# PROGRAM AND COURSE DESCRIPTIONS

## Chapter Four

## Catalog 2020-2021

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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/122L/122AL are not college level and 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, 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 28 for more information about the grade policy.
Transferability codes

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

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

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

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

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

COURSEWORK AND STUDY TIME PER UNIT

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

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

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

<table>
<thead>
<tr>
<th>Sample Course</th>
<th>Units</th>
<th>Lecture hours</th>
<th>Laboratory Activity hours</th>
<th>Minimum out of class study hours</th>
<th>Total hours</th>
<th>Typical hours week for a full term class</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST-120</td>
<td>3</td>
<td>54</td>
<td>0</td>
<td>108</td>
<td>162</td>
<td>9+</td>
</tr>
<tr>
<td>COMSC-210</td>
<td>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.
PROGRAM AND COURSE DESCRIPTIONS

ACCOUNTING

See Business accounting - BUSAC

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).

Joseph Gorga, Dean
Biological and Health Sciences Division
Physical Sciences Building, Room 263

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

Associate in science degree
Addiction counseling

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

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

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

major requirements: 

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>ADS-102</td>
<td>Introduction to Motivational Interviewing Skills</td>
<td>3</td>
</tr>
<tr>
<td>ADS-151*</td>
<td>Ethical and Legal Concerns for ADS Counselors</td>
<td>1.5</td>
</tr>
<tr>
<td>ADS-152</td>
<td>Relapse Prevention</td>
<td>3</td>
</tr>
<tr>
<td>ADS-154</td>
<td>Dual Disorders</td>
<td>3</td>
</tr>
<tr>
<td>ADS-155</td>
<td>Diverse Communities and Social Services</td>
<td>3</td>
</tr>
<tr>
<td>ADS-158*</td>
<td>Group Process and Leadership</td>
<td>3</td>
</tr>
<tr>
<td>ADS-160</td>
<td>Introduction to Codependency and Family Issues</td>
<td>3</td>
</tr>
<tr>
<td>ADS-171*</td>
<td>ADS Field Work I</td>
<td>5.5</td>
</tr>
<tr>
<td>ADS-172*</td>
<td>ADS Field Work II</td>
<td>5.5</td>
</tr>
<tr>
<td>HSCI-127</td>
<td>Drugs, Health, and Society</td>
<td>3</td>
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<tr>
<td></td>
<td><strong>total minimum units for the major</strong></td>
<td><strong>33.5</strong></td>
</tr>
</tbody>
</table>

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

Associate in science degree
Addiction studies

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

**major requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>ADS-102 Introduction to Motivational Interviewing Skills</td>
<td>3</td>
</tr>
<tr>
<td>ADS-152 Relapse Prevention</td>
<td>3</td>
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<tr>
<td>ADS-154 Dual Disorders</td>
<td>3</td>
</tr>
<tr>
<td>ADS-155 Diverse Communities and Social Services</td>
<td>3</td>
</tr>
<tr>
<td>ADS-170 Introduction to Codependency and Family Issues</td>
<td>3</td>
</tr>
<tr>
<td>HSCI-127 Drugs, Health, and Society</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 18

**Certificate of achievement**

**Addiction counseling**

Students completing the program will be able to...

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

B. 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 addition 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.

**required courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>ADS-102 Introduction to Motivational Interviewing Skills</td>
<td>3</td>
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<tr>
<td>ADS-151 Ethical and Legal Concerns for ADS Counselors</td>
<td>1.5</td>
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<tr>
<td>ADS-152 Relapse Prevention</td>
<td>3</td>
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<td>ADS-154 Dual Disorders</td>
<td>3</td>
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<td>ADS-155 Diverse Communities and Social Services</td>
<td>3</td>
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<tr>
<td>ADS-158 Diverse Communities and Social Services</td>
<td>3</td>
</tr>
<tr>
<td>ADS-170 Introduction to Codependency and Family Issues</td>
<td>3</td>
</tr>
<tr>
<td>ADS-171* ADS Field Work I</td>
<td>5.5</td>
</tr>
<tr>
<td>ADS-172* ADS Field Work II</td>
<td>5.5</td>
</tr>
<tr>
<td>HSCI-127 Drugs, Health, and Society</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units** 33.5

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

**Certificate of achievement**

**Addiction studies**

Students completing the program will be able to...

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

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

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

D. describe ways addiction affects family systems.

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

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

required courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADS-102</td>
<td>3</td>
<td>Introduction to Motivational Interviewing Skills</td>
</tr>
<tr>
<td>ADS-152</td>
<td>3</td>
<td>Relapse Prevention</td>
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<tr>
<td>ADS-154</td>
<td>3</td>
<td>Dual Disorders</td>
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<td>ADS-155</td>
<td>3</td>
<td>Diverse Communities and Social Services</td>
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<tr>
<td>ADS-156</td>
<td>3</td>
<td>Introduction to Codependency and Family Issues</td>
</tr>
<tr>
<td>HSCI-127</td>
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<td>Drugs, Health, and Society</td>
</tr>
<tr>
<td>total minimum required units</td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

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-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 as 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:                      units
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 ............................... 3
ADJUS-222  Criminal Investigation .............................. 4
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 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
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-140  Elementary Statistics with Probability .. 4
MATH-141  Statway I ......................................................... 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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>ADJUS-125</td>
<td>Introduction to the Administration of Justice</td>
<td>3</td>
</tr>
<tr>
<td>ADJUS-126</td>
<td>Criminal Law</td>
<td>3</td>
</tr>
<tr>
<td>ADJUS-127</td>
<td>Criminal Procedure</td>
<td>3</td>
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<tr>
<td>ADJUS-128</td>
<td>Elements of Corrections</td>
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<td>ADJUS-129</td>
<td>Criminal Impact upon Society</td>
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<td>ADJUS-130</td>
<td>Criminal Diversity in Criminal Justice</td>
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</tr>
<tr>
<td>ADJUS-131</td>
<td>Legal Aspects of Evidence</td>
<td>3</td>
</tr>
<tr>
<td>ADJUS-132</td>
<td>Interviewing and Counseling</td>
<td>3</td>
</tr>
<tr>
<td>ADJUS-133</td>
<td>Report Preparation for Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>ADJUS-134</td>
<td>Community Policing and Problem Solving</td>
<td>3</td>
</tr>
<tr>
<td>ADJUS-135</td>
<td>Community-Based Corrections</td>
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<tr>
<td>ADJUS-136</td>
<td>Independent Study</td>
<td>0.5-3</td>
</tr>
<tr>
<td>ADJUS-137</td>
<td>The Police: Roles, Methods, and Operations</td>
<td>3</td>
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<tr>
<td>ADJUS-138</td>
<td>Personal Self Defense and Firearms</td>
<td>2</td>
</tr>
<tr>
<td>ADJUS-139</td>
<td>Gangs and Threat Groups in America</td>
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<td>ADJUS-140</td>
<td>Terrorism and Homeland Security</td>
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<td>ADJUS-141</td>
<td>The Police: Roles, Methods, and Operations</td>
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<td>ADJUS-143</td>
<td>Community Policing and Problem Solving</td>
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<td>ADJUS-144</td>
<td>Community-Based Corrections</td>
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<tr>
<td>ADJUS-145</td>
<td>Independent Study</td>
<td>0.5-3</td>
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<tr>
<td>ADJUS-146</td>
<td>The Police: Roles, Methods, and Operations</td>
<td>3</td>
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<td>ADJUS-147</td>
<td>Personal Self Defense and Firearms</td>
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<td>ADJUS-148</td>
<td>Community Policing and Problem Solving</td>
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<td>ADJUS-149</td>
<td>Community-Based Corrections</td>
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<td>ADJUS-150</td>
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<td>ADJUS-151</td>
<td>The Police: Roles, Methods, and Operations</td>
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<td>ADJUS-152</td>
<td>Personal Self Defense and Firearms</td>
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<tr>
<td>ADJUS-153</td>
<td>Community Policing and Problem Solving</td>
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<td>ADJUS-154</td>
<td>Community-Based Corrections</td>
<td>3</td>
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<tr>
<td>ADJUS-155</td>
<td>Independent Study</td>
<td>0.5-3</td>
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<tr>
<td>ADJUS-156</td>
<td>The Police: Roles, Methods, and Operations</td>
<td>3</td>
</tr>
</tbody>
</table>

total minimum required units 20

Certificate of accomplishment
Administration of justice

Community relations specialist

Students completing the program will be able to...

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

This certificate prepares students for entry-level careers either as law enforcement or civilian positions that require a better than average understanding of multicultural issues as they impact the community and the criminal justice system.

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

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


total minimum required units  14  

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

**total minimum required units** 12

**Certificate of accomplishment**

**Administration of justice**

**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.

**required courses:**

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<td>ADJUS-120</td>
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</tr>
<tr>
<td>ADJUS-124</td>
<td>Elements of Corrections</td>
<td>3</td>
</tr>
<tr>
<td>ADJUS-139</td>
<td>Gangs and Threat Groups in America</td>
<td>3</td>
</tr>
<tr>
<td>ADJUS-230</td>
<td>Juvenile Procedures</td>
<td>3</td>
</tr>
<tr>
<td>ADJUS-284</td>
<td>Interviewing and Counseling</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units** 15

**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
Administration of Justice

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

ADJUS-280 Community-Based Corrections
3 units SC
- 54 hours lecture per term
- 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  
1-4 units  SC  
• May be repeated three 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. Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit. Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU

ADJUS-296  Internship in Occupational Work Experience Education in ADJUS  
1-4 units  SC  
• May be repeated three 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. The Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit (paid) or one unit for four hours work per week or sixty hours per term (unpaid work). Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU

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

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

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.

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 1C requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

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

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

**major requirements:**

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

**plus at least 3 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>ANTHR-120</td>
<td>Magic, Witchcraft, and Religion in the Americas</td>
<td>3</td>
</tr>
<tr>
<td>ANTHR-135</td>
<td>Native Americans</td>
<td>3</td>
</tr>
<tr>
<td>ANTHR-141L</td>
<td>Biological Anthropology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>GEOG-120</td>
<td>Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>BUS-240</td>
<td>Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-142</td>
<td>Elementary Statistics with Probability</td>
<td>4</td>
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**plus at least 3 units from any course not used above or:**

<table>
<thead>
<tr>
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<tr>
<td>BISC-139</td>
<td>Human Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>GEOG-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>
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</table>

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

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

**ANTHR-115 Primate Evolution and Adaptation**

3 units  

- 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 ancient life ways with the aim of understanding 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: SC; 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, primateology, 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 is a beginning level language course in Modern Standard Arabic. The course will be proficiency based, covering all four language skills (speaking, listening, reading, and writing). Considerable emphasis will be placed on active use of the language both in class and in daily homework assignments. The course introduces students to the basic phonology and script of the Arabic alphabet, as well as aspects of the sociolinguistics of Arab culture. Students will practice writing the letters in sequence while developing comprehension skills. CSU, UC

ARABC-121  Second Term Arabic
5 units  SC
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
• 90 hours lecture per term
• Prerequisite: ARABC-120 or two years of high school study or equivalent
• Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.
This is the second level language course in Modern Standard Arabic. This course is designed to build upon skills in reading and writing developed in ARABC-120. Students will gain increased vocabulary and a greater understanding of more complex grammatical structures. They will be able to approach prose, fiction, and non-fiction written in the language. Students will also increase their proficiency in Arabic script and sound system, widen their working vocabulary, learn key grammatical points, and practice conversation and dictation. Students deliver oral presentations and write academic papers in Arabic. A variety of Arabic texts covering many subjects of interest such as literature, classical writing, poetry, media reports, and news will be introduced. CSU, UC
ARABC-150  Topics in Arabic  
.3-4 units SC  
• Variable hours  
A supplemental course in Arabic to provide a study of current concepts and problems in Arabic and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

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

ARCHITECTURE – ARCHI  
Joseph Gorga, Dean  
Physical Sciences and Engineering Division  
Physical Sciences Building, Room 263  

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

Associate in science degree  
Architecture design  

Students completing the program will be able to...  
A. communicate architectural concepts using graphic conventions and representational methods.  
B. demonstrate an understanding of drawing methods and graphic compositional techniques.  
C. construct physical models of architectural elements and 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.

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

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

major requirements:  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCHI-120</td>
<td>Introduction to Architecture and Environmental Design</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI-121</td>
<td>Architectural Design I</td>
<td>4</td>
</tr>
<tr>
<td>ARCHI-130</td>
<td>Architectural Graphics I</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI-131</td>
<td>Architectural Graphics II</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI-135</td>
<td>Digital Tools for Design</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI-220</td>
<td>Architectural Design II</td>
<td>4</td>
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<tr>
<td>ARCHI-221</td>
<td>Architectural Design III</td>
<td>4</td>
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<tr>
<td>ARCHI-244</td>
<td>Architectural Practice and Working Drawings</td>
<td>3</td>
</tr>
<tr>
<td>CONST-144</td>
<td>Materials of Construction</td>
<td>3</td>
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</tbody>
</table>
### Associate in science degree

**Architecture technology**

Students completing the program will be able to...

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

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

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

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

### major requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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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 - AutoCAD</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI-244 Architectural Practice and Working Drawings</td>
<td>3</td>
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<tr>
<td>CONST-124 Construction Details and Specifications</td>
<td>3</td>
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<tr>
<td>CONST-135 Construction Processes: Residential</td>
<td>4</td>
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<tr>
<td>CONST-144 Materials of Construction</td>
<td>3</td>
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**total minimum units for the major** 33

### 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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tr>
<td>ARCHI-131 Architectural Graphics II</td>
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</tr>
<tr>
<td>ARCHI-296 Internship in Occupational Drafting Design</td>
<td>2-3</td>
</tr>
<tr>
<td>CONST-116 Plane Surveying</td>
<td>4</td>
</tr>
<tr>
<td>CONST-181 Building Code Interpretation</td>
<td>3</td>
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<tr>
<td>CONST-183 Title 24: Energy Conservation Codes</td>
<td>3</td>
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**total minimum units for the major** 28

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### plus at least 3 units from:

- ARCHI-110 Design-Build Workshop
- ARCHI-136 Digital Tools for Architecture
- ARCHI-156 History of World Architecture: Early Civilizations to Middle Ages
- ARCHI-157 History of World Architecture: Middle Ages to 18th Century
- ARCHI-158 History of World Architecture: 18th Century to Present
- ARCHI-160 History of American Architecture
- ARCHI-207 Environmental Control Systems

**total minimum units for the major** 33

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### plus at least 6 units from:

- ARCHI-131 Architectural Graphics II
- ARCHI-226 Computer Aided Design and Drafting - AutoCAD
- ARCHI-296 Internship in Occupational Work Experience Education in ARCHI
- CONST-116 Plane Surveying
- CONST-181 Building Code Interpretation: Non-Structural
- CONST-183 Title 24: Energy Conservation Codes

**total minimum units for the major** 28

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Architecture

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

**required courses:**

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

**total minimum required units** 23

**Certificate of achievement**

**Architecture technology**

Students completing the program will be able to...

