP
• 18 hours lecture per term
• Recommended: 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

CHEMISTRY – CHEM
Joseph Gorga, 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, non-profit 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:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<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>CHEM-226  Organic Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-227  Organic Chemistry II</td>
<td>5</td>
</tr>
</tbody>
</table>

**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:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS-130  Physics for Scientists and Engineers A: Mechanics and Wave Motion</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-230  Physics for Scientists and Engineers B: Heat and Electromagnetism</td>
<td>4</td>
</tr>
</tbody>
</table>

**plus 0-10 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH-192  Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>MATH-193  Analytic Geometry and Calculus II</td>
<td>5</td>
</tr>
</tbody>
</table>

**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 MATH-085 or MATH 085SP; or MATH-090 or MATH-090E or MATH-090SP or assessment process; or equivalent  
- Recommended: Eligibility for ENGL-122 or equivalent  
- 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 MATH-085 or MATH 085SP; or MATH-090 or MATH-090E or MATH-090SP or assessment process; or equivalent  
- Recommended: Eligibility for ENGL-122 or equivalent  
- 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 MATH-085 or MATH 085SP; or MATH-090 or MATH-090E or MATH-090SP or assessment process; or equivalent  
- Recommended: Eligibility for ENGL-122 or equivalent

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-108) 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)
### Chemistry

#### 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 MATH-119 or MATH 119SP; or MATH-120 or MATH-120SP; or assessment process; or equivalent
- Recommended: Eligibility for ENGL-122 or equivalent

This course presents an introduction to the fundamentals of chemistry. Atomic theory, chemical reactions, bonding, structure, stoichiometry, gases, solutions, redox, thermodynamics, and chemical kinetics will be covered. 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 a continuation of CHEM-120. Equilibria including gaseous and acid base equilibria, buffers, titration curves, solubility products, thermodynamics, electrochemistry, coordination complexes, chemical kinetics will be covered. C-ID CHEM 110, 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 multi-functional 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 foreign 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 the 20 units of major requirements, which will provide students with the essential grammar of the language and culture of China.

**major requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIN-120</td>
<td>First Term Chinese</td>
<td>5</td>
</tr>
<tr>
<td>CHIN-121</td>
<td>Second Term Chinese</td>
<td>5</td>
</tr>
<tr>
<td>CHIN-220</td>
<td>Third Term Chinese</td>
<td>5</td>
</tr>
<tr>
<td>CHIN-221</td>
<td>Fourth Term Chinese</td>
<td>5</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 20

**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</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIN 120</td>
<td>First Term Mandarin Chinese</td>
<td>5</td>
</tr>
<tr>
<td>CHIN 121</td>
<td>Second Term Mandarin Chinese</td>
<td>5</td>
</tr>
<tr>
<td>CHIN 220</td>
<td>Third Term Mandarin Chinese</td>
<td>5</td>
</tr>
<tr>
<td>CHIN-221</td>
<td>Fourth Term Mandarin Chinese</td>
<td>5</td>
</tr>
</tbody>
</table>

**total minimum required units** 15
### CHIN-120 First Term Mandarin Chinese
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 Chinese language and the culture of Chinese-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

### CHIN-121 Second Term Mandarin Chinese
5 units SC
- 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.

This is the second course in a sequence of Mandarin Chinese language courses. The course continues skill building in understanding, speaking, reading, and writing of the Mandarin Chinese language. The expansion of vocabulary (characters) and more advanced communicative functions and structures, as well as a deeper examination of the cultures of Mandarin Chinese-speaking countries are emphasized. CSU, UC

### CHIN-150 Topics in Chinese
.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-220 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-221 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
.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 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 Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM-120</td>
<td>Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 6 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COMM-123</td>
<td>Argumentation and Debate</td>
<td>3</td>
</tr>
<tr>
<td>COMM-128</td>
<td>Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>COMM-130</td>
<td>Small Group Communication</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 6 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>any course not used above or:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COMM-121</td>
<td>Persuasion and Critical Thinking</td>
<td>3</td>
</tr>
<tr>
<td>COMM-125</td>
<td>Intercultural Communication</td>
<td>3</td>
</tr>
<tr>
<td>COMM-148</td>
<td>Performance of Literature</td>
<td>3</td>
</tr>
<tr>
<td>COMM-163</td>
<td>Forensics - Speech and Debate</td>
<td>1.5-4</td>
</tr>
<tr>
<td>COMM-180</td>
<td>Introduction to Communication Theory</td>
<td>3</td>
</tr>
<tr>
<td>JRNAL-110</td>
<td>Mass Media of Communication</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>any course not used in either group above, or:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COMM-124</td>
<td>Voice and Diction</td>
<td>3</td>
</tr>
<tr>
<td>JRNAL-120</td>
<td>Introduction to Newswriting and Reporting</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 18

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.
Communication studies

required courses:  
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 ...................... 0.3-4
COMM-163 Forensics - Speech and Debate ................. 1.5-4
COMM-180 Introduction to Communication Theory ............ 3
COMM-298 Independent Study ........................................... 0.5-3

total minimum required units 12

COMM-120 Public Speaking  
3 units SC  
• IGETC: 1C; CSU GE: A1; DVC GE: IB  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL-122 or equivalent

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, delivering 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 informal 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  
• Recommended: Eligibility for ENGL-122 or equivalent

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  
• Recommended: Eligibility for ENGL-122 or equivalent

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  
• Recommended: Eligibility for ENGL-122 or equivalent

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  
• Recommended: Eligibility for ENGL-122 or equivalent

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
- Recommended: Eligibility for ENGL-122 or equivalent

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
- Recommended: Eligibility for ENGL-122 or equivalent

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

COMPANY INFORMATION SYSTEMS – CIS

Jennifer Tajada, Dean
San Ramon Campus Division
San Ramon Campus

Possible career opportunities
Training in computer information systems prepares students for a broad range of roles. Some possible career options include web author, web developer, web designer, help desk specialist/analyst, desktop support technician, quality assurance technician, executive assistant, office manager, office assistant, entrepreneur, database analyst, database designer, computer trainer, project manager, and team member in a startup.

Associate in science degree
Computer information systems
Students completing the program will be able to...
A. perform the duties of information technologies and management workers as identified by the Bureau of Labor Statistics
B. provide technical assistance and training to computer system users.
C. investigate and resolve computer software and hardware problems of users.
D. perform the professional duties demanded in any modern office environment.
E. design and maintain static and dynamic web sites.
F. integrate elements such as graphics, animation and streaming media on web sites.
G. develop and implement database systems for stand-alone or internet based deployment.
H. use technology to manage multi-faceted projects.
I. demonstrate basic graphical user interface operations in a computer environment.
J. produce spreadsheets, documents and presentations by using basic to advanced software operations.
## Computer Information Systems

The computer information systems associate in science program prepares the student for jobs in business and government as information technologies and management workers. Principal areas of study are computer software applications, internet technologies, database systems, project management systems, and basic network principles. These CIS courses prepare students for a career path in computer information systems and technologies. These courses teach terminology and provide hands-on laboratory experience with operating and network systems and stand alone and internet-based applications.

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:

#### Core Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<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>
<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>
<tr>
<td>plus at least 2 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS-117</td>
<td>Microsoft Access - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-119</td>
<td>Microsoft Outlook - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-170</td>
<td>Networking for Non-IT Professionals</td>
<td>2</td>
</tr>
</tbody>
</table>

**Core Courses Units Subtotal: 12**

Choose one of the following four technical specialization areas:

### Database Management - Required Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS-107</td>
<td>Introduction to Web Databases</td>
<td>2</td>
</tr>
<tr>
<td>CIS-117</td>
<td>Microsoft Access - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-160</td>
<td>Introduction to MySQL</td>
<td>2</td>
</tr>
</tbody>
</table>

### Project Management - Required Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS-180</td>
<td>Introduction to Project Management</td>
<td>3</td>
</tr>
<tr>
<td>CIS-181</td>
<td>Project Management Fundamentals/PMI PMP Preparation</td>
<td>3</td>
</tr>
</tbody>
</table>

### Project Management - Recommended Elective:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS-185</td>
<td>Project Management Tools</td>
<td>2</td>
</tr>
</tbody>
</table>

### Web Graphics - Required Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS-130</td>
<td>Adobe Photoshop Elements</td>
<td>2</td>
</tr>
<tr>
<td>CIS-132</td>
<td>Adobe Premiere Elements - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-133</td>
<td>Developing Video Content for the Web</td>
<td>2</td>
</tr>
</tbody>
</table>

### Web Technology - Required Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS-105</td>
<td>Introduction to Web Design</td>
<td>2</td>
</tr>
<tr>
<td>CIS-106</td>
<td>Adobe Dreamweaver - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-107</td>
<td>Introduction to Web Databases</td>
<td>2</td>
</tr>
</tbody>
</table>

### Web Technology - Recommended Electives:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<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>
<td>CIS-120</td>
<td>iPhone and iPad App Development for Beginners</td>
<td>2</td>
</tr>
<tr>
<td>CIS-160</td>
<td>Introduction to MySQL</td>
<td>2</td>
</tr>
</tbody>
</table>

**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 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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
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<tr>
<td>CIS-118</td>
<td>Microsoft PowerPoint - Comprehensive</td>
<td>2</td>
</tr>
<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 Units for the Major: 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.

**required courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>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>
<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>
</tr>
<tr>
<td>CIS-117</td>
<td>Microsoft Access - Comprehensive</td>
<td>2</td>
</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>
</tr>
<tr>
<td>CIS-175</td>
<td>Project Management Fundamentals/PMI PMP Preparation</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units** 18

**plus at least 2 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>CIS-100</td>
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</tr>
<tr>
<td>CIS-101</td>
<td>Apple Mac Operating System</td>
<td>2</td>
</tr>
</tbody>
</table>

**Certificate of achievement
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. produce spreadsheets, documents and presentations by using basic to advanced software operations.
C. perform the duties demanded in any modern office environment.
D. able to prepare images for sharing and distribution.

The computer information systems (CIS) certificate of achievement 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.
Computer information systems

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:  
- CIS-115 Microsoft Word - Comprehensive 2
- CIS-116 Microsoft Excel - Comprehensive 2
- CIS-118 Microsoft PowerPoint - Comprehensive 2
- CIS-130 Adobe Photoshop Elements - Comprehensive 2
- CIS-132 Adobe Premiere Elements - Comprehensive 2
- CIS-133 Developing Video Content for the Web 2

recommended electives:  
- CIS-101 Apple Mac Operating System 2
- CIS-108 Introduction to WordPress 2
- CIS-109 Microsoft Outlook - Comprehensive 2
- CIS-110 Networking for Non-IT Professionals 2

web technology - recommended electives:  
- CIS-102 iPhone and iPad App Development for Beginners 2
- CIS-160 Introduction to MySQL 2

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. produce spreadsheets, documents and presentations by using basic to advanced software operations.
C. plan and design web pages.

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:  
- CIS-107 Introduction to Web Databases 2
- CIS-115 Microsoft Word - Comprehensive 2
- CIS-116 Microsoft Excel - Comprehensive 2
- CIS-118 Microsoft PowerPoint - Comprehensive 2

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 Institute'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:**
- CIS-180 Introduction to Project Management ..........................3
- CIS-181 Project Management Fundamentals/PMI PMP Preparation .................................................................3
- total minimum required units 6

**project management - recommended elective:**
- CIS-185 Project Management Tools .....................................2

**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:**
- 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-100 Microsoft Windows - Comprehensive**

2 units SC
- 36 hours lecture/18 hours laboratory per term
- 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 functions of the Microsoft Windows Operating System (Win OS), including the graphical user interface, file and folder management, system preferences, and networking. No previous computer experience is required. CSU

**CIS-101 Apple Mac Operating System**

2 units SC
- 36 hours lecture/18 hours laboratory per term
- 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 functions of the Apple Mac Operating System (OS), including the graphical user interface, file and folder management, system preferences, and networking. No previous computer experience is required. CSU
### CIS-105 Introduction to Web Design
2 units SC
- 36 hours lecture/18 hours laboratory per term
- Recommended: 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
- Recommended: 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
- Recommended: 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
- Recommended: 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-115 Microsoft Word - Comprehensive
2 units SC
- 36 hours lecture/18 hours laboratory per term
- Recommended: 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
- Recommended: 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 worksheets, 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-117 Microsoft Access - Comprehensive
2 units SC
• 36 hours lecture/18 hours laboratory per term
• Recommended: 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-118 Microsoft PowerPoint - Comprehensive
2 units SC
• 36 hours lecture/18 hours laboratory per term
• Recommended: 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
• Recommended: 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
• Recommended: 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
• Recommended: 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
• Recommended: 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
• Recommended: 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
• Recommended: 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

CIS-170  Networking for Non-IT Professionals
2 units  SC
• 36 hours lecture/18 hours laboratory per term
• Note: Credit by examination option available. No previous networking experience is required. Students interested in professional training in computer networking should see the Computer Network Technology (CNT) programs in this catalog.

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

CIS-180  Introduction to Project Management
3 units  SC
• 54 hours lecture per term
• Note: Credit by examination option available

This course introduces students to project management; topics include key concepts, terminology, principles, and processes. No previous experience with project management is required. CSU

CIS-181  Project Management/PMI PMP Preparation
3 units  SC
• 54 hours lecture per term
• Recommended: CIS-180 or equivalent
• Note: Credit by examination option available

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

CIS-185  Project Management Tools
2 units  SC
• 36 hours lecture/18 hours laboratory per term
• Recommended: 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 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
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:

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<tr>
<td>CNT-103</td>
<td>Voice, Video and Network Cabling</td>
</tr>
<tr>
<td>CNT-104</td>
<td>IT Essentials (A+)</td>
</tr>
<tr>
<td>CNT-106</td>
<td>Introduction to Networks</td>
</tr>
<tr>
<td>COMSC-101</td>
<td>Computer Literacy</td>
</tr>
<tr>
<td>COMSC-110</td>
<td>Introduction to Programming</td>
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</table>

plus at least 6 units from:

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BUS-250</td>
<td>Business Communications</td>
</tr>
<tr>
<td>CNT-114</td>
<td>Microsoft Windows Operating System Essentials/Administration</td>
</tr>
<tr>
<td>CNT-120</td>
<td>Routing and Switching Essentials</td>
</tr>
<tr>
<td>CNT-140</td>
<td>Introduction to Information Systems Security</td>
</tr>
<tr>
<td>CNT-148</td>
<td>Introduction to Cybersecurity: Ethical Hacking</td>
</tr>
<tr>
<td>CNT-149</td>
<td>Digital Forensics Fundamentals</td>
</tr>
</tbody>
</table>

plus at least 3 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>BUS-240</td>
<td>Business Statistics</td>
</tr>
<tr>
<td>MATH-142</td>
<td>Elementary Statistics with Probability</td>
</tr>
<tr>
<td>MATH-144</td>
<td>Statway II</td>
</tr>
<tr>
<td>MATH-181</td>
<td>Finite Mathematics</td>
</tr>
<tr>
<td>MATH-182</td>
<td>Calculus for Management, Life Science and Social Science I</td>
</tr>
<tr>
<td>MATH-191</td>
<td>Pre-Calculus</td>
</tr>
<tr>
<td>MATH-192</td>
<td>Analytic Geometry and Calculus I</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 specialist, 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.

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<td>MATH-191</td>
<td>Pre-Calculus</td>
<td></td>
</tr>
<tr>
<td>MATH-192</td>
<td>Analytic Geometry and Calculus I</td>
<td></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. A student 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.
### Computer network technology

#### 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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNT-103</td>
<td>Voice, Video and Network Cabling</td>
<td>2</td>
</tr>
<tr>
<td>CNT-104</td>
<td>IT Essentials (A+)</td>
<td>4</td>
</tr>
<tr>
<td>CNT-106</td>
<td>Introduction to Networks</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>COMSC-101</td>
<td>Computer Literacy</td>
<td>4</td>
</tr>
</tbody>
</table>

**Total minimum required units**: 19

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#### CNT-106  Introduction to Networks

1 unit SC
- 13.5 hours lecture/13.5 hours laboratory per term
- **Recommended**: CNT-101
- **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-106 Introduction to Networks**  
3 units SC  
- 36 hours lecture/54 hours laboratory per term  
- Recommended: 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. CSU

**CNT-114 Microsoft Windows Operating System Essentials/Administration**  
3 units SC  
- 45 hours lecture/27 hours laboratory per term  
- Recommended: 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-116 Implementing Windows Server Enterprise**  
3 units LR  
- 45 hours lecture/27 hours laboratory per term  
- Recommended: CNT-114 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 the installation and configuration of Microsoft Windows Professional on stand-alone computers and on client computers connected to a work-group or domain. The skills and knowledge necessary to install and configure Windows Server, to create files, print, and Terminal Servers will be covered. Students will also administer an organizational unit within a single domain structure. CSU

**CNT-117 Implementing Microsoft Windows Directory Services**  
3 units LR  
- 45 hours lecture/27 hours laboratory per term  
- Recommended: CNT-116 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 an overview of installation, configuration, and administration of Microsoft Windows Active Directory services. The course focuses on implementing Group Policy and understanding the Group Policy tasks required to centrally manage users and computers. Through lecture and laboratory experiences students will use Group Policies to configure and manage the user desktop environment, to configure and manage software, and implement and manage security settings. Students will also install and manage Windows Domains, and Domain Controllers through Active Directory. CSU

**CNT-120 Routing and Switching Essentials**  
3 units LR  
- 36 hours lecture/54 hours laboratory per term  
- Recommended: 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 will configure routers and switches for basic functionality. Students will configure and troubleshoot routers and switches 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 the Cisco Certified Network Associate (CCNA) certification exams. CSU

**CNT-125 Introduction to Virtualization Technology**  
3 units LR  
- 45 hours lecture/27 hours laboratory per term  
- Recommended: 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  
- Recommended: 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 risk management are addressed. Preparation for the CompTIA Security+ certification exams is provided. CSU

CNT-146  Internetworking Security  
2 units  SC  
- 27 hours lecture/27 hours laboratory per term  
- Recommended: 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  
- Recommended: 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. CSU

CNT-149  Digital Forensics Fundamentals  
3 units  SC  
- 36 hours lecture/54 hours laboratory per term  
- Recommended: 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. 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
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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<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></td>
</tr>
<tr>
<td>COMSC-260 Assembly Language Programming/</td>
<td></td>
</tr>
<tr>
<td>Computer Organization</td>
<td></td>
</tr>
<tr>
<td>plus at least 4 units from:</td>
<td></td>
</tr>
<tr>
<td>COMSC-200 Object Oriented Programming C++</td>
<td>4</td>
</tr>
<tr>
<td>COMSC-256 Advanced Java Programming</td>
<td>4</td>
</tr>
<tr>
<td>total minimum units for the major</td>
<td>20</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH-192 Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>MATH-193 Analytic Geometry and Calculus II</td>
<td>5</td>
</tr>
<tr>
<td>MATH-195 Discrete Mathematics</td>
<td>5</td>
</tr>
</tbody>
</table>

plus 0-8 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS-130 Physics for Engineers and Scientists A: Mechanics and Wave Motion</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-230 Physics for Engineers and Scientists B: 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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<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-200 Object Oriented Programming C++</td>
<td>4</td>
</tr>
<tr>
<td>total minimum required units</td>
<td>12</td>
</tr>
</tbody>
</table>
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

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  
- **DVC GE: IB**  
- 54 hours lecture/54 hours laboratory per term  
- Prerequisite: Placement into MATH-121; or MATH-085 or MATH-085SP; or MATH-090 or MATH-090E or MATH-090SP; or assessment process; or equivalent  
- Recommended: 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. CSU, UC

**COMSC-120  SQL Programming**  
4 units  
- 54 hours lecture/54 hours laboratory per term  
- Recommended: COMSC-110 or ENGIN-135 or equivalent  
- Note: Refer to class schedule for specific Oracle and SQL Server 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 SQL Server. Structured Query Language (SQL) script that is common to both and product-specific variations are also covered. CSU

**COMSC-140  Python Programming**  
3 units  
- 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 scoping, modules and packages, object-oriented programming, file handling and exceptions, and an introduction to Graphical User Interface (GUI) programming. CSU, UC C-ID

**COMSC-150  Topics in Computer Science**  
.3-4 units  
- 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  
- **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 will be reviewed, then advanced topics such as string processing, pointers, links, lists, queues, stacks, and dynamic memory allocation will be covered. C-ID COMP 122. CSU, UC

**COMSC-171  Introduction to UNIX and Linux**  
2 units  
- 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, file systems, utility programs, editors, usage of network services, storage, AWK scripting, and X Window graphics. CSU, UC

**COMSC-172  UNIX and Linux Administration**  
2 units  
- 27 hours lecture/27 hours laboratory per term  
- Recommended: 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, UC

COMSC-210  Program Design and Data Structures  
4 units  LR  
• 54 hours lecture/54 hours laboratory per term  
• Prerequisite: COMSC-165 or equivalent  
• Recommended: 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-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

COMSC-255  Programming with Java  
4 units  SC  
• DVC GE: IB  
• 54 hours lecture/54 hours laboratory per term  
• Recommended: 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  
• Recommended: COMSC-255 or equivalent  
This course covers advanced topics in Java programming including multi-threading, 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  
• Recommended: 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 Web Programming Using PHP and JavaScript  
4 units  SC  
• 54 hours lecture/54 hours laboratory per term  
• Recommended: COMSC-110 or equivalent  
This is an introductory course that presents the basic concepts and applications of web programming. The course uses the JavaScript on the client side and PHP (Hypertext Preprocessor) on the server side and introduces the PHP language and covers the basics of the JavaScript language. 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
- Recommended: 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
- Recommended: 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 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.

**major requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONST-114</td>
<td>Print Reading</td>
<td>3</td>
</tr>
<tr>
<td>CONST-124</td>
<td>Construction Details and Specifications</td>
<td>3</td>
</tr>
<tr>
<td>CONST-170</td>
<td>Fundamentals of Building Inspection</td>
<td>3</td>
</tr>
<tr>
<td>CONST-181</td>
<td>Building Code Interpretation: Non-Structural</td>
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<td>3</td>
</tr>
<tr>
<td>CONST-273</td>
<td>Construction Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 33

**Associate in science degree**

**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.

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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.

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<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG-120</td>
<td>Introduction to Management Studies</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG-121</td>
<td>Practices and Concepts of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>CONST-114</td>
<td>Print Reading</td>
<td>3</td>
</tr>
<tr>
<td>CONST-116</td>
<td>Plane Surveying</td>
<td>4</td>
</tr>
<tr>
<td>CONST-124</td>
<td>Construction Details and Specifications</td>
<td>3</td>
</tr>
<tr>
<td>CONST-244</td>
<td>Estimating: Residential</td>
<td>3</td>
</tr>
<tr>
<td>CONST-245</td>
<td>Estimating: Commercial</td>
<td>3</td>
</tr>
<tr>
<td>CONST-273</td>
<td>Construction Management</td>
<td>3</td>
</tr>
<tr>
<td>CONST-276</td>
<td>Legal Aspects of the Construction Industry</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 34
Associate in science degree

Construction -

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.

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<td>COMSC-101</td>
<td>Computer Literacy</td>
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</tr>
<tr>
<td>CONST-135</td>
<td>Construction Processes: Residential</td>
<td>4</td>
</tr>
<tr>
<td>CONST-136</td>
<td>Construction Processes: Commercial</td>
<td>4</td>
</tr>
<tr>
<td>CONST-144</td>
<td>Materials of Construction</td>
<td>3</td>
</tr>
<tr>
<td>CONST-244</td>
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<tr>
<td>MATH-119</td>
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<td>4</td>
</tr>
<tr>
<td>PHYS-110</td>
<td>Elementary Physics</td>
<td>3</td>
</tr>
</tbody>
</table>

plus at least 3 units from:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCHI-126</td>
<td>Computer Aided Design and Drafting – AutoCAD</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI-127</td>
<td>Introduction to Revit</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI-244</td>
<td>Architectural Practice and Working Drawings</td>
<td>3</td>
</tr>
</tbody>
</table>

Associate in science degree

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.

This program prepares 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 college algebra and higher levels of 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.

major requirements:

<table>
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<tr>
<th>Code</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>CARER-140</td>
<td>Job Search Strategies</td>
<td>1</td>
</tr>
<tr>
<td>CONST-105</td>
<td>Survey of the Trades</td>
<td>1.5</td>
</tr>
<tr>
<td>CONST-110</td>
<td>Occupational Safety</td>
<td>2</td>
</tr>
<tr>
<td>CONST-114</td>
<td>Print Reading</td>
<td>3</td>
</tr>
<tr>
<td>CONST-135</td>
<td>Construction Processes: Residential</td>
<td>4</td>
</tr>
<tr>
<td>CONST-215</td>
<td>Construction Job Site Training</td>
<td>2</td>
</tr>
<tr>
<td>ENGL-122</td>
<td>First-Year College Composition and Reading</td>
<td>3</td>
</tr>
<tr>
<td>KNACT-120</td>
<td>Fitness Training</td>
<td>0.5</td>
</tr>
<tr>
<td>MATH-119</td>
<td>Beginning and Intermediate Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

total minimum units for the major 21
Certificate of achievement
Construction and building inspection
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.

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.

**required courses:**

<table>
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<tr>
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<td>CONST-273</td>
<td>Construction Management</td>
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</table>

**total minimum required units** 33

Certificate of achievement
Construction management
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.

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.

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<td>Architectural Practice and Working Drawings</td>
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</table>

**total minimum required units** 37
Construction 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, 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 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. 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.

**required courses:**

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<td>CONST-105</td>
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<tr>
<td>CONST-110</td>
<td>Occupational Safety</td>
<td>2</td>
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<tr>
<td>CONST-114</td>
<td>Print Reading</td>
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<tr>
<td>CONST-135</td>
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<td>CONST-215</td>
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<td>KNACT-120</td>
<td>Fitness Training</td>
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<tr>
<td>MATH-092*</td>
<td>Math for Trade Pre-Apprentices</td>
<td>4</td>
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**plus at least 3 units from:**

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<tr>
<td>ENGL-096</td>
<td>Introduction to College Reading and Study Skills</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-098</td>
<td>Introduction to College Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units** 21

*Higher level Math and English may be substituted for the certificate of achievement. You must have completed English and Math at the level designated or higher through assessment or prior equivalent classes or by concurrent enrollment.*

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.

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.

**required courses:**

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<td>Occupational Safety</td>
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<td>Introduction to College Reading and Writing</td>
<td>5</td>
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<td>Introduction to College Writing</td>
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<td>MATH-085</td>
<td>Arithmetic and Basic Algebra Review</td>
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<td>MATH-092</td>
<td>Math for Trade Pre-Apprentices</td>
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<td>Plane Trigonometry</td>
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</table>

**total minimum required units** 11

*Higher level Math and English may be substituted for the certificate of accomplishment.*

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**CONST-101 Exploring Construction, Architecture, Manufacturing, and Engineering**

1 unit P/NP
- 18 hours lecture/22 hours laboratory per term
- Note: Field trips required.

This course provides an overview of employment trends, work attitudes, values, materials, processes, and career opportunities in construction, architecture, manufacturing, and engineering. Students will explore these topics through lecture and hands-on experience with high-tech equipment and processes, guest lectures, and field trips to industrial sites. CSU
CONST-105  Survey of the Trades
1.5 units  SC
• 18 hours lecture/36 hours laboratory per term
The course presents a survey of career opportunities and requirements of the skilled trades as well as basic theoretical and practical skills common to all construction trades. CSU

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 inspectors 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  
- Recommended: MATH-090 or MATH-090SP or MATH-090E or one year of high school 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 energy conservation and energy compliance codes. The focus of the course is on building a plan inspection and construction field inspection. Energy projects, streamlining energy compliance forms review, case studies, and reviewing plan checking and building inspection procedures will also be covered. 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  
- Recommended: CONST-114 or CONST-135 or equivalents  
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  
- Recommended: 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.