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

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

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

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

**required courses:**

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

**plus at least 6 units from:**

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<th>Units</th>
</tr>
</thead>
<tbody>
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<td>ARCHI-131</td>
<td>Architectural Graphics II</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI-296</td>
<td>Internship in Occupational Work Experience Education in ARCHI</td>
<td>2-3</td>
</tr>
<tr>
<td>CONST-116</td>
<td>Plane Surveying</td>
<td>4</td>
</tr>
<tr>
<td>CONST-181</td>
<td>Building Code Interpretation: Non-Structural</td>
<td>3</td>
</tr>
<tr>
<td>CONST-183</td>
<td>Title 24: Energy Conservation Codes</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units** 28

**ARCHI-110  Design-Build Workshop**

1 unit SC

- May be repeated three times
- 72 hours laboratory per term
- 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 ENGT-119. Credit by examination option available.

This course presents an introduction to technical drawing. Topics include technical lettering and line work, geometric constructions, sketching and shape description, orthographic projection, dimensioning, section views, and auxiliary views. Students will gain experience using computers to produce technical drawings utilizing 3D modeling and orthographic computer aided design (CAD) drafting. An introduction to computer numerical control (CNC) prototyping and 3D printing is also covered. CSU, UC (credit limits may apply to UC - see counselor)
ARCHI-120  Introduction to Architecture and Environmental Design
3 units  LR
• CSU GE: C1
• 36 hours lecture/72 hours laboratory per term
This course is an introduction to the professional field of architecture, environmental design, landscape design, and urban planning. An overview of the practice of environmental design with concepts in design methods and theory, analysis and problem solving, history of design, and the profession is presented. An emphasis on beginning design projects utilizing drawing, model making and computers is covered in class. CSU, UC

ARCHI-121  Architectural Design I
4 units  SC
• CSU GE: C1
• 36 hours lecture/108 hours laboratory per term
• Prerequisite: ARCHI-120 or equivalent and ARCHI-130 (may be taken concurrently) or equivalent
• 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 ENGTC-119 or equivalent
• Note: Same as ENGTC-126. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply 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 ENGTC-119 or equivalent
This course is an introduction to architectural graphics related to projection systems, representation of architectural forms, rendering and shadow casting. An overview of history and methods of graphic representation used by architects and an application of drafting, drawing and rendering methods is presented. Problem-solving in orthographic and pictorial projection and drawing, architectural lettering, shades and shadows, and color rendering techniques are covered. There is an emphasis on mechanical drafting with pencil and beginning introduction to other art media. CSU, UC

ARCHI-131  Architectural Graphics II
3 units  LR
• 36 hours lecture/72 hours laboratory per term
• Prerequisite: ARCHI-130 or equivalent
This course is an advanced exploration of drawing techniques utilizing freehand and mechanical drawing methods of representation. Emphasis is placed on perspective drawing, shade and tone, color theory and composition. A continuing exploration of media for architectural rendering and representation is included. CSU, UC

ARCHI-135  Digital Tools for Design
3 units  SC
• 36 hours lecture/72 hours laboratory per term
• Note: ARCHI-135 and ARCHI-136 may be taken in any order.
This course is an introduction to the use of computers in design communication and representation. Topics presented include two-dimensional and three dimensional graphics utilizing Adobe Illustrator, InDesign, Photoshop, AutoCAD, Sketchup and other related programs. Students will be introduced to additional concepts in processing digital images, digital photography, scanning and printing. CSU

ARCHI-136  Digital Tools for Architecture
3 units  SC
• 36 hours lecture/72 hours laboratory per term
• Note: ARCHI-135 and ARCHI-136 may be taken in any order.
This course covers the use of computers in architectural design for advanced architectural graphics, three-dimensional (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 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
• Recommended: MATH-090 or equivalent
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 mechanical systems for environmental control in buildings. There will be an emphasis on green building technology and sustainable practices in design of environmental control systems. 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. It focuses on development of 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 is covered. Methods of presentation and design development include drawing, model making, and architectural reviews and critiques. CSU, UC
ARCHI-221 Architectural Design III
4 units LR
- 36 hours lecture/108 hours laboratory per term
- Prerequisite: ARCHI-136 (may be taken concurrently) or equivalent and ARCHI-220 or equivalent

This course is a third-level studio design class continuing the study of architectural design. 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

ARCHI-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 photorealistic renderings for presentation using AutoCAD, 3D Studio Max and Alias. 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. CSU, UC (credit limits may apply to UC - see counselor)

ARCHI-244 Architectural Practice and Working Drawings
3 units SC
- 36 hours lecture/72 hours laboratory per term
- 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

ARCHI-296 Internship in Occupational Work Experience Education in ARCHI
1-4 units SC
- May be repeated three times
- Variable hours
- Note: In order to enroll in the ARCHI-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. The Employment Form can be accessed at www.dvc.edu/wrkx. Incomplete grades are not awarded for this course.

ARCHI-296 is a supervised internship in a skilled or professional level assignment in the student’s major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Five hours work per week or seventy-five hours work per term is equal to one unit (paid) or one unit for four hours work per week or sixty hours per term (unpaid work). Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253, CSU

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

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

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

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

Career options include professions engaged in creating works of art as an artist, painter, sculptor, ceramicist, 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 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, ceramicist, jeweler, printer, 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:**

- **ART-101** Introduction to Two-Dimensional Design ........ 3
- **ART-102** Introduction to Three-Dimensional Design and Sculpture................................. 3

**plus at least 6 units from:**

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

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

**art history**

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

**ceramics**

- **ART-151** Visual Theory and Practice - Ceramic Art .......... 3
- **ART-152** Wheel-Thrown Pottery I .................................... 3
- **ART-153** Wheel-Thrown Pottery II ................................... 3
- **ART-154** Hand-Built Ceramics.......................................... 3
- **ART-155** Ceramic Sculpture I .......................................... 3
- **ART-156** Figurative Ceramics I ....................................... 3
- **ART-252** Wheel-Thrown Pottery III .................................. 3
- **ART-253** Wheel-Thrown Pottery IV .................................. 3
- **ART-254** Hand-Built Ceramics II ..................................... 3
- **ART-255** Ceramic Sculpture II ......................................... 3
- **ART-256** Figurative Ceramics II ..................................... 3
color
ART-103 Visual Theory and Practice - Color Theory ...... 3

digital media
ARTDM-105 Introduction to Digital Imaging .................. 3
ARTDM-112 Digital Imaging for the Artist .................... 3
ARTDM-117 Digital Illustration ................................ 3
ARTDM-136 Introduction to Digital Photography .......... 3
ARTDM-140 Motion Graphics ...................................... 3
ARTDM-160 3D Modeling and Animation I ................... 3
ARTDM-161 3D Modeling and Animation II ................. 3
ARTDM-171 Web Design I ......................................... 3
ARTDM-214 Introduction to Graphic Design ................ 3
drawing
ART-105 Drawing I .................................................. 3
ART-106 Drawing and Color ....................................... 3
ART-107 Figure Drawing I ......................................... 3
ART-108 Figure Drawing II ........................................ 3

other
ART-135 Art Gallery/Museum Management .................. 3
ARTDM-224 Typography .......................................... 3

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

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

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

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

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

total minimum units for the major 24

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

Associate in arts in studio arts for transfer
Students completing the program will be able to...
A. demonstrate proficiency in basic skills and techniques related to two-dimensional media, and apply the elements and principles of design in visual problem solving, the creation of art, and projects in selected areas of emphasis.
B. demonstrate proficiency in basic skills and techniques related to three-dimensional media, and apply the elements and principles of design in the creation of forms in selected areas of emphasis.
C. apply critical thinking skills to the critique and evaluation of their artwork and the artwork of others.
D. analyze works of art in terms of their historical circumstances and cultural values.

The associate in arts in studio arts for transfer offers students a curricular program for studying a variety of beginning courses within the field of art practice. The student with an 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, honed problem-solving skills, and establishes visual literacy.

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

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

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

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

major requirements: units
ART-101 Introduction to Two-Dimensional Design 3
ART-102 Introduction to Three-Dimensional Design and Sculpture 3
ART-105 Drawing I 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:
ARTHS-193 History of Asian Art 3
ARTHS-195 History of Prehistoric and Ancient Art 3
ARTHS-199 Contemporary Art History 3

plus at least 9 units from:

applied design
ART-146 Metalsmithing and Jewelry I 3
ART-147 Metalsmithing and Jewelry II 3

ceramics
ART-152 Wheel-Thrown Pottery I 3
ART-154 Hand-Built Ceramics I 3
ART-153 Wheel-Thrown Pottery II 3
ART-155 Ceramic Sculpture I 3
ART-156 Figurative Ceramics I 3

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

digital art
ARTDM-112 Digital Imaging for the Artist 3
ARTDM-171 Web Design I 3
ARTDM-214 Introduction to Graphic Design 3

drawing
ART-106 Drawing and Color 3
ART-107 Figure Drawing I 3
ART-108 Figure Drawing II 3

other media
ARTDM-224 Typography 3

painting
ART-120 Watercolor I 3
ART-126 Painting I: Introduction to Painting 3
ART-127 Painting II: Intermediate Painting 3

photography
ART-160 Photography I 3
ART-161 Photography II 3

printmaking
ART-109 Printmaking: Monotype 3
ART-110 Introduction to Printmaking 3
ART-111 Printmaking: Etching 3

sculpture
ART-138 Sculpture I 3

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, hones problem-solving skills, and establishes visual literacy in the ceramic medium. The ceramics certificate offers technical training related to the commercial ceramic industry and can lead to career opportunities that include: art educator, exhibiting artist, hand-made production potter, ceramic art studio assistant, art therapy intern, creative tile designer, tile producer, mosaic muralist, portrait sculptor, industrial ceramics product designer, industrial ceramics shop manager, ceramic engineering intern, museum or gallery assistant, art dealer, art critic and other professions in creative, hands-on endeavors.

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

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

required courses: units
ART-105 Drawing I 3
ART-152 Wheel-Thrown Pottery I 3
ART-155 Ceramic Sculpture I 3
ART-299 Student Instructional Assistant 0.5-3
ARTHS-199 Contemporary Art History 3

*minimum 2 units required
Certificate of achievement
Painting and drawing

Students completing the program will be able to...

A. create a portfolio demonstrating ideas in a broad range of painting and drawing techniques.
B. identify the elements that define two-dimensional art.
C. employ critical thinking to analyze two-dimensional art works in terms of historical context and cultural values.
D. demonstrate basic drawing skills, color manipulation, and application of design principles.
E. apply the processes necessary to create drawings in various media and/or paintings in oil, acrylic, and alternative media.

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

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

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

required courses:

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

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, honed problem-solving skills, and establishes visual literacy in print media. Career opportunities that may be enhanced by the printmaking certificate include: printmaking exhibiting artist, print dealer, printmaking educator, graphic designer, illustrator, internships and paid apprenticeships in print publishers, and work in print shops including those specializing in etching, woodblock, letterpress, monotype, and silkscreen processes.

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

required courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>ART-103 Visual Theory and Practice - Color Theory</td>
<td>3</td>
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<tr>
<td>ART-106 Drawing and Color</td>
<td>3</td>
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<tr>
<td>ART-107 Figure Drawing I</td>
<td>3</td>
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<tr>
<td>ART-120 Watercolor I</td>
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<tr>
<td>ART-135 Art Gallery/Museum Management</td>
<td>3</td>
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<tr>
<td>ARTDM-112 Digital Imaging for the Artist</td>
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total minimum required units 23

DIABLO VALLEY COLLEGE CATALOG 2020-2021
chapter four PROGRAM/COURSE DESCRIPTIONS 87
**plus at least 9 units from:**

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<tr>
<th>Course Code</th>
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<tr>
<td>ART-110</td>
<td>Introduction to Printmaking</td>
<td>3</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>
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<tr>
<td>ART-114</td>
<td>Printmaking: Woodblock</td>
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<tr>
<td>ART-116</td>
<td>Printmaking: Stencil and Screen Print</td>
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**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”.