**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.
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 assessments 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  
- Recommended: Eligibility for ENGL-122 or equivalent  
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-130  Transfer Planning  
1.5 units  SC  
- 27 hours lecture per term  
- Recommended: Eligibility for ENGL-122 or equivalent  
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-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 food service 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, cafés, 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 on 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>Code</th>
<th>Title</th>
<th>Units</th>
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</thead>
<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>
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<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>
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*plus at least 3 units from:

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<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>
<td>1</td>
</tr>
<tr>
<td>CULN-195</td>
<td>Supervisory Management in Food Service</td>
<td>3</td>
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<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>Off-Campus Catering I</td>
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<td>CULN-240C</td>
<td>On-Campus Catering III</td>
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<td>CULN-295</td>
<td>Occupational Work Experience</td>
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<td>CULN-296</td>
<td>Internship in Occupational Work Experience</td>
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<tr>
<td>CULN-298</td>
<td>Independent Study</td>
<td>2-3</td>
</tr>
<tr>
<td>CULN-299</td>
<td>Student Instructional Assistant</td>
<td>2-3</td>
</tr>
</tbody>
</table>

*total minimum units for the major 33*
Culinary arts

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. à 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.

major requirements: 

CULN-105 Kitchen Foundations.................................2
CULN-120 Fundamentals of Cuisine..............................5
CULN-123 Soups, Stocks, and Sauces............................2
CULN-124 Breakfast, Brunch, and Bistro Cuisine............2
CULN-127 Garde Manger........................................2
CULN-153 Safety and Sanitation................................2
CULN-161 Baking Foundations................................2
CULN-175 Protein Fabrication...................................2
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-202 Fundamentals of Modern Restaurant...............5
CULN-228 International Cuisines...............................2

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 course work. 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 in science 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.

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<td>Applied Accounting</td>
<td>3</td>
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<td>Kitchen Foundations</td>
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<td>CULN-160</td>
<td>Fundamentals of Beverage, Wine and Spirits</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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<tr>
<td>CULN-202</td>
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<td>Student Instructional Assistant</td>
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</tbody>
</table>

**total minimum units for the major** 34

**Associate in science in hospitality management for transfer**

Students completing this program will be able to...

A. demonstrate the proper application of dry, moist, and combination cooking methods to a variety of food products.
B. demonstrate current food service sanitation procedures.
C. serve food according to professional industry standards.
D. create menus that incorporate menu planning principles that maximize sales and profits.
E. apply management functions to food and beverage operations.
F. define the goals of various hospitality elements and related products and services

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 Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>CULN-110</td>
<td>Orientation to Hospitality</td>
<td>3</td>
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**plus at least 8 units from:**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>CULN-120</td>
<td>Fundamentals of Cuisine</td>
<td>5</td>
</tr>
<tr>
<td>CULN-153</td>
<td>Safety and Sanitation</td>
<td>2</td>
</tr>
<tr>
<td>CULN-201</td>
<td>Principles of Food, Beverage, and Cost Controls</td>
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**plus at least 7 units from any course not used above or:**

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<tr>
<td>BUSAC-186</td>
<td>Financial Accounting</td>
<td>4</td>
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<tr>
<td>BUS-294</td>
<td>Business Law</td>
<td>3</td>
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<tr>
<td>BUS-240</td>
<td>Business Statistics</td>
<td>3</td>
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<tr>
<td>MATH-142</td>
<td>Elementary Statistics with Probability</td>
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<tr>
<td>MATH-144</td>
<td>Statway II</td>
<td>4</td>
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<tr>
<td>PSYCH-101</td>
<td>Introduction to Psychology</td>
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**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:**

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<th>Course</th>
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<td>CULN-163</td>
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<td>CULN-181</td>
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<td>CULN-281</td>
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**plus at least 3 units from:**

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<td>CULN-186</td>
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<td>CULN-195</td>
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**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.
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.

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.

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.

required courses:  units
CULN-105 Kitchen Foundations .......................... 2
CULN-153 Safety and Sanitation .......................... 2
CULN-161 Baking Foundations .......................... 2
CULN-209 Plated Seasonal Dessert .......................... 2
CULN-210 Artisan Bread .......................... 2
CULN-212 Candies, Chocolates, and Truffles .......................... 2

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.

required courses:  units
CULN-105 Kitchen Foundations .......................... 2
CULN-153 Safety and Sanitation .......................... 2
CULN-160 Beverage, Wine, and Spirits .......................... 3
CULN-216 Wine and Food Pairing .......................... 2
CULN-201 Principles of Food, Beverage, and Cost Control .......................... 3

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.

required courses: units
CULN-105 Kitchen Foundations.................................................2
CULN-153 Safety and Sanitation..............................................2
CULN-161 Baking Foundations.................................................2
CULN-216 Wine and Food Pairing.............................................2
CULN-224 Catering Business Operations.................................2

plus 2 units from:
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

Certificate of accomplishment
Culinary arts
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.

required courses: units
CULN-105 Kitchen Foundations.................................................2
CULN-123 Soups, Stocks, and Sauces.....................................2
CULN-124 Breakfast, Brunch, and Bistro Cuisine...............2
CULN-127 Garde Manger......................................................2
CULN-153 Safety and Sanitation.............................................2
CULN-175 Protein Fabrication...............................................2

total minimum units for the major 12
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, review 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-105  Kitchen Foundations
2 units  SC
• 9 hours of lecture/81 hours laboratory per term
• Recommended: CULN-153 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. 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-123  Stocks, Soups, and Sauces
2 units  SC
• 9 hours lecture/81 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 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 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 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 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.

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 growing food for restaur-ants and useful for anyone who wants to grow their own food. Topics include soil preparation, planting, and organic gardening and farming techniques. Nutrition, menu planning, as well as organic and sustainable practices are also covered. CSU

CULN-131  Food Truck Entrepreneur  
2 units SC  
- 36 hours lecture per term  
- Prerequisite: CULN-105 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 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-153  Safety and Sanitation  
2 units SC  
- 36 hours lecture per term  
- Prerequisite: CULN-153 or equivalent  
- 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 equivalent

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  
3 units SC  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL-122 or equivalent

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 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 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 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 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 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 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-181 Fundamental Techniques of Baking and Pastry
5 units SC
• 270 hours laboratory per term
• Prerequisite: CULN-105 (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 presents both practical and theoretical study of fundamental 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-185 Nutritional Guidelines in Food Preparation
2 units SC
• 36 hours lecture per term

This course provides an introduction to food composition, dietary guidelines, recipe modification, food cooking and storage techniques for nutrient retention. Contemporary nutritional issues will be addressed. CSU

CULN-186 Sustainable Hospitality-Energy, Water and Waste
1 unit SC
• 18 hours lecture per term

This course presents 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 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 current practices in food service 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 food service operation. CSU

CULN-193 Purchasing Operations and Systems Laboratory
1.5 units SC
• 81 hours laboratory by arrangement per term
• Prerequisite: CULN-105 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 current practices in food service 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 food service operation. CSU
CULN-195 Supervisory Management in Food Service
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL-122 or equivalent
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 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 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 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 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 equivalent
- Recommended: 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 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 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 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 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 Confectionery Showpieces
1 unit SC
- 9 hours lecture/27 hours laboratory per term
- Recommended: 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  
- Recommended: Eligibility for ENGL-122 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 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 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

### 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
- Recommended: 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
- Recommended: 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 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 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
the study project, and the means by which the supervising instructor develop a written contract that includes objectives intended to replace an existing course. The student and conduct additional research, a special project, or 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

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-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

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-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

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

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

Students completing the program will be able to...

A. demonstrate intermediate/advanced mastery of a variety of dance techniques utilizing proper alignment, axial and loco motor skills, and the ability to execute intermediate/advanced performance technique.
B. analyze the evolution of dance through the twentieth century, including the history of dance and other art forms.
C. demonstrate the ability to design a dance composition incorporating principles of technique, choreography, music, performance, staging, and aesthetic design.
D. describe the career and advanced educational opportunities available to them.
E. analyze the integration of various arts and ideas in selected technical, historical, and thematic contexts for the theater, music and dance performing arts.
F. demonstrate knowledge of the human body, its relationship between diet and health, and incorporate alternative movement classes to improve physical health to improve performance.
The associate in arts degree in dance is a comprehensive two-year course of study that exposes students to all aspects of the dance discipline. Students will be provided with a solid foundation in dance movement, performance and theory, as well as an opportunity to explore related types of performing arts such as drama and music. Students will improve the technical aspects of their dance technique, gain knowledge in compositional methodology, and perform in dance concerts.

Students may apply this knowledge to work in areas such as commercial dance, choreography, dance therapy and dance instruction. Students wishing to pursue a career in the field of dance should consider this two-year program as it provides preparation for immediate entry into some of the areas listed above and provides a basic foundation for transfer to baccalaureate degrees necessary in other dance disciplines.

While most of the dance major requirements are transferable and many meet prerequisites required of dance majors, this degree is not designed as a transfer curriculum. Students may use any of the three general education patterns for this degree (DVC, IGETC, CSU GE). Students who wish to transfer to four-year institutions must consult with program faculty and college counselors to ensure that the requirements for transfer to 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 General Education 3 (CSU GE). General Education Option 1 (DVC GE) is appropriate for students who do not intend to transfer.

To earn an associate in arts degree with a major in dance, 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.

### complete at least 2 units from 2 different disciplines:

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<tr>
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<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>DANCE-212</td>
<td>Ballet I</td>
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<td>DANCE-222</td>
<td>Jazz Dance I</td>
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</tr>
<tr>
<td>DANCE-232</td>
<td>Modern Dance I</td>
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### complete at least 2 units from different disciplines:

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<tbody>
<tr>
<td>DANCE-213</td>
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<td>DANCE-223</td>
<td>Jazz Dance II</td>
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<td>DANCE-233</td>
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<td>DANCE-105A*</td>
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<td>DANCE-160B*</td>
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<td>DANCE-162*</td>
<td>Broadway Dance</td>
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<tr>
<td>DANCE-164A*</td>
<td>Ballroom/Social Dance I</td>
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<td>DANCE-166*</td>
<td>Swing Dance</td>
<td>0.5-2</td>
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<tr>
<td>DANCE-168A*</td>
<td>Salsa and Latin Dance I</td>
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<tr>
<td>DANCE-169A*</td>
<td>Argentine Tango</td>
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<tr>
<td>DANCE-170A*</td>
<td>Beginning Hip-Hop and Urban Funk Dance</td>
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<tr>
<td>DANCE-170B*</td>
<td>Intermediate Hip-Hop and Urban Funk Dance</td>
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<tr>
<td>DANCE-214</td>
<td>Ballet III</td>
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<td>DANCE-216</td>
<td>Pointe Technique</td>
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<tr>
<td>DANCE-224</td>
<td>Jazz Dance III</td>
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<tr>
<td>DANCE-234</td>
<td>Modern Dance III</td>
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*at least one unit required

### theory requirements

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<tr>
<td>DANCE-201</td>
<td>Western Culture Dance History: 20th Century to Present</td>
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<tr>
<td>DANCE-205</td>
<td>Music Theory for Dancers</td>
<td>2</td>
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<tr>
<td>DANCE-250</td>
<td>Dance Choreography</td>
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### performance requirements

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<td>DANCE-242</td>
<td>Repertory Dance Production I</td>
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<tr>
<td>DANCE-243</td>
<td>Repertory Dance Production I - Tech Week</td>
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<tr>
<td>DANCE-244</td>
<td>Repertory Dance Production II</td>
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<td>DANCE-245</td>
<td>Repertory Dance Production II - Tech Week</td>
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<td>DANCE-246</td>
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<td>DANCE-247</td>
<td>Dance Production I - Tech Week</td>
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<td>DANCE-248</td>
<td>Dance Production II</td>
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<td>DANCE-249</td>
<td>Dance Production II - Tech Week</td>
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<td>DANCE-250</td>
<td>Dance Production Choreography</td>
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<td>DANCE-255</td>
<td>Dance Production - Tech Week</td>
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### stagecraft requirements

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<tbody>
<tr>
<td>DRAMA-111</td>
<td>Introduction to Lighting Design</td>
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<tr>
<td>DRAMA-112</td>
<td>Introduction to Stage Makeup</td>
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<td>DRAMA-113</td>
<td>Introduction to Costume Design</td>
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<tr>
<td>DRAMA-122</td>
<td>Basic Principles of Acting</td>
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</tr>
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<td>DRAMA-200</td>
<td>Introduction to Technical Theater</td>
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### art/music/humanities requirements

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<tr>
<td>HUMAN-105</td>
<td>Introduction to Humanities: Arts and Ideas</td>
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<tr>
<td>MUSIC-114</td>
<td>World Music</td>
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**total minimum units for the major** 27

**total core technique requirements** 8

**plus at least 2 additional units from:** any of the core technique courses not used above 2
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”.

<table>
<thead>
<tr>
<th>Family: Ballet</th>
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<tbody>
<tr>
<td>KNDAN-110A Ballet Fundamentals I</td>
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</tr>
<tr>
<td>KNDAN-110B Ballet Fundamentals II</td>
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<tr>
<td>DANCE-110A Ballet Fundamentals I</td>
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<tr>
<td>DANCE-212 Ballet I</td>
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<tr>
<td>DANCE-213 Ballet II</td>
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<tr>
<td>DANCE-214 Ballet III</td>
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<tr>
<td>DANCE-216 Pointe Technique</td>
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<tr>
<th>Family: Jazz</th>
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<td>KNDAN-120A Jazz Dance Fundamentals I</td>
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<td>DANCE-120B Jazz Dance Fundamentals II</td>
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<td>DANCE-222 Jazz Dance I</td>
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<td>DANCE-223 Jazz Dance II</td>
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<td>KNDAN-130A Modern Dance Fundamentals I</td>
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<td>DANCE-233 Modern Dance II</td>
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<table>
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<tr>
<th>Family: Ballroom Dance</th>
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<tbody>
<tr>
<td>DANCE-164A Ballroom/Social Dance I</td>
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<tr>
<td>DANCE-164B Ballroom/Social Dance II</td>
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<tr>
<td>DANCE-166 Swing Dance</td>
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<tr>
<td>DANCE-168A Salsa and Latin Dance I</td>
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<td>DANCE-168B Salsa and Latin Dance II</td>
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<tr>
<td>KNDAN-150A Argentine Tango</td>
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<tr>
<td>KNDAN-164A Ballroom/Social Dance I</td>
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<tr>
<td>KNDAN-164B Ballroom/Social Dance II</td>
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<tr>
<td>KNDAN-166 Swing Dance</td>
<td></td>
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<tr>
<td>KNDAN-168A Salsa and Latin Dance I</td>
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</tr>
<tr>
<td>KNDAN-168B Salsa and Latin Dance II</td>
<td></td>
</tr>
<tr>
<td>KNDAN-169A Argentine Tango</td>
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<th>Family: Tap</th>
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<td>DANCE-160A Tap Dance I</td>
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<td>KNDAN-160A Tap Dance I</td>
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<td>KNDAN-160B Tap Dance II</td>
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<th>Family: Dance Production</th>
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<td>DANCE-150A Dance Production II</td>
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<td>DANCE-242 Repertory Dance Production I</td>
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<td>DANCE-244 Repertory Dance Production II</td>
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<td>DANCE-246 Dance Production I</td>
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<td>DANCE-248 Dance Production II</td>
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<td>DANCE-256 Dance Production Choreography</td>
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<th>Family: Dance Performance</th>
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<td>DANCE-150B Dance Production II - Tech Week</td>
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<td>DANCE-249 Dance Production II – Tech Week</td>
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<td>DANCE-257 Dance Production Choreography - Tech Week</td>
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<th>Family: Dance Survey</th>
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<td>DANCE-100 Introduction to Dance</td>
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<td>DANCE-162 Broadway Dance</td>
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<td>DANCE-170A Hip-Hop and Urban Funk Dance I</td>
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<td>DANCE-170B Hip-Hop and Urban Funk Dance II</td>
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<td>KNDAN-150B Beginning Hip-Hop and Urban Funk</td>
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<td>KNDAN-150C Intermediate Hip-Hop and Urban Funk</td>
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<td>KNDAN-170A Hip-Hop and Urban Funk Dance I</td>
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<td>KNDAN-170B Hip-Hop and Urban Funk Dance II</td>
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DANCE-100  Introduction to Dance  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• 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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• 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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• Recommended: 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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• 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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• Recommended: 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 and 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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• 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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• Recommended: 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, isolations 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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• 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 will also be included. CSU, UC  

DANCE-130B  Modern Dance Fundamentals II  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• Recommended: DANCE-130A or equivalent  
• Note: Formerly KNDAN-130B (20-21)  
This is a course in beginning modern dance technique. The focus will be on beginning modern dance alignment, center work and modern dance movements across the floor. Current events that shape the history of modern dance in America and in Europe will also be 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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• 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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• Recommended: 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-162  Broadway Dance  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• 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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• 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  
.5-2 units SC  
• Variable hours  
• Recommended: 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 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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• 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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• Note: Formerly KNDAN-168A (20-21)  
This is an introductory course in the Latin dances, including Salsa. The techniques, terminology, steps, patterns, rhythms, music, and history 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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• Recommended: 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  
.5-2 units  SC  
• CSU GE: E  
• Variable hours  
• 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  
.5-2 units  SC  
• CSU GE: E  
• Variable hours  
• Note: Formerly KNDAN-170A (20-21)  
This dance activity course focuses on beginning hip-hop and funk dance technique. The impact of hip-hop and funk on popular dance, ethnic influences, historical events, and how these dance styles have come to reflect the diversity of America will be discussed. CSU, UC  

DANCE-170B  Hip-Hop and Urban Funk Dance II  
.5-2 units  SC  
• CSU GE: E  
• Variable hours  
• Recommended: DANCE-170A or equivalent  
• Note: Formerly KNDAN-170B (20-21)  
This dance activity course focuses on intermediate hip-hop and funk dance technique. This course is designed to increase student movement, vocabulary, and technical skills to include complex footwork, polyrhythmic movements, and the ability to improvise in a cipher. Similarities and differences of popular/social dance in the United States will also be presented. CSU, UC  

DANCE-201  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 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, performance, 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 will be practiced. CSU, UC  

DANCE-212  Ballet I  
1 unit  SC  
• 54 hours laboratory per term  
• Recommended: 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 will also be 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 will also be 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. The focus is 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 will be 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 will also be presented. CSU, UC
DANCE-222  Jazz Dance I
1 unit  SC
• 54 hours laboratory per term
• Recommended: 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, movie, and videos and its influence on the jazz dancer and current jazz dance styles will also be 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 will also be 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. Choreographic principles as they relate to jazz dance to enhance performance potential will also be covered. CSU, UC

DANCE-232  Modern Dance I
1 unit  SC
• 54 hours laboratory per term
• Recommended: 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 will also be 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 will also be 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 will also be 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 faculty-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
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 10-month program is scheduled to begin in summer with evening or at an alternate location. 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.

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.

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 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 10-month program is scheduled to begin in summer with evening or at an alternate location. 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 Orientation to the Dental Assisting Program .............................................. 0.3

major requirements: 
DENTL-173 Dental Operative Procedures I .......................................................... 3
DENTL-174 Dental Operative Procedures II ................................................. 3
DENTL-175 Infection Control and Theories of Dental Assisting ................. 3
DENTL-180 Dental Office Management .............................................................. 2
DENTL-182 Dental Radiography Laboratory ............................................... 0.5
DENTL-183 Dental Operative Procedures II .................................................. 5
DENTL-184 Clinical Experience ................................................................. 7

plus at least 3 units from:
ENGL-122* First-Year College Composition and Reading .................. 3
ENGL-122L* First-Year College Composition and Reading with Additional Support .... 5
ENGL-122A* First-Year College English for Multilingual Students ... 3
ENGL-122AL* First-Year College English Intensive for Multilingual Students ..... 5

*Note: It is strongly recommended to complete ENGL-122 or equivalent prior to entering the dental assisting program. DVC General Education requirements must be completed to earn an associate degree.

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.
Certificate of achievement
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.

program prerequisite:
DENTL-120 Orientation to the Dental Assisting Program .......................................................... 0.3

required courses:
DENHY-124 Dental Radiography ..................................................3
DENHY-290 Transitioning from Student to Dental Professional ............................................. 1
DENTL-171 Oral Facial Anatomy and Body Systems .................. 3.5
DENTL-173 Dental Operative Procedures I ......................... 3
DENTL-174 Dental Materials and Laboratory Procedures .......................................................... 3
DENTL-175 Infection Control and Theories of Dental Assisting .................................................. 3
DENTL-180 Dental Office Management ................................ 2
DENTL-181 Dental Emergencies, Pharmacology, and Oral Pathology ........................................ 2
DENTL-182 Dental Radiography Laboratory ......................... 0.5
DENTL-183 Dental Operative Procedures II ................................. 5
DENTL-184 Clinical Experience .................................................. 7

plus at least 3 units from:
ENGL-122* First-Year College Composition and Reading .................................................. 3
ENGL-122L* First-Year College Composition and Reading with Additional Support ..................... 5
ENGL-122A* First-Year College English for Multilingual Students ........................................... 3
ENGL-122AL* First-Year College English Intensive for Multilingual Students .......................... 5

*Note: It is strongly recommended to completed ENGL-122 or ENGL-122A prior to entering the dental assisting program.

Total minimum required units 36.3

DENTL-110 Overview of the Dental Professions
1.5 units P/NP
- 27 hours lecture per term
- Recommended: Eligibility for ENGL-122 or equivalent
- Note: This course is open to all students

This course provides an overview of the dental professions, with special emphasis on assisting, hygiene and dental technology concepts. Content is designed to be helpful to students considering applying to dental assisting, dental hygiene, or dental technology programs. CSU

DENTL-120 Orientation to the Dental Assisting Program
.3 unit P/NP
- 6 hours lecture/3 hours laboratory per term
- 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 will provide the student with detailed enrollment information and the health protocol standards for dental assisting students. Emphasis will be placed on laboratory asepsis, infection control and disease transmission. Career pathways of dental assisting, registered dental assisting, professionalism, malpractice insurance and dental assisting organizations will be discussed. Guidelines from the Dental Practice Act rules and regulations will be 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. 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-171 Oral Facial Anatomy and Body Systems
3.5 units LR
- 54 hours lecture/36 hours laboratory per term
- Prerequisite: DENTL-120 or equivalent
- Limitation on 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).
- Recommended: Eligibility for ENGL-122 or equivalent

This course introduces students to head and neck anatomy, general anatomy and body systems. Emphasis will be on the teeth, their supporting structures, and the respiratory and cardiovascular systems as they relate to monitoring patient sedation. CSU
DENTL-173 Dental Operative Procedures I
3 units LR
- 36 hours lecture/54 hours laboratory per term
- Prerequisite: DENTL-120 or equivalent
- Limitation on 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).
- Recommended: Eligibility for ENGL-122 or equivalent

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 Materials and Laboratory Procedures
3 units LR
- 36 hours lecture/54 hours laboratory per term
- Prerequisite: DENTL-120 or equivalent
- Limitation on 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).
- Recommended: Eligibility for ENGL-122 or equivalent

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-175 Infection Control and Theories of Dental Assisting
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).
- Recommended: Eligibility for ENGL-122 or equivalent
- Note: This course meets the eligibility requirements for the certificate in Infection Control and the California Dental Practice Act required by the state for unlicensed Dental Assistants.

This course introduces the student to microbiology, infectious diseases, immunity and infection control in the dental office. Topics include documenting medical/dental health histories; taking and recording vital signs; microbiology of dental decay and application of its relationship to the principles of oral hygiene; dental health related diet and nutrition; oral inspection, documentation, and dental charting; orientation to the roles, functions and duties of the members of the dental team. CSU

DENTL-180 Dental Office Management
2 units LR
- 36 hours lecture per term
- Prerequisite: DENTL-171 or equivalent
- Limitation on 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).
- Recommended: Eligibility for ENGL-122 or equivalent

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-181 Dental Emergencies, Pharmacology, and Oral Pathology
2 units LR
- 36 hours lecture per term
- Co-requisite: DENTL-175 (may be taken concurrently or previously)
- Limitation on 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).
- Recommended: Eligibility for ENGL-122 or equivalent

This course prepares students to assist in the management of medical and dental emergencies, including review of legal and ethical responsibilities. Pathology of the hard and soft tissues of the oral cavity and function of pharmacology are also covered. CSU

DENTL-182 Dental Radiography Laboratory
.5 unit LR
- 27 hours laboratory per term
- Prerequisite: DENHY-124 or equivalent
- Limitation on 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).
- Recommended: Eligibility for ENGL-122 or equivalent

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  Dental Operative Procedures II
5 units LR
• 54 hours lecture/108 hours laboratory per term
• Prerequisite: DENTL-173 or equivalent
• Limitation on 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).
• Recommended: Eligibility for ENGL-122 or equivalent
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  Clinical Experience
7 units LR
• 18 hours lecture/320 hours laboratory per term
• Prerequisite: DENTL-174 or equivalent
• Limitation on 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).
• Recommended: Eligibility for ENGL-122 or equivalent
This course offers students supervised clinical experience in an externship environment. Students will provide chairside dental assisting in general practice, specialty clinics, and dental schools. CSU

DENTL-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 HYGIENE – DENHY

Joseph Gorga, Dean
Sciences 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).
Dental hygiene

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/titer; (3) proof of satisfactory tuberculosis (TB) screening; (4) current physical examination; (5) passing background check; and (6) passing certified drug test.

Students must achieve a “C” grade or higher in each course used to meet program requirements. The dental hygiene program courses 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: units

program prerequisites or equivalents:
BIOSC-139* Human Anatomy.................................5
BIOSC-140* Human Physiology.................................5
CHEM-108* Introductory Chemistry............................4
CHEM-109* Introduction to Organic and Biochemistry.....4
ENGL-122 First-Year College Composition and Reading ..................................................3
or
ENGL-122A First-Year College Composition and Reading for Multilingual Students...............3
NUTRI-160* Nutrition: Science and Applications.........3
SOCI-120**Introduction to Sociology............................3

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

plus at least 4 units from:
MATH-135*** College Algebra................................4
MATH-135SP***College Algebra – Self-Paced.............4
MATH-142*** Elementary Statistics with Probability.....4

plus at least 3 units from:
COMM-120** Public Speaking.....................................3
COMM-130** Small Group Communication..................3

plus at least 3 units from:
PSYCH-101** Introduction to Psychology .......................3
PSYCH-122** Psychology in Modern Life....................3

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.

The following courses are open only to those accepted into the dental hygiene program.

DENHY-101 Dental Hygiene Orientation........................0.5
DENHY-120 Introduction to Dental Hygiene: Theory, Process of Care and Practice.................1
DENHY-121 Introduction to Comprehensive Clinical Dental Hygiene Care .......................5.5
DENHY-122 Clinical Dental Hygiene ................................6
DENHY-123 Oral Health Care Education ..............................................2
DENHY-124 Dental Radiography ........................................................3
DENHY-125 Head and Neck Anatomy, Histology, and Embryology ..................................4
DENHY-126 Dental Morphology ..........................................................2
DENHY-127 Infection Control: Theory and Practice ...........................................2.5
DENHY-128 Periodontics for the Dental Hygienist ..............................................2
DENHY-129 Contemporary Dental Materials for the Dental Hygienist .........................1.5
DENHY-131 Expanded Functions for the Dental Hygienist ..................................2
DENHY-133 Behavioral Foundations and Communication Skills....................................1
DENHY-134 Evaluation of Scientific Research ...............................................2
DENHY-135 Pharmacology for the Dental Hygienist ............................................3
DENHY-136 Dental Hygiene Care of Patients with Special Needs .......................................1

DENHY-219 Pathology ..............................................................................2
DENHY-223 Ethics, Jurisprudence, and Practice Management ........................................2
DENHY-225 Community Oral Health .....................................................1
DENHY-226 Community Oral Health Service Learning ........................................1.5
DENHY-227 Advanced Periodontics and Dental Hygiene Topics ..................................2
DENHY-230 Advanced Clinical Dental Hygiene Care I ........................................5
DENHY-231 Advanced Clinical Dental Hygiene Care II ............5.5
DENHY-290 Transitioning from Student to Dental Professional .......................................1

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

.5 unit P/NP

- 6 hours lecture/12 hours laboratory per term
- Limitation on enrollment: Provisional acceptance into the Diablo Valley College Dental Hygiene program (or as an alternate) is required for registration in this course.
- Note: Refer to the DVC catalog or Dental Hygiene Program website for information concerning program prerequisites and application process.

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

210  PROGRAM/COURSE DESCRIPTIONS  chapter four  DIABLO VALLEY COLLEGE  CATALOG 2021-2022
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 Defibrillators [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/144 hours laboratory 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]). 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 and CHEM-108 and CHEM-109 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 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-192  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 units 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
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.

Of the total minimum units for the major, 23:

major requirements:     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
plus at least 6 units from:
ART-102 Introduction to Three-Dimensional Design and Sculpture...............3
ART-105 Drawing I........................................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
ENGT-119 Introduction to Technical Drawing.............3
MUSX-120 Live Sound.......................................3
SOCIO-122 Critical Thinking about Social and Cultural Issues.............................................3

Associate in arts in theater arts for transfer

Students completing the program will be able to...
A. demonstrate skill in performing or crewing 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 theatre 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 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 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>DRAMA-122 Basic Principles of Acting</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-139 Introduction to Theater</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>DRAMA-201 Technical Theater Laboratory</td>
<td>1-2*</td>
</tr>
<tr>
<td>DRAMA-270 Stage Production</td>
<td>1-2*</td>
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plus at least 9 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>DRAMA-111 Introduction to Lighting Design</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-112 Introduction to Stage Makeup</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-113 Introduction to Costume Design</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-123 Intermediate Principles of Acting</td>
<td>3</td>
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<tr>
<td>DRAMA-200 Introduction to Technical Theater</td>
<td>3</td>
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or, if not used above:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAMA-201 Technical Theater Laboratory</td>
<td>1-2*</td>
</tr>
<tr>
<td>DRAMA-270 Stage Production</td>
<td>1-2*</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 18

*Note: a maximum of 3 units may be taken from each of these courses.

---

**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:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>DRAMA-111 Introduction to Lighting Design</td>
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<tr>
<td>DRAMA-112 Introduction to Stage Makeup</td>
<td>3</td>
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<tr>
<td>DRAMA-122 Basic Principles of Acting</td>
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<tr>
<td>DRAMA-200 Introduction to Technical Theater</td>
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<tr>
<td>DRAMA-201 Technical Theater Laboratory</td>
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plus at least 2 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAMA-202 Fundamentals of Stage Production-Technical Theater</td>
<td>1-2</td>
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</tbody>
</table>

plus at least 2 units from:

<table>
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<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAMA-295 Occupational Work Experience Education in DRAMA</td>
<td>2-4</td>
</tr>
<tr>
<td>DRAMA-296 Internship in Occupational Work Experience Education in DRAMA</td>
<td>2-4</td>
</tr>
</tbody>
</table>

**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 Fairytales – 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 173, 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
- Recommended: 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
- 108 hours lecture per term
- 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
- Recommended: 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, UC

DRAMA-127 Auditioning Techniques
3 units SC
- 54 hours lecture per term
- Recommended: 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
- Recommended: 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  
- Recommended: DRAMA-123 or equivalent; concurrent enrollment in DRAMA-230 or equivalent; eligibility for ENGL-122 or equivalent  
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, UC  

DRAMA-139  Introduction to Theater  
3 units  SC  
- IGETC: 3A; CSU GE: C1; DVC GE: III  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL-122 or equivalent  
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  
- Recommended: Eligibility for ENGL-122 or equivalent  
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, UC  

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  
- Recommended: 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  
- Recommended: 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
- Recommended: Concurrent enrollment in DRAMA-130 or equivalent; eligibility for ENGL-122 or equivalent

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.
- Recommended: 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
- Limitation on Enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.
- Recommended: 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 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-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 – 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 in early childhood education program 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: units

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tr>
<td>ECE-123</td>
<td>Introduction to Curriculum in Early Childhood Education</td>
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</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>
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<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>
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<td>ECE-144</td>
<td>Diversity in Early Childhood Education</td>
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<td>ECE-249</td>
<td>Observation and Assessment in the Classroom</td>
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<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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<th>Units</th>
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</thead>
<tbody>
<tr>
<td>ECE-129</td>
<td>Strategies for Working with Challenging Behaviors</td>
<td>3</td>
</tr>
<tr>
<td>ECE-230</td>
<td>Developmentally Appropriate Practice for Infants and Toddlers</td>
<td>3</td>
</tr>
<tr>
<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>4.5-3</td>
</tr>
<tr>
<td>ECE-240</td>
<td>Language and Literacy for the Young Child</td>
<td>3</td>
</tr>
<tr>
<td>ECE-241</td>
<td>Science and Mathematics for Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE-242</td>
<td>Music, Dance, and Drama for the Young Child</td>
<td>3</td>
</tr>
<tr>
<td>ECE-243</td>
<td>Creative Art for the Young Child</td>
<td>1.5</td>
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<tr>
<td>ECE-251</td>
<td>Administration I: Programs in Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE-252</td>
<td>Administration II: Personnel and Leadership in ECE</td>
<td>3</td>
</tr>
<tr>
<td>ECE-253</td>
<td>Adult Supervision and Mentoring in Early Childhood Classrooms</td>
<td>2</td>
</tr>
<tr>
<td>ECE-269</td>
<td>Children with Special Needs</td>
<td>3</td>
</tr>
<tr>
<td>ECE-298</td>
<td>Independent Study</td>
<td>0.5-3</td>
</tr>
</tbody>
</table>

### 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 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.

**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 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 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:**

- **ECE-123** Introduction to Curriculum in Early Childhood Education .......................................................... 3
- **ECE-124** Child Development and Psychology ....... 3
- **ECE-125** Principles and Practices of Early Childhood Education .......................................................... 3
- **ECE-126** Health, Safety, and Nutrition of the Young Child .......................................................... 3
- **ECE-130** Child, Family, and Community .................. 3
- **ECE-144** Diversity in Early Childhood Education ........ 3
- **ECE-249** Observation and Assessment in the Classroom ................................................................... 4
- **ECE-250** Practicum in Early Childhood Education .... 4

**Total minimum required units** 12

**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:**

- **ECE-123** Introduction to Curriculum in Early Childhood Education .......................................................... 3
- **ECE-124** Child Development and Psychology ....... 3
- **ECE-125** Principles and Practices of Early Childhood Education .......................................................... 3
- **ECE-126** Health, Safety, and Nutrition for the Young Child ................................................................... 3
- **ECE-128** Advanced Curriculum Development in ECE .......................................................... 3
- **ECE-130** Child, Family, and Community .................. 3
- **ECE-144** Diversity in Early Childhood Education ........ 3
- **ECE-249** Observation and Assessment in the Classroom ................................................................... 4
- **ECE-250** Practicum in Early Childhood Education .... 4

**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 online can complete certificate requirements.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<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>
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</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>
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</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>
<tr>
<td>ECE-253</td>
<td>Adult Supervision and Mentoring in Early Childhood Classrooms</td>
<td>2</td>
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plus at least 6 units in any one of these areas of concentration:

**creative expression**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE-237*</td>
<td>Current Topics in Early Childhood Education</td>
<td>0.5-3</td>
</tr>
<tr>
<td>ECE-242</td>
<td>Music, Dance, and Drama for the Young Child</td>
<td>1</td>
</tr>
<tr>
<td>ECE-243</td>
<td>Creative Art for the Young Child</td>
<td>1</td>
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</table>

or one course from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>ART-155</td>
<td>Ceramic Sculpture I</td>
<td>3</td>
</tr>
<tr>
<td>ART-160</td>
<td>Photography I</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-150</td>
<td>Children’s Theater</td>
<td>3</td>
</tr>
<tr>
<td>DANCE-100</td>
<td>Introduction to Dance</td>
<td>0.5-2</td>
</tr>
<tr>
<td>DANCE-110A</td>
<td>Ballet Fundamentals I</td>
<td>0.5-2</td>
</tr>
<tr>
<td>DANCE-130A</td>
<td>Modern Dance Fundamentals I</td>
<td>0.5-2</td>
</tr>
<tr>
<td>DANCE-160A</td>
<td>Tap Dance I</td>
<td>0.5-2</td>
</tr>
<tr>
<td>MUSIC-112</td>
<td>America’s Music – A Multicultural Perspective</td>
<td>3</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>
<tr>
<td>MUSIC-160</td>
<td>Beginning Guitar</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-171</td>
<td>Jazz and Popular Solo Voice</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-262</td>
<td>Intermediate Guitar I</td>
<td>1</td>
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</table>

**curriculum**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE-237*</td>
<td>Current Topics in Early Childhood Education</td>
<td>0.5-3</td>
</tr>
<tr>
<td>ECE-240</td>
<td>Language and Literacy for the Young Child</td>
<td>3</td>
</tr>
<tr>
<td>ECE-241</td>
<td>Science and Mathematics for Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE-242</td>
<td>Music, Dance, and Drama for the Young Child</td>
<td>1</td>
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<tr>
<td>ECE-243</td>
<td>Creative Art for the Young Child</td>
<td>1</td>
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<tr>
<td>ECE-244</td>
<td>Circle Time Activities</td>
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**infants and toddlers**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE-230</td>
<td>Developmentally Appropriate Practice for Infants and Toddlers</td>
<td>3</td>
</tr>
<tr>
<td>ECE-231</td>
<td>Infant and Toddler Development</td>
<td>3</td>
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</tbody>
</table>

**language and literature**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE 237*</td>
<td>Current Topics in Early Childhood Education</td>
<td>0.5-3</td>
</tr>
<tr>
<td>ECE-240</td>
<td>Language and Literacy for the Young Child</td>
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</tr>
<tr>
<td>ENGL-177</td>
<td>Children’s Literature</td>
<td>3</td>
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<tr>
<td>LT-111</td>
<td>Storytelling</td>
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**science and math**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE 237*</td>
<td>Current Topics in Early Childhood Education</td>
<td>0.5-3</td>
</tr>
<tr>
<td>ECE-241</td>
<td>Science and Mathematics for Early Childhood Education</td>
<td>3</td>
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</table>

(Note: Two ECE-237 courses in this category are required)

**sign language**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>SIGN-280</td>
<td>American Sign Language (ASL) I</td>
<td>3</td>
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<tr>
<td>SIGN-281</td>
<td>American Sign Language (ASL) II</td>
<td>3</td>
</tr>
<tr>
<td>SIGN-282</td>
<td>American Sign Language (ASL) III</td>
<td>3</td>
</tr>
<tr>
<td>SIGN-283</td>
<td>American Sign Language (ASL) IV</td>
<td>3</td>
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</tbody>
</table>
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, the evening, or both can complete certificate requirements.

**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 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. 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.

DIABLO VALLEY COLLEGE  CATALOG 2021-2022  chapter four  PROGRAM/COURSE DESCRIPTIONS  225
Early childhood education

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.

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**ECE-114** Current Issues in Child Personality Development .................................................. 1-3

**ECE-126** Health, Safety, and Nutrition for the Young Child .................................................. 3

**ECE-129** Strategies for Working with Challenging Behaviors .................................................. 3

**ECE-230** Developmentally Appropriate Practice for Infants and Toddlers ................................ 3

**ECE-231** Infant and Toddler Development .......................................................... 3

**ECE-269** Children with Special Needs .......................................................... 3

**ECE-123** Introduction to Curriculum in Early Childhood Education ........................................ 3

**ECE-124** Child Development and Psychology .......................................................... 3

**ECE-125** Principles and Practices of Early Childhood Education ........................................ 3

**ECE-126** Health, Safety and Nutrition for the Young Child .................................................. 3

**ECE-128** Advanced Curriculum Development in ECE .................................................. 3

**ECE-130** Child, Family, and Community .......................................................... 3

**ECE-144** Diversity in Early Childhood Education .......................................................... 3

**ECE-249** Observation and Assessment in the Classroom .................................................. 4

**ECE-250** Practicum in Early Childhood Education .................................................. 4

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

**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-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

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 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 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 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 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 enrolling 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 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 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  LR
• 54 hours lecture per term
• Recommended: ECE-124, eligibility for ENGL-122 or equivalent
• Note: Meets the Department of Social Services licensing 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  
• Recommended: Eligibility for ENGL-122 or equivalent  
• Note: Meets the State 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  
• Recommended: Eligibility for ENGL-122 or equivalent  
• Note: Meets the State 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  
• Recommended: Eligibility for ENGL-122 or equivalent  
• Note: Meets the State 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)  
• Recommended: ECE-123 and eligibility for ENGL-122 or equivalents  
• 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  
• Recommended: ECE-124, eligibility for ENGL-122 or equivalent  
• 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  
• Recommended: Eligibility for ENGL-122 or equivalent  
• 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
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE-144</td>
<td>Diversity in Early Childhood Education</td>
<td>3</td>
<td>SC</td>
<td>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</td>
</tr>
<tr>
<td>ECE-230</td>
<td>Developmentally Appropriate Practice for Infants and Toddlers</td>
<td>3</td>
<td>SC</td>
<td>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</td>
</tr>
<tr>
<td>ECE-231</td>
<td>Infant and Toddler Development</td>
<td>3</td>
<td>SC</td>
<td>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</td>
</tr>
<tr>
<td>ECE-237</td>
<td>Current Topics in Early Childhood Education</td>
<td>.5-3</td>
<td>SC</td>
<td>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</td>
</tr>
<tr>
<td>ECE-240</td>
<td>Language and Literacy for the Young Child</td>
<td>3</td>
<td>SC</td>
<td>This course is an introduction to young childrens’ 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</td>
</tr>
<tr>
<td>ECE-241</td>
<td>Science and Mathematics for Early Childhood Education</td>
<td>3</td>
<td>SC</td>
<td>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</td>
</tr>
<tr>
<td>ECE-242</td>
<td>Music, Dance, and Drama for the Young Child</td>
<td>1</td>
<td>SC</td>
<td>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</td>
</tr>
<tr>
<td>ECE-243</td>
<td>Creative Art for the Young Child</td>
<td>1</td>
<td>SC</td>
<td>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</td>
</tr>
</tbody>
</table>
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 and ECE-125 (may be taken concurrently) or equivalents
• Recommended: Eligibility for ENGL-122 or equivalent
• Note: Required negative TB test and verify immunizations against Pertussis, measles and influenza (waiver allowed for influenza) to participate in laboratory 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
• Recommended: Eligibility for ENGL-122 or equivalent
• 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
• Recommended: ECE-251 and eligibility for ENGL-122 or equivalents
• 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
• Recommended: ECE-124, 125, 130 and 250: and eligibility for ENGL-122 or equivalent
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
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.

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.

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

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.

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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>units</th>
</tr>
</thead>
<tbody>
<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>plus at least 3 units from:</td>
<td></td>
<td></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>plus at least 4 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH-182</td>
<td>Calculus for Management, Life Science and Social Science I</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 3 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BUS-294</td>
<td>Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC-186</td>
<td>Financial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUSAC-187</td>
<td>Managerial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>MATH-181</td>
<td>Finite Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-193</td>
<td>Analytic Geometry and Calculus II</td>
<td>5</td>
</tr>
<tr>
<td>plus at least 3 units from any course above not already used or:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON-101</td>
<td>Economics of Public Issues</td>
<td>3</td>
</tr>
<tr>
<td>ECON-200</td>
<td>Introduction to Economics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-194</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH-292</td>
<td>Analytic Geometry and Calculus III</td>
<td>5</td>
</tr>
</tbody>
</table>

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  
- Recommended: Eligibility for ENGL-122 or equivalent  
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  
- Recommended: Eligibility for ENGL-122 or equivalent  
This course is a survey of the basic principles of economics, including both microeconomics and macroeconomics. Concepts such as market supply and demand, market structures, resource markets, business cycles, fiscal policy, the Federal Reserve System, and international trade are introduced. CSU, UC (credit limits may apply to UC - see counselor)

**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 MATH-119 or MATH 119SP; or MATH-120 or MATH-120SP; or assessment process; or equivalent  
- Recommended: Eligibility for ENGL-122 or equivalent  
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 MATH-119 or MATH 119SP; or MATH-120 or MATH-120SP; or assessment process; or equivalent  
- Recommended: Eligibility for ENGL-122 or equivalent  
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.

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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-102 Fundamentals of Biological Science with Laboratory ........................................... 4
COMM-120 Public Speaking ........................................... 3
ECE-124 Child Development and Psychology ........................................... 3
EDUC-120 Introduction to Teaching in Elementary Schools ........................................... 3
ENGL-122 First-Year College Composition and Reading ........................................... 3
ENGL-123 Critical Thinking: Composition and Literature ........................................... 3
GEOG-135 World Regional Geography ........................................... 3
GEOL-130 Earth Science ........................................... 4
HIST-120 History of the United States before 1865 ........................................... 3
HIST-180 World History to 1500 ........................................... 3
MATH-125 Mathematical Concepts for Elementary School Teachers ........................................... 3
PHYS-110 Elementary Physics ........................................... 3
PHYS-111 Physics Laboratory ........................................... 1
POLSC-121 Introduction to United States Government ........................................... 3

at least 4 units from:
CHEM-106 Chemistry for Non-Science Majors ........................................... 4
CHEM-108 Introductory Chemistry ........................................... 4

at least 3 units from:
COMM-121 Persuasion and Critical Thinking ........................................... 3
ENGL-126 Critical Thinking: The Shaping of Meaning in Language ........................................... 3
HIST-122 Critical Reasoning in History ........................................... 3
PHILO-130 Logic and Critical Thinking ........................................... 3
PSYCH-145 Critical Thinking in Psychology ........................................... 3
SOCIO-122 Critical Thinking About Social and Cultural Issues ........................................... 3
EDUC-120  Introduction to Teaching in Elementary Schools

3 units LR

• 36 hours lecture/54 hours laboratory by arrangement per term
• Limitation 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.
• Recommended: 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 applied 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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE-124  Child Development and Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUSP-101  Introduction to Disabilities</td>
<td>3</td>
</tr>
<tr>
<td>EDUSP-102  Historical Perspectives of Disabilities and the Law</td>
<td>3</td>
</tr>
<tr>
<td>EDUSP-103  Classroom Strategies for the Special Education Paraeducator</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH-122  Psychology in Modern Life</td>
<td>3</td>
</tr>
</tbody>
</table>

plus 2-4 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUSP-295  Occupational Work Experience Education</td>
<td>2-4</td>
</tr>
<tr>
<td>EDUSP-296  Internship in Occupational Work Experience Education</td>
<td>2-4</td>
</tr>
</tbody>
</table>

plus at least 6 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM-128  Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>ECE-123  Introduction to Curriculum in Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE-125  Principles and Practices of Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE-126  Health, Safety, and Nutrition for the Young Child</td>
<td>3</td>
</tr>
<tr>
<td>ECE-129  Strategies for Working with Challenging Behaviors</td>
<td>3</td>
</tr>
<tr>
<td>ECE-130  Child, Family, and Community</td>
<td>3</td>
</tr>
<tr>
<td>ECE-269  Children with Special Needs</td>
<td>3</td>
</tr>
<tr>
<td>EDUC-120  Introduction to Teaching in Elementary Schools</td>
<td>3</td>
</tr>
<tr>
<td>SIGN-280  American Sign Language (ASL) I</td>
<td>3</td>
</tr>
<tr>
<td>SIGN-281  American Sign Language (ASL) II</td>
<td>3</td>
</tr>
<tr>
<td>SIGN-282  American Sign Language (ASL) III</td>
<td>3</td>
</tr>
</tbody>
</table>

total minimum units for the major 23
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 applied 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 understand 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 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

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
- Recommended: Eligibility for ENGL-122 or equivalent

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
- Recommended: Eligibility for ENGL-122 or equivalent

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
- Recommended: Eligibility for ENGL-122 or equivalent

This course explores the basic principles of pragmatic prosocial skills strategies used by the special education paraeducator 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

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**ELECTRICAL/ELECTRONICS TECHNOLOGY – ELECT/ELTRN**

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.
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.

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: units
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 Motor 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

total minimum required units 26

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: units
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

total minimum required units 11
**ELECT-110  Survey of Electricity**  
2 units SC  
- 27 hours lecture/27 hours laboratory per term  
- Recommended: 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 program.  

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  
- Recommended: ELECT-120 or equivalent  
- Note: This course is approved by the Division of Apprenticeship Standards in the electrician trainee program.  

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/capacitive (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  
- Recommended: 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  
- Recommended: 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 diagrams 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  
- Recommended: ELECT-121 or equivalent  

This course presents the identification, installation, operation, 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 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.
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 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.

ELECT-271  Programmable Logic Controllers
4 units  LR
• 54 hours lecture/54 hours laboratory per term
• Recommended: 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
• Recommended: 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
• Recommended: 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
Energy systems

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 contractors 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.

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 contractors 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:  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:
ELECT-120  Direct Current Circuits 4
ELTRN-120  Direct Current Circuits 4

plus at least 12 units from:
ARCHI-207  Environmental Control Systems 3
CONST-110  Occupational Safety 2
CONST-183  Title 24: Energy Conservation Codes 3
ELECT-121  Alternating Current Circuits 4
ELECT-266  Electrical Codes: Articles 90-398 3
ELECT-267  Electrical Codes: Articles 400-830 3

total minimum required units 26

DIABLO VALLEY COLLEGE  CATALOG 2021-2022
plus at least 12 units from:
ARCHI-207 Environmental Control Systems ..................3
CONST-110 Occupational Safety.....................................2
CONST-183 Title 24: Energy Conservation Codes .................3
ELECT-121 Alternating Current Circuits ..........................4
ELECT-266 Electrical Codes: Articles 90-398 ....................3
ELECT-267 Electrical Codes: Articles 400-830 ....................3

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:
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:
ELECT-120 Direct Current Circuits ..........................4
ELTRN-120 Direct Current Circuits ..........................4

ENERGY SYSTEMS

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
- Recommended: ENSYS-120 or equivalent and MATH-090 or MATH-090E or MATH-090SP or equivalent
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
- Recommended: 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</th>
<th>units</th>
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<tbody>
<tr>
<td>CHEM-120* General College Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>ENGIN-110 Introduction to Engineering</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN-120 Engineering Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN-230* Introduction to Circuits and Devices</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-240* Properties of Engineering Materials</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-255* Statics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-192* Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>MATH-193* Analytic Geometry and Calculus II</td>
<td>5</td>
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<tr>
<td>MATH-292* Analytic Geometry and Calculus III</td>
<td>5</td>
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<tr>
<td>MATH-294* Differential Equations</td>
<td>5</td>
</tr>
<tr>
<td>PHYS-130* Physics for Engineers and Scientists A: Mechanics and Wave Motion</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-230* 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</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGIN-135 Programming for Scientists and Engineers</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-136* Computer Programming for Engineers Using MATLAB</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-140* Plane Surveying</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-257* 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>
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</thead>
<tbody>
<tr>
<td>CHEM-120*</td>
<td>General College Chemistry I</td>
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</tr>
<tr>
<td>COMSC-165*</td>
<td>Advanced Programming with C and C++</td>
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<td>COMSC-210*</td>
<td>Program Design and Data Structures</td>
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<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>
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</tr>
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<td>Analytic Geometry and Calculus III</td>
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<td>MATH-294*</td>
<td>Differential Equations</td>
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<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>MATH-194*</td>
<td>Linear Algebra</td>
<td>3</td>
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<tr>
<td>MATH-195*</td>
<td>Discrete Mathematics</td>
<td>4</td>
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plus at least 3 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</tr>
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<tbody>
<tr>
<td>ENGIN-120</td>
<td>Engineering Drawing</td>
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</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</td>
<td>4</td>
</tr>
<tr>
<td>ENGT-126</td>
<td>Computer Aided Design and Drafting</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.
Engineering

**major requirements:**  

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>CHEM-120</td>
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</tr>
<tr>
<td>ENGIN-110</td>
<td>Introduction to Engineering</td>
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</tr>
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<td>ENGIN-120</td>
<td>Engineering Drawing</td>
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<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>
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<tr>
<td>MATH-294*</td>
<td>Differential Equations</td>
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</tr>
<tr>
<td>PHYS-130*</td>
<td>Physics for Engineers and Scientists A:</td>
<td>4</td>
</tr>
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<td>PHYS-230*</td>
<td>Physics for Engineers and Scientists B:</td>
<td>4</td>
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<tbody>
<tr>
<td>ENGIN-135</td>
<td>Programming for Scientists and Engineers</td>
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</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  
- Recommended: Eligibility for ENGL-122 or equivalent  
- 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  
- Recommended: 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  
- Recommended: 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  
- Recommended: Eligibility for ENGL-122 and MATH-090 or equivalents  

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  
- Recommended: Eligibility for ENGL-122 or equivalent  

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  
- Recommended: Eligibility for ENGL-122 or equivalent  

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  
- Recommended: MATH-193 or equivalent (may be taken concurrently)  
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 ENGIN 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-150  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 and PHYS-230 or equivalents  
- Recommended: Eligibility for ENGL-122 or equivalent  
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: PHYS-130 and MATH-193 or equivalents  
- Recommended: MATH-194 or equivalent  
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 and MATH-193 or equivalents  
- Recommended: 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  
- Recommended: 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
Engineering Technology

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

ENGINEERING TECHNOLOGY - ENGTC
Despina Prapavessi, Dean
Mathematics and Engineering Division
Mathematics Building, Room 267

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
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; however, the units are only counted once.

major requirements:

<table>
<thead>
<tr>
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<tr>
<td>CONST-114</td>
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<tr>
<td>ENGIN-121</td>
<td>Engineering Drawing/Descriptive Geometry</td>
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</tr>
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<td>PHYS-110</td>
<td>Elementary Physics</td>
<td>3</td>
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plus at least 3 units from:

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<tr>
<td>ENGTC-111</td>
<td>Mathematics for Technicians</td>
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<td>MATH-121</td>
<td>Plane Trigonometry</td>
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plus at least 3 units from:

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<tr>
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<td>Introduction to Technical Drawing</td>
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<tr>
<td>ENGTC-119</td>
<td>Introduction to Technical Drawing</td>
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plus at least 3 units from:

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<th>Course Title</th>
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<tbody>
<tr>
<td>ARCHI-126</td>
<td>Computer Aided Design and Drafting - AutoCAD</td>
</tr>
<tr>
<td>ENGTC-126</td>
<td>Computer Aided Design and Drafting - AutoCAD</td>
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</table>

plus at least 3 units from:

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<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGTC-226</td>
<td>Computer Aided Drafting Design, Advanced Concepts - AutoCAD</td>
</tr>
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</table>
Transfer are advised to select General Education Option 2 and the transfer institution of their choice. Students who intend to transfer into a baccalaureate program should consult with a counselor regarding specific major preparation requirements at the transfer institution.

The DVC machining for mechanical engineering technology associate of science degree is intended for students who do not intend to major in engineering technology. Option 1 (DVC General Education) is advised for students who do not intend to major in engineering technology. Option 2 (GD&T), and modern technical drawing (CAD) techniques.

Students completing the 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).
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:**

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<tr>
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<td>ELECT-110</td>
<td>Survey of Electricity</td>
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<tr>
<td>ENGTC-119</td>
<td>Introduction to Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-165</td>
<td>Machining and Manufacturing I</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-166</td>
<td>Machining and Manufacturing II</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-175</td>
<td>Hydraulic and Pneumatic Systems and Components</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-176</td>
<td>Mechanical Systems and Components</td>
<td>3</td>
</tr>
<tr>
<td>plus 0-5 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGTC-111</td>
<td>Mathematics for Technicians</td>
<td>3</td>
</tr>
<tr>
<td>MATH-119</td>
<td>Beginning and Intermediate Algebra</td>
<td>4</td>
</tr>
<tr>
<td>MATH-121</td>
<td>Plane Trigonometry</td>
<td>3</td>
</tr>
<tr>
<td>MATH-191</td>
<td>Pre-Calculus</td>
<td>5</td>
</tr>
<tr>
<td>MATH-192</td>
<td>Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
<tr>
<td><strong>total minimum units for the major</strong></td>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>

**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:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONST-114</td>
<td>Print Reading</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN-121*</td>
<td>Engineering Drawing /Descriptive Geometry</td>
<td>3</td>
</tr>
<tr>
<td>PHYS-110</td>
<td>Elementary Physics</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
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</tr>
<tr>
<td>ENGTC-111</td>
<td>Mathematics for Technicians</td>
<td>3</td>
</tr>
<tr>
<td>MATH-121</td>
<td>Plane Trigonometry</td>
<td>3</td>
</tr>
<tr>
<td>MATH-191</td>
<td>Pre-Calculus</td>
<td>5</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARCHI-119</td>
<td>Introduction to Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-119</td>
<td>Introduction to Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARCHI-126</td>
<td>Computer Aided Design and Drafting - AutoCAD</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-126</td>
<td>Computer Aided Design and Drafting - AutoCAD</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGTC-226</td>
<td>Computer Aided Drafting Design, Advanced Concepts - AutoCAD</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOG-124</td>
<td>Thinking and Communicating Geospatially</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 6 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONST-116*</td>
<td>Plane Surveying</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-140*</td>
<td>Plane Surveying</td>
<td>4</td>
</tr>
<tr>
<td>ENGTC-123</td>
<td>Principles of Civil Drafting</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-126</td>
<td>Advanced 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><strong>total minimum required units</strong></td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

*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
- ENGTC-111 Mathematics for Technicians ......... 3
- MATH-121* Plane Trigonometry .......................... 3

**plus at least 3 units from:**
- ARCHI-119 Introduction to Technical Drawing .......... 3
- ENGTC-119 Introduction to Technical Drawing .......... 3

**plus at least 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 6 units from:**
- ARCHI-135 Digital Tools for Design .................... 3
- ARCHI-136 Digital Tools for Architecture ................ 3
- CONST-116* Plane Surveying .................................. 4
- ENGIN-140* Plane Surveying .................................. 4
- ENGTC-123 Principles of Civil Drafting ............... 3
- ENGTC-125 Introduction to Geographic Information Systems (GIS) ................................................. 3
- GEOG-124 Thinking and Communicating Geospatially ....... 3
- GEOG-129 Field Data Acquisition and Management .......... 3
- GEOG-129 Introduction to Geographic Information Systems (GIS) ................................................. 3
- GEOG-160 Introduction to Remote Sensing .............. 3
- GEOG-162 Map Design and Visualization ............... 3

**total minimum required units** 27

*Certain courses required for this certificate have recommended or prerequisite coursework that could add additional units.