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<tr>
<th>ART Family: Design</th>
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<td>ART-101</td>
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<td>ART-164</td>
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<td>ART-165</td>
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</table>
Family: Watercolor
ART-120 Watercolor I
ART-120A Introduction to Watercolor
ART-120B Watercolor Workshop
ART-121 Watercolor II

Family: Mixed Media
ART-109 Printmaking: Monotype
ART-150FM Figurative Monotype and Mixed Media

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-mâché, wood and mixed media. C-ID ARTS 110, 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 prerequisite 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

ART-109 Printmaking: Monotype
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 exploration of monotype (single image) processes utilizing a painterly approach to printmaking. Emphasis will be on traditional and contemporary methods. CSU, UC

ART-110 Introduction to Printmaking
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Recommended: ART-105 or equivalent; eligibility for ENGL-116/118 or equivalent
- Note: Mandatory materials fee required

This course is an introduction to various printmaking techniques including dry point, linoleum cut, mono-type, stencil, and collagraph. CSU, UC

ART-111 Printmaking: Etching I
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Recommended: ART-110 or equivalent; eligibility for ENGL-116/118 or equivalent
- Note: Mandatory materials fee required

This course is the study of intaglio printmaking including line etching, aquatint, deepbite, multiple color plates, and photo etching. Projects and discussions further develop students' understanding of the traditional print media and application of contemporary methods. Projects may include publishing multiple impressions in book arts form. CSU, UC

ART-112 Printmaking: Etching II
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Prerequisite: ART-111 or equivalent
- Recommended: Eligibility for ENGL-116/118 or equivalent
- Note: Mandatory materials fee required. Students may meet prerequisite equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This course is a continuation of study of the intaglio printmaking including line etching, aquatint, deepbite, multiple color plates, and photo etching. Projects and discussions further develop students’ understanding of the traditional print media and application of contemporary methods. Projects may include publishing multiple impressions in book arts form. CSU, UC

ART-114 Printmaking: Woodblock
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Recommended: ART-110 or equivalent; eligibility for ENGL-116/118 or equivalent
- Note: Mandatory materials fee required

This course focuses on relief printmaking history and methods. Students will build on basic printmaking techniques such as linocut and woodcut and further explore the possibilities of the media through advanced color woodblock and letter press techniques. Various media will be introduced, including multi-plate relief printing, reduction relief printing, wood engraving, and typeface/polymer plate printing. Various printing methods will be introduced including hand printing, etching press, and letter press. CSU, UC

ART-116 Printmaking: Stencil and Screen Print
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Recommended: ART-110 or equivalent; eligibility for ENGL-116/118 or equivalent
- Note: Mandatory materials fee required

The study of stencil methods of printmaking, which are utilized in various fine art media and commercial industries in the contemporary world. Students will learn the principles of stencil through stencil monotype and explore various stencil usages in screen printing, including usage of photo positives and digital imagery. CSU, UC

ART-120 Watercolor I
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Recommended: ART-105 or equivalent; eligibility for ENGL-116/118 or equivalent
- Note: ART-120A and 120B combined are equivalent to ART-120

This course is an introduction to the materials and techniques of watercolor painting with emphasis on learning techniques, problem solving, concept development, and skills demonstration. CSU, UC
ART-121  Watercolor II
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Prerequisite: ART-120 or equivalent
• Recommended: Eligibility for ENGL-116/118 or equivalent
• Note: Students may meet prerequisite equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This course is a continuation of the study of watercolor materials and techniques with emphasis on the development of intermediate level skills and concepts required to produce a portfolio of work. CSU, UC

ART-126  Painting I: Introduction to Painting
3 units SC
• 36 hours lecture/72 hours laboratory per term
• 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
• Recommended: ART-103 or equivalent; eligibility for ENGL-116/118 or equivalent
• Note: Students may meet prerequisite 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-116/118 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  Art Gallery/Museum Management
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Recommended: Eligibility for ENGL-116/118 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. 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: wood working, welding, mold-making, modeling, metal casting, plaster, and cement working. CSU, UC

ART-139   Sculpture II
3 units   SC
- 36 hours lecture/72 hours laboratory per term
- 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 or equivalent and ART-144 or equivalent
- 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 and ART 146 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 or equivalent and ART 146 or equivalent
- Note: Mandatory materials fee required

This is an advanced metalsmithing/jewelry course with an emphasis on hands-on processes incorporating Individual design, aesthetics, and conceptualization. Further exploration of traditional and contemporary metalsmithing design and aesthetics will be presented. Techniques such as advanced chainmaking, advanced stone setting, forming and raising, chasing, moldmaking, and casting are introduced. CSU

ART-150   Topics in Studio Art
.3-.4 units   SC
- Variable hours
- 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
• IGTC: 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 interpreting 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. Note: Mandatory materials fee required.

This course introduces black and white film photography and offers students a working knowledge of the basics of traditional darkroom photography, including history, theory and practice. 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). Note: Mandatory materials fee required.

This intermediate photography class enhances students’ knowledge of materials and techniques used in traditional black and white film photography. The course concentrates on the specific controls of image processing and the multiple characteristics of a variety of photographic materials. Beyond technique, emphasis is placed on developing concept, editing, and aesthetic considerations relating to image presentation. CSU, UC
ART-163  Documentary Photography  
3 units  SC  
- 36 hours lecture/72 hours laboratory per term  
- Recommended: ART-161 or equivalent; eligibility for ENGL-122 or equivalent  
- Note: Students supply cameras (film or DSLR), laptop, and external drive. Note: Mandatory materials fee required.

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

ART-164  Photographic Portfolio Development  
3 units  SC  
- 36 hours lecture/72 hours laboratory per term  
- Recommended: ART-161 or equivalent; eligibility for ENGL-122 or equivalent  
- Note: Students supply a working SLR film or DSLR camera with manual capability. Note: Mandatory materials fee required.

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

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 or equivalent and ARTDM-136 or equivalent  
- Note: Students supply a working SLR or DSLR camera with manual capability. Mandatory materials fee required

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

ART-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-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-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-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

Toni Fannin, Dean
Applied and Fine Arts Division
Business and Foreign Language Building, Room 204

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

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

The animation associate in arts degree provides students with a strong foundation in the fundamental aspects of animation. Students will learn the skills to develop animations including techniques such as modeling, animation, and texturing. Courses present material that will take the student through the production process and workflow of animation projects. Curriculum includes traditional animation techniques, drawing, and the technical fundamentals of animation. The program goal is to provide the skills necessary to enter this growing, professional field.
Art digital media

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

plus at least 6 units from:  
ART-103 Visual Theory and Practice – Color Theory ........3  
ART-106 Drawing and Color ........................................3  
ART-107 Figure Drawing I ..........................................3  
ARTDM-100 Introduction to the History and Development of Digital Media ........................................3  
ARTDM-101 Introduction to the Production of Digital Media ........................................3  
ARTDM-112 Digital Imaging for the Artist ......................3  
ARTDM-130 Introduction to Digital Audio .......................3  
ARTDM-136 Introduction to Digital Photography ..............3  
ARTDM-161 3D Modeling and Animation II ....................3  
ARTDM-165 Drawing for Digital Animation ....................3  
ARTDM-166 Intermediate Drawing for Digital Animation ....3  
ARTDM-167 Digital Animation ......................................3  
ARTDM-170 Animation for Interaction Design .................3  
ARTDM-172 User Experience Design for Web and Mobile Devices ..................................................3  
ARTDM-173 Web Design II .........................................3  
ARTDM-174 Web and Mobile Design with JavaScript .........3  
ARTDM-180 Game Design I ........................................3  
ARTDM-224 Typography ..............................................3  
BUS-109 Introduction to Business ................................3  
BUSMG-191 Small Business Management ......................3  
COMSC-110 Introduction to Programming ......................4  
FTVE-165 Digital Editing ...........................................3  
FTVE-166 Intermediate Digital Editing ..........................3  
MUSX-172 Introduction to Electronic Music and MIDI .......3  
MUSX-173 Advanced Electronic Music ...........................3  
MUSX-174 Introduction to Music Technology and Pro Tools ..................................................3  
WRKX-170 Occupational Work Experience Education .......1-4  
WRKX-180 Internship in Occupational Work Experience Education ..................................................1-4

total minimum units for the major 36
**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 are available in online and traditional formats.

**Associate in Arts Degree**

**Interaction Design for Web and Mobile Platforms**

Students completing the program will be able to...

A. develop and publish mobile-first responsive websites using industry best practices.

B. create planning and user experience design deliverables for web and mobile projects.

C. implement visual design, user-centered design, and interaction design concepts.

D. build foundation knowledge in rich-media production.

E. qualify for entry-level employment in the interactive design field.

F. gain skills 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 web and mobile 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.

**major requirements:**

- ARTDM-105 Introduction to Digital Imaging .......................3
- ARTDM-115 Digital Interface Design ..............................3
- ARTDM-171 Web Design I ..........................................3
- ARTDM-172 User Experience Design for Web and Mobile Devices ...........................................3
- ARTDM-173 Web Design II ........................................3
- ARTDM-174 Web and Mobile Design with JavaScript ........3
- ARTDM-190 Digital Media Projects ...............................3
- ARTDM-296 Internship in Occupational Work Experience Education in ARTDM .................................1

**plus at least 6 units from:**

- ARTDM-117 Digital Illustration ....................................3
- ARTDM-136 Introduction to Digital Photography ..............3
- ARTDM-140 Motion Graphics ......................................3
- ARTDM-170 Animation for Interaction Design ................3
- ARTDM-214 Introduction to Graphic Design .....................3
- ARTDM-224 Typography ...........................................3
- ARTDM-295 Occupational Work Experience Education in ARTDM ........................................1
- ARTDM-296 Internship in Occupational Work Experience Education in ARTDM .................................1

**total minimum units for the major** 24
Art digital media

plus at least 3 units from:
BUS-250 Business Communication .................................. 3
BUSMK-259 Digital Marketing Fundamentals ..................... 3
BUSMK-260 Social Media Marketing ................................ 3

plus at least 2 units from:
CIS-108 Introduction to WordPress ................................. 2
CIS-180 Introduction to Project Management ...................... 3
COMSC-101 Computer Literacy ...................................... 4

total minimum required units for the major 21

Certificate of achievement

Digital media

Students completing the program will be able to...
A. create graphic design projects.
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: units
ARTDM-105 Introduction to Digital Imaging ...................... 3

plus at least 12 units from:
ARTDM-100 Introduction to the History and Development of Digital Media .................................. 3
ARTDM-101 Introduction to the Production of Digital Media .................................. 3
ARTDM-112 Digital Imaging for the Artist ........................... 3
ARTDM-115 Digital Interface Design .................................. 3
ARTDM-117 Digital Illustration ....................................... 3
ARTDM-130 Introduction to Digital Audio ............................ 3
ARTDM-136 Introduction to Digital Photography .................. 3
ARTDM-140 Motion Graphics ......................................... 3
ARTDM-149 Fundamentals of Digital Video .......................... 3
ARTDM-150 Topics in Digital Media .................................. 0.5-4
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 Animation .................. 3
ARTDM-170 Animation for Interaction Design ....................... 3
ARTDM-171 Web Design I ............................................. 3
ARTDM-172 User Experience Design for Web and Mobile Devices .................................. 3
ARTDM-173 Web Design II ............................................. 3
ARTDM-174 Web and Mobile Design with JavaScript .............. 3
ARTDM-180 Game Design I ........................................... 3
ARTDM-181 Game Design II .......................................... 3
ARTDM-190 Digital Media Projects .................................... 3
ARTDM-191 Digital Media Portfolio Development ................. 3
ARTDM-195 Applied Production For Digital Media ............... 3
ARTDM-214 Introduction to Graphic Design .......................... 3
ARTDM-224 Typography ............................................. 3
ARTDM-295  Occupational Work Experience
Education in ARTDM......................................................... 1-4
ARTDM-296  Internship in Occupational Work
Experience Education in ARTDM ........................................ 1-4
ARTDM-298  Independent Study.................................................. 0.5-3
ARTDM-299  Student Instructional Assistant .......................... 0.5-3

total minimum required units  15

Certificate of achievement
Game 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 cre-
ative 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, profes-
sional 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 mar-
keting 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, illustra-
tors, and digital artists.

To earn a certificate of achievement, 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:  units
ARTDM-105  Introduction to Digital Imaging .............. 3
ARTDM-160  3D Modeling and Animation I ................. 3
ARTDM-161  3D Modeling and Animation II .................. 3
ARTDM-167  Digital Animation ........................................ 3
ARTDM-180  Game Design I ........................................... 3
ARTDM-181  Game Design II ......................................... 3

plus at least 3 units from:
ARTDM-115  Digital Interface Design.......................... 3
COMSC-110  Introduction to Programming .................. 3
DRAMA-122  Basic Principles of Acting ....................... 3

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. visually and verbally conceptualize in a clear and concise
way the artistic/technical direction for a game design proj-
et.
C. articulate, analyze, and evaluate the meaning in creative
projects, including social contexts and ethical choices.
D. develop technical proficiency using computer hardware
and software appropriate to the game design or 3D design
industry.
E. visually and verbally conceptualize in a clear and concise
way the artistic/technical direction for a game design proj-
et.
F. critically evaluate and discuss the merits of various cre-
ative ideas.
G. 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 develop-
ment 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:  units
ART-105  Drawing I .......................................................... 3
ARTDM-110  Digital Interface Design.......................... 3
ARTDM-115  Digital Interface Design ...................... 3
ARTDM-117  Digital Illustration ......................... 3
ARTDM-171  Web Design I ........................................... 3
ARTDM-172  User Experience Design for Web and
Mobile Devices ......................................................... 3
ARTDM-190  Digital Media Projects ............................ 3
ARTDM-214  Introduction to Graphic Design ............ 3
ARTDM-224  Typography .............................................. 3

total minimum required units  24
Certificate of achievement
Interaction design for web and mobile platforms

Students completing the program will be able to...

A. develop and publish mobile-first responsive websites using industry best practices.
B. create planning and user experience design deliverables for web and mobile projects.
C. implement visual design, user-centered design, and interaction design concepts.
D. build foundation knowledge in rich-media production.
E. qualify for entry-level employment in the interactive design field.
F. gain skills 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 web and mobile 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:**

- **ARTDM-105**  Introduction to Digital Imaging         3
- **ARTDM-115**  Digital Interface Design              3
- **ARTDM-171**  Web Design I                         3
- **ARTDM-172**  User Experience Design for Web and Mobile Devices          3
- **ARTDM-173**  Web Design II                        3
- **ARTDM-174**  Web and Mobile Design with JavaScript       3
- **ARTDM-190**  Digital Media Projects              3
- **CARER-140**  Job Search Strategies               1

**plus at least 6 units from:**

- **ARTDM-117**  Digital Editing                        3
- **ARTDM-136**  Introduction to Digital Photography    3
- **ARTDM-140**  Motion Graphics                        3
- **ARTDM-170**  Animation and Interactivity           3
- **ARTDM-214**  Introduction to Graphic Design          3
- **ARTDM-224**  Typography                             3
- **ARTDM-295**  Occupational Work Experience Education in ARTDM               1-4
- **ARTDM-296**  Internship in Occupational Work Experience Education in ARTDM               1-4

**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:**

- **ART-105**  Drawing I                                  3
- **ARTDM-105**  Introduction to Digital Imaging         3
- **ARTDM-115**  Digital Interface Design                3
- **ARTDM-117**  Digital Illustration                    3
- **ARTDM-140**  Motion Graphics                         3
- **ARTDM-160**  3D Modeling and Animation I             3
- **ARTDM-170**  Animation for Interaction Design        3
- **ARTDM-171**  Web Design I                            3
- **ARTDM-190**  Digital Media Projects                  3
- **ARTDM-214**  Introduction to Graphic Design          3
- **CARER-140**  Job Search Strategies                   1
- **CIS-108**  Introduction to WordPress                  2
- **CIS-180**  Introduction to Project Management         3
- **COMSC-101**  Computer Literacy                       4

**plus at least 2 units from:**

- **BUS-250**  Business Communication                    3
- **BUSMK-259**  Digital Marketing Fundamentals          3
- **BUSMK-260**  Social Media Marketing                   3

**plus at least 3 units from:**

- **FTVE-165**  Digital Editing                          3

**total minimum required units**  26

DIABLO VALLEY COLLEGE  CATALOG 2020-2021
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 foundational 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 environment that reflects the design and technical skills needed for creating interactive digital media. 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:  units
ARTDM-105  Introduction to Digital Imaging ........................3
ARTDM-115 Digital Interface Design  ....................................3
ARTDM-117 Digital Illustration .............................................3
ARTDM-171 Web Design I ....................................................3
ARTDM-172 User Experience Design for Web and Mobile Devices ..................................................3
ARTDM-190 Digital Media Projects.........................................3