**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, 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.

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:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONST-110</td>
<td>Occupational Safety</td>
<td>2</td>
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<tr>
<td>ELECT-110</td>
<td>Survey of Electricity</td>
<td>2</td>
</tr>
<tr>
<td>ENGTC-119</td>
<td>Introduction to Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-165</td>
<td>Machining and Manufacturing</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-166</td>
<td>Machining and Manufacturing II</td>
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</tr>
<tr>
<td>ENGTC-175</td>
<td>Hydraulic and Pneumatic Systems and Components</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-176</td>
<td>Mechanical Systems and Components</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-111</td>
<td>Mathematics for Technicians</td>
<td>3</td>
</tr>
<tr>
<td>MATH-119</td>
<td>Beginning and Intermediate Algebra</td>
<td>4</td>
</tr>
<tr>
<td>MATH-121</td>
<td>Plane Trigonometry</td>
<td>3</td>
</tr>
<tr>
<td>MATH-191</td>
<td>Pre-Calculus</td>
<td>5</td>
</tr>
<tr>
<td>MATH-192</td>
<td>Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
</tbody>
</table>

**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:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCHI-126</td>
<td>Computer Aided Design and Drafting - AutoCAD</td>
<td>3</td>
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<tr>
<td>ENGTC-126</td>
<td>Computer Aided Design and Drafting - AutoCAD</td>
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</tr>
<tr>
<td>ENGTC-126</td>
<td>Computer Aided Design and Drafting</td>
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</tr>
<tr>
<td>ARCHI-126</td>
<td>Computer Aided Design and Drafting</td>
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</tr>
<tr>
<td>ARCHI-126</td>
<td>Computer Aided Design and Drafting</td>
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<tr>
<td>ARCHI-119</td>
<td>Introduction to Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI-120</td>
<td>Introduction to Architecture and Environmental Design</td>
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</tr>
<tr>
<td>CONST-114</td>
<td>Print Reading</td>
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<tr>
<td>ENGTC-119</td>
<td>Introduction to Technical Drawing</td>
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</tr>
<tr>
<td>ARCHI-136</td>
<td>Digital Tools for Design</td>
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<tr>
<td>ARCHI-136</td>
<td>Digital Tools for Architecture</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-160</td>
<td>3D Modeling and Animation I</td>
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</tr>
<tr>
<td>ENGTC-129</td>
<td>Product Design I Using SolidWorks</td>
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<tr>
<td>GEOG-125</td>
<td>Introduction to Geographic Information Systems (GIS)</td>
<td>3</td>
</tr>
<tr>
<td>IDSGN-120</td>
<td>Introduction to Industrial and Product Design</td>
<td>3</td>
</tr>
</tbody>
</table>

**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: units
ENGTC-119 Introduction to Technical Drawing............... 3
ENGTC-126 Computer Aided Design and
Drafting-AutoCAD............................................. 3
IDSGN-105 Assembly and Fabrication Workshop............. 2
total minimum required units 8

ENGTC-111  Mathematics for Technicians
3 units LR
• DVC GE: 1C
• 54 hours lecture per term
• Prerequisite: Placement into MATH-121; or MATH-
  085 or MATH 085SP; or MATH-090 or MATH-090E or
  MATH-090SP or assessment process; 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-123  Principles of Civil Drafting
3 units LR
• 36 hours lecture/72 hours laboratory per term
• Recommended: 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

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-126  Computer Aided Design and Drafting - AutoCAD
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Recommended: 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-129  Product Design I Using SolidWorks  
3 units SC  
• 36 hours lecture/72 hours laboratory per term  
• Recommended: 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  
• Recommended: 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  
• Recommended: 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-115 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  
• Recommended: ENGIN-120 or equivalent  
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 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-226 Computer Aided Drafting Design, Advanced Concepts - AutoCAD**  
3 units SC  
- 36 hours lecture/72 hours laboratory per term  
- Recommended: ENGTC-126 or ARCHI-126 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 Composition and Reading .........................................................3  
ENGL-123* Critical Thinking: Composition and Literature ..........................................................3  
ENGL-126* Critical Thinking: The Shaping of Meaning in Language ........................................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
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 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.

**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-152 Film as Literature .............................................................. 3
- ENGL-162 Language, Literature and Culture ....................................... 3
- ENGL-163 Asian American Literature .................................................. 3
- ENGL-164 Native American Literatures ................................................. 3
- ENGL-166 African American Literature ................................................. 3
- ENGL-167 Latin American Literature ................................................... 3
- ENGL-168 The Literatures of America ................................................... 3
- ENGL-170 World Mythology ................................................................. 3
- ENGL-172 The Bible as Literature .......................................................... 3
- ENGL-173 Queer Literature Across Cultures ......................................... 3
- ENGL-175 Science Fiction and Fantasy Literature ................................... 3
- ENGL-176 The Graphic Novel as Literature ............................................ 3
- ENGL-177 Children’s Literature ............................................................. 3
- ENGL-178 Young Adult Literature .......................................................... 3
- ENGL-190 Multicultural Literature by American Women ....................... 3
- ENGL-222* Creative Writing ................................................................. 3
- ENGL-223* Short Story Writing ............................................................. 3
- ENGL-224* Poetry Writing .................................................................... 3
- ENGL-225* Creative Nonfiction Writing ................................................. 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.
plus at least 3 units from:
any course not used in either group above, or:

ENGL-140 Tutor Training .................................................. 3
ENGL-151 The Short Story .................................................. 3
ENGL-152 Film as Literature ............................................... 3
ENGL-153 Contemporary Poetry .......................................... 3
ENGL-164 Native American Literatures .................................. 3
ENGL-172 The Bible as Literature ......................................... 3
ENGL-173 Queer Literature Across Cultures .......................... 3
ENGL-176 The Graphic Novel as Literature ............................ 3
ENGL-177 Children’s Literature ............................................. 3
ENGL-178 Young Adult Literature ......................................... 3
ENGL-180 Drama and Performance as Literature ................. 3
ENGL-190 Multicultural Literature by American Women ...... 3
JRNAL-120 Introduction to Newswriting and Reporting ......... 3

total minimum units for the major                              18

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-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
• Recommended: 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
• Recommended: 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
• Recommended: 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 Composition and Reading Support
2 units    SC
• 36 hours lecture per term
• Non degree applicable
• 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
• 36 hours lecture per term
• Non degree applicable
• 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-122  First-Year College Composition 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 equivalent

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 and CSU - 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. In their essays, 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 and CSU - see counselor)

ENGL-122AL  First-Year College English Intensive for Multilingual Students
5 units LR
- IGETC: 1A; CSU GE: A2; DVC GE: IA
- 90 hours lecture per term
- Prerequisite: Placement into ENGL-122AL; or ENGL-117; or ESL-117A; 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-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 ENGL-117; or ESL-117A; 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-122L  First-Year College Composition 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 ESL-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 Composition and Reading with Support
4 units LR
- IGETC: 1A; CSU GE: A2; DVC GE: IA
- 72 hours lecture per term
- Prerequisite: Placement into ENGL-122; or ENGL-122M; or ENGL-117; or ESL-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-123  Critical Thinking: Composition and 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. CID ENGL 120, CSU, UC  

ENGL-124  The Nature of Language: An Introduction to Linguistics  
3 units SC  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL-122 or equivalent  
This course introduces students to the study of formal, psychological and socio/cultural properties of language. Students will learn the analysis, description, and functions of language in relation to culture, society, and personality. CSU, UC  

ENGL-126  Critical Thinking: The Shaping of Meaning in Language  
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. CID ENGL 105, CSU, UC  

ENGL-140  Tutor Training  
3 units SC  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL-122 or equivalent  
This course introduces students to the basic principles and methods of tutoring, including but not limited to the tutoring sequence, the Socratic method of questioning, communication skills, and learning theory. Students will receive instruction on how to work with tutees who have difficulties comprehending reading, developing writing and utilizing study skills with the intent of making those tutees independent learners. CSU  

ENGL-150  Introduction to Literature  
3 units SC  
• IGETC: 3B; CSU GE: C2; DVC GE: III  
• 54 hours lecture per term  
• Recommended: ENGL-122 or equivalent  
This course introduces students to the academic study of literature through representative works within the major genres reflecting a variety of cultures and experiences. The course covers the distinguishing elements of each literary form and the art and practice of literary analysis, and exposes students to the historical, philosophical, social, political, and/or aesthetic contexts relevant to selected texts. CSU, UC  

ENGL-151  The Short Story  
3 units SC  
• IGETC: 3B; CSU GE: C2; DVC GE: III  
• 54 hours lecture per term  
• Recommended: 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  
• Recommended: 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-film distributors, will be viewed, discussed and written about. CSU, UC (credit limits may apply to UC - see counselor)  

ENGL-153  Contemporary Poetry  
3 units SC  
• IGETC: 3B; CSU GE: C2; DVC GE: III  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL-122 or equivalent  
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
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<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Type</th>
<th>IGETC: 3B</th>
<th>CSU GE: C2</th>
<th>DVC GE: III</th>
<th>Hours</th>
<th>Recommended: ENGL-122 or equivalent</th>
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<tbody>
<tr>
<td>ENGL-154</td>
<td>Shakespeare and His World</td>
<td>3</td>
<td>SC</td>
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<tr>
<td>ENGL-155</td>
<td>Topics in English</td>
<td>3-4</td>
<td>SC</td>
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<td>Variable hours</td>
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<tr>
<td>ENGL-156</td>
<td>Language, Literature and Culture</td>
<td>3</td>
<td>SC</td>
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<td>Eligibility for ENGL-116/118 or equivalent</td>
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<tr>
<td>ENGL-157</td>
<td>Asian American Literature</td>
<td>3</td>
<td>SC</td>
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<td>ENGL-158</td>
<td>Native American Literatures</td>
<td>3</td>
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<td>ENGL-159</td>
<td>Latin American Literature</td>
<td>3</td>
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<td>ENGL-160</td>
<td>The Literatures of America</td>
<td>3</td>
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### ENGL-170  World Mythology

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- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Recommended: ENGL-122 or equivalent

This course explores myth as a vital part of human experience, individual and collective, past and present. Myths from a wide range of cultures (including Native American, African, Asian, Middle Eastern and European) are examined. Myths in folklore, ritual, literature and the arts are compared with regard to their thematic content and the beliefs and values they reflect. CSU, UC

### ENGL-172  The Bible As Literature

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- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Recommended: 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

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- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Recommended: ENGL-122 or equivalent

This course is a survey of queer literature. Literary genres covered include fiction, poetry, drama, and memoir. The wide-range of Lesbian Gay, Bisexual, Transgender, Queer (LGBTQ) experience is examined from various cultural points of reference, and students will read selections from a variety of cultures. This cross-cultural selection may include works by Native-American, Middle-Eastern, African, South-American, Asian, European, and American identified LGBTQ authors (including Latino/a, Asian-American, and African-American, and more). Additionally, students will analyze the ways historical, social, economic, and psychological forces shape LGBTQ cultures and the literatures they produce. The distinguishing elements of different literary genres and methods used to analyze literature of any genre will also be covered. CSU, UC

### ENGL-175  Science Fiction and Fantasy Literature

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- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Recommended: ENGL-122 or equivalent

This course will offer reading, critical study, and discussion of speculative fiction (a broad term encompassing both science fiction and fantasy) as a literary form with consideration of major authors, themes, developments in the genre over time, critical approaches to the genre, and a variety of texts from diverse cultures. Because of the genre's unique characteristics, its significant works often explore the political, psychological, and/or socio-economic factors at work in society. Formal analysis will identify key archetypal themes and characters; these may include but are not limited to the alien within and without, artificial intelligence and the nature of human experience, utopias and dystopias in imagination, the hero's journey, and speculative fiction as a modern mythology. 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

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- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Recommended: Eligibility for ENGL-122 or equivalent

This course presents the graphic novel as a unique branch of literature. The course focuses on the graphic novel as a literary and artistic medium capable of exploring any topic in a sophisticated and compelling manner. Exploring a range of genres in fiction (superhero, coming of age, experimental) and non-fiction (memoir and reportage), course content will also cover literary and artistic techniques used in composing graphic literature, the historical and international origins of the form, and its current significance in contemporary literature and culture. CSU, UC

### ENGL-177  Children's Literature

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- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Recommended: Eligibility for ENGL-122 or equivalent

This course examines texts written for children as literature, applying sophisticated methods of literary criticism. The course places children's literature in an historical context, tracing its development from earliest oral origins to the present, and considers the contributions and points of view of various populations including African American, Native American, European American, Asian American, and Hispanic. The course material includes literature from various cultures and from various time periods. CSU, UC
ENGL-178 Young Adult Literature
3 units SC
- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Recommended: Eligibility for ENGL-122 or equivalent

This course presents an overview of young adult literature, designed to engage adult readers in a critical appraisal of the genre, its unique features and history, literary merit, and cultural influence. Topics include history of young adult literature, a study of its classic texts, works of diverse ethnic and under-represented groups, and the relationship of adolescent psychology to this genre. 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
- Recommended: 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. The recognition of the distinguishing elements of literary forms and to development competency in analyzing literature of any genre are presented. 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
- Recommended: 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 Hispanic. Under scrutiny will be women’s prescribed role in society as well as the language, ideology, substance, and form of the literature by them. Literature considered can include poetry, short stories, novels, graphic novels, plays, and memoirs. CSU, UC

ENGL-223 Short Story Writing
3 units SC
- CSU GE: C2
- 54 hours lecture per term
- Prerequisite: Eligibility for 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: Eligibility for 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: Eligibility for ENGL-122 or equivalent

In this course, students analyze classic and contemporary narrative nonfiction writing, including memoir, travel, nature and personal essays, to identify the aspects and strategies of successful creative nonfiction essays. The readings represent the diverse perspectives of African-American, Native American, European-American, Asian-American, and Hispanic writers. Students then employ the identified literary techniques to plan and compose creative nonfiction essays with an emphasis on the strategies necessary to develop an authentic narrative voice. Students present their writing to the class and instructor for discussion, review, and revision suggestions. 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 cultures, 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-267  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 time frame: 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-268  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.

**required courses:**

<table>
<thead>
<tr>
<th>Course</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.

**required courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESL-076 Intermediate Academic Reading Skills</td>
<td>3</td>
</tr>
<tr>
<td>ESL-078 Intermediate Academic Writing Skills</td>
<td>3</td>
</tr>
<tr>
<td>ESL-086 High-Intermediate Academic Reading Skills</td>
<td>3</td>
</tr>
<tr>
<td>ESL-088 High-Intermediate Academic Writing Skills</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.

**required courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARER-130 Career and Major Exploration</td>
<td>1</td>
</tr>
<tr>
<td>ESL-090 Advanced Grammar for Multilingual Students</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 5 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESL-096A Advanced Academic Reading Skills</td>
<td>3</td>
</tr>
<tr>
<td>ESL-098A Advanced Academic Writing Skills</td>
<td>3</td>
</tr>
<tr>
<td>ESL-097A Advanced Integrated Reading, Writing, and Study Skills</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>
</tr>
</thead>
<tbody>
<tr>
<td>ESL-080 High-Intermediate Grammar for Multilingual Students</td>
<td>3</td>
</tr>
<tr>
<td>ESL-086 High-Intermediate Academic Reading Skills</td>
<td>3</td>
</tr>
<tr>
<td>ESL-088 High-Intermediate Academic Writing Skills</td>
<td>3</td>
</tr>
</tbody>
</table>

**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 Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL-122</td>
<td>First-Year College Composition and Reading</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-122A</td>
<td>First-Year College English for Multilingual Students</td>
<td>3</td>
</tr>
<tr>
<td>COUNS-120</td>
<td>Student Success</td>
<td>3</td>
</tr>
</tbody>
</table>

**Plus at least 5 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL-116</td>
<td>College Reading Development</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-117</td>
<td>Integrated College Reading and Writing Development</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-118</td>
<td>College Writing Development</td>
<td>3</td>
</tr>
<tr>
<td>ESL-096A</td>
<td>Advanced Academic Reading Skills</td>
<td>3</td>
</tr>
<tr>
<td>ESL-098A</td>
<td>Advanced Academic Writing Skills</td>
<td>3</td>
</tr>
<tr>
<td>ESL-117A</td>
<td>Integrated Reading and Writing: Advanced English Language Learners</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total minimum required units:** 13

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**Noncredit - certificate of competency**

**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.

**Required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESL-065NC</td>
<td>Beginning Oral Communication Skills</td>
<td>0</td>
</tr>
<tr>
<td>ESL-067NC</td>
<td>Beginning Integrated Academic Reading, Writing, and Study Skills</td>
<td>0</td>
</tr>
</tbody>
</table>

**Total minimum required units:** 0

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**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.

**Required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESL-090</td>
<td>Advanced Grammar for Multilingual Students</td>
<td>3</td>
</tr>
<tr>
<td>ESL-095</td>
<td>Advanced Oral Communication Skills</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total minimum required units:** 13

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**Noncredit - certificate of completion**

**Beginning 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 Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESL-030NC</td>
<td>Beginning English and Technology Skills - Noncredit</td>
<td>0</td>
</tr>
<tr>
<td>ESL-031NC</td>
<td>Beginning English for Employment</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-065  Beginning Oral Communication Skills
2 units  P/NP
- 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
0 units  P/NP
- 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  P/NP
- 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
0 units  P/NP
- 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
  * Recommended: 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
• Recommended: 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
• Recommended: 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
• Recommended: 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
• Recommended: 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
- Recommended: ESL-076 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
- Recommended: 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
- Recommended: 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
- Recommended: 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
- Recommended: 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, 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.

ESL-090 Advanced Grammar for Multilingual Students
3 units SC
- Non degree applicable
- 54 hours lecture per term
- Recommended: ESL-080 and 088 or equivalents

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.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>SC</th>
<th>Non degree applicable</th>
<th>Variable hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESL-091</td>
<td>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>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>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESL-096A</td>
<td>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>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESL-098A</td>
<td>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>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESL-110</td>
<td>Reading and Writing Skills for ECE-124</td>
<td>3</td>
<td>SC</td>
<td>54 hours lecture per term</td>
<td></td>
</tr>
<tr>
<td></td>
<td>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</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESL-111</td>
<td>Reading and Writing Skills for ECE-123</td>
<td>3</td>
<td>SC</td>
<td>54 hours lecture per term</td>
<td></td>
</tr>
<tr>
<td></td>
<td>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</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ESL-112 Reading and Writing Skills for ECE-125
3 units SC
• 54 hours lecture per term
• Co-requisite: ECE-125 or equivalent
• Recommended: 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
• Recommended: 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
• Recommended: 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
• Recommended: 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

Joseph Gorga, 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.
Environmental science

**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 courses that will meet the requirements of an area of emphasis at their selected transfer institution. DVC 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</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-170</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-140</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-120</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 4 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>CHEM-108</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-120</td>
<td>5</td>
</tr>
</tbody>
</table>

**plus at least 9 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENSYS-125 Building Envelope and Systems (GIS)</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-124 Thinking and Communicating Geospatially</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-125 Introduction to Geographic Information Systems (GIS)</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>PHYS-120 General College Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-121 General College Physics II</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-130 Physics for Engineers and Scientists A: Mechanics and Wave Motion</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-230 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 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'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</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-170</td>
<td>3</td>
</tr>
<tr>
<td>ECON-221</td>
<td>3</td>
</tr>
<tr>
<td>MATH-142</td>
<td>4</td>
</tr>
<tr>
<td>MATH-192</td>
<td>5</td>
</tr>
<tr>
<td><strong>select 1 of 2 options:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Option 1: Biology sequence</strong></td>
<td></td>
</tr>
<tr>
<td>BIOSC-130</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-131</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-120</td>
<td>5</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td><strong>Option 2: Chemistry sequence</strong></td>
<td></td>
</tr>
<tr>
<td>BIOSC-130</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-120</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-121</td>
<td>5</td>
</tr>
<tr>
<td>plus 4 units from:</td>
<td></td>
</tr>
<tr>
<td>GEOL-120</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-122</td>
<td>1</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>GEOG-120</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-121</td>
<td>1</td>
</tr>
<tr>
<td>plus 8 units from:</td>
<td></td>
</tr>
<tr>
<td>PHYS-120</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-130</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>PHYS-230</td>
<td>4</td>
</tr>
<tr>
<td><strong>total minimum units for the major</strong></td>
<td>42</td>
</tr>
</tbody>
</table>

**ENVSC-100 Exploring Environmental Science and Engineering**

<table>
<thead>
<tr>
<th>Units</th>
<th>P/NP</th>
<th>5 hours lecture/35 hours laboratory per term</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</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

**ENVSC-295 Occupational Work Experience Education in ENVSC**

<table>
<thead>
<tr>
<th>Units</th>
<th>SC</th>
<th>May be repeated eight times</th>
<th>Variable hours</th>
<th>Note: In order to enroll in ENVSC-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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ENVSC-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 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

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**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.
Film, television, and electronic media

**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:**

<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>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-165</td>
<td>Digital Editing</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-240</td>
<td>Survey of Broadcasting and Electronic Media</td>
<td>3</td>
</tr>
</tbody>
</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>FTVE-132</td>
<td>Advanced TV Studio Production</td>
<td>3</td>
</tr>
<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>MUSX-100</td>
<td>AV Essentials: Systems and Analysis</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 3 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTDM-190</td>
<td>Digital Media Projects</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</td>
<td>2-4</td>
</tr>
</tbody>
</table>

**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, script-writing, 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 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 Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTDM-130</td>
<td>Introduction to Digital Arts</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-140</td>
<td>Introduction to Film and Media Scriptwriting</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-205</td>
<td>Introduction to Film and Media Arts</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FTVE-240</td>
<td>Survey of Broadcasting and Electronic Media</td>
<td>3</td>
</tr>
<tr>
<td>JRNAL-110</td>
<td>Mass Media of Communication</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
<td></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>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>any course not used above or:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FTVE-161</td>
<td>Intermediate Film Production</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-280</td>
<td>American Cinema 1900-1950</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-281</td>
<td>World Cinema 1900-1960</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-283</td>
<td>World Cinema 1960 to the Present</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>any course not used above or:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARTDM-140</td>
<td>Motion Graphics</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-130</td>
<td>Intermediate TV Studio Production</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-132</td>
<td>Advanced TV Studio Production</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-141</td>
<td>Intermediate Film and Media Scriptwriting</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-142</td>
<td>Advanced Film and Media Scriptwriting</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>FTVE-200</td>
<td>American Cinema/American Culture</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-210</td>
<td>American Ethnic Cultures in Film</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-260</td>
<td>Ethnic Images in United States (U.S.) Television</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-282</td>
<td>American Cinema 1950 to the Present</td>
<td>3</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 units for the major** 21

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**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 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.

Selected courses in the program may meet some lower division requirements for the bachelor of arts program at certain California State University campuses. Consult with department faculty or a college counselor for more information.

To earn a certificate of achievement, 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>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>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-165</td>
<td>Digital Editing</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-240</td>
<td>Survey of Broadcasting and Electronic Media</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 6 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FTVE-132</td>
<td>Advanced TV Studio Production</td>
<td>3</td>
</tr>
<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>MUSX-100</td>
<td>AV Essentials: Systems and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-120</td>
<td>Live Sound</td>
<td>3</td>
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<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>
<tr>
<td>plus at least 3 units from:</td>
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<tr>
<td>ARTDM-190</td>
<td>Digital Media Projects</td>
<td>3</td>
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<tr>
<td>FTVE-295</td>
<td>Occupational Work Experience Education in FTVE</td>
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<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** 24

*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.

required courses:  units
FTVE-160 Introduction to Film Production........................3
FTVE-161 Intermediate Film Production..........................3
FTVE-165 Digital Editing .............................................3

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, 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-120 Introduction to TV Studio Production...............3
FTVE-130 Intermediate TV Studio Production.................3
plus at least 3 units from:
FTVE-132 Advanced TV Studio Production .....................3
FTVE-160 Introduction to Film Production .....................3

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 ..............................................3
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
• Recommended: Eligibility for ENGL-122 or equivalent

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  
- Recommended: Eligibility for ENGL-122 or equivalent  

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  
- Recommended: Eligibility for ENGL-122 or equivalent  

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  
- Recommended: Eligibility for ENGL-122 or equivalent  

This is a basic introductory course in writing for the film and electronic media. Preparing scripts in proper formats, including fundamental technical, conceptual and stylistic issues related to writing fiction and non-fiction scripts for informational and entertainment purposes in film and electronic media are emphasized. 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  
- Recommended: Eligibility for ENGL-122 or equivalent  

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. CSU, UC

**FTVE-142 Advanced Film and Media Scriptwriting**  
3 units SC  
- 54 hours lecture per term  
- Prerequisite: FTVE-141 or equivalent  
- Recommended: Eligibility for ENGL-122 or equivalent  

This advanced scriptwriting class builds on skills acquired in FTVE-141 with a focus on the production of a feature-length screenplay. Emphasis is placed on developing and refining authentic characters, solid stories, and dramatic structure through writing exercises and evaluations. CSU, UC

**FTVE-150 Topics in Film, Television, and Electronic Media**  
3-4 units SC  
- Variable hours  
- Recommended: Eligibility for ENGL-122 or equivalent  

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  
- Recommended: Eligibility for ENGL-122 or equivalent  

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 equivalent  

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

<table>
<thead>
<tr>
<th>Units</th>
<th>SC</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
<td>36 hours lecture/72 hours laboratory per term</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prerequisite: FTVE-165 or equivalent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Recommended: Eligibility for ENGL-122 or equivalent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Units</th>
<th>SC</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
<td>IGETC: 3A; CSU GE: C1; DVC GE: III</td>
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<tr>
<td></td>
<td></td>
<td>54 hours lecture per term</td>
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</tbody>
</table>

This course presents the history of cinema focusing on various genres in American filmmaking in a larger cultural context including literature, drama, vaudeville, and related art forms. The course will investigate 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 to be explored 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

<table>
<thead>
<tr>
<th>Units</th>
<th>SC</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
<td>IGETC: 3A; CSU GE: C1; DVC GE: III</td>
</tr>
<tr>
<td></td>
<td></td>
<td>54 hours lecture per term</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Recommended: Eligibility for ENGL-122 or equivalent</td>
</tr>
</tbody>
</table>

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 (credit limits may apply to UC - see counselor)

### FTVE-240 Survey of Broadcasting and Electronic Media

<table>
<thead>
<tr>
<th>Units</th>
<th>SC</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
<td>IGETC: 4; CSU GE: D; DVC GE: IV</td>
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<tr>
<td></td>
<td></td>
<td>54 hours lecture per term</td>
</tr>
</tbody>
</table>

This course surveys mass communications media from the beginnings of broadcasting to the present day. The class explores technologies including radio, television, the Internet, new media, and social media. Topics include the technological evolution, industry and commercial developments, programming content and formats, and cultural impacts of many of the most significant media of the 20th and 21st centuries. CSU, UC

### FTVE-260 Ethnic Images in United States (U.S.) Television

<table>
<thead>
<tr>
<th>Units</th>
<th>SC</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
<td>IGETC: 3B; CSU GE: C2; DVC GE: III</td>
</tr>
<tr>
<td></td>
<td></td>
<td>54 hours lecture per term</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Units</th>
<th>SC</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
<td>IGETC: 3A; CSU GE: C1; DVC GE: III</td>
</tr>
<tr>
<td></td>
<td></td>
<td>54 hours lecture per term</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Recommended: Eligibility for ENGL-122 or equivalent</td>
</tr>
</tbody>
</table>

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  
• Recommended: Eligibility for ENGL-122 or equivalent  
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 (credit limits may apply to UC - see counselor)

FTVE-282  American Cinema 1950 to the Present  
3 units  SC  
• IGETC: 3A; CSU GE: C1; DVC GE: III  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL-122 or equivalent  
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  
• Recommended: Eligibility for ENGL-122 or equivalent  
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-285  Occupational Work Experience Education in FTVE  
2-4 units  SC  
• May be repeated eight times  
• Variable hours  
• Note: In order to enroll in FTVE-285, 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  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  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-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.

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.

### List A

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>FRNCH-120</td>
<td>First Term French</td>
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<tr>
<td>FRNCH-121</td>
<td>Second Term French</td>
<td>5</td>
</tr>
<tr>
<td>FRNCH-220</td>
<td>Third Term French</td>
<td>5</td>
</tr>
<tr>
<td>FRNCH-221</td>
<td>Fourth Term French</td>
<td>5</td>
</tr>
<tr>
<td>FRNCH-230</td>
<td>Fifth Term French</td>
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</tr>
<tr>
<td>FRNCH-231</td>
<td>Sixth Term French</td>
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### List B

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<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>FRNCH-121</td>
<td>Second Term French</td>
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<tr>
<td>FRNCH-155</td>
<td>First Term Conversational French</td>
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<td>FRNCH-156</td>
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<tr>
<td>FRNCH-221</td>
<td>Fourth Term French</td>
<td>5</td>
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</table>

**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

**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

**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

**FRNCH-155 First Term Conversational French**

3 units SC
- 54 hours lecture per term
- Recommended: FRNCH-150 or equivalent
- 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

**FRNCH-156 Second Term Conversational French**

3 units SC
- 54 hours lecture per term
- Recommended: 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

**FRNCH-157 Third Term Conversational French**

3 units SC
- 54 hours lecture per term
- Recommended: 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

**FRNCH-220 Third Term French**

5 units SC
- IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
- 90 hours lecture per term
- Prerequisite: FRNCH-120 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

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**GEOGRAPHY – GEOG**

Joseph Gorga, 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 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>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-125</td>
<td>Introduction to Geographic Systems</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-130</td>
<td>Cultural Geography</td>
<td>3</td>
</tr>
<tr>
<td>or GEOG-135</td>
<td>World Regional Geography</td>
<td>3</td>
</tr>
<tr>
<td>or GEOG-140</td>
<td>Introduction to Weather</td>
<td>3</td>
</tr>
</tbody>
</table>
plus at least 6 units from any course not used above or:
ANTHR-130 Cultural Anthropology ........................................... 3
GEOG-124 Thinking and Communicating Geospatially .......... 3
GEOG-126 Advanced Geographic Information Systems .......... 3
GEOG-129 Field Data Acquisition and Management .......... 3
GEOG-160 Introduction to Remote Sensing ......................... 3
GEOG-162 Map Design and Visualization ........................... 3
GEOG-165 Drone and Remote Sensing and Mapping .......... 3
GEOL-120 Physical Geology .............................................. 3

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: ............................................. units
GEOG-125 Introduction to Geographic Information Systems (GIS) .......................................................... 3
GEOG-126 Advanced Geographic Information Systems .......................................................... 3
GEOG-129 Field Data Acquisition and Management .......... 3
GEOG-160 Introduction to Remote Sensing ......................... 4
GEOG-162 Map Design and Visualization ........................... 3

plus at least 6 units from:
COMSC-101 Computer Literacy ............................................. 4
COMSC-110 Introduction to Programming ......................... 4
COMSC-120 SQL Programming ........................................... 4
COMSC-172 UNIX and Linux Administration ........................ 2
COMSC-255 Programming with Java ................................... 4

plus at least 6 units from:
ANTHR-126 Introduction to Archeological Field Methods .......................................................... 3
BIOSC-126 Ecology and Field Biology ................................ 4
BIOSC-170 Environmental Science ...................................... 3
ENGTC-126 Computer Aided Design and Drafting - AutoCAD .......................................................... 3
GEOG-120 Physical Geography .......................................... 3
GEOG-124 Thinking and Communicating Geospatially .......... 3
GEOG-295 Occupational Work Experience Education in GEOG .......................................................... 2-4
GEOL-120 Physical Geology .............................................. 3

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. 284 PROGRAM/COURSE DESCRIPTIONS chapter four DIABLO VALLEY COLLEGE CATALOG 2021-2022
GEOG-141 Introduction to Weather Laboratory ........................................... 3
GEOG-140 Introduction to Weather ......................................................... 3
GEOG-141 Introduction to Weather Laboratory .......................................... 1
GEOG-162 Map Design and Visualization .................................................. 3
PHYS-120 General College Physics I ....................................................... 4

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 drone is applied in a selected profession.
F. explain the 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: units
GEOG-164 Fundamentals of Drone Operations and Licensing ........................................... 3
GEOG-165 Drone Remote Sensing ....................................................... 3

complete at least 6 units from one of the following groups:

geography and geospatial
GEOG-125 Introduction to Geographic Information Systems (GIS) ......................................................... 3
GEOG-129 Field Data Acquisition and Management ........................................... 3
GEOG-160 Introduction to Remote Sensing ................................................... 3

administration of justice
ADJUS-203 Crime Scene Investigation ......................................................... 4
ADJUS-222 Criminal Investigation ............................................................. 3
ADJUS-250 Terrorism and Homeland Security ............................................. 3

art digital media
ARTDM-105 Introduction to Digital Imaging ................................................... 3
ARTDM-117 Digital Illustration ................................................................. 3

biology and environmental science
BIOSC-126 Ecology and Field Biology ......................................................... 4
BIOSC-170 Environmental Science .............................................................. 3
GEOG-140 Introduction to Weather ............................................................. 3

major requirements: units
GEOG-120 Physical Geography ............................................................... 3
GEOG-121 Physical Geography Laboratory ............................................... 1
GEOG-135 World Regional Geography ...................................................... 3
GEOG-140 Introduction to Weather ............................................................ 3
GEOG-141 Introduction to Weather Laboratory ............................................ 1
GEOG-162 Map Design and Visualization .................................................. 3

plus at least 4 units from:
BIOSC-126 Ecology and Field Biology ......................................................... 4
GEOG-125 Introduction to Geographic Information Systems (GIS) ......................................................... 3
GEOG-120 Physical Geography ................................................................. 3
GEOG-122 Physical Geography Laboratory ............................................... 1
GEOG-125 Geology of California ............................................................... 3

total minimum units for the major 18

Associate in science degree
Physical geography

Students completing the program will be able to...

A. demonstrate proficiency in the use of field data collection and mapping techniques.
B. demonstrate an understanding of how the physical and human elements of the environment interact and what are the outcomes.
C. demonstrate a grounding in the modern technical skills of the discipline, including computer cartography, geographic information systems and global positioning systems.

The physical geography major at Diablo Valley College offers students the opportunity to prepare for a range of professions through the study of a broad spectrum of courses related to the physical environment. Students will be prepared to transfer to UC, CSU and other four-year colleges and universities to earn a baccalaureate degree. DVC hones students’ spatial and analytical skills while preparing them for careers in spatial technologies and environmental sciences.

The DVC physical geography major consists of 24 units of study. Students are required to take 14 units of core courses in which they develop an understanding of the physical environment and learn how to acquire, map and analyze spatial data relevant to the physical environment.

The DVC physical 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 science degree with a major in physical 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: units
GEOG-120 Physical Geography ............................................................... 3
GEOG-121 Physical Geography Laboratory ............................................... 1
GEOG-135 World Regional Geography ...................................................... 3
GEOG-140 Introduction to Weather ............................................................ 3
GEOG-141 Introduction to Weather Laboratory ............................................ 1
GEOG-162 Map Design and Visualization .................................................. 3
## 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.

**Required courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG-125</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-126</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-129</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-160</td>
<td>4</td>
</tr>
<tr>
<td>GEOG-162</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>

**Total minimum required units** 12

### Certificate of accomplishment

#### 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.

**Required courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG-124 Thinking and Communicating Geospatially...</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-293 Occupational Work Experience</td>
<td>2-4</td>
</tr>
<tr>
<td>GEOG-125 Fundamentals of Drone Operations and Licensing</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-165 Drone Remote Sensing</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total minimum required units** 6
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 Name</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-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>
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</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>ANTHR-126</td>
<td>Introduction to Archeological Field Methods</td>
<td>3</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>COMGSC-120</td>
<td>SQL Programming</td>
<td>4</td>
</tr>
<tr>
<td>ENGTC-126</td>
<td>Computer Aided Design and Drafting - AutoCAD</td>
<td>3</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</td>
<td>2-4</td>
</tr>
<tr>
<td>GEOG-298</td>
<td>Independent Study</td>
<td>0.5-3</td>
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<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>
</tbody>
</table>

**total minimum required units** 12

**GEOG-121  Physical Geography Laboratory**

1 unit SC

- 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**

3 units SC

- 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)**

3 units SC

- 54 hours lecture/18 hours laboratory per term
- Recommended: 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
• Recommended: 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
• Recommended: Eligibility for ENGL-122 or equivalent
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
• Recommended: MATH-090 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 will examine 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)
• Recommended: MATH-090 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
• Recommended: 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
• Recommended: MATH-090 or MATH-090SP or MATH-090E 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  
Joseph Gorga, 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
- GEOL-120 Physical Geology, 3 units
- GEOL-121 Earth and Life Through Time, 3 units
- GEOL-122 Physical Geology Laboratory, 1 unit
- GEOL-124 Earth and Life Through Time Laboratory, 1 unit

Group 2: Core mathematics courses
- complete at least the first two courses (at least 10 units):
  - MATH-192 Analytic Geometry and Calculus I, 5 units
  - MATH-193 Analytic Geometry and Calculus II, 5 units
  - MATH-292 Analytic Geometry and Calculus III, 5 units

Group 3: Core chemistry courses
- complete 10 units from:
  - CHEM-120 General College Chemistry I, 5 units
  - CHEM-121 General College Chemistry II, 5 units

Group 4: Core physics courses
- complete a minimum of two terms from one sequence (at least 8 units):
  - PHYS-130 Physics for Engineers and Scientists A: Mechanics and Wave Motion, 4 units
  - PHYS-230 Physics for Engineers and Scientists B: Heat and Electro Magnetism, 4 units
  - PHYS-231 Physics for Engineers and Scientists C: Optics and Modern Physics, 4 units
  - or
  - PHYS-120 General College Physics I, 4 units
  - PHYS-121 General College Physics II, 4 units

Group 5: Electives
- complete at least one course (2-4 units):
  - GEOG-125 Introduction to Geographic Information Systems (GIS), 3 units
  - GEOG-160 Introduction to Remote Sensing, 4 units
  - GEOG-162 Map Design and Visualization, 3 units
  - GEOG-125 Geology of California, 3 units
  - GEOG-135 Introduction to Field Geology, 2 units

**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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<tbody>
<tr>
<td>CHEM-120</td>
<td>General College Chemistry I</td>
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</tr>
<tr>
<td>CHEM-121</td>
<td>General College Chemistry II</td>
<td>5</td>
</tr>
<tr>
<td>GEOL-120</td>
<td>Physical Geology</td>
<td>5</td>
</tr>
<tr>
<td>GEOL-121</td>
<td>Earth and Life Through Time</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-122</td>
<td>Earth and Life Through Time Laboratory</td>
<td>1</td>
</tr>
<tr>
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<td>Earth and Life Through Time Laboratory</td>
<td>1</td>
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<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  
- Recommended: MATH-090 or MATH-090E or MATH-090SP or one year of high school algebra and eligibility for ENGL-122 or equivalents  
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  
- Recommended: 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  
- Recommended: MATH-090 or MATH-090E or MATH-090SP or one year of high school 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  
- Recommended: Eligibility for ENGL-122 or equivalent  
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  
- Recommended: MATH-090 or MATH-090E or MATH-090SP or one year of high school algebra and eligibility for ENGL-122 or equivalents  
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 in general field methods of geologic science. The course 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. Geologic field work can be strenuous; students should expect to walk off trail over rough terrain carrying their own equipment. We will work through rain or shine; only seriously inclement weather will suspend work. 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 associate in arts degree in German at DVC will provide students with skills in understanding, speaking, reading and writing German. It also gives students a greater understanding of German 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 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:  

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<tr>
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<td>GRMAN-121</td>
<td>Second Term German</td>
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<td>GRMAN-220</td>
<td>Third Term German</td>
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<td>GRMAN-221</td>
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<tr>
<td>GRMAN-230</td>
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<tr>
<td>GRMAN-231</td>
<td>Sixth Term German</td>
<td>3</td>
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</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:  

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<tr>
<td>GRMAN-120</td>
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<tr>
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<tr>
<td>GRMAN-231</td>
<td>Sixth Term German</td>
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</table>

total minimum required units 13

GRMAN-120  First Term German
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 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

GRMAN-121  Second Term German
5 units SC
- 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.

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

GRMAN-220  Third Term German
5 units SC
• 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.

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

GRMAN-221  Fourth Term German
5 units SC
• 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.

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

GRMAN-230  Fifth Term German
3 units SC
• 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.

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
HEALTH SCIENCE – HSCI

Diablo Valley College is approved by the California Board of Registered Nurses for continuing education credits (provider #CEP 7992). Health Science courses which can be used are HSCI-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 in 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 social/cultural 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 (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 health education, 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>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSCI-124</td>
<td>Health and Wellness</td>
<td>3</td>
</tr>
<tr>
<td>HSCI-130</td>
<td>Introduction to Public Health</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>plus at least 4 units from:</strong></td>
<td></td>
</tr>
<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>
<tr>
<td></td>
<td><strong>plus at least 3 units from:</strong></td>
<td></td>
</tr>
<tr>
<td>HSCI-127</td>
<td>Drugs, Health, and Society</td>
<td>3</td>
</tr>
<tr>
<td>HSCI-135</td>
<td>Health and Social Justice</td>
<td>3</td>
</tr>
<tr>
<td>HSCI-137</td>
<td>Cultural Competence in Health and Social Service</td>
<td>3</td>
</tr>
<tr>
<td>HSCI-140</td>
<td>Human Sexuality</td>
<td>3</td>
</tr>
<tr>
<td>HSCI-164</td>
<td>Health and Healing Systems: Cross-Cultural Perspectives</td>
<td>3</td>
</tr>
<tr>
<td>HSCI-170</td>
<td>Women’s Health</td>
<td>3</td>
</tr>
<tr>
<td>HSCI-298</td>
<td>Independent Study</td>
<td>3</td>
</tr>
<tr>
<td>NUTRI-160</td>
<td>Nutrition: Science and Applications</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>plus at least 6 units from any course not used above, or:</strong></td>
<td></td>
</tr>
<tr>
<td>BUS-240</td>
<td>Business Statistics</td>
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</tr>
<tr>
<td>MATH-142</td>
<td>Elementary Statistics with Probability</td>
<td>4</td>
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<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
Health science

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 option, kinesiology with health and wellness promotion, 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 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:  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>units</th>
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</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-139</td>
<td>Human Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-140</td>
<td>Human Physiology</td>
<td>5</td>
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<tr>
<td>BUS-240</td>
<td>Business Statistics</td>
<td>3</td>
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<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>HSCI-124</td>
<td>Health and Wellness</td>
<td>3</td>
</tr>
<tr>
<td>HSCI-130</td>
<td>Introduction to Public Health</td>
<td>3</td>
</tr>
<tr>
<td>HSCI-135</td>
<td>Health and Social Justice</td>
<td>3</td>
</tr>
<tr>
<td>HSCI-140</td>
<td>Human Sexuality</td>
<td>3</td>
</tr>
<tr>
<td>NUTRI-160</td>
<td>Nutrition: Science and Applications</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO-120</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

plus at least 3 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>units</th>
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</thead>
<tbody>
<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>HSCI-127</td>
<td>Drugs, Health, and Society</td>
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</tr>
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<td>Introduction to Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

total minimum units for the major 33

HSCI-100 Introduction to Health Care Careers

3 units SC

- 54 hours lecture per term
- Note: Credit by examination available.

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
**HSCI-124 Health and Wellness**  
3 units SC  
- CSU GE: E  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL-122 or equivalent  
- 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 HSCI-131.  
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)

**HSCI-126 Stress Management and Health**  
3 units SC  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL-122 or equivalent  
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

**HSCI-127 Drugs, Health and Society**  
3 units SC  
- IGETC: 4; CSU GE: D, E; DVC GE: IV  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL-122 or equivalent  
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, PHS 103, CSU, UC (credit limits may apply to UC - see counselor)

**HSCI-128 Medical Terminology**  
3 units SC  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL-122 or equivalent  
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

**HSCI-130 Introduction to Public Health**  
3 units SC  
- IGETC: 4; CSU GE: D, E; DVC GE: IV  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL-122 or equivalent  
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 professions and organizations; the study, prevention and control of diseases in the community; the analysis of the social determinants of health; 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. 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

**HSCI-131 Cardiopulmonary Resuscitation (CPR)**  
.5 unit SC  
- 9 hours lecture/3 hours laboratory per term  
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

**HSCI-135 Health and Social Justice**  
3 units SC  
- IGETC: 4; CSU GE: D, E; DVC GE: IV  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL-122 or equivalent  
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
HSCI-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
• Recommended: Eligibility for ENGL-122 or equivalent
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

HSCI-140 Human Sexuality
3 units SC
• IGETC: 4; CSU GE: D, E; DVC GE: IV
• 54 hours lecture per term
• Recommended: Eligibility for ENGL-122 or equivalent
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

HSCI-150 Topics in Health Science
.3-4 units SC
• Variable hours
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

HSCI-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
• Recommended: Eligibility for ENGL-122 or equivalent
• Note: Continuing Education Units (CEUs) for nurses
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

HSCI-170 Women’s Health
3 units SC
• IGETC: 4; CSU GE: D, E; DVC GE: IV
• 54 hours lecture per term
• Recommended: Eligibility for ENGL-122 or equivalent
This course analyzes the biological, psychological and sociocultural aspects of women’s health and medical care in society. Contemporary issues of relating to gender roles and stereotypes, aging, politics, and the role of women in the family, workforce, community, and society are examined. CSU, UC (credit limits may apply to UC - see counselor)

HSCI-230 Advanced First Aid/CPR
3 units SC
• 54 hours lecture per term
• Note: Continuing Education Units (CEUs) for nurses
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
HSCI-296  Internship in Occupational Work Experience Education in HSCI
2-4 units  SC  
- May be repeated eight times  
- Variable hours  
- Note: In order to enroll in the HSCI-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.

HSCI-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

HSCI-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

HSCI-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

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, 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.

**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](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 a certificate of achievement, students must complete 14 out of 18 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 in science degree.

**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](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 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
complete at least 7.5 units from:

- HVACR-110 Electrical Theory I ................................................ 1.5
- HVACR-111 Mechanical Refrigeration Theory ........................ 1.5
- HVACR-112 Electrical Theory II ............................................... 1.5
- HVACR-113 The Refrigeration Cycle ........................................ 1.5
- HVACR-114 Intermediate Electrical I ........................................ 1.5
- HVACR-115 Intermediate Mechanical Refrigeration I ............. 1.5
- HVACR-116 Intermediate Electrical II....................................... 1.5

total minimum required units 7.5

HVACR-110 Electrical Theory 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 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 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 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 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 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 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 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 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 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 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 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.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Type</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>HVACR-122</td>
<td>Introduction to Market Refrigeration Systems</td>
<td>1.5</td>
<td>LR</td>
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<td></td>
<td>• 18 hours lecture/36 hours laboratory per term</td>
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<td>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.</td>
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<tr>
<td>HVACR-123</td>
<td>Introduction to Pneumatic Controls</td>
<td>1.5</td>
<td>LR</td>
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<td>• 18 hours lecture/36 hours laboratory per term</td>
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<td></td>
<td>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.</td>
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<tr>
<td>HVACR-124</td>
<td>Introduction to Boilers</td>
<td>1.5</td>
<td>LR</td>
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<td></td>
<td>• 18 hours lecture/36 hours laboratory per term</td>
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<td>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.</td>
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<tr>
<td>HVACR-125</td>
<td>Advanced Compressor and Motor Theory</td>
<td>1.5</td>
<td>LR</td>
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<td>• 18 hours lecture/36 hours laboratory per term</td>
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<td>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.</td>
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<tr>
<td>HVACR-126</td>
<td>Start Test Balance: Water Side I</td>
<td>1.5</td>
<td>LR</td>
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<td></td>
<td>• 18 hours lecture/36 hours laboratory per term</td>
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<td>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.</td>
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<tr>
<td>HVACR-127</td>
<td>Start Test Balance: Air Side I</td>
<td>1.5</td>
<td>LR</td>
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<td>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.</td>
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<tr>
<td>HVACR-128</td>
<td>Start Test Balance: Water Side II</td>
<td>1.5</td>
<td>LR</td>
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<tr>
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<td>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.</td>
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</tbody>
</table>
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.

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...
A. understand and value the importance of diverse perspectives in history.
B. analyze the causes and the effects of historical events.
C. apply critical thinking strategies to better understand and explain why historical events occurred and how those events affected various populations.
D. 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 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>
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<tbody>
<tr>
<td>HIST-120 History of the United States before 1865</td>
<td>3</td>
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<tr>
<td>HIST-121 History of the United States after 1865</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
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<tr>
<td>HIST-140 History of Western Civilization to the Renaissance</td>
<td>3</td>
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<tr>
<td>HIST-180 World History to 1500</td>
<td>3</td>
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<tr>
<td>plus at least 3 units from:</td>
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<tr>
<td>HIST-141 History of Western Civilization since the Renaissance</td>
<td>3</td>
</tr>
<tr>
<td>HIST-181 World History since 1500</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
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<tr>
<td>any course not used above, or:</td>
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<tr>
<td>HIST-124 History of California</td>
<td>3</td>
</tr>
<tr>
<td>HIST-125 History of the United States: A Mexican American Perspective</td>
<td>3</td>
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<tr>
<td>HIST-126 The American West</td>
<td>3</td>
</tr>
<tr>
<td>HIST-127 African American Perspective History of the US to 1865</td>
<td>3</td>
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<tr>
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<tr>
<td>HIST-129 History of Asians and Pacific Islanders in the United States</td>
<td>3</td>
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<tr>
<td>HIST-135 History of Latin America-The Colonial Period</td>
<td>3</td>
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<tr>
<td>HIST-136 History of Latin America-The National Period</td>
<td>3</td>
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<tr>
<td>HIST-150 History of East Asia (to 1600)</td>
<td>3</td>
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<tr>
<td>HIST-151 History of East Asia (from 1600- Present)</td>
<td>3</td>
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<tr>
<td>HIST-170 History of Women in the United States before 1877</td>
<td>3</td>
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<tr>
<td>HIST-171 History of Women in the United States after 1865</td>
<td>3</td>
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<tr>
<td>plus at least 3 units from:</td>
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<tr>
<td>any course not used above, or:</td>
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<tr>
<td>HIST-122 Critical Reasoning in History</td>
<td>3</td>
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<tr>
<td>HIST-142 Contemporary European History</td>
<td>3</td>
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</tbody>
</table>

total minimum units for the major 18
HIST-120  History of the United States before 1865
3 units  SC
  • IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV
  • Recommended: Eligibility for ENGL-122 or equivalent
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

HIST-121  History of the United States after 1865
3 units  SC
  • IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV
  • Recommended: Eligibility for ENGL-122 or equivalent
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

HIST-122  Critical Reasoning in History
3 units  SC
  • IGETC: 1B; CSU GE: A3; DVC GE: IB
  • Prerequisite: ENGL-122 or equivalent
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

HIST-124  History of California
3 units  SC
  • IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV
  • 54 hours lecture per term
  • Recommended: Eligibility for ENGL-122 or equivalent
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

HIST-125  History of the United States: A Mexican American Perspective
3 units  SC
  • IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV
  • 54 hours lecture per term
  • Recommended: Eligibility for ENGL-122 or equivalent
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

HIST-126  The American West
3 units  SC
  • IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV
  • 54 hours lecture per term
  • Recommended: Eligibility for ENGL-122 or equivalent
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 into 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 in the West as a moving borderland with other nations, societies and cultures will also be emphasized. CSU, UC
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
- Recommended: Eligibility for ENGL-122 or equivalent
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 Latinos. Early African presence in the Americas, the trade in African slaves, and explore 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
- Recommended: Eligibility for ENGL-122 or equivalent
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
- Recommended: Eligibility for ENGL-122 or equivalent
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
- Recommended: Eligibility for ENGL-122 or equivalent
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
- Recommended: Eligibility for ENGL-122 or equivalent
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
- Recommended: Eligibility for ENGL-122 or equivalent
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  
• Recommended: Eligibility for ENGL-122 or equivalent  
This course presents the history of Western civilization from the 17th century to the present time. Emphasis will be placed on how the structures and outlook of modern civilization emerged, by tracing political, economic, social, cultural, and intellectual developments from late medieval to contemporary times. The development of modern Europe will also be explored. 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  
• Recommended: Eligibility for ENGL-122 or equivalent  
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  
• Recommended: Eligibility for ENGL-122 or equivalent  
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  
• Recommended: Eligibility for ENGL-122 or equivalent  
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  
• Recommended: Eligibility for ENGL-122 or equivalent  
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  
• Recommended: Eligibility for ENGL-122 or equivalent  
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
• Recommended: Eligibility for ENGL-122 or equivalent
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

Joseph Gorga, Dean
Sciences Division
Physical Sciences Building, Room 263

Possible career opportunities
The horticulture program prepares students for numerous state licenses and industry certificates. 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.
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 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.

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>
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plus at least 3 units from:

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<td>HORT-114</td>
<td>3</td>
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<tr>
<td>CHEM-226</td>
<td>5</td>
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</table>

**total minimum required units** 21

*must take both as equivalent to C-ID AG-EH 116 L

### 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.

<table>
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<th>Course</th>
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<td>HORT-110</td>
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plus at least 2 units from:

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<td>HORT-296</td>
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**total minimum required units** 26
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. identify plant and non-plant material suitable for specific site design.
E. 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.