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

Certificate of accomplishment
Art digital media - Foundation

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

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

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

required courses:  units
ARTDM-101 Introduction to the Production of Digital Media ..................................................3
ARTDM-105 Introduction to Digital Imaging ....................................3
ARTDM-214 Introduction to Graphic Design .................................................3

total minimum required units  9

ARTDM-100  Introduction to the History and Development of Digital Media

3 units  SC
• 56 hours lecture/54 hours laboratory per term
• Recommended: ENGL-116/118 or ENGL-117 or equivalent

This course introduces students to digital media through theory and hands-on activities. The history, aesthetics, technology, and social impacts of digital media will be explored.
CSU, UC
ARTDM-101  Introduction to the Production of Digital Media
3 units SC
• 36 hours lecture/54 hours laboratory per term
• Recommended: ENGL-116/118 or ENGL-117 or equivalent
This course introduces key concepts and industry concerns, technologies, and the creation of digital media. Time-based art, network culture, image resolution, computational techniques, and interactivity will be examined. Students will also explore ways of constructing different types of digital media and investigate the history of digital technology. CSU, UC

ARTDM-105  Introduction to Digital Imaging
3 units SC
• 36 hours lecture/54 hours laboratory per term
• Note: This course is equivalent to ARTDM-110 and ARTDM-111 combined. Credit by examination option available.
This course presents design and composition concepts, processes, and aesthetic interpretation of making digital imagery. Students will create computer graphics and edit digital images from scanned photographs and digital photography. CSU, UC

ARTDM-112  Digital Imaging for the Artist
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 is designed to develop a fine arts approach to computer-generated imaging using graphic arts software. An emphasis will be placed on the application and integration of color theory as well as design principles with digital imaging. C-ID ARTS 250, CSU, UC

ARTDM-115  Digital Interface Design
3 units SC
• 36 hours lecture/54 hours laboratory per term
• Recommended: ARTDM-105 or equivalent
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
• 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 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
This is an introductory course about the application of audio to various forms of digital media. The course covers how to capture, edit and create digital audio for a variety of digital media formats including DVD’s, video and the Internet. The course will involve hands-on work with a variety of digital workstations and multimedia software applications. CSU

ARTDM-136  Introduction to Digital Photography
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART-160 or equivalent
• Note: Students must have digital camera with manual functions. Note: Mandatory materials fee required
This introductory course focuses on the skills required to create effective digital photographs using digital cameras. Students will be introduced to the fundamental principles of image making, composition, color theory, color management, lighting, image processing, and printing with a specific focus on digital photographic practice in fine art. CSU, UC

ARTDM-137  Intermediate Digital Photography
3 units SC
• 36 hours lecture/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
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  
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  
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  
- 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 the skills necessary to create animation that utilizes the 12 principles of animation, character pages, and storyboard animations. 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: 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 towards the 60 units required for the degree.  
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 or equivalent, ARTDM-165 or equivalent  
- Note: Students may petition to repeat this 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 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 or equivalent, ARTDM 171 or equivalent  
- Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will apply towards a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.  
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
- 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 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
- 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 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
- 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 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

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

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

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: 3A; CSU GE: C1; DVC GE: III
• 36 hours lecture/54 hours laboratory per term
• Recommended: Eligibility for ENGL-122 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. Note: Mandatory materials fee required
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
1-4 units  SC
• May be repeated three 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. Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit. Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU

ARTDM-296  Internship in Occupational Work Experience Education in ARTDM
1-4 units  SC
• May be repeated three 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. The Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit (paid) or one unit for four hours work per week or sixty hours per term (unpaid work). Students may earn up to a maximum of sixteen units; 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
ART DM-299  Student Instructional Assistant
0.5-3 units SC
   • Variable hours
   • Note: Applications must be approved through the
     Instruction Office. Students must be supervised by a
     DVC instructor.

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

ART HISTORY – ARTHS

Toni Fannin, Dean
Applied and Fine Arts Division
Business and Foreign Language Building, Room 204

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 his-
tory, 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 appropri-
   ate 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 aesthet-
   ics to create works of art.
E. relate visual art to cultural traditions in language, litera-
   ture, music, and philosophy.

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 lan-
guage preparation is recommended as many baccalaureate
degrees and most post-baccalaureate programs require pro-
ficiency in at least one foreign language.

Fine arts faculty and staff are dedicated to assisting students
in exploring job opportunities, internships, and transfer-
ing 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 opportu-
nities are also available in galleries, museums, and art orga-
nizations. 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 pre-
pares them for a range of professions.

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

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

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

Some courses in the major satisfy both major and CSU GE/
IGETC general education requirements; however, the units
are only counted once toward the 60 unit requirement for an
associate degree. Some variations in requirements may exist
at certain four-year institutions; therefore, students who
intend to transfer are advised to refer to the catalog of the
prospective transfer institution and consult a counselor.
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. Archeological 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, 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. 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
Joseph Gorga, Dean
Physical Sciences and Engineering Division
Physical Sciences Building, Room 263

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

ASTRO-110  The Visible Universe
3 units LR
• IGETC: 5A; CSU GE: B1; DVC GE: II
• 54 hours lecture per term
• 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 learn how to identify constellations, learn how the rotation and orbit of the Earth affects our view of the night sky, learn 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 knowledge of planetary orbits to find planets outside of our Solar System. CSU, UC (credit limits may apply to UC - see counselor)

ASTRO-112  The Visible Universe With Laboratory
4 units LR
• IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
• 54 hours lecture/54 hours laboratory per term
• Recommended: MATH-085 or equivalent, eligibility for ENGL-122, or equivalent
This course covers fundamental concepts in astronomy and observational techniques. Selected mathematical concepts used to understand celestial motions and coordinate systems and their importance to humanity are presented. The planetarium sky provides students with the opportunity to observe concepts presented in class. The laboratory component involves the study of the fundamentals of astronomy and includes investigations of the sun, moon, planets, stars and galaxies. Telescopes and other instruments are used by students to gather data. Students 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 presents the study of the fundamentals of astronomy and includes investigations of the sun, moon, planets, stars and galaxies. Telescopes and other instruments are used by students to gather data. Students 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

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**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
Biological and Health Sciences Division
Physical Sciences Building, Room 263

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

**Associate in science degree**

**Allied health**

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

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

The DVC allied health major is intended for transfer. Students wishing to transfer must consult with a counselor regarding other courses in math, chemistry and physics that may be required by the four-year institution to which they intend to transfer. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE). Option 1 (DVC General Education) is not generally advised.
To earn an associate in science degree with a major in allied health, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all general education requirements as listed in the catalog. Major requirements may be taken only on a “for grade” basis. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**major requirements:**

<table>
<thead>
<tr>
<th>Course 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>BIOSC-139</td>
<td>Fundamentals of Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-140</td>
<td>Principles of Microbiology</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-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>
</tbody>
</table>

**total minimum units for the major** 18

**Associate in science degree**

**Biology**

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

A. understand and apply the scientific method of inquiry.
B. 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.
E. discuss interactions of organisms in communities.
F. demonstrate knowledge of the structure and function of the human body.
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 and 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 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. The associate in science degree with a major in allied health is designed as a two-year program that offers a broad general education background and an introduction to the basic principles of biology and the supporting knowledge of 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 study in the life sciences.

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 and the supporting knowledge of chemistry needed to fully understand and appreciate biology. Furthermore, courses in three categories of life science are offered from which students select a minimum of twelve units. These categories emphasize I: health science, II: field science, and III: cellular and molecular biology.

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

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 and 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 study in the life sciences.

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

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major requirements:  

<table>
<thead>
<tr>
<th>Biological science courses with a laboratory:</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-102 Fundamentals of Biological Science with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-117 Human Biology with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>or both</td>
<td></td>
</tr>
<tr>
<td>BIOSC-130 Principles of Cellular and Molecular Biology</td>
<td>5</td>
</tr>
<tr>
<td>and</td>
<td></td>
</tr>
<tr>
<td>BIOSC-131 Principles of Organismal Biology, Evolution and Ecology</td>
<td>5</td>
</tr>
<tr>
<td>plus at least 4 units from:</td>
<td></td>
</tr>
<tr>
<td>CHEM-107 Integrated Inorganic, Organic, and Biological Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-109 Introduction to Organic and Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-120 General College Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>plus at least 12 units from the following areas of specialization; with at least 3 units from each area:</td>
<td></td>
</tr>
<tr>
<td><strong>cellular biology</strong></td>
<td></td>
</tr>
<tr>
<td>BIOSC-107 Genetics and Evolution</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-119 Fundamentals of Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-130 Principles of Cellular and Molecular Biology</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-146 Principles of Microbiology</td>
<td>5</td>
</tr>
<tr>
<td><strong>field studies</strong></td>
<td></td>
</tr>
<tr>
<td>BIOSC-126 Ecology and Field Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-131 Principles of Organismal Biology, Evolution and Ecology</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-161 Fundamentals of Marine Biology with Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>BIOSC-162 Fundamentals of Marine Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-170 Environmental Science</td>
<td>3</td>
</tr>
<tr>
<td>BIOSC-171 Environmental Science with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>HORT-148L General College Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>OCEAN-101 Fundamentals of Oceanography</td>
<td>3</td>
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<tr>
<td>OCEAN-102 Fundamentals of Oceanography with Laboratory</td>
<td>4</td>
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<tr>
<td><strong>health</strong></td>
<td></td>
</tr>
<tr>
<td>BIOSC-120 Introduction to Human Anatomy and Physiology</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-139 Human Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-140 Human Physiology</td>
<td>5</td>
</tr>
<tr>
<td>NUTRI-160 Nutrition: Science and Applications</td>
<td>3</td>
</tr>
<tr>
<td><strong>total minimum units for the major</strong></td>
<td>20</td>
</tr>
</tbody>
</table>

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:**

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>Biological science courses with a laboratory:</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-102 Fundamentals of Biological Science with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-107 Human Biology with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-119 Fundamentals of Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-120 Introduction to Human Anatomy and Physiology</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-126 Ecology and Field Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-130 Principles of Cellular and Molecular Biology</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-131 Principles of Organismal Biology, Evolution and Ecology</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-139 Human Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-146 Principles of Microbiology</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-162 Fundamentals of Marine Biology</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-171 Environmental Science with Laboratory</td>
<td>4</td>
</tr>
</tbody>
</table>

**health**

<table>
<thead>
<tr>
<th>Biological science courses with a laboratory:</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-120 Introduction to Human Anatomy and Physiology</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-139 Human Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-140 Human Physiology</td>
<td>5</td>
</tr>
<tr>
<td>NUTRI-160 Nutrition: Science and Applications</td>
<td>3</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.
physical science

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTRO-110</td>
<td>The Visible Universe</td>
<td>3</td>
</tr>
<tr>
<td>and</td>
<td></td>
<td></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>and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASTRO-130</td>
<td>Astronomy Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>ASTRO-128</td>
<td>The Universe for Beginners</td>
<td>4</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>
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</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>and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOG-121</td>
<td>Physical Geography Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>GEOG-140</td>
<td>Introduction to Weather</td>
<td>3</td>
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<tr>
<td>and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOG-141</td>
<td>Introduction to Weather Laboratory</td>
<td>1</td>
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<td>GEOL-120</td>
<td>Physical Geology</td>
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</tr>
<tr>
<td>and</td>
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<td></td>
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<tr>
<td>GEOL-122</td>
<td>Physical Geology Laboratory</td>
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<td>GEOL-121</td>
<td>Earth and Life Through Time</td>
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<tr>
<td>and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOL-124</td>
<td>Earth and Life Through Time Laboratory</td>
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</tr>
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<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>
<tr>
<td>PHYS-110</td>
<td>Elementary Physics</td>
<td>3</td>
</tr>
<tr>
<td>and</td>
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<td></td>
</tr>
<tr>
<td>PHYS-111</td>
<td>Physics Laboratory</td>
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<tr>
<td>PHYS-120</td>
<td>General College Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-129</td>
<td>Introductory Physics for Engineers</td>
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<tr>
<td>PHYS-130</td>
<td>Physics for Engineers and Scientists A: Mechanics and Wave Motion</td>
<td>4</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-140</td>
<td>Human Physiology</td>
<td>5</td>
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<tr>
<td>BIOSC-146</td>
<td>Principles of Microbiology</td>
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<tr>
<td>BIOSC-161</td>
<td>Fundamentals of Marine Biology</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-106</td>
<td>Chemistry for Non-Science Majors</td>
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</tr>
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<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>CHEM-121</td>
<td>General College Chemistry II</td>
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<td>CHEM-226</td>
<td>Organic Chemistry I</td>
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<tr>
<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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<tr>
<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>
<td>3</td>
</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-142</td>
<td>Introduction to Remote Sensing</td>
<td>4</td>
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<tr>
<td>GEOG-160</td>
<td>Map Design and Visualization</td>
<td>3</td>
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<tr>
<td>GEOG-162</td>
<td>Map Design and Visualization</td>
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<td>GEOL-120</td>
<td>Physical Geology</td>
<td>3</td>
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<tr>
<td>GEOL-121</td>
<td>Earth and Life Through Time</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-122</td>
<td>Physical Geology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>GEOL-124</td>
<td>Earth and Life Through Time Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>GEOL-130</td>
<td>Earth Science</td>
<td>4</td>
</tr>
<tr>
<td>HORT-110</td>
<td>Introduction to Horticulture and Plant Science</td>
<td>4</td>
</tr>
<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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<tr>
<td>OCEAN-101</td>
<td>Fundamentals of Oceanography with Laboratory</td>
<td>4</td>
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<tr>
<td>OCEAN-102</td>
<td>Fundamentals of Oceanography with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-110</td>
<td>Elementary Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS-111</td>
<td>Physics Laboratory</td>
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<td>PHYS-113</td>
<td>Elementary Modern Physics: From Atoms to the Big Bang</td>
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<td>PHYS-120</td>
<td>General College Physics I</td>
<td>4</td>
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<tr>
<td>PHYS-121</td>
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<td>PHYS-130</td>
<td>Physics for Engineers and Scientists A: Mechanics and Wave Motion</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-230</td>
<td>Physics for Engineers and Scientists B: Heat and Electro-Magnetism</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-231</td>
<td>Physics for Engineers and Scientists C: Optics and Modern Physics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-112</td>
<td>Fundamentals of Physical Science</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 18
**Associate in science in biology for transfer**

Students completing any program will be able to...

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

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

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

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

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

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

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

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

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

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 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.