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:  
HORT-110  Introduction to Horticulture.............................................4
HORT-120  Soil Science and Management..............................3
HORT-180  Introduction to Landscape Architecture ...................3
HORT-181  Landscape Design I: Graphics ........................................3
HORT-182  Landscape Design II ..................................................3
HORT-185  Site Analysis .................................................................1.5
HORT-187  Sustainable Water Management ..............................3

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

plus at least 3 units from:
ARCHI-135 Digital Tools for Design ................................................3
ARCHI-136 Digital Tools for Architecture ......................................3

Total minimum required units 26.5

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:  
HORT-110  Introduction to Horticulture and Plant Science ....................................................4
HORT-113  Plant Materials and their Uses: Winter and Spring .................................................3
HORT-114  Plant Materials and their Uses: Summer and Fall ..................................................3
HORT-163  Nursery and Greenhouse Practices: 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: Winter and Spring ........................................3
HORT-112  Plant Propagation and Production: Summer and Fall ........................................3

Total minimum required units 24
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:  
HORT-110 Introduction to Horticulture and Plant Science ........................................4
HORT-120 Soil Science and Management.................................3
HORT-121 Soil Science and Management Laboratory...........1
HORT-171 Pruning Laboratory ...........................................1
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-114 Plant Materials and their Uses:
Winter and Spring .........................................................3
HORT-113 Plant Materials and their Uses:
Summer and Fall ........................................................3

plus at least 4 units from:
CONST-135 Construction Processes: Residential ..................4
HORT-170 Woody Plants: Identification and Maintenance........4

plus at least 3 units from:
HORT-111 Plant Propagation and Production:
Winter and Spring .........................................................3
HORT-112 Plant Propagation and Production:
Summer and Fall ........................................................3

required courses:  
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:  
HORT-110 Introduction to Horticulture and Plant Science ........................................4
HORT-181 Landscape Design I: Graphics ...............................3
HORT-185 Site Analysis ...................................................1.5

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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 13

HORT-110 Introduction to Horticulture and Plant Science
4 units SC
• 54 hours lecture/54 hours laboratory per term
• Recommended: CHEM-106, MATH-090, and Eligibility for ENGL-122 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-FS 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
• Recommended: 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. C-ID HORT 111 + HORT 112 = AG - EH 116L, CSU

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.
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
- Recommended: 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. C-ID HORT 111 + HORT 112 + 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 112L, CSU

HORT-120  Soil Science and Management
3 units  SC
- 54 hours lecture per term
- Prerequisite: HORT-110 or equivalent
- Recommended: CHEM-106 and MATH-110 and eligibility for ENGL-122 or equivalents
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. C-ID HORT 120 + HORT 121 = 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)
- Recommended: Eligibility for ENGL-122 and CHEM-106 and MATH-110 or equivalents
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. C-ID HORT 120 + HORT 121 = 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
- Recommended: eligibility for ENGL-122 and MATH-110 or equivalents
- 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  
• Recommended: 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. Multiple day 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  
• Recommended: HORT-110 or equivalent  
This course presents the history, current state, and future of Controlled Environment Growing (CEG), also know 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  
• Recommended: HORT-110 and eligibility for ENGL-122 or equivalents  
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

HORT-163  Nursery and Greenhouse Practices: Summer/Fall  
3 units  SC  
• 36 hours lecture/54 hours laboratory per term  
• Recommended: Eligibility for ENGL-122 or equivalent  
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  
• Recommended: Eligibility for ENGL-122 or Equivalent  
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  
• Recommended: HORT-110 and eligibility for ENGL-122 or equivalents  
• Note: Field Trips Required. This course meets the plant certification for California Association of Nurseries, 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-171  Pruning Laboratory  
1 unit  SC  
• 54 hours laboratory per term  
This course will provide hands-on experience with winter and spring mechanical modification of common landscape plants, including roses, dormant trees and shrubs, and post-bloom pruning for spring flowering plants. Safety, tool maintenance, tool use, disease prevention and techniques that enhance plant structure will be covered. CSU
HORT-179 Arboriculture
4 units SC
- 54 hours lecture/54 hours laboratory per term
- Recommended: Eligibility for ENGL-122 and 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, UC

HORT-180 Introduction to Landscape Architecture
3 units SC
- 36 hours lecture/54 hours laboratory per term
- Recommended: HORT-110 and ENGL-122 or equivalents

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

HORT-181 Landscape Design I: Graphics
3 units SC
- 36 hours lecture/54 hours laboratory per term
- Co-requisite: HORT-180 (may be taken previously) or equivalent
- Recommended: HORT-110 and eligibility for ENGL-122 or equivalents

This course presents an introduction to landscape design techniques, communication, process and concepts. Topics include basic landscape design processes, beginning site analysis, methods of graphic representation of vegetation, topography, hardscape and other elements. Students will also use and create basic landscape design plans. CSU, UC

HORT-182 Landscape Design II
3 units SC
- 36 hours lecture/54 hours laboratory per term
- Prerequisite: HORT-180 and HORT 181 or equivalent

This course is a continuation of HORT-181, and explores advanced landscape design concepts. Topics include design principles, development of design concepts, creative problem-solving techniques. Emphasis is placed on environmental context and other factors of design and form. CSU, UC

HORT-183 Garden Design
1.5 units SC
- 18 hours lecture/27 hours laboratory per term
- Recommended: 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
- Recommended: HORT-182 or equivalent

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 infrastructural 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
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.
HUMAN-105  Introduction to Humanities: Arts and Ideas  
3 units  SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL-122 or equivalent  
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  SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL-122 or equivalent  
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  SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL-122 or equivalent  
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  SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL-122 or equivalent  
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  SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL-122 or equivalent  
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  SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL-122 or equivalent  
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

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  
- Recommended: Eligibility for ENGL-122 or equivalent  
This course presents an introduction to 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  
- Recommended: Eligibility for ENGL-122 or equivalent  
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  
- Recommended: Eligibility for ENGL-122 or equivalent  
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
• Recommended: Eligibility for ENGL-122 or equivalent

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.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<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>Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ENGT-119</td>
<td>Introduction to Technical Drawing</td>
<td>3</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-120</td>
<td>Introduction to Industrial and Product 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>
</tbody>
</table>

**IDSGN-105** Assembly and Fabrication Workshop.................2

**IDSGN-107** Furniture Design Studio.............................2

**IDSGN-220** Soft Goods Product Design Studio.................4

**IDSGN-221** Transportation Design Studio.......................4

**total minimum units for the major** 33

**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.

**required courses:**

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**IDSGN-105** Assembly and Fabrication Workshop.................2

**IDSGN-107** Furniture Design Studio.............................2

**IDSGN-220** Soft Goods Product Design Studio.................4

**IDSGN-221** Transportation Design Studio.......................4

**total minimum required units** 33
### 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  
- Recommended: 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 - INTD

Vacant, Senior Dean
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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTD-080NC</td>
<td>0</td>
<td>P/NP</td>
</tr>
<tr>
<td>Problem Solving Skills for Science and Engineering Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTD-081NC</td>
<td>0</td>
<td>P/NP</td>
</tr>
<tr>
<td>Applying Algebra Skills in Advanced Science and Engineering</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Total minimum required units | 0 |

INTD-010NC  Supervised Tutoring
0 units  P/NP
• 0-180 hours by arrangement per term

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.

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-101A Reading and Writing in the Social Sciences
1 unit  SC
• 18 hours lecture per term

This class is designed to help students improve their reading and writing skills. Using students’ social science tests as a starting point, the course will focus on a variety of success strategies, including strategies for reading, writing, and general academic success. Students who enroll in INTD-101A are expected to be concurrently enrolled in a social science course at the college. CSU

INTD-120 College Seminar
.5-3 units  SC
• Variable hours

College seminar provides the opportunity for students and faculty to discuss and analyze particular topics related to one or more disciplines. The schedule of classes will indicate the specific subject matter of each seminar offered. CSU
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.

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.

complete at least 13 units from:  

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
<th>Prerequisites</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITAL-120</td>
<td>First Term Italian</td>
<td>5</td>
<td>IGETC: 6A</td>
<td>This course is equivalent to two years of high school study.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>90 hours lecture per term</td>
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</tr>
<tr>
<td>ITAL-121</td>
<td>Second Term Italian</td>
<td>5</td>
<td>IGETC: 3B, 6A; CSU GE: C2; DVC GE: III</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>90 hours lecture per term</td>
<td></td>
</tr>
<tr>
<td>ITAL-220</td>
<td>Third Term Italian</td>
<td>5</td>
<td>IGETC: 3B, 6A; CSU GE: C2; DVC GE: III</td>
<td></td>
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<tr>
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<td>90 hours lecture per term</td>
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<tr>
<td>ITAL-221</td>
<td>Fourth Term Italian</td>
<td>5</td>
<td>IGETC: 3B, 6A; CSU GE: C2; DVC GE: III</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>90 hours lecture per term</td>
<td></td>
</tr>
<tr>
<td>ITAL-230</td>
<td>Fifth Term Italian</td>
<td>3</td>
<td>IGETC: 3B, 6A; CSU GE: C2; DVC GE: III</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>54 hours lecture per term</td>
<td></td>
</tr>
<tr>
<td>ITAL-231</td>
<td>Sixth Term Italian</td>
<td>3</td>
<td>IGETC: 3B, 6A; CSU GE: C2; DVC GE: III</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>54 hours lecture per term</td>
<td></td>
</tr>
</tbody>
</table>

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 of the Italian language. 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 a third term intermediate Italian course that develops functional fluency in understanding, speaking, reading, and writing Italian. Students are introduced to the study of Italian literature. There is further study and interpretation of Italian culture. 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 a fourth term intermediate Italian course that continues to develop fluency in all aspects of the Italian language with particular attention to literary forms as reflected in contemporary Italian. The present, past and imperfect subjunctive are covered. 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
complete at least 20 units from:
JAPAN-120 First Term Japanese ........................................ 5
JAPAN-121 Second Term Japanese ..................................... 5
JAPAN-220 Third Term Japanese ........................................ 5
JAPAN-221 Fourth Term Japanese ...................................... 5

total minimum units for the major 20

List B
complete at least 21 units from:
JAPAN-121 Second Term Japanese ..................................... 5
JAPAN-130 First Term Kanji ............................................. 3
JAPAN-131 Second Term Kanji .......................................... 3
JAPAN-132 Third Term Kanji ........................................... 3
JAPAN-220 Third Term Japanese ........................................ 5
JAPAN-221 Fourth Term Japanese ...................................... 5

total minimum units for the major 21

List C
complete at least 19 units from:
JAPAN-130 First Term Kanji ............................................. 3
JAPAN-131 Second Term Kanji .......................................... 3
JAPAN-132 Third Term Kanji ........................................... 3
JAPAN-220 Third Term Japanese ........................................ 5
JAPAN-221 Fourth Term Japanese ...................................... 5

total minimum units for the major 19
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 with an intermediate to advanced knowledge of Japanese and familiarizes them with the culture of Japan.

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.

Complete at least 15 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>SC</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAPAN-120</td>
<td>5</td>
<td></td>
<td>• IGETC: 6A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• 90 hours lecture per term</td>
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<td>• Note: This course is equivalent to two years of high school study.</td>
</tr>
</tbody>
</table>

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

Complete at least 13 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAPAN-121</td>
<td>5</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JAPAN-130</td>
<td>3</td>
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<td></td>
</tr>
<tr>
<td>JAPAN-220</td>
<td>5</td>
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</tr>
<tr>
<td>JAPAN-221</td>
<td>5</td>
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</tr>
</tbody>
</table>

| Total minimum required units | 15 |

Complete at least 13 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>SC</th>
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<tr>
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<td>5</td>
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<td>JAPAN-130</td>
<td>3</td>
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<td>JAPAN-131</td>
<td>3</td>
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<tr>
<td>JAPAN-220</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>JAPAN-221</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

| Total minimum required units | 13 |

JAPAN-120 First Term Japanese

- 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 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
- Recommended: 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
- Recommended: 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 listings. The course will cover up to 345 characters. CSU
**JAPAN-132  Third Term Kanji**
3 units SC
- 54 hours lecture per term
- Recommended: 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

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**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, news reporter, magazine writer, columnist, public information officer, online 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 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>
</tr>
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<tbody>
<tr>
<td>JRNAL-110</td>
<td>Mass Media of Communications</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>
</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>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>
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</table>

**plus at least 6 units from:**

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<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>or</td>
<td></td>
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</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: The Shaping of Meaning in</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Language</td>
<td></td>
</tr>
<tr>
<td>ECON-220</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></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>
</tr>
</tbody>
</table>

**total minimum units for the major** 18

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**JRNAL-110  Mass Media of Communication**

3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Recommended: Eligibility for ENGL-122 or equivalent

This course presents 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 will be 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 so powerfully 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
- Recommended: 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
2-3 units  SC
- Variable hours
- 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 news story basics. Students who enroll in three units will go into greater depths on these topics and may begin to apply their skills using different media or in feature-style writing. CSU

JRNAL-126  News Production Laboratory I
3 units  SC
- 18 hours lecture/108 hours laboratory per term
- Prerequisite: JRNAL-120 (may be taken concurrently) or JRNAL-125 or JRNAL-130 or equivalent
- Recommended: ENGL-118 or equivalent
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
- Recommended: Eligibility for ENGL-122 or equivalent
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  Introduction to Feature Reporting
3 units  SC
- 54 hours lecture per term
- Recommended: ENGL-118 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.
JRNAL-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
Journalism

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 – KINES

Christine Worsley, Dean
Kinesiology, Athletics, and Health Sciences Division
Kinesiology Office Building, Room 104

Possible career opportunities
Kinesiology is the interdisciplinary study of human movement, including but not limited to history, sociology, psychology, physiology and biomechanics. As a result, students earning a degree in kinesiology are able to pursue a wide variety of careers: physical education, coaching, athletic training (including sports medicine and allied health fields such as physical therapy, physician assistant and nursing), fitness instruction (personal training and strength and conditioning) and sports/recreation management (including sport administration, journalism, marketing, and law, as well as community parks and recreation). Many career options require more than two years of college study.

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 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.

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:  
<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>BIOSC-140</td>
<td>Human Physiology</td>
<td>5</td>
</tr>
<tr>
<td>KINES-210</td>
<td>Introduction to Kinesiology</td>
<td>3</td>
</tr>
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</table>

plus a minimum of 6 units from:

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>BUS-240</td>
<td>Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH-142</td>
<td>Elementary Statistics with Probability</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-117</td>
<td>Human Biology with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-120</td>
<td>General College Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>HSCI-230</td>
<td>Advanced First Aid/CPR</td>
<td>3</td>
</tr>
<tr>
<td>PHYS-120</td>
<td>General College Physics</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHYS-130</td>
<td>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**
- KNACT-100A Beginning Swimming ............................................ 0.5-2
- KNACT-102A Beginning Aquatic Fitness .................................... 0.5-2

**Fitness**
- DANCE-105A Pilates Mat Work I ............................................. 0.5-2
- KNACT-110A Beginning Hatha Yoga ......................................... 0.5-2
- KNACT-128A Beginning Cardio Kickboxing ................................ 0.5-2
- KNACT-130A Beginning Fitness Walking .................................. 0.5-2
- KNACT-148A Beginning Power Training .................................... 0.5-2

**Individual sports**
- KNACT-160A Beginning Badminton ............................................ 0.5-2
- KNACT-162A Bowling ............................................................ 0.5-2
- KNACT-164A Beginning Golf .................................................. 0.5-2
- KNACT-164B Intermediate Golf .............................................. 0.5-2
- KNACT-166A Beginning Tennis ................................................ 0.5-2

**Team sports**
- KNACT-170A Beginning Basketball ......................................... 0.5-2
- KNACT-176A Beginning Soccer ............................................... 0.5-2
- KNACT-182A Beginning Volleyball .......................................... 0.5-2
- KNACT-182B Intermediate Volleyball ..................................... 0.5-2
- KNACT-182C Advanced Volleyball .......................................... 0.5-2

**Combatives**
- KNCMB-110 Self Defense ...................................................... 0.5-2
- KNCMB-118A Beginning Taekwondo ........................................... 0.5-2
- KNCMB-126A Beginning Aikido .............................................. 0.5-2
- KNCMB-134 Karate .................................................................. 0.5-2

**Dance**
- DANCE-100 Introduction to Dance ........................................... 0.5-2
- DANCE-164A Ballroom/Social Dance I ...................................... 0.5-2

**total minimum units for the major** 22

---

**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 a teaching credential or other specialty area under the kinesiology umbrella.

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</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSCI-230</td>
<td>Advanced First Aid/CPR</td>
<td>3</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 and Fitness Instruction I</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>
</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>
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 all general education requirements as indicated and select an area of specialization. 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.

### major requirements: 45 units

<table>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>HSCI-124</td>
<td>Health and Wellness</td>
<td>3</td>
</tr>
<tr>
<td>HSCI-170</td>
<td>Women’s Health</td>
<td>3</td>
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<tr>
<td>plus at least 3 units from:</td>
<td></td>
<td></td>
</tr>
<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>
</tr>
<tr>
<td>plus at least 2 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KNACT-146A</td>
<td>Theory and Practice of Strength Training and Fitness I</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-146B</td>
<td>Theory and Practice of Strength Training and Fitness II</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-146C</td>
<td>Theory and Practice of Strength Training and Fitness III</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-146D</td>
<td>Theory and Practice of Strength Training and Fitness IV</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-148A</td>
<td>Beginning Power Training</td>
<td>0.5-2</td>
</tr>
<tr>
<td>plus at least 2 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DANCE-105A</td>
<td>Pilates Mat Work I</td>
<td>0.5-2</td>
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<tr>
<td>KNACT-110A</td>
<td>Beginning Hatha Yoga</td>
<td>0.5-2</td>
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<tr>
<td>KNACT-110B</td>
<td>Intermediate Hatha Yoga</td>
<td>0.5-2</td>
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<tr>
<td>KNACT-110C</td>
<td>Advanced Hatha Yoga</td>
<td>0.5-2</td>
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<tr>
<td>KNACT-120</td>
<td>Physical Fitness</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-122A</td>
<td>Beginning Body Sculpt</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-124A</td>
<td>Beginning Hips, Thighs and Abs</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-124B</td>
<td>Intermediate Hips, Thighs and Abs</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-128A</td>
<td>Beginning Cardio Kickboxing</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-128B</td>
<td>Intermediate Cardio Kickboxing</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-140</td>
<td>Indoor Cycling</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-144A</td>
<td>Beginning Super Circuit</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-144B</td>
<td>Intermediate Super Circuit</td>
<td>0.5-2</td>
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<tr>
<td>total minimum units for the major</td>
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recommended courses: 9 units

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>BUSMG-191</td>
<td>Small Business Management</td>
<td>3</td>
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<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>2</td>
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<tr>
<td>KINES-257</td>
<td>Theory &amp; Practice of Corrective Exercise Training &amp; Exam Prep</td>
<td>2</td>
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<tr>
<td>KINES-258</td>
<td>Personal Training National Examination Preparation</td>
<td>2</td>
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</table>

### 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.

### plus at least 3 units from: | | |
| NUTRI-120 | Sports Nutrition: Fueling the Athlete | 3 |
| NUTRI-160 | Nutrition: Science and Applications | 3 |
Kinesiology

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-101 Fundamentals of Biological Science .................. 3
BIOSC-102 Fundamentals of Biological Science
with Laboratory ......................................................... 4
BIOSC-116 Human Biology ........................................... 3
BIOSC-139 Human Anatomy ......................................... 5
BIOSC-140 Human Physiology ....................................... 5

coaching emphasis

required courses:
KINES-260 Theory of Coaching Sports .................................. 3

plus at least 2 units from:
KNACT-100A Beginning Swimming .................................. 0.5-2
KNACT-100B Intermediate Swimming ................................. 0.5-2
KNACT-160A Beginning Badminton .................................. 0.5-2
KNACT-160B Intermediate Badminton ............................... 0.5-2
KNACT-164A Beginning Golf .......................................... 0.5-2
KNACT-164B Intermediate Golf ....................................... 0.5-2
KNACT-166A Beginning Tennis ........................................ 0.5-2
KNACT-170A Beginning Basketball .................................... 0.5-2
KNACT-170B Intermediate Basketball ................................. 0.5-2
KNACT-174A Beginning Men’s Lacrosse .............................. 0.5-2
KNACT-174B Intermediate Men’s Lacrosse .......................... 0.5-2
KNACT-176A Beginning Soccer ....................................... 0.5-2
KNACT-176B Intermediate Soccer .................................... 0.5-2
KNACT-180A Beginning Volleyball .................................... 0.5-2
KNACT-182A Intermediate Volleyball ................................. 0.5-2
KNACT-182B Intermediate Volleyball ................................. 0.5-2
KNACT-182C Advanced Volleyball .................................. 0.5-2
KNACT-195A Beginning Plyometrics and Agility
Training for Female Athletes ...................................... 0.25-1
KNACT-195B Intermediate Plyometrics and Agility
Training for Female Athletes .................................. 0.25-1
KNACT-195C Advanced Plyometrics and Agility
Training for Female Athletes ................................ 0.25-1

or at least 2 units from:
KNICA-199 Sport-Specific Athletic Conditioning .................. 0.5-2
KNICA-200 Intercollegiate Baseball, Men ......................... 3
KNICA-202A Intercollegiate Basketball-A, Men .................. 2
KNICA-202B Intercollegiate Basketball-B, Men .................. 1
KNICA-203A Intercollegiate Basketball-A, Women .............. 2
KNICA-203B Intercollegiate Basketball-B, Women .............. 1
KNICA-206 Intercollegiate Football, Men ............................ 3
KNICA-210 Intercollegiate Soccer, Women .......................... 3
KNICA-215 Intercollegiate Softball, Women .......................... 3
KNICA-216 Intercollegiate Swimming and Diving, Men .......... 3
KNICA-217 Intercollegiate Swimming and Diving, Women ....... 3
KNICA-223 Intercollegiate Volleyball, Women .................... 3
KNICA-224 Intercollegiate Water Polo, Men ...................... 3
KNICA-225 Intercollegiate Water Polo, Women .................... 3

total minimum units for the major ............................... 44

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

plus at least 2 units from:
KNACT-100A Beginning Swimming .................................. 0.5-2
KNACT-100B Intermediate Swimming ................................. 0.5-2
KNACT-160A Beginning Badminton .................................. 0.5-2
KNACT-160B Intermediate Badminton ............................... 0.5-2
KNACT-164A Beginning Golf .......................................... 0.5-2
KNACT-164B Intermediate Golf ....................................... 0.5-2
KNACT-166A Beginning Tennis ........................................ 0.5-2
KNACT-170A Beginning Basketball .................................... 0.5-2
KNACT-170B Intermediate Basketball ................................. 0.5-2
KNACT-174A Beginning Men’s Lacrosse .............................. 0.5-2
KNACT-174B Intermediate Men’s Lacrosse .......................... 0.5-2
KNACT-176A Beginning Soccer ....................................... 0.5-2
KNACT-176B Intermediate Soccer .................................... 0.5-2
KNACT-182A Beginning Volleyball .................................... 0.5-2
KNACT-182B Intermediate Volleyball ................................. 0.5-2
KNACT-182C Advanced Volleyball .................................. 0.5-2
KNACT-195A Beginning Plyometrics and Agility
Training for Female Athletes ...................................... 0.25-1
KNACT-195B Intermediate Plyometrics and Agility
Training for Female Athletes .................................. 0.25-1
KNACT-195C Advanced Plyometrics and Agility
Training for Female Athletes ................................ 0.25-1

total minimum units for the major .................................... 44

recommended degree electives:
BIOSC-140 Human Physiology ........................................ 5
KINES-230 Overview of Sports Medicine and Fitness Professions ........................................ 2

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 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.

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.

**major requirements:**

- BIOSC-139 Human Anatomy ........................................... 5
- KINES-230 Overview of Sports Medicine and Fitness Professions ........................................... 2
- KINES-232 Introduction to Sports Massage ................................. 1.5
- KINES-234 Introduction to Sports Medicine and Athletic Training ........................................... 3
- KINES-235 Advanced Sports Medicine and Athletic Training ........................................... 3
- KINES-236 Clinical Experiences in Sports Medicine and Athletic Training I ........................................... 2
- KINES-237 Clinical Experiences in Sports Medicine and Athletic Training II........................................... 2
- KINES-238 Clinical Experiences in Sports Medicine and Athletic Training III ........................................... 2
- KINES-239 Clinical Experiences in Sports Medicine and Athletic Training IV ........................................... 2
- KINES-240 Principles of Optimizing Human Performance ........................................... 3
- KINES-242 Exercise Techniques and Fitness Assessments ........................................... 1
- KINES-248 Sport and Society ........................................... 3
- PSYCH-101 Introduction to Psychology ........................................... 3

**plus at least 3 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
- PHYS-110 Elementary Physics ........................................... 3
- PHYS-120 General College Physics I ........................................... 4

**plus at least 3 units from:**

- BIOSC-140 Human Physiology ........................................... 5
- HSCI-124 Health and Wellness ........................................... 3

**plus at least 3 units from:**

- BIOSC-101 Fundamentals of Biological Science ........................................... 3
- BIOSC-102 Fundamentals of Biological Science with Laboratory ........................................... 4
- BIOSC-130 Principles of Cellular and Molecular Biology ........................................... 5
- HSCI-230 Advanced First Aid/CPR ........................................... 3
- KINES-210 Introduction to Kinesiology ........................................... 3
- KINES-246 Sport and Exercise Psychology ........................................... 3
- NUTRI-160 Nutrition: Science and Applications ........................................... 3

**total minimum units for the major** ........................................... 41.5

---

**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.

**required courses:**

- HSCI-230 Advanced First Aid/CPR ........................................... 3
- KINES-234 Introduction to Sports Medicine and Athletic Training ........................................... 3
- KINES-240 Principles of Optimizing Human Performance ........................................... 3
- KINES-242 Exercise Techniques and Fitness Assessments ........................................... 1
- KINES-246 Sport and Exercise Psychology ........................................... 3
- KINES-260 Theory of Coaching Sports ........................................... 3

**plus at least 3 units from:**

- NUTRI-120 Sports Nutrition: Fueling the Athlete ........................................... 3
- NUTRI-160 Nutrition: Science and Applications ........................................... 3

**plus at least 2 units from:**

- KNACT-100A Beginning Swimming ........................................... 0.5-2
- KNACT-100B Intermediate Swimming ........................................... 0.5-2
- KNACT-160A Beginning Badminton ........................................... 0.5-2
- KNACT-160B Intermediate Badminton ........................................... 0.5-2
- KNACT-164A Beginning Golf ........................................... 0.5-2
- KNACT-164B Intermediate Golf ........................................... 0.5-2
- KNACT-166A Beginning Tennis ........................................... 0.5-2
- KNACT-170A Beginning Basketball ........................................... 0.5-2
- KNACT-170B Intermediate Basketball ........................................... 0.5-2
- KNACT-174A Beginning Men’s Lacrosse ........................................... 0.5-2
- KNACT-174B Intermediate Men’s Lacrosse ........................................... 0.5-2
- KNACT-176A Beginning Soccer ........................................... 0.5-2
- KNACT-176B Intermediate Soccer ........................................... 0.5-2
- KNACT-182A Beginning Volleyball ........................................... 0.5-2
- KNACT-182B Intermediate Volleyball ........................................... 0.5-2
- KNACT-195A Beginning Plyometrics and Agility Training for Female Athletes ........................................... 0.25-1
- KNACT-195B Intermediate Plyometrics and Agility Training for Female Athletes ........................................... 0.25-1
- KNACT-195C Advanced Plyometrics and Agility Training for Female Athletes ........................................... 0.25-1
Kinesiology

or at least 2 units from:
KNICA-199 Sport-Specific Athletic Conditioning…….0.5-2
KNICA-200 Intercollegiate Baseball, Men ....................3
KNICA-202A Intercollegiate Basketball-A, Men ..........2
KNICA-202B Intercollegiate Basketball-B, Men ..........1
KNICA-203A Intercollegiate Basketball-A, Women ...2
KNICA-203B Intercollegiate Basketball-B, Women ...1
KNICA-206 Intercollegiate Football, Men ....................3
KNICA-210 Intercollegiate Soccer, Women ....................3
KNICA-215 Intercollegiate Softball, Women ....................3
KNICA-216 Intercollegiate Swimming and Diving, Men ....3
KNICA-217 Intercollegiate Swimming and Diving, Women ....3
KNICA-223 Intercollegiate Volleyball, Women ....................3
KNICA-224 Intercollegiate Water Polo, Men ....................3
KNICA-225 Intercollegiate Water Polo, Women ....................3

*Activity courses or intercollegiate athletic participation must be in the selected area of coaching emphasis.

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: 

KINES-240 Principles of Optimizing Human Performance..................................................3
KINES-242 Exercise Techniques and Fitness Assessments ..............................................1
KINES-246 Sport and Exercise Psychology .................................................................3
KINES-250 Professional Aspects of Personal Training and Fitness Instruction ..........................3
KINES-254 Practical Experience in Personal Training and Fitness Instruction I ..................................4
KINES-255 Practical Experience in Personal Training and Fitness Instruction II ..................................4

plus at least 1.5 units from:
COMM-128 Interpersonal Communication .................................................................3
KINES-234 Introduction to Sports Medicine and Athletic Training ........................................3
KINES-252 Professional Aspects of Group Personal Training .............................................1.5

plus at least 3 units from:
NUTRI-115 Nutrition and Health: Personal Applications ................................3
NUTRI-120 Sports Nutrition: Fueling the Athlete ..........................................................3
NUTRI-160 Nutrition: Science and Applications ............................................................3

plus at least 1 unit from:
KNACT-146A Theory and Practice of Strength Training and Fitness I ..........................0.5-2
KNACT-146B Theory and Practice of Strength Training and Fitness II ..........................0.5-2
KNACT-146C Theory and Practice of Strength Training and Fitness III ..........................0.5-2
KNACT-146D Theory and Practice of Strength Training and Fitness IV ..........................0.5-2
KNACT-148A Beginning Power Training .................................................................0.5-2

plus at least 1 unit from:
KNDAN-105A Pilates Mat Work I .................................................................0.5-2
KNACT-110A Beginning Hatha Yoga .................................................................0.5-2
KNACT-110B Intermediate Hatha Yoga .................................................................0.5-2
KNACT-110C Advanced Hatha Yoga .................................................................0.5-2
KNACT-120 Physical Fitness ..............................................................0.5-2
KNACT-122A Beginning Body Sculpt .................................................................0.5-2
KNACT-124A Beginning Hips, Thighs and Abs ..........................................................0.5-2
KNACT-124B Intermediate Hips, Thighs and Abs ..........................................................0.5-2
KNACT-128A Beginning Cardio Kickboxing ...........................................................0.5-2
KNACT-128B Intermediate Cardio Kickboxing ..........................................................0.5-2
KNACT-140 Indoor Cycling .................................................................0.5-2
KNACT-144A Beginning Super Circuit .................................................................0.5-2
KNACT-144B Intermediate Super Circuit .................................................................0.5-2

required courses: 

KINES-100 Fitness and Wellness

1 unit SC
• CSU GE: E
• 18 hours lecture per term
• Recommended: Eligibility for ENGL-122 or equivalent

This course presents the physiological, psychological and sociological aspects of wellness. Principles of fitness, wellness and health promotion will be covered. 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
• Recommended: Eligibility for ENGL-122 or equivalent

This is an introductory course that surveys various subdisciplines related to the study of human movement. Students will examine the areas of history, sociology, biomechanics, physiology, and psychology, as they relate 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
- Recommended: Eligibility for ENGL-122 or equivalent
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
- Recommended: KINES-220 or equivalent
This is an internship course that will expose students to the practical application and responsibilities within the field of sport and recreation management. They will have the opportunity to assist within the Diablo Valley College Kinesiology, Athletics, and Dance Department on 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-220 or equivalent
This is an internship course that continues to enhance students skills and practical experiences within the field of sport and recreation management. Students will participate in creating and implementing projects within the Diablo Valley College Kinesiology, Athletics, and Dance Department. 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
- Recommended: Eligibility for ENGL-122 or equivalent
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
• Recommended: Eligibility for ENGL-122 or equivalent
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
• Recommended: 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
• Recommended: Eligibility for ENGL-122 or equivalent
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
• Recommended: Eligibility for ENGL-122 or equivalent
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
• Recommended: 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
• Recommended: 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 of the adaptations/adjustments (appropriate progressions/regressions) of fitness programs to meet the changing needs of the clients 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
• Recommended: 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 (CEUs) 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
• Recommended: 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 (CEUs) 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
• Recommended: 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
• Note: In order to enroll in KINES-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.

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: 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

Kinesiology activity

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 Super Circuit
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
KNDAN-105A Pilates Mat Work I
KNDAN-105B Pilates Mat Work II
KNACT-122A Beginning Body Sculpt
KNACT-122B Intermediate Body Sculpt
KNACT-124A Beginning Hips, Thighs and Abs
KNACT-124B Intermediate Hips, Thighs and Abs

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: 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

KNACT-100A Beginning Swimming
.5-2 units SC
• CSU GE: E
• Variable hours
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
.5-2 units SC
• CSU GE: E
• Variable hours
• Recommended: 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-102A  Beginning Aquatic Fitness  
.5-2 units SC
- CSU GE: E
- Variable hours
- Recommended: 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  
.5-2 units SC
- CSU GE: E
- Variable hours
- Recommended: 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-110A  Beginning Hatha Yoga  
.5-2 units SC
- CSU GE: E
- Variable hours

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  
.5-2 units SC
- CSU GE: E
- Variable hours
- Recommended: 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  
.5-2 units SC
- CSU GE: E
- Variable hours
- Recommended: 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  
.5-2 units SC
- CSU GE: E
- Variable hours

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 Body Sculpt  
.5-2 units SC
- CSU GE: E
- Variable hours

This is an activity course designed to teach beginning elements of body sculpt. Body sculpt is a combination of guided strength training, core stabilization and balance exercises performed to a specific music cadence and designed to improve muscular strength, muscular endurance and flexibility. Introductory technique will be emphasized and basic fitness principles will be addressed. Fitness assessments will be performed and nutritional/wellness topics will also be discussed. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-122B  Intermediate Body Sculpt  
.5-2 units SC
- CSU GE: E
- Variable hours
- Recommended: KNACT-122A or equivalent

This is an activity course designed to teach intermediate elements of body sculpt. Body sculpt is the combination of guided strength training, core stabilization and balance exercises performed to a specific music cadence. This course is designed to improve muscular strength, muscular endurance, balance, body stabilization and flexibility. Intermediate techniques and exercise routines will be developed by students. Fitness assessments will be performed and nutritional/wellness topics will be expanded. Students will keep a journal of their individual exercise routines and nutritional intake. CSU, UC (credit limits may apply to UC - see counselor)
KNACT-124A  Beginning Hips, Thighs, and Abs
.5-2 units SC
• CSU GE: E
• Variable hours
This is an activity course emphasizing a beginning level of general fitness. The focus is strength and conditioning of hips, thighs, and the abdominal regions. Students will engage in multidimensional movements in a full muscle action spectrum to improve overall fitness, enhance joint stability, increase flexibility, improve postural control and improve neuromuscular efficiency. Various beginning conditioning techniques and modalities will be utilized. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-124B  Intermediate Hips, Thighs and Abs
.5-2 units SC
• CSU GE: E
• Variable hours
• Recommended: KNACT-124A or equivalent
This is an activity course emphasizing an intermediate level of general fitness. The focus is strength and conditioning of hips, thighs, and the abdominal regions. Students will engage in multidimensional movements in a full muscle action spectrum to improve overall fitness, enhance joint stability, increase flexibility, enhance postural control, and improve neuromuscular efficiency. Various beginning conditioning techniques and modalities will be utilized. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-125  Zumba
.5-2 units SC
• CSU GE: E
• Variable hours
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
.5-2 units SC
• CSU GE: E
• Variable hours
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
.5-2 units SC
• CSU GE: E
• Variable hours
• Recommended: 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
.5-2 units SC
• CSU GE: E
• Variable hours
This is an activity course intended for students at a beginning fitness level 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
.5-2 units SC
• CSU GE: E
• Variable hours
• Recommended: 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, evaluation, Volkssporting and Volksmarching. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-132  Hiking
.5-2 units SC
• CSU GE: E
• Variable hours
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  
.5-2 units SC  
• CSU GE: E  
• Variable hours
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 Super Circuit  
.5-2 units SC  
• CSU GE: E  
• Variable hours
This is an activity course introducing the basic elements of a unique combination of aerobic and resistance training exercises in a tot-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 Super Circuit  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• Recommended: 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-144C  Theory and Practice of Strength Training and Fitness I  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• 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-144D  Theory and Practice of Strength Training and Fitness II  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• Recommended: Eligibility for KNACT-144A 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-146B  Theory and Practice of Strength Training and Fitness III  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• Recommended: Eligibility for KNACT-146B 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 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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• Recommended: 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  
.5-2 units SC  
• CSU GE: E  
• Variable hours
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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• Recommended: 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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• 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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• 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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• Recommended: 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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
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  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
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
.5-2 units SC
• CSU GE: E
• Variable hours
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
.5-2 units SC
• CSU GE: E
• Variable hours
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
.5-2 units SC
• CSU GE: E
• Variable hours
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
.5-2 units SC
• CSU GE: E
• Variable hours
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
.5-2 units SC
• CSU GE: E
• Variable hours
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
.5-2 units SC
• CSU GE: E
• Variable hours
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
.5-2 units SC
• CSU GE: E
• Variable hours
• Recommended: 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, deception in dribbling and passing, team defending and attacking concepts will be presented and practiced. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-182A Beginning Volleyball
.5-2 units SC
• CSU GE: E
• Variable hours
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
.5-2 units SC
• CSU GE: E
• Variable hours
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
.5-2 units SC
• CSU GE: E
• Variable hours
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
.5-2 units SC  
• CSU GE: E  
• Variable hours  
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
.25-1 unit SC  
• CSU GE: E  
• Variable hours  
• 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
.25-1 unit SC  
• CSU GE: E  
• Variable hours  
• 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
.25-1 unit SC  
• CSU GE: E  
• Variable hours  
• 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”.

DIABLO VALLEY COLLEGE CATALOG 2021-2022 chapter four PROGRAM/COURSE DESCRIPTIONS 345
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
.5-2 units SC
• Variable hours
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
.5-2 units SC
• Variable hours
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
.5-2 units SC
• Variable hours
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
.5-2 units SC
• Variable hours
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
.5-2 units SC
• Variable hours
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
.5-2 units SC
• Variable hours
This is an activity course that presents the history, philosophy, techniques and safety aspects of aikido. This Japanese warrior art is a noncompetitive, non-fighting discipline, comprised of defensive techniques and principles of movement. Emphasis is on fundamental aikido techniques, as well as increasing cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC - see counselor)

KNCMB-126B Intermediate Aikido
.5-2 units SC
• Variable hours
Recommended: 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
.5-2 units SC
• Variable hours
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  .5-2 units SC  
- Variable hours
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  .5-2 units SC  
- Variable hours
This is an activity course that presents 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 Ki (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

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 (CCCCAA) 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  
- Recommended: 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 activity per term  
• Recommended: 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 activity per term  
• Recommended: 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 activity 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 activity per term  
• Recommended: 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 activity 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 activity per term  
• Recommended: 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 activity per term  
• Recommended: 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 activity per term  
• Recommended: 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 activity per term  
• Recommended: Competitive high school soccer experience or equivalent  
This course provides instruction and inter-collegiate 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 activity per term  
• Recommended: 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 activity per term
• Recommended: 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 activity per term
• Recommended: 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 activity per term
• Recommended: 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 activity per term
• Recommended: 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 activity per term
• Recommended: 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 activity per term
• Recommended: 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 activity per term
• Recommended: 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 activity per term
• Recommended: 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 activity per term
• Recommended: 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 activity per term
• Recommended: 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
• Recommended: Eligibility for ENGL-122 or equivalent
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 intended 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: 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.................................................................3
Library 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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT-295</td>
<td>Occupational Work Experience</td>
<td>2-4</td>
</tr>
<tr>
<td>LT-296</td>
<td>Internship in Occupational Work</td>
<td>2-4</td>
</tr>
<tr>
<td>LT-101</td>
<td>Foundations of Library and Information Services</td>
<td>3</td>
</tr>
<tr>
<td>LT-102</td>
<td>Access and Technical Services in Libraries</td>
<td>3</td>
</tr>
<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>
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</tr>
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<tr>
<td>LT-296</td>
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</tr>
<tr>
<td>ENGL-177</td>
<td>Children’s Literature</td>
<td>3</td>
</tr>
<tr>
<td>LS-150</td>
<td>Topics in Library Studies</td>
<td>0.3-4</td>
</tr>
<tr>
<td>LT-106</td>
<td>School Library and Media Services</td>
<td>2</td>
</tr>
<tr>
<td>LT-107</td>
<td>Digital Assets: Tools and Methodologies</td>
<td>2</td>
</tr>
<tr>
<td>LT-110</td>
<td>Job Skills for Library Careers</td>
<td>2</td>
</tr>
<tr>
<td>LT-111</td>
<td>Storytelling</td>
<td>2</td>
</tr>
<tr>
<td>LT-112</td>
<td>Internet Skills for Library Personnel</td>
<td>1</td>
</tr>
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<td>Topics in Library Technology</td>
<td>0.3-4</td>
</tr>
<tr>
<td>ARTDM-105</td>
<td>Introduction to Digital Imaging</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-171</td>
<td>Web Design I</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG-121</td>
<td>Practices and Concepts of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG-168</td>
<td>Customer Service</td>
<td>0.5</td>
</tr>
<tr>
<td>CIS-100</td>
<td>Microsoft Windows – Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>COMSC-101</td>
<td>Computer Literacy</td>
<td>4</td>
</tr>
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<td>ENGL-177</td>
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</table>

#### total minimum units for the major 19

#### 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.

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**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
  • Recommended: Eligibility for ENGL-122 or equivalent
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 technicians 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
  • Recommended: Eligibility for ENGL-122 or equivalent
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
  • Recommended: Eligibility for ENGL-122 or equivalent
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
  • Recommended: Eligibility for ENGL-122 or equivalent
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. The creation of effective learning environments, technology applications, philosophies of service and programming, as well as collection development and other regular procedures will be explored. CSU

LT-107  Digital Assets: Tools and Methodologies
2 units  SC
  • 36 hours lecture per term
  • Recommended: Eligibility for ENGL-122 or equivalent
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
This course presents job search and on-the-job 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
  • Recommended: Eligibility for ENGL-122 or equivalent
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 
- Recommended: Eligibility for ENGL-122 or equivalent 
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  
.3-4 units  SC 
- Variable hours 
- Recommended: Eligibility for ENGL-122 or equivalent 
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. 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

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</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH-192 Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>MATH-193 Analytic Geometry and Calculus II</td>
<td>5</td>
</tr>
<tr>
<td>MATH-292 Analytic Geometry and Calculus III</td>
<td>5</td>
</tr>
</tbody>
</table>

**plus at least 3 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH-194 Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH-294 Differential Equations</td>
<td>5</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH-142 Elementary Statistics with Probability</td>
<td>4</td>
</tr>
<tr>
<td>MATH-195 Discrete Mathematics</td>
<td>4</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 22
MATH-041  In-Progress Beginning and Intermediate Algebra Self-Paced
4 units  P/NP
- Non degree applicable
- 216 hours laboratory per term
- Recommended: Successful completion of a course equivalent to high school Algebra I 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 students with support 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-050  In-Progress Prealgebra with Arithmetic 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-075SP to receive non degree applicable credit for mastery of some but not all of the outcomes in MATH-075SP. In order to receive credit for MATH-050, students must enroll in MATH-075SP and make reasonable progress through the content.

MATH-051  In-Progress Elementary Algebra Self-Paced
5 units  P/NP
- Non degree applicable
- 270 hours laboratory per term
- Recommended: MATH-075 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-090SP to receive credit for mastery of some but not all of the outcomes in MATH-090SP. In order to receive credit for MATH-051, students must enroll in MATH-090SP and make reasonable progress through the content.

MATH-052  In-Progress Intermediate Algebra Self-Paced
5 units  P/NP
- Non degree applicable
- 270 hours laboratory per term
- Recommended: MATH-090 or MATH-090SP or equivalent
- Note: Students do not enroll directly in this course. Enrollment is limited to transfer by instructor. A scientific calculator is required.

This course allows students enrolled in MATH 120SP to receive credit for mastery of some but not all of the outcomes in MATH 120SP. In order to receive credit for MATH 052, students must enroll in MATH 120SP and make reasonable progress through the content.

MATH-053  In-Progress College Algebra Self-Paced
4 units  P/NP
- Non degree applicable
- 216 hours laboratory per term
- Recommended: Placement into MATH-114 or higher; or MATH-090; or MATH-090SP; or MATH-090E; or assessment process 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-075  Prealgebra with Arithmetic Review
4 units  SC
• Non degree applicable
• 72 hours lecture per term
This course covers arithmetic review, prealgebra, and their application in everyday life. Topics include the arithmetic operations, long multiplication and division, decimals, fractions, percents, signed numbers, natural number exponents, order of operations, introduction to the concept of variables, combining like terms, solving linear equations, application problems and the use of geometric formulas.

MATH-075SP  Prealgebra with Arithmetic Review-Self Paced
4 units  SC
• Non degree applicable
• 216 hours laboratory per term
• 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-075SP in one semester, or take up to 2 semesters. MATH-075SP is equivalent to MATH-075; students who have completed MATH-075 will not receive credit for MATH-075SP.

This course is a computer-assisted, flexibly-paced class equivalent to MATH-075. This course covers arithmetic review, prealgebra, and their application in everyday life. Topics include arithmetic operations, long multiplication and division, decimals, fractions, percents, signed numbers, natural number exponents, order of operations, introduction to the concept of variables, combining like terms, solving linear equations, application problems and the use of geometric formulas.

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-090SP Elementary Algebra - Self Paced
5 units SC
• Non degree applicable
• 270 hours laboratory per term
• Prerequisite: Placement through the assessment process or MATH-075 or MATH-075SP or equivalent
• Note: Formerly MATH-110SP. 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/PHCmathlab for Pleasant Hill or www.dvc.edu/SRCmathlab for SRC). Students are encouraged to complete MATH-090SP in one semester, or take up to 2 semesters. MATH-090SP is equivalent to MATH-090; students who have completed MATH-090 will not receive credit for MATH-090SP.

This course is a computer-assisted, flexibly-paced class equivalent to MATH-090. The topics include linear equations and inequalities, development and use of formulas, algebraic expressions, systems of equations, operations on polynomials, factoring, graphs, and an introduction to quadratic equations.

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.

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
- Recommended: Successful completion of a course equivalent to high school Algebra I 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. 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-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 high school Algebra II and who plan to take Trigonometry (MATH-121) or College Algebra (MATH-135).

MATH-120 Intermediate Algebra
5 units SC
- DVC GE: IC
- 90 hours lecture per term
- Prerequisite: Placement through the assessment process or MATH 090 or 090SP or 090E or equivalent

This course will expand upon the material covered in Elementary Algebra. Topics will include special products and factors, fractional equations, systems of linear equations, inequalities, conics, complex numbers, the binomial theorem, logarithms, and functions. This course is equivalent to a second-year high school algebra course.
MATH-120SP  Intermediate Algebra - Self Paced  
5 units  SC  
- DVC GE: IC  
- 270 hours laboratory per term  
- Prerequisite: Placement through the assessment process or MATH-090 or MATH-090SP or MATH-090E 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-120SP in one semester, or take up to 2 semesters. MATH-120SP is equivalent to MATH-120; students who have completed MATH-120 will not receive credit for MATH-120SP.

This course will expand upon the material covered in Elementary Algebra. Topics will include special products and factors, fractional equations, systems of linear equations, inequalities, conics, complex numbers, the binomial theorem, logarithms, and functions. The course is equivalent to second-year high school algebra.

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-120; or MATH-120SP; or MATH-021 (may be taken concurrently with MATH-121); or assessment process or equivalent  
- Recommended: 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 MATH-120; or MATH-120SP; or assessment process 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/apporitionment. 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-125; or MATH-119; or MATH-119SP; or MATH-120; or MATH-120SP; or assessment process 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-120; or MATH-120SP; or MATH-035 (may be taken concurrently with MATH-135); or assessment process 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 MATH-120; or MATH-120SP; or assessment process 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/12 hours laboratory/12 hours laboratory by arrangement per term
- Prerequisite: Placement into MATH-140; or MATH-142; or MATH-144; or MATH-182; or MATH-191; or assessment process or equivalent.
- Recommended: Eligibility for ENGL-116/118 or ENGL-117 or ESL-117A or equivalent.

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 120; or MATH 120SP; or MATH-042 (may be taken concurrently with MATH-142); or assessment process or equivalent
- 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-120; or MATH-120SP; or assessment process 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-132; or MATH-191; or MATH-191SP; or assessment process or equivalent
- Recommended: Eligibility for ENGL-122 or equivalent

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
- Recommended: MATH-121 or equivalent; eligibility for ENGL-122 or equivalent

This is the second course in a two-term calculus sequence 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 assessment process 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 assessment process 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/PHCmathlab 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
- Recommended: Eligibility for ENGL-122 or equivalent

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
- Recommended: Eligibility for ENGL-122 or equivalent

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
- Recommended: Eligibility for ENGL-122 or equivalent

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 will be 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
- Prerequisite: MATH-193 or equivalent
- Recommended: Eligibility for ENGL-122 or equivalent
- Note: MATH-193 or equivalent may be taken either as a prerequisite or concurrently

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
- Recommended: Eligibility for ENGL 116/118 or equivalent

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
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  
• Recommended: 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.  
The 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:**

**units**

**applied music**

*a minimum of 2 times for a total of 2 units*

MUSIC-100  Applied Music.........................................................1

**theory and musicianship**

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

**piano proficiency**

MUSIC-150  Beginning Piano I..................................................1*
MUSIC-151  Beginning Piano II..................................................1*

**large ensemble**

*plus a minimum of 4 units from:

MUSIC-135  Vocal Jazz Ensemble..............................................1
MUSIC-136  Jazz Ensemble.........................................................1
MUSIC-137  Jazz Combos.............................................................1
MUSIC-140  Wind Ensemble.........................................................1
MUSIC-162  Concert Choir...........................................................1
MUSIC-166  Chamber Singers.......................................................1-2
MUSIC-180  Diablo Valley Masterworks Chorale........................1
MUSIC-236  Night Jazz Band.........................................................1
MUSIC-240  Symphonic Band.........................................................1
MUSIC-290  Philharmonic Orchestra..............................................1

**total minimum units for the major**  24

*Credit by examination available

**recommended courses:**

**music literature**

MUSIC-110  Music Appreciation...............................................3
MUSIC-112  America’s Music - A Multicultural Perspective........3
MUSIC-114  World Music..............................................................3
MUSIC-117  History of Rock and R&B........................................3
MUSIC-118  History of Jazz..........................................................3
MUSIC-119  The History and Culture of Hip Hop Music................3

**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 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
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-236 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
• Limitation 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, play one instrument or sing with an accomplished level of technical facility, an accomplished level of metric and rhythmic accuracy as a soloist, and an accomplished level of intonation and/or harmonic awareness.
• 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 a major performance ensemble (choir, band, orchestra, jazz ensemble) 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 12 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
• Recommended: MUSIC-102 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 basic-level guitar ensemble literature. Basic 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-104 Advanced Guitar Ensemble
1 unit SC
• May be repeated three times
• 60 hours laboratory per term
• Recommended: 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
• Recommended: Eligibility for ENGL-122 or equivalent

This course presents an introduction to the field of ethnomusicology and the idea that music is culture. Topics will include the diverse music and traditions in the Americas as well as the cultural contributions and influences of major ethnic groups. Historical, religious, political, and social contexts for musical development and experience will also be covered. CSU, UC
### MUSIC-114 World Music
3 units SC
- IGETC: 3A; CSU GE: C1; DVC GE: III
- 54 hours lecture per term
- Recommended: Eligibility for ENGL-122 or equivalent

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
- Recommended: Eligibility for ENGL-122 or equivalent

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
- Recommended: Eligibility for ENGL-122 or equivalent

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
- Recommended: Eligibility for ENGL-122 or equivalent

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
- Recommended: 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-127  Jazz Theory and Improvisation  
2 units  SC  
- 18 hours lecture/36 hours laboratory/18 hours laboratory by arrangement per term  
- Recommended: 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  
- Recommended: 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  
- Recommended: 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  
- Limitation on enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.  
This course presents the study of skills required to play jazz, including intonation, rhythmic accuracy, tone, 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. Skills are developed in an ensemble setting and public performances are included. New literature will be studied each semester. 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  
- Limitation on Enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.  
This course is for 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  
- Limitation on enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.  
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-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 improvise, sight read, and perform in a variety of small group settings, which may include off-campus venues, concerts, and festivals. C-ID MUS-185, CSU, UC

MUSIC-140  Wind Ensemble
1 unit  LR
• May be repeated three times
• 54 hours laboratory per term
• Prerequisite: Audition
This is a performance organization whose goals include the sight-reading, rehearsal and performance of a variety of wind 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. New literature will be performed each term. C-ID MUS 180, CSU, UC

MUSIC-142  Woodwind Ensemble
1 unit  SC
• May be repeated three times
• 54 hours laboratory per term
• Prerequisite: Audition
This performance ensemble focuses on the sight-reading, rehearsal and performance of woodwind 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-144  Brass Ensemble
1 unit  LR
• May be repeated three times
• 72 hours laboratory per term
• Prerequisite: Audition
This performance ensemble focuses on the sight-reading, rehearsal and performance of brass 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-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. CSU, UC

MUSIC-151  Beginning Piano II
1 unit  SC
• 72 hours laboratory per term
• Recommended: 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
• Recommended: 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, fingerpicking accompaniments, tablature, chord symbols, and note reading are presented. No previous musical experience is necessary. CSU, UC

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  
- Limitation: Audition required. Specific days and times are announced in the Schedule of Classes.  
- Recommended: 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-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  
- Recommended: 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  
- Recommended: 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-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
- Recommended: 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-222 Theory and Musicianship III
4 units SC
- 54 hours lecture/54 hours laboratory per term
- Prerequisite: MUSIC-222 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. Students must be able to perform with rhythmic accuracy, accurate intonation, and appropriate phrasing and expression.

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. C-ID MUS 180, CSU, UC

MUSIC-250 Intermediate Piano I
1 unit SC
- 54 hours laboratory per term
- Recommended: 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
- Recommended: 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
- Audition required. Specific days and times are announced in the Schedule of Classes.

This course presents the study and performance of collaborative piano music in a master class format. Students will perform with other pianists, as well as vocalists and instrumentalists from a variety of styles. 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 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-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.
Music industry studies

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 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, 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:

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<td>AV Essentials: Systems and Analysis</td>
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<td>AV Essentials: Management and Solutions</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>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>
</tr>
<tr>
<td>CNT-103</td>
<td>Voice, Video and Network Cabling</td>
<td>2</td>
</tr>
</tbody>
</table>

plus at least 2 units from:

- MUSX-296 Internship in Occupational Work Experience Education in MUSX
- MUSX-110 History of Electronic Music

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>MUSX-296</td>
<td>Internship in Occupational Work Experience</td>
<td>2-4</td>
</tr>
<tr>
<td>MUSX-110</td>
<td>History of Electronic Music</td>
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<table>
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<th>Course Code</th>
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<tbody>
<tr>
<td>MUSX-122</td>
<td>Theory and Musicianship</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</td>
<td>3</td>
</tr>
</tbody>
</table>

required for 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.

plus at least 14 units from:

- MUSX-121 Introduction to Music Composition
- MUSX-123 Theory and Musicianship II
- MUSX-127 Jazz Theory and Improvisation
- MUSX-129 Counterpoint
- MUSX-150 Beginning Piano I
- MUSX-176 String Ensemble
- MUSX-221 Advanced Music Composition
- MUSX-178 Music and Sound for Visual Media
- MUSX-221 Orchestration and Arranging for Digital Instruments

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>MUSX-121</td>
<td>Introduction to Music Composition</td>
<td>3</td>
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<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</td>
<td>2</td>
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<tr>
<td>MUSX-129</td>
<td>Counterpoint</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-150</td>
<td>Beginning Piano I</td>
<td>1</td>
</tr>
<tr>
<td>MUSX-176</td>
<td>String Ensemble</td>
<td>1</td>
</tr>
<tr>
<td>MUSX-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>
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<td>MUSX-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>
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<td>MUSX-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>
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</table>

recommended GE elective (DVC GE Area III)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>MUSX-110</td>
<td>History of Electronic Music</td>
<td>3</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSX-110</td>
<td>History of Electronic Music</td>
<td>3</td>
</tr>
</tbody>
</table>

**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. 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, or 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 Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<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>
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plus at least 14 units from:  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>MUSIC-100</td>
<td>Applied Music</td>
<td>1-4</td>
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<tr>
<td>MUSIC-103</td>
<td>Guitar Ensemble</td>
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<tr>
<td>MUSIC-108</td>
<td>Rock Theory and Improvisation</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</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>
<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>
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<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>
<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>
<tr>
<td>MUSIC-162</td>
<td>Concert Choir</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-166</td>
<td>Chamber Singers</td>
<td>1</td>
</tr>
<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>
</tr>
<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>
<td>1</td>
</tr>
<tr>
<td>MUSIC-209</td>
<td>Live Music Production and Stagecraft II</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-250</td>
<td>Intermediate Piano I</td>
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<tr>
<td>MUSIC-251</td>
<td>Intermediate Piano II</td>
<td>1</td>
</tr>
<tr>
<td>MUSX-183</td>
<td>Artist Development in the Music Industry</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-282</td>
<td>Songwriting II</td>
<td>3</td>
</tr>
</tbody>
</table>

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.

required courses:  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<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>
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</table>

recommended GE elective (DVC GE Area III)  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tr>
<td>MUSIC-114</td>
<td>World Music</td>
<td>3</td>
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<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>
<tr>
<td>MUSX-110</td>
<td>History of Electronic Music</td>
<td>3</td>
</tr>
</tbody>
</table>

total minimum units for the major 36
## 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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>MUSX-172 Introduction to Electronic</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-173 Advanced Electronic Music</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-174 Introduction to Music Technology and Pro Tools</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-175 Advanced Pro Tools</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-181 Introduction to the Music Industry</td>
<td>3</td>
</tr>
</tbody>
</table>

### recommended GE elective (DVC GE Area III)

MUSX-110 History of Electronic Music...3

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## 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.
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. utilize basic ensemble skills by performing in an ensemble.

The commercial music – media composition 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.