**Required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-131</td>
<td>Principles of Organismal Biology, Evolution and Ecology</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-120</td>
<td>General College Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-121</td>
<td>General College Chemistry II</td>
<td>5</td>
</tr>
<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>PHYS-120</td>
<td>General College Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-121</td>
<td>General College Physics II</td>
<td>4</td>
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<tr>
<td>PHYS-130</td>
<td>Physics for Engineers and Scientists A: Mechanics and Wave Motion</td>
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<tr>
<td>PHYS-230</td>
<td>Physics for Engineers and Scientists B: Heat and Electro-Magnetism</td>
<td>4</td>
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**Plus at least 4 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BIOSC-130</td>
<td>Principles of Cellular and Molecular Biology</td>
</tr>
<tr>
<td>BIOSC-146</td>
<td>Principles of Microbiology</td>
</tr>
<tr>
<td>CHEM-226</td>
<td>Organic Chemistry I</td>
</tr>
<tr>
<td>MATH-142</td>
<td>Elementary Statistics with Probability</td>
</tr>
<tr>
<td>PSYCH-101</td>
<td>Introduction to Psychology</td>
</tr>
</tbody>
</table>

**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 may also earn an associate in science degree in allied health.

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

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**Certificate of achievement**

**Allied health fundamentals**

Students completing any program will be able to...

A. demonstrate an understanding of the structure and growth of microbes.

B. demonstrate knowledge of the structure and function of the human body.

C. demonstrate knowledge of changes in bodily functions as a result of disease and determine the reason for functional changes.

D. analyze chemical reactions.

E. demonstrate knowledge of cell structure and function.

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

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

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

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**Bioscience**

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

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

Students who intend to transfer to a four-year program should consult with a counselor regarding course and program requirements.
**BIOSC-107  Genetics and Evolution**

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*

This course presents the study of various aspects of genetics and evolution. Topics include cellular reproduction, Mendelian Genetics, DNA structure and function, protein synthesis, gene regulation, biotechnology, genetically-modified organisms and gene therapy as well as an introduction to the process of evolution by means of natural selection and the social implications of these topics. The laboratory component includes an introduction to the scientific method and experimentation including data gathering and analysis with a variety of scientific equipment. Laboratory activities will include manipulating DNA, conducting genetic crosses and constructing cladograms. CSU, UC

**BIOSC-116  Human Biology**

3 units  SC

- IGETC: 5B; CSU GE: B2; DVC GE: II
- 54 hours lecture per term
- *Recommended: Eligibility for ENGL-122 or equivalent*
- *Note: Students who have successfully completed BIOSC-117 should not enroll in BIOSC-116. Students who have successfully completed BIOSC-117 will not receive credit for BIOSC-116.*

The basic principles of biology will be covered, especially as they pertain to humans. Topics include cell structure, function and reproduction, human heredity, structure and function of a variety of human organ systems, ecology and evolution. 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-117 should not enroll in BIOSC-117. Students who have successfully completed BIOSC-117 will not receive credit for BIOSC-117.*

The basic principles of biology will be covered, especially as they pertain to humans. Topics include cell structure, function and reproduction, human heredity, structure and function of a variety of human organ systems, ecology and evolution. A laboratory component is included that introduces the scientific method and experimentation, including data gathering and analysis with a variety of scientific equipment. CSU, UC (credit limits may apply to UC - see counselor)

**BIOSC-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 or chemistry; 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 covers the fundamentals of microbiology with an emphasis on microbiology as it pertains to the allied health professions. Topics include: microscopy and staining, cell structure and function, biological molecules and metabolism, culture and control of microbes (with an emphasis on sterile technique), microbial genetics and biotechnology, classification, immunology, medical microbiology and microbes in the environment. CSU, UC (credit limits may apply to UC - see counselor)

**BIOSC-120  Introduction to Human Anatomy and Physiology**

5 units  SC

- IGETC: 5B, 5C; CSU GE: B2, B3; DVC GE: II
- 54 hours lecture/108 hours laboratory per term
- *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  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*

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 SC  
- 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 = BIOL 135S, CSU, UC

### BIOSC-131 Principles of Organismal Biology, Evolution and Ecology

5 units SC  
- 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, 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 SC  
- IGETC: 5B, 5C; CSU GE: B2, B3; DVC GE: II  
- 54 hours lecture/108 hours laboratory per term  
- Prerequisite: BIOSC-102 and eligibility for ENGL-122 or equivalents  
- Recommended: BIOSC-102 and eligibility for ENGL-122, and MATH-120 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, and MATH-120 or equivalents  
- Note: This course is primarily intended for Nursing, Allied Health, Dental Hygiene, Kinesiology, and other health related majors.  

This course presents the essential concepts of physiological mechanisms 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 principles, function, integration and homeostasis of the human body at the cellular, tissue, organ, organ system and organismal level. Laboratory activities focus on methodologies necessary for the application, analysis and evaluation of major physiological principles using molecular technologies, bioelectronics, computer analysis, 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 and MATH 120 or High school or College biology or equivalents

This course covers the principles of microbiology with a molecular emphasis. Topics include microscopy and staining, cell structure and function, cell biochemistry and metabolism, culture and control of microbes (with an emphasis on sterile technique), microbial genetics, biotechnology concepts and applications, classification and identification of microbes, immunology, medical microbiology and microbes in the environment. 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.

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; 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-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-171.

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

Despina Prapavessi, Dean
Business Division
Math Building, Room 267

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 recordkeeping. 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 team work 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, leasing of commercial, industrial, or residential property. Careers may include working with homeowner associations, rented or leased housing units, buildings, or land (including rights-of-way). Employees work in real estate offices, or for commercial real estate firms to arrange loans for the purchase of property.

Possible career opportunities - Small business management/Entrepreneurship
Small business managers/entrepreneurs have diverse career duties including, finding financial resources, collecting sales tax, creating computer networks, setting up filing systems, and creating marketing plans. Further, those that 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. Students who intend to transfer should consider the associate in science degree in business administration 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:  

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>BUS-109 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS-250 Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>BUS-294 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG-120 Introduction to Management Studies</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
</tr>
<tr>
<td>BUSAC-181 Applied Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC-186 Financial Accounting</td>
<td>4</td>
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plus at least 9 units from:

<table>
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<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>BUS-145 Business Spreadsheet Applications</td>
<td>2</td>
</tr>
<tr>
<td>BUS-161 Personal Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>BUS-209 International Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS-210 Introduction to e-Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS-240 Business Statistics</td>
<td>3</td>
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<tr>
<td>BUS-261 Investments</td>
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<tr>
<td>BUSAC-185 QuickBooks Accounting for Business I</td>
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<td>BUSAC-187 Managerial Accounting</td>
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<tr>
<td>BUSAC-188 QuickBooks Accounting for Business II</td>
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<td>BUSAC-285 Federal Income Taxes – Individuals</td>
<td>4</td>
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<tr>
<td>BUSMG-121 Practices and Concepts of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG-131 Managing Diversity in the Workplace</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG-132 Human Resource Management</td>
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<tr>
<td>BUSMG-191 Small Business Management</td>
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<tr>
<td>BUSMG-192 Entrepreneurship and Venture Management</td>
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<tr>
<td>BUSMG-226 Group Behavior and Leadership</td>
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<tr>
<td>BUSMK-158 Professional Selling</td>
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<td>BUSMK-255 Advertising</td>
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<tr>
<td>BUSMK-258 Marketing</td>
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<tr>
<td>BUSMK-259 Advertising and Gender</td>
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<tr>
<td>RE-160 Real Estate Principles</td>
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<tr>
<td>RE-161 Legal Aspects of Real Estate</td>
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<tr>
<td>RE-162 Real Estate Appraisal I</td>
<td>3</td>
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<tr>
<td>RE-163 Real Estate Practice</td>
<td>3</td>
</tr>
<tr>
<td>RE-164 Real Estate Finance</td>
<td>3</td>
</tr>
<tr>
<td>RE-165 Real Estate Economics</td>
<td>3</td>
</tr>
<tr>
<td>RE-166 Escrow Procedures</td>
<td>3</td>
</tr>
<tr>
<td>RE-167 Real Estate Property Management</td>
<td>3</td>
</tr>
</tbody>
</table>

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, 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.

### Certificate of achievement

#### Advanced general business

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

A. determine how a business decision maximizes the benefit and minimizes the risk for all entities involved.
B. explain the importance of the global environment and the role it plays in the overall success of business organizations.
C. explain group dynamics in developing and managing a team and work effectively in teams.
D. analyze and evaluate business situations in the major concentration area (i.e. real estate, wealth management, business marketing, advanced general business, management and leadership studies, and small business management/entrepreneurship), identify business problems, and develop solutions/plans of action.
E. apply ethical standards and best practices of social responsibility to business situation.

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

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

### Required courses:

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

**plus at least 12 units from:**

- Any BUS course not listed in the core requirements .... 3
- Any BUSAC course not listed in the core requirements .... 3
- Any BUSMG course not listed in the core requirements .... 3
- Any RE course not listed in the core requirements .... 3

**total minimum required units** 24

### Certificate of achievement

#### Business - transfer

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

A. communicate in a professional, concise, clear, and correct manner.
B. explain the functions of business financial operations and apply them to business case problems.
C. compare and contrast ethical approaches and social responsibility options in business situations.
D. evaluate an existing business and identify the business organization, 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, of not all, of the undergraduate business major requirements for transfer should a student decide to transfer prior to completing all the requirements for the DVC associate in arts degree in business-transfer; or decide to complete the lower division general education requirements and transfer to a four-year institution at a later time. This certificate provides a core curriculum for employment in business or for the further study of business.

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

required courses:  
BUSAC-186* Financial Accounting ........................................................................ 4 
BUSAC-187* Managerial Accounting ...................................................................... 4 
ECON-220* Principles of Macroeconomics ......................................................... 3 
ECON-221* Principles of Microeconomics .......................................................... 3 

plus at least 4 units from:  
MATH-182* Calculus for Management, Life Science and Social Science I ........... 4 
MATH-192* Analytic Geometry and Calculus I ...................................................... 5 

plus at least 3 units from:  
BUS-240* Business Statistics ............................................................................. 3 
MATH 142* Elementary Statistics with Probability ............................................. 4 

plus at least 3 units from:  
BUS-109 Introduction to Business ................................................................. 3 
BUS-294 Business Law .................................................................................... 3 

total minimum required units 24

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

Certificate of achievement

Business marketing

Students completing the program will be able to:

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

B. determine the demand for products and services offered by a firm and its competitors and identify potential customers.

C. develop pricing strategies with the goal of maximizing the firm’s profits or share of the market while ensuring the firm’s customers are satisfied.

D. participate in product development or monitor trends that indicate the need for new products and services.

E. identify and implement cost-effective distribution channels and promotional mixes.

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

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

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

required courses:  
BUS-109 Introduction to Business ................................................................. 3 
BUSMK-256 Marketing .................................................................................. 3 

plus at least 6 units from:  
BUS-240 Statistics .......................................................................................... 3 
BUS-250 Business Communications .............................................................. 3 
BUSMK-158 Professional Selling .................................................................... 3 
BUSMK-255 Advertising .................................................................................. 3 
BUSMK-259 Digital Marketing Fundamentals .............................................. 3 

plus at least 4 units from:  
BUS-295 Occupational Work Experience Education in BUS .......................... 1-4 
BUS-296 Internship in Occupational Work Experience Education in BUS ......... 1-4 
BUSMK-260 Social Media Marketing ................................................................ 3 
BUSMK-261 Digital Marketing Analytics ....................................................... 3 
BUSMK-262 Content Marketing ...................................................................... 3 
BUSMK-263 Email Marketing ........................................................................... 2 
BUSMK-264 Search Marketing ....................................................................... 2 
BUSMK-298 Independent Study ...................................................................... 0.5-3 

total minimum required units 16
Certificate of achievement
Digital marketing
Students completing the program will be able to...
A. demonstrate knowledge of common digital marketing tactics, tools, and strategies used by business-to-consumer (B2C) and business-to-business (B2B) companies.
B. design an e-commerce program to build strong customer relationships and drive sales.
C. devise a content marketing strategy that creates a closer bond between the customer and the brand.
D. develop an effective search marketing strategy to drive organic traffic and paid searches.
E. create an integrated digital marketing campaign designed to achieve organizational goals and objectives.
F. measure the effectiveness of a digital marketing campaign using web analytics software.

The curriculum is designed to familiarize students with the essential digital marketing tools and techniques required to identify, cultivate, and manage customer relationships in today’s fast-paced digital environment. This career pathway program takes a detailed look at digital marketing, social media, web analytics, content strategy, video marketing, search engine optimization, email marketing, and e-business, among other course topics.

The program provides a solid foundation in all phases of digital marketing to prepare for work as social media managers, advertising and promotions managers, public relations specialists, marketing and media communications professionals, search marketing strategists, sales representatives, advertising sales agents, and marketing research analysts and marketing specialists. Some career options may require more than two years of college study. Students are advised to consult a counselor.

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

required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSMK-259</td>
<td>Digital Marketing Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>BUSMK-260</td>
<td>Social Media Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUSMK-261</td>
<td>Digital Marketing Analytics</td>
<td>3</td>
</tr>
<tr>
<td>BUSMK-262</td>
<td>Content Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

plus at least 6 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTDM-149</td>
<td>Fundamentals of Digital Video</td>
<td>3</td>
</tr>
<tr>
<td>BUS-210</td>
<td>Introduction to e-Business</td>
<td>3</td>
</tr>
<tr>
<td>BUSMK-263</td>
<td>Email Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUSMK-264</td>
<td>Search Marketing</td>
<td>2</td>
</tr>
<tr>
<td>CIS-105</td>
<td>Introduction to Web Design</td>
<td>2</td>
</tr>
<tr>
<td>CIS-133</td>
<td>Developing Video Content for the Web</td>
<td>2</td>
</tr>
</tbody>
</table>

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

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

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

required courses:

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<td>3</td>
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<td>Introduction to Management Studies</td>
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</table>

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:       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 4 units from:
BUS-295  Occupational Work Experience
          Education in BUS..........................................................1-4
BUS-296  Internship in Occupational Work Experience
          Education in BUS..........................................................1-4
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.

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 inter-personal and intra-personal 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:       units
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..........................................................1-4
BUS-296  Internship in Occupational Work Experience
          Education in BUS..........................................................1-4
BUSMG-168  Customer Service..................................................0.5
BUSMG-174  Business Ethics.......................................................0.5

plus at least 8 units from:
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

total minimum required units  25

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.

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

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Eligible DVC students have the option to complete this program in an accelerated format through the DVC Year Up program. See the college website for details.

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:  
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  
plus at least 6 units from:  
BUSB-294 Business Law ................................. 3  
BUSBAC-186 Financial Accounting .................... 4  
RE-166 Escrow Procedures ............................. 3  
RE-167 Real Estate Property Management ........... 3  
total minimum required units 24

Certificate of achievement  
Small business management/entrepreneurship

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

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

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

To earn a certificate of achievement in small business management/entrepreneurship, students must complete each course with a “C” grade or higher. All coursework required for the certificate must be completed within seven years of the certificate date.
required course:  units
BUSMG-120 Introduction to Management Studies 3

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

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

plus at least 3 units from:
BUSMK-256 Marketing 3
BUSMK-259 Digital Marketing Fundamentals 3
BUSMK-260 Social Media Marketing 3

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 1-4
BUS-296 Internship in Occupational Work Experience 1-4
BUS-298 Independent Study 0.5-3
BUSAC-187 Managerial Accounting 4

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 the word processor.
D. evaluate business situations and prioritize activities.

The certificate of accomplishment provides basic business knowledge and office assistant skills for obtaining entry-level employment in the business office.

To earn a certificate of accomplishment, 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
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

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 measure 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:  units
BUS-100 Keyboarding 1
BUS-101 Business English 3
BUS-102 Applied Business Math Calculations 1

plus at least 3 units from:
BUS-295 Occupational Work Experience Education in BUS 2
BUS-296 Internship in Occupational Work Experience Education in BUS 2
BUSMG-168 Customer Service 0.5
BUSMG-174 Business Ethics 0.5

plus at least 4 units from:
CIS-115 Microsoft Word – Comprehensive 2
CIS-116 Microsoft Excel – Comprehensive 2
CIS-119 Microsoft Outlook – Comprehensive 2

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 the word processor.
D. evaluate business situations and prioritize activities.

The certificate of accomplishment provides basic business knowledge and office assistant skills for obtaining entry-level employment in the business office.

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

required courses:  units
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

total minimum required units 9

Course substitutions for program requirements require department chairperson approval. Substitutions are limited to 3 units outside the management department.

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 measure that can be taken by individuals and organizations to correct organizational problems.

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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:  units
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

total minimum required units 9

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 the word processor.
D. evaluate business situations and prioritize activities.

The certificate of accomplishment provides basic business knowledge and office assistant skills for obtaining entry-level employment in the business office.

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

required courses:  units
BUS-100 Keyboarding 1
BUS-101 Business English 3
BUS-102 Applied Business Math Calculations 1

plus at least 3 units from:
BUS-295 Occupational Work Experience Education in BUS 2
BUS-296 Internship in Occupational Work Experience Education in BUS 2
BUSMG-168 Customer Service 0.5
BUSMG-174 Business Ethics 0.5

plus at least 4 units from:
CIS-115 Microsoft Word – Comprehensive 2
CIS-116 Microsoft Excel – Comprehensive 2
CIS-119 Microsoft Outlook – Comprehensive 2

total minimum required units 12
**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.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>RE-160</td>
<td>Real Estate Principles</td>
<td>3</td>
</tr>
<tr>
<td>RE-163</td>
<td>Real Estate Practice</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 3 units from:**

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<tr>
<td>RE-166</td>
<td>Esrow Procedures</td>
<td>3</td>
</tr>
<tr>
<td>RE-167</td>
<td>Real Estate Property Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**Certificate of accomplishment - Small business management/entrepreneurship**

Students completing the program will be able to...

A. describe the nature and characteristics of successful entrepreneurs.
B. summarize the responsibilities of entrepreneurs/small business owners in selecting, motivating, training, and supervising employees.
C. construct a business plan and essential financial documents for a small business or entrepreneurial venture.

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

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

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

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>BUS-100</td>
<td>Keyboarding</td>
<td>1</td>
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</tbody>
</table>

**BUS-100 Keyboarding**

1 unit 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 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 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 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 SC
- 18 hours lecture/22 hours laboratory per term
This course provides an overview of specializations within business administration including management, accounting, and marketing. Students explore these specializations through lectures and guest speakers from the business community. Students develop a business plan using current business practices such as teamwork, problem solving, and communication. This course is designed for students preparing to enter college and provides a substantive perspective of business administration as an academic major. CSU

BUS-109 Introduction to Business 3 units SC
- 54 hours lecture per term
  * 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

BUS-145 Business Spreadsheet Applications 2 units SC
- 27 hours lecture/27 hours laboratory per term
  * Recommended: Eligibility for ENGL-122 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. The laboratory (lab) hours for this course may be offered as face to face lab or online lab. See schedule of classes for specific requirements.
A business applications course, which uses a foundation of basic spreadsheet skills to emphasize the solving of business problems using a commercial spreadsheet program such as Excel. Business oriented cases and problems will be used to present and reinforce procedures for planning, designing, creating, and preparing worksheets. Preparation of business reports, incorporating graphs and database features, and time saving techniques will also be presented. Development of business problem-solving skills is emphasized. Recommended for employment preparation and upgrading of business skills. CSU

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

BUS-161 Personal Financial Management 3 units SC
- 54 hours lecture per term
  * 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
- Note: 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
1-4 units SC
- May be repeated three 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. Employment Form can be accessed at www.dvc.edu/wrxx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit. Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU
BUS-296 Internship in Occupational Work Experience Education in BUS
1-4 units SC
• May be repeated three 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. The Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit (paid) or one unit for four hours work per week or sixty hours per term (unpaid work). Students may earn up to a maximum of sixteen units; 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

Despina Prapavessi, Dean
Business Division
Math Building, Room 267

Possible career opportunities
Study in accounting prepares students for careers in book- ing, private and public accounting, auditing, tax prepara- tion 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.
major requirements:  
BUS-145 Business Spreadsheet Applications ............... 2  
BUSAC-186 Financial Accounting ................................ 4  
BUSAC-187 Managerial Accounting ............................ 4  
plus at least 3 units from:  
BUS-240 Business Statistics ..................................... 3  
BUS-250 Business Communications ............................. 3  
BUS-295 Occupational Work Experience  
Education in BUS ................................................... 1-4  
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  

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 appro- 
priate 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 pro- 
gram and is designed to add technical depth and analytical  
skill-set development in the areas of financial account- 
ing, auditing, cost accounting, individual income taxation,  
governmental and not-for-profit accounting and corporate  
financial reporting for those students with a solid founda- 
tion 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.  

plus at least 3 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  

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 pro- 
vide basic business knowledge for obtaining entry-level  
employment in jobs requiring bookkeeping and accounting  
skills. Course content emphasizes small business applica- 
tions for both 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: units
at least 3 units from:
BUSAC-181 Applied Accounting 3
BUSAC-186 Financial Accounting 4

plus at least 9 units from:
BUS-145 Business Spreadsheet Applications 2
BUS-250 Business Communications 3
BUS-295 Occupational Work Experience Education in BUS 1-4
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

total minimum required units 12

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

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

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

required courses: units
at least 3 units from:
BUSAC-181 Applied Accounting 3
BUSAC-186 Financial Accounting 4

plus at least 3 units from:
BUS-145 Business Spreadsheet Applications 2
BUS-250 Business Communications 3
BUS-295 Occupational Work Experience Education in BUS 1-4
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

total minimum required units 13

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-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  
- Recommended: 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) licensure. CSU

BUSAC-294  Advanced Accounting  
4 units  SC  
- 72 hours lecture per term  
- Prerequisite: BUSAC-292 or equivalent  
This course presents advanced accounting principles that build on the material in BUSAC-292. Topics include sources of long term capital, funds statement, accounting for partnerships, consolidated financial statements, foreign currency risk, and other advanced accounting reporting requirements. CSU

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

BUSINESS MANAGEMENT – BUSMG  
Despina Prapavessi, Dean  
Business Division  
Math Building, Room 267  

Certificates of achievement  
Management and leadership studies - See BUS  
Small business management/entrepreneurship - See BUS  

Certificates of accomplishment  
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 management practices and concepts. Each of the management functions - planning, organizing, influencing, and controlling - will be explained from the standpoint of how each function interrelates in the management process. Student participation includes a variety of management 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 - 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  
- Recommended: BUS-109 and eligibility for ENGL-122 or equivalents 
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

Despina Prapavessi, Dean
Business Division
Math Building, Room 267

Certificate of achievement
Business 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 equivalent, Eligibility for ENGL-122 or equivalent

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 equivalent, Eligibility for ENGL-122 or equivalent

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 equivalent, Eligibility for ENGL-122 or equivalent

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 equivalent, Eligibility for ENGL-122 or equivalent

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 equivalent, Eligibility for ENGL-122 or equivalent  
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 equivalent, Eligibility for ENGL-122 or equivalent  
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 equivalent, Eligibility for ENGL-122 or equivalent  
This course introduces search marketing and the critical role that it plays in an organization's digital marketing strategy and online presence. Search engine optimization (SEO), search engine marketing (SEM), and pay-per-click (PPC) advertising are also explored in depth. Topics include keyword research, on-page ranking factors, link building, SEO copywriting, site architecture, content optimization, and search marketing metrics. Students develop a search marketing campaign using performance indicators to evaluate the campaign's results. CSU

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

BUSINESS REAL ESTATE – RE

Despina Prapavessi, Dean
Business Division
Math Building, Room 267

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: Valid California real estate license or RE-160 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 license. 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

RE-201  Advanced Real Estate Studies
1.3-4 units  SC
• Variable hours
• Note: May serve to satisfy CA DRE continuing education requirement for industry licensees.

A supplemental course in real estate designed to provide a study of current real estate problems or activities. Specific topics to be announced. CSU

CAREER DEVELOPMENT– CARER

See also Counseling - COUNS

Beth Hauscarriague, Dean
Counseling Division
Student Services Center, Room 203

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
Physical Sciences and Engineering Division
Physical Sciences Building, Room 263

Possible career opportunities
Chemists identify and solve problems by applying logic, scientific thinking, and knowledge of natural laws. Chemistry majors work in educational settings and in government, nonprofit charities, or research foundations. Chemists work in manufacturing companies, cosmetic companies, environmental assessment firms, medical laboratories, petroleum companies and pharmaceutical companies. They also can become health administrators, and physicians (all specialties). Many careers require more than two years of college study.

Certificate of achievement Chemistry
Students completing the program will be able to...
A. apply the basic concepts of chemistry to predict chemical structure and trends in reactivity.
B. analyze and solve quantitative and qualitative problems in chemistry and explain results verbally or in writing.
C. integrate chemical principles into reaction mechanisms.
D. apply basic laboratory skills and techniques in general and organic chemistry to collect data and synthesize compounds.
E. analyze data and evaluate laboratory experimental results.
F. maintain a laboratory notebook.
Completion of the chemistry program prepares students for advanced study leading to careers in government, industry, or secondary-school teaching. The program also partially satisfies the entrance requirements for medical and dental schools. Careers include researcher, educator, laboratory technician, or chemical engineer.

This certificate includes the coursework that will prepare students who intend to transfer with a chemistry or related interdisciplinary major to a four-year institution. This certificate includes the General Chemistry and Organic Chemistry sequences.

To earn a certificate of achievement, students must complete the required courses with a “C” grade or higher. Course requirements are typically available in the day and evening for the General Chemistry sequence. For the Organic Chemistry sequence, CHEM 226 is only offered in fall terms, and CHEM 227 is only offered in spring term.

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

**required courses:**

<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</td>
<td>5</td>
</tr>
<tr>
<td>MATH-193</td>
<td>5</td>
</tr>
</tbody>
</table>

**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
- 72 hours lecture/54 hours laboratory per term
- Prerequisite: CHEM-107 or CHEM-108 or CHEM-120 or high school chemistry 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 (the study of carbon compounds) is linked to biochemistry (the chemical basis of life) through the relationship of molecular structure and function. C-ID CHEM 102, CSU, UC (credit limits may apply to UC - see counselor)
CHEM-120  General College Chemistry I
5 units  LR
• IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
• 54 hours lecture/108 hours laboratory per term
• Prerequisite: CHEM-108 or score of 3, 4 or 5 on AP Chemistry Test or appropriate chemistry skill level demonstrated through Chemistry Diagnostic Test or equivalents; Placement into MATH-121; or 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, titration curves, solubility products, thermodynamics, electrochemistry, coordination complexes, nuclear chemistry, quantitative experiments, and qualitative analysis will be addressed. 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-120 or equivalent

This course is the first semester of a two-semester sequence (CHEM-226 and CHEM-227) that covers structure and bonding, stereochemistry, conformational analysis, reaction mechanisms, and the nomenclature, physical properties, and reactions of various classes of organic compounds (alkanes, alkenes, alkynes, alkyl halides, alcohols, and ethers). Basic organic laboratory techniques are introduced and used in syntheses or other projects. Chemical safety, information retrieval and good lab practices are emphasized. A variety of laboratory instrumentation skills are developed including data collection and analysis using GC, IR and UV-Visible spectroscopy. C-ID CHEM 150, CHEM-226 + CHEM-227 = C-ID CHEM 160S, CSU, UC

CHEM-227  Organic Chemistry II
5 units  LR
• IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
• 54 hours lecture/108 hours laboratory per term
• Prerequisite: CHEM-121 and CHEM-226 or equivalents

This course is a continuation of Chemistry 226. Topics include spectroscopy, additional reaction mechanisms, the nomenclature, physical properties, and reactions of other basic classes of compounds (aromatics, organometallics, aldehydes, ketones, carboxylic acids and their derivatives, and amines). The nature and reactions of multifunctional compounds and the structure and reactions of biochemical molecules (carbohydrates, lipids, amino acids, proteins and nucleic acids) are also discussed. Laboratory work includes hands-on spectroscopic techniques (i.e., NMR, IR), qualitative organic analysis, more advanced projects involving synthesis, and a literature research project using university-level chemical literature resources. CHEM-226 + CHEM-227 = C-ID 160S, CSU, UC

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

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

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

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

Toni Fannin, Dean  
Applied and Fine Arts Division  
Business and Foreign Language Building, Room 204

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

**Associate in arts degree**  
**Mandarin Chinese**

Students completing the program will be able to...

A. communicate verbally in the target language with accurate pronunciation in meaningful situations present in both informal and formal contexts.

B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.

C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.

D. discuss, describe, and infer information from authentic texts in the target language.

E. demonstrate cultural appreciation by making (comparative) connections, on both an individual and societal level, between the target cultures and students’ own cultures.

F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

The associate in arts degree in Mandarin Chinese at DVC will provide students with skills in understanding, speaking, reading and writing Mandarin Chinese. The curriculum exposes students to Chinese culture and civilization and provides foundational skills in language that can apply to a broad range of international and domestic career opportunities and professions. The degree will provide lower division preparation for transfer to UC, CSU and other four-year colleges and universities to earn a bachelor’s degree.