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.
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

**total minimum required units 36**

**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 certificate requirement with a “C” grade or higher.

**required courses:**

*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-117 History of Rock and R&B ...................................................... 3
MUSIC-150 Beginning Piano I ................................................................. 1
MUSIC-151 Beginning Piano II .................................................................. 3
MUSX-100 AV Essentials: Systems and Analysis ........................................... 3
MUSX-175 Advanced Pro Tools ............................................................... 3
MUSX-176 Introduction to Ableton Live ..................................................... 3
MUSX-177 Introduction to Reason ............................................................ 3

**total minimum required units 36**

**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:**

*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-181 Introduction to the Music Industry ...................................................... 3

**plus at least 9 units from:**

*MUSIC-121 Introduction to Music Composition ........................................... 3
MUSX-100 AV Essentials: Systems and Analysis ........................................... 3
MUSX-101 AV Essentials: Management and Solutions ................................... 3
MUSX-110 History of Electronic Music .......................................................... 3
MUSX-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-176 Introduction to Ableton Live ..................................................... 3
MUSX-177 Introduction to Reason ............................................................ 3
MUSX-178 Music and Sound for Film, Games, and Media ................................... 3
MUSX-182 Songwriting I ........................................................................ 3
MUSX-183 Artist Development in the Music Industry .................................... 3
MUSX-221 Orchestration and Arranging for Digital Instruments .............................................. 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**
Music industry studies

MUSX-100  AV Essentials: Systems and Analysis  
3 units  SC  
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term  
This course, along with MUSX-101, presents 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  AV Essentials: Management and Solutions  
3 units  SC  
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term  
- Note: Formerly MUSX-200 (18-19). MUSX-100 and 101 may be taken in any order.  
This course, along with MUSX-100, presents 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  
- 54 hours lecture 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  
- 54 hours lecture 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  
- Recommended: 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  
- 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 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
Music industry studies

MUSX-173 Advanced Electronic Music
3 units SC
• 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term
• Recommended: 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
• Recommended: 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 Reason
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 provides the foundational skills necessary to use Reason, a software application representing a new generation of the stand-alone virtual recording studio, within the music production environment. Topics will include, music sequencing, digital audio recording, software synthesis and sampling, virtual effects, automation, signal flow and drum machines. 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
• Recommended: 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
• Recommended: Eligibility for ENGL-122 or equivalent

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
Music industry studies

**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
- Recommended: Eligibility for ENGL-122 or equivalent
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
- Recommended: MUSIC-121 or equivalent, MUSIC-122 or equivalents
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
- Recommended: MUSX-176 and MUSX-177 or equivalents
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
- Recommended: 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
Nutrition

**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 physiological 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 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:**

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<th>Course</th>
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<tr>
<td>CHEM-120</td>
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<tr>
<td>NUTRI-160</td>
<td>3</td>
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<tr>
<td>PSYCH-101</td>
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**plus at least 4 units from:**

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**plus at least 8 units from:**

<table>
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<tbody>
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<tr>
<td>CHEM-121</td>
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<tr>
<td>CHEM-226</td>
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</table>

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.
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 pre-eminent 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.

required courses:

- NUTRI-100 Introduction to the Nutrition Professions..............1
- NUTRI-120 Sports Nutrition: Fueling the Athlete..........................3
- NUTRI-130 Food and Nutrition: Cross Cultural Perspectives..........................3
- NUTRI-160 Nutrition: Science and Applications..........................3
- NUTRI-170 Nutrition: Across the Lifespan..........................3

plus at least 2 units from:

- CULN-153 Safety and Sanitation........................................2
- PSYCH-101 Introduction to Psychology........................................3

Nutrition

Certificate of achievement
Nutrition, health, and wellness

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- NUTRI-160 Nutrition: Science and Applications..........................3
- NUTRI-170 Nutrition: Across the Lifespan..........................3

plus at least 2 units from:

- CULN-153 Safety and Sanitation........................................2
- PSYCH-101 Introduction to Psychology........................................3
Oceanography

NUTRI-120 Sports Nutrition: Fueling the Athlete
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL-122 or equivalent
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
• Recommended: Eligibility for ENGL-122 or equivalent
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
• Recommended: Eligibility for ENGL-122 or equivalent
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
• Recommended: NUTRI-160 and eligibility for ENGL-122 or equivalents
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 in included. CSU, UC

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

Joseph Gorga, Dean
Sciences Division
Physical Sciences Building, Room 263

Possible career opportunities
The diverse range of subjects examined and the multi-disciplinary 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.
Oceanography

OCEAN-101  Fundamentals of Oceanography
3 units  SC
• IGETC: 5A; CSU GE: B1; DVC GE: II
• 54 hours lecture per term
• Recommended: Eligibility for ENGL-122 or equivalent
• 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 worlds 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
• Recommended: Eligibility for ENGL-122 or equivalent
• Note: Students who have successfully completed OCEAN-101 should not enroll in OCEAN-102. Students who have successfully completed OCEAN-101 will not receive credit for OCEAN-102.

This course is an introduction to the geological, chemical, physical and biological aspects of the worlds 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, 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. 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
Philosophy

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 philosophic ideas and arguments within the western philosophical 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 philosophic 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.

**major requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHIL-120 Introduction to Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHIL-122 Introduction to Ethics</td>
<td>3</td>
</tr>
<tr>
<td>PHIL-130 Logic and Critical Thinking</td>
<td>3</td>
</tr>
<tr>
<td>PHIL-224 History of Western Philosophy: Pre-Socratic to Medieval Period</td>
<td>3</td>
</tr>
<tr>
<td>PHIL-225 History of Western Philosophy: Descartes to Present</td>
<td>3</td>
</tr>
</tbody>
</table>

*This course has a prerequisite of ENGL-122/122A.

**plus at least 3 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHIL-140 Introduction to Judeo-Christian Tradition</td>
<td>3</td>
</tr>
<tr>
<td>PHIL-141 Introduction to the Philosophy of Religion</td>
<td>3</td>
</tr>
<tr>
<td>PHIL-145 Introduction to Asian Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHIL-160 Introduction to Social and Political Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHIL-220 Comparative Religion</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major**

18

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**Philosophy**

**major requirements:**

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</tr>
<tr>
<td>PHIL-220 Comparative Religion</td>
<td>3</td>
</tr>
</tbody>
</table>

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

<table>
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<tr>
<th>Course</th>
<th>Units</th>
</tr>
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</tr>
</tbody>
</table>

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

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<td>3</td>
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<tr>
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<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major**

18

*This course has a prerequisite of ENGL-122/122A.
Philosophy

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 Code</th>
<th>Course Title</th>
<th>Units</th>
<th>SC</th>
<th>IGETC</th>
<th>CSU GE</th>
<th>DVC GE</th>
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<tr>
<td>PHILO-120</td>
<td>Introduction to Philosophy</td>
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<td>3B</td>
<td>C2</td>
<td>III</td>
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<tr>
<td>PHILO-122</td>
<td>Introduction to Ethics</td>
<td>3</td>
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<tr>
<td>PHILO-130</td>
<td>Logic and Critical Thinking</td>
<td>3</td>
<td></td>
<td>1B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHILO-224</td>
<td>History of Western Philosophy: Pre-Socratic to</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medieval Period</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>total minimum required units</td>
<td>12</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

*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
- Recommended: Eligibility for ENGL-122 or equivalent
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 philoso-
phy 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
- Recommended: Eligibility for ENGL-122 or equivalent
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
- Recommended: Eligibility for ENGL-122 or equivalent
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
- Recommended: Eligibility for ENGL-122 or equivalent
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
- Recommended: Eligibility for ENGL-122 or equivalent
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
Philosophy

PHILO-160  Introduction to Social and Political Philosophy
3 units  SC
• IGETC: 3B; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Recommended: 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
• Recommended: PHILO-130 and eligibility for ENGL-122 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
• Recommended: Eligibility for ENGL-122 or equivalent
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
• Recommended: Eligibility for ENGL-122 or equivalent
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

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
• Recommended: Eligibility for ENGL-122 or equivalent
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

Joseph Gorga, 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 MATH-085 or
  MATH 085SP; or MATH-090 or MATH-090E or MATH-
  090SP or assessment process; or equivalent
• Recommended: Eligibility for ENGL-122 or equivalent

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

PHYSICS – PHYS

Joseph Gorga, Dean
Sciences Division
Physical Sciences Building, Room 263

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.

The associate in science in physics 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**

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<th>Units</th>
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<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>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 Electro-Magnetism</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 MATH-119 or MATH 119SP; or MATH-120 or MATH-120SP; or assessment process; or equivalent
- Recommended: Concurrent enrollment in PHYS-111 and eligibility for ENGL-122 or equivalents
- 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)
- Recommended: Eligibility for ENGL-122 or equivalent
- 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-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 MATH-119 or MATH-119SP; or MATH-120 or MATH-120SP; or assessment process; 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
- Recommended: Eligibility for ENGL-122 or equivalent

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. In 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
- Recommended: Eligibility for ENGL-122 or equivalent
- Note: The calculus component may be required for certain transfer majors

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
- Recommended: Eligibility for ENGL-122 or equivalent
- Note: The calculus component may be required for certain transfer majors

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)
- Recommended: Eligibility for ENGL-122 or equivalent
- Note: For those students who have not recently completed a full year of high school physics completion of PHYS-129 is strongly recommended.

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-129 or High School Physics or equivalent
- Co-requisite: MATH-193 (may be taken previously) or equivalent
- Recommended: Eligibility for ENGL-122 or equivalent
- Note: For those students who have not recently completed a full year of high school physics completion of PHYS-129 is strongly recommended.

This course is designed for engineering and physical science majors (such as physics, chemistry, and geology). It presents a lecture and laboratory study of classical mechanics: vectors, particle kinematics, Newtons laws, equilibrium of rigid bodies, work and energy, gravitation, fluids, momentum, rotational kinematics and dynamics, and oscillations and waves in elastic media. C-ID PHYS 205, PHYS-130+PHYS-230+PHYS-231 = 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
- Recommended: Eligibility for ENGL-122 or equivalent

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 and MATH-294 (may be taken concurrently) or equivalents
- Recommended: Eligibility for ENGL-122 or equivalent
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.

Plumbers-steamfitters-refrigeration Union Local 342,
Joint Apprenticeship and Journeymen Training Office
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

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, the 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. DVC 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 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:  

complete at least 10 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>PLUMB-110</td>
<td>OSHA-CPR</td>
<td>1.5-2.5</td>
</tr>
<tr>
<td>PLUMB-111</td>
<td>Trade Mathematics</td>
<td>1.5-2.5</td>
</tr>
<tr>
<td>PLUMB-112</td>
<td>Water Supply Systems</td>
<td>1.5-2.5</td>
</tr>
<tr>
<td>PLUMB-113</td>
<td>Sewage Disposal</td>
<td>1.5-2.5</td>
</tr>
<tr>
<td>PLUMB-114</td>
<td>Plumbing System Service and Repair</td>
<td>1.5-2.5</td>
</tr>
<tr>
<td>PLUMB-115</td>
<td>Construction Management in Plumbing</td>
<td>1.5-3</td>
</tr>
<tr>
<td>PLUMB-116</td>
<td>Medical Gas and Vacuum Systems</td>
<td>1.5-2.5</td>
</tr>
<tr>
<td>PLUMB-117</td>
<td>Related Science in the Piping Trades</td>
<td>1.5-2.5</td>
</tr>
<tr>
<td>PLUMB-118</td>
<td>Beginning Drawing and Plan Reading for the Piping Trades</td>
<td>1.5-2.5</td>
</tr>
<tr>
<td>PLUMB-119</td>
<td>Advanced Drawing in the Piping Trades</td>
<td>1.5-2.5</td>
</tr>
<tr>
<td>PLUMB-120</td>
<td>Plumbing Tool Workshop I</td>
<td>1.5-2.5</td>
</tr>
<tr>
<td>PLUMB-121</td>
<td>Plumbing Tool Workshop II</td>
<td>1.5-2.5</td>
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<tr>
<td>PLUMB-122</td>
<td>Plumbing Code I</td>
<td>1.5-2.5</td>
</tr>
<tr>
<td>PLUMB-123</td>
<td>Plumbing Code II</td>
<td>1.5-2.5</td>
</tr>
<tr>
<td>PLUMB-124</td>
<td>Welding for Plumbers</td>
<td>1.5-2.5</td>
</tr>
<tr>
<td>PLUMB-125</td>
<td>Electricity for Plumbing</td>
<td>1.5-2.5</td>
</tr>
<tr>
<td>PLUMB-126</td>
<td>Gas Installation in Plumbing</td>
<td>1.5-2.5</td>
</tr>
<tr>
<td>PLUMB-127</td>
<td>Backflow Prevention</td>
<td>1.5-2.5</td>
</tr>
<tr>
<td>PLUMB-128</td>
<td>Plumbing Fixtures</td>
<td>1.5-2.5</td>
</tr>
<tr>
<td>PLUMB-129</td>
<td>Certification Preparation</td>
<td>1.5-2.5</td>
</tr>
</tbody>
</table>

total minimum required units 10

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PLUMB-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 union local responsible for the section. This class is the same as STMFT-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.

PLUMB-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 union local responsible for the section. This class is the same as STMFT-111.

This course covers the approaches to mathematical problem solving used in pipe fitting and plumbing.
PLUMB-112  Water Supply 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 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 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 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 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 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.
| Course Code | Course Title                                           | Units | Type | Note                                                                 | Description                                                                                                                                                                                                 |
|------------|--------------------------------------------------------|-------|------|                                                                     | 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-121  | Plumbing Tool Workshop II                              | 1.5-2.5 | LR   |                                                                     | This course presents the approved methods and appropriate devices to ensure backflow and cross-connection are eliminated.                                                                                                     |
| PLUMB-122  | Plumbing Code I                                        | 1.5-2.5 | LR   |                                                                     | This course presents the principles and installation methods of gas piping systems. Safety practices are emphasized.                                                                                                      |
| PLUMB-123  | Plumbing Code II                                       | 1.5-2.5 | LR   |                                                                     | This course presents modern plumbing fixtures and appliances. Topics include proper selection, installation, and maintenance.                                                                                             |
| PLUMB-124  | Welding for Plumbers                                  | 1.5-2.5 | LR   |                                                                     | This course introduces the specialized knowledge and techniques required for the effective operation and function of electrical systems for plumbing applications.                                                             |
| PLUMB-125  | Electricity for Plumbing                               | 1.5-2.5 | LR   |                                                                     | 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 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 interpretation of blueprints, specifications, and other construction documents for the plumbing industry.

PLUMB-150  Topics in Plumbing
.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
.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
.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 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: 18 units**

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>POLSC-121</td>
<td>Introduction to U.S. Government</td>
<td>3</td>
</tr>
<tr>
<td>POLSC-122</td>
<td>Latinx Politics and American Government</td>
<td>3</td>
</tr>
<tr>
<td>POLSC-123</td>
<td>Black Politics and American Government</td>
<td>3</td>
</tr>
</tbody>
</table>

plus at least 9 units from:

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Units</th>
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</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>POLSC-120</td>
<td>Introduction to Politics</td>
<td>3</td>
</tr>
<tr>
<td>POLSC-210</td>
<td>Political Ideology</td>
<td>3</td>
</tr>
<tr>
<td>POLSC-220</td>
<td>Comparative Politics</td>
<td>3</td>
</tr>
<tr>
<td>POLSC-240</td>
<td>Political Theory</td>
<td>3</td>
</tr>
<tr>
<td>POLSC-250</td>
<td>International Relations</td>
<td>3</td>
</tr>
</tbody>
</table>

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

<table>
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<tr>
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<th>Units</th>
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<tbody>
<tr>
<td>ANTHR-190</td>
<td>Cultural Anthropology</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 Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>HIST-140</td>
<td>History of Western Civilization to the Renaissance</td>
<td>3</td>
</tr>
<tr>
<td>HIST-141</td>
<td>History of Western Civilization since the Renaissance</td>
<td>3</td>
</tr>
<tr>
<td>POLSC-127</td>
<td>Introduction to Law and Democracy</td>
<td>3</td>
</tr>
<tr>
<td>POLSC-151</td>
<td>California Politics</td>
<td>3</td>
</tr>
<tr>
<td>POLSC-252</td>
<td>Model United Nations</td>
<td>3</td>
</tr>
<tr>
<td>SOCSC-101</td>
<td>Introduction to Social Justice</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major 18**

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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  
- **Recommended: Eligibility for ENGL-122 or equivalent**

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. Emphasis will be placed on the impact of federal, state, and local governments in California. C-ID POLS 110, CSU, UC

**POLSC-122 Latinx Politics and American Government**

3 units SC  
- IGETC: 4; CSU GE: D; DVC GE: IV  
- 54 hours lecture per term  
- **Recommended: Eligibility for ENGL-122 or equivalent**

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

**POLSC-123 Black Politics and American Government**

3 units SC  
- IGETC: 4; CSU GE: D; DVC GE: IV  
- 54 hours lecture per term  
- **Recommended: Eligibility for ENGL-122 or equivalent**

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, healthcare, and the legacy of slavery will also be examined. C-ID POLS 110, CSU, UC
POLSC-127  Introduction to Law and Democracy  
3 units  SC  
- IGETC: 4; CSU GE: D; DVC GE: IV  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL-122 or equivalent  
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

POLSC-151  California Politics  
3 units  SC  
- IGETC: 4; CSU GE: D; DVC GE: IV  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL-122 or equivalent  
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  
- 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  
- Recommended: Eligibility for ENGL-122 or equivalent  
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  
- Recommended: Eligibility for ENGL-122 or equivalent  
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  
- Recommended: Eligibility for ENGL-122 or equivalent  
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  
- Recommended: Eligibility for ENGL-122 or equivalent  
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
psychology

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 use 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 requirements for transfer to the CSU system baccalaureate degree programs in psychology and fulfills lower division general education requirements for transfer to the CSU system.

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.

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 description</th>
<th>units</th>
</tr>
</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 description</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>
</tbody>
</table>
### PSYCH-101 Introduction to Psychology
3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Recommended: Eligibility for ENGL-122 or equivalent

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
- Recommended: Eligibility for ENGL-122 or equivalent

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, E; DVC GE: IV
- 54 hours lecture per term
- Prerequisite: PSYCH-101 or equivalent
- Recommended: Eligibility for ENGL-122 or equivalent

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
- Recommended: Eligibility for ENGL-122 or equivalent

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
- Recommended: Eligibility for ENGL-122 or equivalent

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
Psychology

**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  
- Recommended: Eligibility for ENGL-122 or equivalent

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  
- Recommended: Eligibility for ENGL-122 or equivalent

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  
- Recommended: Eligibility for ENGL-122 or equivalent

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  
- Recommended: Eligibility for ENGL-122 or equivalent

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 MATH-119 or MATH 119SP; or MATH-120 or MATH-120SP; or assessment process; 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. C-ID MATH 110, CSU, UC (Credit limits may apply to UC - see counselor)
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 equivalents
• Recommended: Eligibility for ENGL-122 or equivalent

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
• Recommended: Eligibility for ENGL-122 or equivalent

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
• Recommended: Eligibility for ENGL-122 or equivalent

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
• Recommended: Eligibility for ENGL-122 or equivalent

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
• Recommended: Eligibility for ENGL-122 or equivalent

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-295  Occupational Work Experience Education in PSYCH
2-4 units  SC
• May be repeated eight times
• Variable hours
• Note: In order to enroll in PSYCH-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.

PSYCH-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
Respiratory therapy

PSYCH-296  Internship in Occupational Work
Experience Education in PSYCH
2-4 units  SC
•  May be repeated eight times
•  Variable hours
•  Note: In order to enroll in the PSYCH-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.

PSYCH-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

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

RESPIRATORY THERAPY – RT

Joseph Gorga, 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:**  units
BIOISC-119  Fundamentals of Microbiology  4
BIOISC-139  Human Anatomy  5
BIOISC-140  Human Physiology  5
PSYCH-200  Life Span Development  3

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  5

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Respiratory therapy

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

DVC

Area III, Arts and Humanities

Minimum of 1 unit of activity courses including:

- KNACT, DANCE (formerly KNAND), 100-199, 1 unit or HSCI-124, 126, 127, 130, 135, 140, 164, 170

Area VI, Intercultural/International Studies  
3 units required

Area VII, Information competency  
1 units required

LS-121 required

**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.**
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>
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<tbody>
<tr>
<td>RUSS-120</td>
<td>5</td>
</tr>
<tr>
<td>RUSS-121</td>
<td>5</td>
</tr>
<tr>
<td>RUSS-220</td>
<td>5</td>
</tr>
<tr>
<td>RUSS-221</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:  

<table>
<thead>
<tr>
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<tr>
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<td>5</td>
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<tr>
<td>RUSS-221</td>
<td>5</td>
</tr>
</tbody>
</table>

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-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

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

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
• Recommended: Eligibility for ENGL-122 or equivalent
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: 6A, 3B; 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 at the intermediate level building on skills acquired in ASL I and II. Students will further develop conversational skills in functional situations. Techniques of facial grammar, role shift, and classifier use as it relates to American Sign Language and Deaf culture will be studied. 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; 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:**

- SOCSC-101 Introduction to Social Justice .................. 3
- SOCIO-135 Introduction to Race and Ethnicity .............. 3
- SOCIO-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
- POLSC-122 Latinx Politics and American Government ........ 3
- PSYCH-140 Psychology of African Americans in a Multicultural Society .................. 3
- SOCS-120 Women and Social Change in the United States: 1890-Present .................. 3
- SOCS-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
- POLSC-123 Black Politics and American Government .................. 3

**arts and humanities**

- ENGL-164 Native American Literature .................. 3
- ENGL-166 African American Literature .................. 3
- ENGL-168 The Literatures of America .................. 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 American'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
- SOCI-121 Introduction to Social Problems .................. 3
- SOCI-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

**major preparation**

- HSCI-135 Health and Social Justice .................. 3
- HSCI-170 Women’s Health .................. 3

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

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: units
SOCS-101 Introduction to Social Justice ....................... 3

plus at least 6 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Notes</th>
</tr>
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<tr>
<td>HIST-125</td>
<td>History of the United States: A Mexican American Perspective</td>
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</tr>
<tr>
<td>HIST-127</td>
<td>African American Perspective</td>
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<td>HIST-128</td>
<td>History of the US to 1865</td>
<td>3</td>
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<td>POLS-122</td>
<td>Latinx Politics and American Government</td>
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<td>POLS-123</td>
<td>Black Politics and American Government</td>
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<td>PSYCH-140</td>
<td>Psychology of African-Americans in a Multicultural Society</td>
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<td>SOCIO-124</td>
<td>Gender, Culture, and Society</td>
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<tr>
<td>SOCIO-135</td>
<td>Introduction to Race and Ethnicity</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

total minimum required units 9

SOCSC-101 Introduction to Social Justice 3 units SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture
- Recommended: Eligibility for ENGL-122 or equivalent

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 justice, 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
- Recommended: Eligibility for ENGL-122 or equivalent

This course is a multidisciplinary, integrative study of the concepts 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 government 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 political and economic life. CSU, UC
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
• Recommended: Eligibility for ENGL-122 or equivalent
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
• Recommended: Eligibility for ENGL-122 or equivalent
This course is an interdisciplinary examination of popular culture is 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
• Recommended: Eligibility for ENGL-122 or equivalent
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-295  Occupational Work Experience in SOCSC
2-4 units  SC
• May be repeated eight times
• Variable Hours
• Note: In order to enroll in SOCSC-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.
SOCSC-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

SOCSC-296  Internship in Occupational Work Experience Education in SOCSC
2-4 units  SC
• May be repeated eight times
• Variable hours
• Note: In order to enroll in the SOCSC-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.
SOCSC-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
Sociology

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

SOCIETY – 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, 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 a minimum of 18 units in the major.
- Complete a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.
- Submit an Educational Contract to the Instruction Office.

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>title</th>
<th>units</th>
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<tbody>
<tr>
<td>SOCIO-120</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 6 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BUS-240</td>
<td>Business Statistics with Probability</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH-142</td>
<td>Elementary Statistics with Probability</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO-121</td>
<td>Introduction to Social Problems</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO-123</td>
<td>Introduction to Social Research</td>
<td>3</td>
</tr>
</tbody>
</table>

410  PROGRAM/COURSE DESCRIPTIONS  chapter four  DIABLO VALLEY COLLEGE  CATALOG 2021-2022
plus at least 6 units from any course not used above, or:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisites/Notes</th>
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<tbody>
<tr>
<td>PSYCH-225</td>
<td>Social Psychology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SOCIO-122</td>
<td>Critical Thinking About Social and Cultural Issues</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SOCIO-124</td>
<td>Gender, Culture and Society</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SOCIO-125</td>
<td>Families, Relationships, and Commitment</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SOCIO-135</td>
<td>Introduction to Race and Ethnicity</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

plus at least 3 units from any course not used in either group above, or:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisites/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCIO-131</td>
<td>The Urban Community</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SOCSC-120</td>
<td>Women and Social Change in the United States:1890-Present</td>
<td>3</td>
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</tbody>
</table>

**Total minimum units for the major**: 18

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**SOCIO-120  Introduction to Sociology**

3 units SC  
- IGETC: 4; CSU GE: D; DVC GE: IV  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL-122 or equivalent  

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

**SOCIO-121  Introduction to Social Problems**

3 units SC  
- IGETC: 4; CSU GE: D; DVC GE: IV  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL-122 or equivalent  

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

**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  
- Recommended: Eligibility for ENGL-122 or equivalent  

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  
- Recommended: Eligibility for ENGL-122 or equivalent  

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. Chisar: This course presents a multidimensional examination of gender in the United States and other societies, including the mechanisms by which gender roles develop and the consequences for society. The social and cultural processes and institutional arrangements that give meaning to being a woman and a man in a gendered society will also be covered. 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
• Recommended: Eligibility for ENGL-122 or equivalent
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
• Recommended: Eligibility for ENGL-122 or equivalent
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

SOCIO-155 Topics in Sociology
.3-4 units SC
• Variable hours
A supplemental course in sociology to provide a study of current concepts and problems in sociology and related substantive areas. Specific topics will be announced in the schedule of classes. CSU

SOCIO-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

SOCIO-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
**SPANISH – SPAN**

Janette Funaro, Dean  
Arts and Communication Division

**Possible career opportunities**  
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.

**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.

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<tr>
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<th>Units</th>
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<td>SPAN-121</td>
<td>Second Term Spanish</td>
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<tr>
<td>SPAN-220</td>
<td>Third Term Spanish</td>
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</tr>
<tr>
<td>SPAN-221</td>
<td>Fourth Term Spanish</td>
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</tr>
<tr>
<td>SPAN-230</td>
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</tr>
<tr>
<td>SPAN-231</td>
<td>Sixth Term Spanish</td>
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</table>

**Total minimum units for the major**  
20

**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 an 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 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.

**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. demonstrate cultural appreciation by making (comparative) connections, on both an individual and societal level, between the target cultures and students’ own cultures.
- G. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.
- H. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.
- I. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations 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>
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<th>Course</th>
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**List B**

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<td>SPAN-221</td>
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<tr>
<td>total minimum required units</td>
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</tbody>
</table>

**SPAN-120 First Term Spanish**

- 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 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
Spanish

SPAN-121  Second Term Spanish
5 units  SC
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
• 90 hours lecture per term
• Prerequisite: SPAN-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 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

SPAN-150  Topics in Spanish
.3-4 units  SC
• Variable hours
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
• Recommended: SPAN-155 or equivalent
• Note: This course does not satisfy major or general education requirements.

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-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 of the beginning Spanish conversation series. It is a participatory class based on 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-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 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-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, 6A; CSU GE: C2; DVC GE: III
• 90 hours lecture per term
• Prerequisite: SPAN-240 or equivalent
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

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
### Steamfitting

**Possible career opportunities**

In collaboration with Plumbers and Steamfitters Union Local 159 and Plumbers-Steamfitters-Refrigeration Union Local 342 [www.ua342.org](http://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.

Plumbers-Steamfitters-Refrigeration Union Local 342, Joint Apprenticeship and Journeymen Training Office

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

**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.

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.
Steamfitting

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.

**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.

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.

## Program/course Descriptions

**Chapter Four**

**DIABLO VALLEY COLLEGE**

**Catalog 2021-2022**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tr>
<td>STMFT-110</td>
<td>OSHA-CPR</td>
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<td>STMFT-111</td>
<td>Trade Mathematics</td>
<td>1.5-2.5</td>
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<td>STMFT-112</td>
<td>Use and Care of Tools</td>
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<td>STMFT-115</td>
<td>Pipe Shop I</td>
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<td>Pipe Shop II</td>
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<td>STMFT-117</td>
<td>Related Science in the Piping Trades</td>
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<td>STMFT-118</td>
<td>Beginning Drawing and Plan Reading for the Piping Trades</td>
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<td>Advanced Drawing in the Piping Trade</td>
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<td>Electricity for Steamfitting</td>
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**Total minimum units for the major** 30

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</table>

**Total minimum required units** 21

**Certificate of accomplishment**

**Steamfitting**

Students completing the program will be able to...

A. explain the responsibilities of a journey person with regards to training an apprentice on the job.
B. apply mathematical formula for calculating load weight on pipe.
C. demonstrate proper knot tying.
D. use the proper method to cut a steel plate, using an OXY/ACT torch.
This program is offered in collaboration with Plumbers and Steamfitters Union Local 159 and Plumbers-Steamfitters-Refrigeration (HVACR) Union Local 342. Apprenticeship training 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.

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.

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**total minimum required units** 10.5

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**STMFT-111 Trade Mathematics**
1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the United Association of Union Plumbing 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 Plumbing 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 Plumbing 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 Plumbing 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.

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**STMFT-110 OSHA-CPR**
1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the United Association of Union Plumbing 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 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.
Steamfitting

STMFT-115  Pipe Shop 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 apprentices 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.

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 apprentices 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 apprentices 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 apprentices 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 apprentices 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.

**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.
Steamfitting

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.

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 grooved 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).

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.

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**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: Students who are employed but have not declared a major or whose jobs are unrelated to their major. WRKX-170: Students who are employed and whose jobs are related to their major. WRKX-180: Students who are participating in internship or volunteer opportunities in jobs that are related to their major.

**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:

<table>
<thead>
<tr>
<th>WRKP-090NC Addressing Barriers to Employment I: Getting a Job</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRKP-091NC Addressing Barriers to Employment II: Keeping a Job</td>
<td>0</td>
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</tbody>
</table>

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.