The DVC Mandarin Chinese major is intended for transfer. Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to baccalaureate-granting institutions of their choice are met. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE). Option 1 (DVC General Education) is appropriate for those students who do not intend to transfer. Students may not take a pass/no pass option for major courses and each of the major requirements must be completed with a “C” grade or higher. 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>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIN-120</td>
<td>5</td>
</tr>
<tr>
<td>CHIN-121</td>
<td>5</td>
</tr>
<tr>
<td>CHIN-220</td>
<td>5</td>
</tr>
<tr>
<td>CHIN-221</td>
<td>5</td>
</tr>
</tbody>
</table>

**Certificate of achievement**  
**Mandarin Chinese**

Students completing the program will be able to...

A. communicate verbally in the target language with accurate pronunciation in meaningful situations present in both informal and formal contexts.

B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.

C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.

D. discuss, describe, and infer information from authentic texts in the target language.

E. demonstrate cultural appreciation by making (comparative) connections, on both an individual and societal level, between the target cultures and students’ own cultures.

F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

This certificate of achievement was created to give students the opportunity to show potential employers in this country and in other countries that the student has completed a certain number of courses in Chinese and prepares students with an intermediate to advanced knowledge of Chinese and familiarizes them with the culture of China and other Chinese-speaking countries.
This certificate of achievement provides students, prospective employers and others with documented evidence of persistence and academic accomplishment in the language. The certificate requires completion of 15 to 20 units from the following list of courses. Students may not take a credit/no credit option for required courses and each course used to meet a certificate requirement must be completed with a “C” grade or higher.

*Complete at least 15 units from:*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIN 120</td>
<td>First Term Mandarin Chinese</td>
<td>5</td>
<td>IGETC: 6A; 90 hours lecture per term; Note: This course is equivalent to two years of high school study.</td>
</tr>
<tr>
<td>CHIN 121</td>
<td>Second Term Mandarin Chinese</td>
<td>5</td>
<td>IGETC: 3B, 6A; CSU GE: C2; DVC GE: III; 90 hours lecture per term; Prerequisite: CHIN-120 or two years of high school study or equivalent; Note: Students may meet prerequisite equivalency in a variety of ways. Students should seek assistance at Admissions and Records.</td>
</tr>
<tr>
<td>CHIN 220</td>
<td>Third Term Mandarin Chinese</td>
<td>5</td>
<td>IGETC: 3B, 6A; CSU GE: C2; DVC GE: III; 90 hours lecture per term; Prerequisite: CHIN-220 or four years of high school study or equivalent; Note: Students may meet prerequisite equivalency in a variety of ways. Students should seek assistance at Admissions and Records.</td>
</tr>
<tr>
<td>CHIN-221</td>
<td>Fourth Term Mandarin Chinese</td>
<td>5</td>
<td>IGETC: 3B, 6A; CSU GE: C2; DVC GE: III; 90 hours lecture per term; Prerequisite: CHIN-220 or four years of high school study or equivalent; Note: Students may meet prerequisite equivalency in a variety of ways. Students should seek assistance at Admissions and Records.</td>
</tr>
</tbody>
</table>

**CHIN-220** Third Term Mandarin Chinese

- 3 units
- 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 prerequisite 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 writing systems to develop their knowledge and ability. CSU, UC

**CHIN-221** Fourth Term Mandarin Chinese

- 5 units
- 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 prerequisite 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
- 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-150** Topics in Chinese

- .3-4 units
- 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-299  Student Instructional Assistant
0.5-3 units SC
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

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

COMMUNICATION STUDIES – COMM

Toni Fannin, Dean
Applied and Fine Arts Division
Business and Foreign Language, Room 204

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 range of professions. Further, the program prepares students for careers in the fields of public relations, communication education, the performing arts, marketing, public relations, sales training and management. Additional careers in fields related to communication studies include salesperson, broadcaster, lawyer, tour guide, political campaign worker, teacher, customer service worker, public and international relations specialist, and negotiator/arbitrator.

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

In order to earn the degree, students must:

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

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

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

major requirements:

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

required courses:  

<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>COMM-121</td>
<td>Persuasion and Critical Thinking</td>
<td>3</td>
</tr>
<tr>
<td>COMM-128</td>
<td>Interpersonal Communication</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>
</tr>
</thead>
<tbody>
<tr>
<td>COMM-123</td>
<td>Argumentation and Debate</td>
<td>3</td>
</tr>
<tr>
<td>COMM-124</td>
<td>Voice and Diction</td>
<td>3</td>
</tr>
<tr>
<td>COMM-130</td>
<td>Small Group Communication</td>
<td>3</td>
</tr>
<tr>
<td>COMM-148</td>
<td>Performance of Literature</td>
<td>3</td>
</tr>
<tr>
<td>COMM-155</td>
<td>Topics in Communication Studies</td>
<td>0.3-4</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>COMM-298</td>
<td>Independent Study</td>
<td>0.5-3</td>
</tr>
</tbody>
</table>

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

In this course, students will prepare and present public speeches using the principles of effective communication. Emphasis is placed on speaking to inform, persuade, and special occasion speeches. Key principles covered include audience analysis, determining speech goals, organization, clarity, language, evidence, visual aids, and delivery. C-ID COMM 110, CSU, UC

COMM-121  Persuasion and Critical Thinking
3 units LR
- IGETC: 1B; CSU GE: A3; DVC GE: IB
- 54 hours lecture per term
- Prerequisite: ENGL-122 or equivalent

This course presents an introduction to the principles of reasoning and their application to the analysis and evaluation of political and marketplace communication. The integration of critical thinking principles with techniques of effective written and spoken argument will be emphasized. Topics will include the structure of argument, underlying assumptions, the quality of evidence used to support claims, the use of language, the discovery of formal and informational fallacies, and the effect of print and electronic media on argumentation. C-ID COMM 190, CSU, UC

COMM-123  Argumentation and Debate
3 units LR
- IGETC: 1C; CSU GE: A3, A1; 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
- Recommendation: Eligibility for ENGL-122 or Equiv.

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  
• Recommended: Eligibility for ENGL-122 or equivalent  
In this class, students will learn current concepts and problems related to the area of communication studies being focused on. 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
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.

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:  units

core courses:
CIS-115  Microsoft Word - Comprehensive                2
CIS-116  Microsoft Excel - Comprehensive                 2
CIS-118  Microsoft PowerPoint - Comprehensive            2

plus at least 2 units from:
CIS-100  Microsoft Windows - Comprehensive               2
CIS-101  Apple Mac Operating System                      2

plus at least 4 units from:
CIS-117  Microsoft Access - Comprehensive                 2
CIS-119  Microsoft Outlook - Comprehensive                2
CIS-170  Networking for Non-IT Professionals              2

Core courses units subtotal  12

Choose one of the following four technical specialization areas:

database management - required courses:
CIS-107  Introduction to Web Databases                     2
CIS-117  Microsoft Access - Comprehensive                  2
CIS-160  Introduction to MySQL                             2

project management - required courses:
CIS-180  Introduction to Project Management                3
CIS-181  Project Management Fundamentals/PMI PMP Preparation 3

project management - recommended electives:
CIS-182  Project Risk Management                           3
CIS-185  Project Management Tools                          2

web graphics - required courses:
CIS-130  Adobe Photoshop Elements                         2
CIS-132  Adobe Premiere Elements - Comprehensive          2
CIS-133  Developing Video Content for the Web             2

web technology - required courses:
CIS-105  Introduction to Web Design                        2
CIS-106  Adobe Dreamweaver - Comprehensive                 2
CIS-107  Introduction to Web Databases                    2

web technology - recommended electives:
CIS-108  Introduction to WordPress                         2
CIS-117  Microsoft Access - Comprehensive                  2
CIS-120  iPhone and iPad App Development for Beginners    2
CIS-160  Introduction to MySQL                             2

total minimum units for the major  18
Certificate of achievement  
Computer information systems - core  
Students completing the program will be able to...  
A. demonstrate basic graphical user interface operations in a computer environment.  
B. produce spreadsheets, documents and presentations by using basic to advanced software operations.  

The computer information systems (CIS) certificate of achievement in computer information systems-core prepares students for careers in business and government as information technologies and management workers.  

Principal areas of study include computer software applications, web graphics and web technology, cloud-based systems, and database and project management. CIS coursework includes terminology and provides hands-on laboratory experience with operating and network systems. Stand-alone and internet-based applications are also covered.  

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

required courses:  
<table>
<thead>
<tr>
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<td>2</td>
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<tr>
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<td>2</td>
</tr>
<tr>
<td>CIS-118</td>
<td>2</td>
</tr>
<tr>
<td>plus at least 2 units from:</td>
<td></td>
</tr>
<tr>
<td>CIS-107</td>
<td>2</td>
</tr>
<tr>
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<td>2</td>
</tr>
<tr>
<td>CIS-117</td>
<td>2</td>
</tr>
<tr>
<td>CIS-118</td>
<td>2</td>
</tr>
<tr>
<td>CIS-119</td>
<td>2</td>
</tr>
<tr>
<td>CIS-120</td>
<td>2</td>
</tr>
<tr>
<td>CIS-121</td>
<td>2</td>
</tr>
</tbody>
</table>

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:  
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<tr>
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<tbody>
<tr>
<td>CIS-115</td>
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<tr>
<td>CIS-116</td>
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<tr>
<td>CIS-120</td>
<td>2</td>
</tr>
<tr>
<td>CIS-121</td>
<td>2</td>
</tr>
</tbody>
</table>

Certificate of achievement  
Computer information systems - project management  
Students completing the program will be able to...  
A. demonstrate basic graphical user interface operations in a computer environment.  
B. produce spreadsheets, documents and presentations by using basic to advanced software operations.  
C. apply the principles of the Project Management Institute (PMI) processes of project management.  

The computer information systems (CIS) certificate of achievement in computer information systems-project management prepares students for careers in business and government as information technologies and management workers.  

Principal areas of study include computer software applications, web graphics and web technology, cloud-based systems, and database and project management. CIS coursework includes terminology and provides hands-on laboratory experience with operating and network systems. Stand-alone and internet-based applications are also covered.  

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

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<td>2</td>
</tr>
<tr>
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</tr>
<tr>
<td>CIS-117</td>
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</tr>
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<td>CIS-119</td>
<td>2</td>
</tr>
<tr>
<td>CIS-160</td>
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<tr>
<td>CIS-170</td>
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</table>
Computer information systems

required courses: 
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<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-118</td>
<td>Microsoft Excel - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-119</td>
<td>Microsoft PowerPoint - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-160</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>
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plus at least 2 units from:
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<th>Units</th>
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<tbody>
<tr>
<td>CIS-100</td>
<td>Microsoft Windows - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS-101</td>
<td>Apple Mac Operating System</td>
<td>2</td>
</tr>
</tbody>
</table>

plus at least 4 units from:
<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<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>
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</tbody>
</table>

total minimum required units 18

project management - recommended electives:
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS-182</td>
<td>Project Risk Management</td>
<td>3</td>
</tr>
<tr>
<td>CIS-185</td>
<td>Project Management Tools</td>
<td>2</td>
</tr>
</tbody>
</table>

Certificate of achievement
Computer information systems - web technology

Students completing the program will be able to...
A. demonstrate basic graphical user interface operations in a computer environment.
B. produce spreadsheets, documents and presentations by using basic to advanced software operations.
C. 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 technology prepares students for careers in business and government as information technologies and management workers.

Principal areas of study include computer software applications, web graphics and web technology, cloud-based systems, and database and project management. CIS coursework includes terminology and provides hands-on laboratory experience with operating and network systems. Stand-alone and internet-based applications are also covered.

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

required courses: 
<table>
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<tr>
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<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>
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<td>2</td>
</tr>
<tr>
<td>CIS-101</td>
<td>Apple Mac Operating System</td>
<td>2</td>
</tr>
</tbody>
</table>

plus at least 4 units from:
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>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>

total minimum required units 18

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>
Certificate of accomplishment

Computer information systems - database management

Students completing the program will be able to...

A. demonstrate basic graphical user interface operations in a computer environment.

B. apply database syntax, properties, operators, and functions.

The computer information systems (CIS) certificate of accomplishment in computer information systems-database management prepares students for careers in business and government as information technologies and management workers.

Principal areas of study include computer software applications, web graphics and web technology, cloud-based systems, and database and project management. CIS coursework includes terminology and provides hands-on laboratory experience with operating and network systems. Stand-alone and internet-based applications are also covered.

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

required courses:  

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

| Total minimum required units | 6 |

Certificate of accomplishment

Computer information systems - project management

Students completing the program will be able to...

A. demonstrate basic graphical user interface operations in a computer environment.

B. apply the principles of the Project Management 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.

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<tr>
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<th>Title</th>
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</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>

| Total minimum required units | 6 |

Certificate of accomplishment

Computer information systems - web graphics

Students completing the program will be able to...

A. demonstrate basic graphical user interface operations in a computer environment.

B. able to prepare images for sharing and distribution.

The computer information systems (CIS) certificate of accomplishment in computer information systems-web graphics prepares students for careers in business and government as information technologies and management workers.

Principal areas of study include computer software applications, web graphics and web technology, cloud-based systems, and database and project management. CIS coursework includes terminology and provides hands-on laboratory experience with operating and network systems. Stand-alone and internet-based applications are also covered.

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

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<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>

| Total minimum required units | 6 |

Certificate of accomplishment

Computer information systems - web technology

Students completing the program will be able to...

A. demonstrate basic graphical user interface operations in a computer environment.

B. plan and design web pages.

The computer information systems (CIS) certificate of accomplishment in computer information systems-web technology prepares students for careers in business and government as information technologies and management workers.
Principal areas of study include computer software applications, web graphics and web technology, cloud-based systems, and database and project management. CIS coursework includes terminology and provides hands-on laboratory experience with operating and network systems. Stand-alone and internet-based applications are also covered.

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

**required courses:** units

<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>

**total minimum required units** 6

**web technology - recommended electives:**

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<td>CIS-160</td>
<td>Introduction to MySQL</td>
<td>2</td>
</tr>
</tbody>
</table>

CIS-100 **Microsoft Windows - 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 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
- 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 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 websites. Emphasis is placed on installation, configuration, navigation, organization, presentation, and maintenance of websites. 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-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-182  Project Risk Management
3 units  SC
- 54 hours lecture per term
- Recommended: CIS-180 or equivalent
This course presents an introduction to the risks associated with the management of projects. The skills needed to manage risks associated with projects, deliver projects based on a solid plan and mitigate any risk factors to those projects, will be examined. 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

### COMPUTER NETWORK TECHNOLOGY – CNT
Despina Prapavessi, Dean
Math and Computer Sciences Division
Math Building, Room 267

### 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, evening, online, or a combination of those. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

### Certificate of achievement

**Information and communication technology**

Students completing the program will be able to...

A. terminate, install, and test copper and fiber.
B. troubleshoot wireless access points and connections.
C. install, configure, and troubleshoot hardware, operating systems, and software applications.
D. identify computer components to make informed decisions when purchasing computer hardware and software.
E. apply the fundamentals of good programming structure and good programming practices.
F. analyze and communicate problem specifications.
G. build a simple Ethernet network that includes end-devices and intermediary devices.
H. identify security issues with communications, email, web, remote access, and wireless technology.
I. differentiate between physical security, disaster recovery, and business continuity.
J. identify current network threats and ramifications.
K. troubleshoot threats and implement security methods against such threats.

This certificate of achievement program is intended to prepare the student for jobs in business and government as introductory positions such as network control specialist, computer system specialists, or specialist network control, entry-level help desk Analyst, computer technician, to name a few. A graduate of this program will be able to sit for the Cisco Certified Network Associate (CCNA) exam, the CompTia A+ exam, the CompTia Net+ exam and other industry recognized exams depending on course selection. A graduate will have the required skills to install and configure local area networks that carry data, voice, and video communications, install, operate and maintain network services, routers, switches, and other network devices, resolve network communication problems, support and troubleshoot Personal Computers (PCs), work with a team and demonstrate desirable customer service and communication skills. NOTE: exact skills will depend on course selection.

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

**major requirements:**

<table>
<thead>
<tr>
<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>COMSC-101</td>
<td>Computer Literacy</td>
<td>4</td>
</tr>
<tr>
<td>COMSC-110</td>
<td>Introduction to Programming</td>
<td>4</td>
</tr>
<tr>
<td>BUS-250</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>CNT-114</td>
<td>Microsoft Windows Operating System</td>
<td>3</td>
</tr>
<tr>
<td>CNT-120</td>
<td>Routing and Switching Essentials</td>
<td>3</td>
</tr>
<tr>
<td>CNT-140</td>
<td>Introduction to Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>CNT-148</td>
<td>Introduction to Cybersecurity: Ethical Hacking</td>
<td>3</td>
</tr>
<tr>
<td>CNT-149</td>
<td>Digital Forensics Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>BUS-240</td>
<td>Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-142</td>
<td>Elementary Statistics with Probability</td>
<td>4</td>
</tr>
<tr>
<td>MATH-144</td>
<td>Statway II</td>
<td>4</td>
</tr>
<tr>
<td>MATH-181</td>
<td>Finite Mathematics</td>
<td>3</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-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 units for the major**: 26
meet a certificate requirement with a “C” grade or higher.

of achievement, students must complete each course used to

systems security analyst; to name a few. To earn a certificate

for jobs such as computer network support specialist, com -

A student completing this program can apply

ing the network technology fundamentals certificate of

program builds on the foundation obtained after complet -

positions in IT network security and cybersecurity. This

This program prepares students for a variety of entry-level

This course introduces cyber security career opportunities,

discussion when purchasing computer hardware and software.

identify and implement safeguards against common at-

with a “C” grade or higher.

A. terminate, install, and test copper and fiber.
B. troubleshoot wireless access points and connections.
C. install, configure, and troubleshoot hardware, operating

and intermediary devices.

1 unit SC

• 13.5 hours lecture/13.5 hours laboratory per term
• Note: This course is open to all, but is particularly
appropriate for students in 7th through 12th grade.

This course introduces cybersecurity career opportunities,

discussion when purchasing computer hardware and software.

identify and implement safeguards against common at-

This program prepares students for a variety of entry-level

This course introduces cyber security career opportunities,

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This program prepares students for a variety of entry-level

CNT-102 Exploring Cyber Defense
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 builds on skills presented in CNT-101 and focuses on more advanced cybersecurity principles and skills needed to work with virtual machines. Emphasis is placed on security policies, tools, and account management of both Windows and Linux operating systems. The fundamentals of network connectivity and security are presented. CSU

CNT-103 Voice, Video and Network Cabling
2 units LR
- 27 hours lecture/27 hours laboratory per term

This course presents the practical aspects of design, installation, testing, and troubleshooting cable carrying voice, data, video, and wireless signals. Successful completion of this course makes a student eligible to sit for the Fiber Optics Association (FOA) certification examination. CSU

CNT-104 IT Essentials (A+)
4 units SC
- 54 hours lecture/54 hours laboratory per term
- 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 provides an introduction to the computer hardware and software skills needed to help meet the growing demand for entry-level IT professionals. The fundamentals of computer hardware and software as well as advanced concepts such as security, networking, and the responsibilities of an IT professional will be introduced. Preparation for CompTIA’s A+ certification exam is provided. 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 standalone 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 and 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**

1-4 units SC
- 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. The Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit (paid) or one unit for four hours work per week or sixty hours per term (unpaid work). Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU

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**COMPUTER SCIENCE – COMSC**

Despina Prapavessi, Dean
Math and Computer Science Division
Math Building, Room 267

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>4</td>
</tr>
<tr>
<td>COMSC-260 Assembly Language Programming/ Computer Organization</td>
<td>4</td>
</tr>
</tbody>
</table>

*plus at least 4 units from:*

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

*total minimum units for the major* 20

Students who intend to transfer to a four-year program in computer science should consult with a counselor regarding mathematics and science requirements listed below.

*plus at 0-5 units from:*

<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>4</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:**

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</tr>
</tbody>
</table>

*total minimum required units* 12

**Certificate of achievement**

**Computer science - Advanced Java programming**

Students completing the program will be able to...

A. create computer programming solutions using Java and GUI.

B. write multithreaded Java programs.

This program prepares students for a variety of programming positions and is especially suitable for students who have four-year degrees. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

**required courses:**

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<tbody>
<tr>
<td>COMSC-110 Introduction to Programming</td>
<td>4</td>
</tr>
<tr>
<td>COMSC-255 Programming with Java</td>
<td>4</td>
</tr>
<tr>
<td>COMSC-256 Advanced Java Programming</td>
<td>4</td>
</tr>
</tbody>
</table>

*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:**

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<td>4</td>
</tr>
<tr>
<td>COMSC-260 Assembly Language Programming/ Computer Organization</td>
<td>4</td>
</tr>
</tbody>
</table>

*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:**

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<td>4</td>
</tr>
<tr>
<td>COMSC-200 Object Oriented Programming C++</td>
<td>4</td>
</tr>
</tbody>
</table>

*total minimum required units* 12
Computer science

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:  units
COMSC-110 Introduction to Programming ................................... 4
COMSC-165 Advanced Programming with C and C++ ............. 4
COMSC-210 Program Design and Data Structures .......... 4

total minimum required units  12

Certificate of achievement
Computer science - 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:  units
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-120 SQL Programming
4 units  SC
- 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 SQLServer versions. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course presents the creation and maintenance of databases and tables as well as the storage, retrieval and manipulation of data. Topics include both Oracle and Microsoft SQLServer. Structured Query Language (SQL) script that is common to both and product-specific variations are also covered. CSU

COMSC-150 Topics in Computer Science
.3-.4 units  SC
- Variable hours
- Note: Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

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

COMSC-165 Advanced Programming with C and C++
4 units  SC
- DVC GE: IB
- 54 hours lecture/54 hours laboratory per term
- Prerequisite: COMSC-110 or ENGIN-135 or equivalent

The course emphasizes programming techniques using C and C++ languages. The syntax of C 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  SC
- 27 hours lecture/27 hours laboratory per term

This is an introductory course in UNIX and Linux operating systems. This course covers scripting and the shell, access control, controlling processes, booting and shutting down, permissions, filesystems, utility programs, editors, usage of network services, storage, AWK scripting, and X Window graphics. CSU, UC
COMSC-172  UNIX and Linux Administration  
2 units  SC  
- 27 hours lecture/27 hours laboratory per term  
- 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-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 multithreading, exception handling, serialization, reflection, model view controller architecture, java beans, servlets and database connectivity. CSU, UC

COMSC-257  Mobile Programming for Android Using Java  
4 units  SC  
- 54 hours lecture/54 hours laboratory per term  
- 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 course 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
1-4 units SC
- May be repeated three 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. Employment Form can be accessed at www.dvc.edu/wrxx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit. Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU

COMSC-296 Internship in Occupational Work Experience Education in COMSC
1-4 units SC
- May be repeated three times
- Variable hours
- Note: In order to enroll in the COMSC-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. The Employment Form can be accessed at www.dvc.edu/wrxx. Incomplete grades are not awarded for this course.
COMSC-296 is a supervised internship in a skilled or professional level assignment in the student’s major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Five hours work per week or seventy-five hours work per term is equal to one unit (paid) or one unit for four hours work per week or sixty hours per term (unpaid work). Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU

CONSTRUCTION – CONST
Joseph Gorga, Dean
Physical Sciences and Engineering Division
Physical Sciences Building, Room 263

Possible career opportunities
Students completing a certificate in construction are qualified for positions in middle management in the building and construction inspection field, and in supervision for the construction industry.

Associate in science degree
Construction - Construction and building inspection specialization
Students completing the program will be able to...
A. interpret the codes related to the construction industry.
B. identify code-compliant construction in buildings.
C. identify types of zoning used in a jurisdiction.
D. write knowledgeable correction notices.
E. apply construction terminology.
F. identify the effects of various governmental agencies involved in the construction industry on a construction project.
G. interpret blueprints and specifications.

Upon successful completion of the construction and building specialization, the student will have the necessary knowledge and skills for a career in building or construction inspection in the construction industry. This program is also valuable for those already employed in the field who wish to upgrade their skills.

To earn an associate in science degree with a major in construction, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all DVC general education requirements as listed in the catalog. A student is eligible for graduation with an associate in science degree after the satisfactory completion of one of three areas of specialization, general education requirements and degree-applicable elective coursework for a total of 60 units. Degree requirements can be completed by attending classes in the day, the evening, or both. Certain courses may satisfy both major and other general education requirements; however, the units are only counted once.

General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer. DVC construction students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE).

Students are limited to one associate in science degree in construction regardless of the number of specializations completed. Multiple certificates of achievement may be awarded.
Construction

major requirements: units
CONST-114 Print Reading ....................................................3
CONST-124 Construction Details and Specifications ................. 3
CONST-170 Fundamentals of Building Inspection.........................3
CONST-181 Building Code Interpretation: Non-Structural..............3
CONST-182 Building Code Interpretation: Structural.................3
CONST-183 Title 24: Energy Conservation Codes......................3
CONST-191 Plumbing Code Interpretation ................................3
CONST-192 Mechanical Code Interpretation .............................3
CONST-266 Electrical Codes: Articles 90-398 .......................3
CONST-267 Electrical Codes: Articles 400-830 .......................3
CONST-273 Construction Management ......................................3

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.

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: units
BIS-101 Business English ..................................................3
BUSMG-120 Introduction to Management Studies .................. 3
BUSMG-121 Practices and Concepts of Supervision ..................3
CONST-114 Print Reading ....................................................3
CONST-116 Plane Surveying ..................................................4
CONST-124 Construction Details and Specifications .................3
CONST-244 Estimating: Residential .......................................3
CONST-245 Estimating: Commercial .......................................3
CONST-273 Construction Management ...................................3
CONST-276 Legal Aspects of the Construction Industry ...............3

plus at least 3 units from:
CONST-110 Occupational Safety .........................................2
CONST-136 Construction Processes: Commercial ...................4
CONST-181 Building Code Interpretation: Non-Structural ..........3
CONST-295 Occupational Work Experience Education in CONST 1-4

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.
The associate in science degree requires eighteen units in the major, a minimum of units of general education units, and 18.5 elective units from a selection of degree applicable units. The certificate program courses also meet some of the requirements of other construction degrees and certificates. Students must complete each course used to meet a major requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the major. Students are advised that if they have previously completed equivalent or higher level English and/or math courses, these may be substituted for the requirements of the degree major. Many trades require documentation of at least one year of high school or one term of college algebra and higher levels of English and mathematics are highly recommended.

**Certificate of achievement**

**Construction and building inspection**

Students completing the program will be able to...

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>
<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>
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</tr>
<tr>
<td>CONST-181</td>
<td>Building Code Interpretation: Non-Structural</td>
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<tr>
<td>CONST-182</td>
<td>Building Code Interpretation: Structural</td>
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</tr>
<tr>
<td>CONST-183</td>
<td>Title 24: Energy Conservation Codes</td>
<td>3</td>
</tr>
<tr>
<td>CONST-191</td>
<td>Plumbing Code Interpretation</td>
<td>3</td>
</tr>
<tr>
<td>CONST-192</td>
<td>Mechanical Code Interpretation</td>
<td>3</td>
</tr>
<tr>
<td>CONST-266</td>
<td>Electrical Codes: Articles 90-398</td>
<td>3</td>
</tr>
<tr>
<td>CONST-267</td>
<td>Electrical Codes: Articles 400-830</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>
<tr>
<td>BUSMG-121</td>
<td>Practices and Concepts of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>BUS-101</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td>COMSC-101</td>
<td>Computer Literacy</td>
<td>4</td>
</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>
<td>Estimating: Residential</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>
<tr>
<td>MATH-119</td>
<td>Beginning and Intermediate Algebra</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-110</td>
<td>Elementary Physics</td>
<td>3</td>
</tr>
</tbody>
</table>

Certificate of achievement

Construction and supervision and superintendency

Students completing the program will be able to...
A. estimate materials cost (quantity survey).
B. apply construction terminology.
C. schedule sequences of construction projects.
D. identify the effects of various governmental agencies involved in the construction industry on a construction project.
E. interpret blueprints and specifications.
F. utilize instruments used in surveying.

This program is designed for those preparing for supervision responsibilities in the construction industry.

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

required courses:  
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS-101</td>
<td>Business English</td>
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<tr>
<td>COMSC-101</td>
<td>Computer Literacy</td>
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<tr>
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<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>
<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>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>

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. Students are advised that entry into apprenticeship programs can be highly competitive and that many trades require documentation of at least one year of high school or one term of college algebra. Completion of higher levels of English and mathematics than are required by the certificate are highly recommended. Students will enroll in CARER-140, CONST-105, CONST-135, CONST-215, and KNACT-120 as a cohort and complete these courses in one term.

**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. 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:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>CARER-140</td>
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</tr>
<tr>
<td>CONST-105</td>
<td>1.5</td>
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<tr>
<td>CONST-110</td>
<td>2</td>
</tr>
<tr>
<td>CONST-114</td>
<td>3</td>
</tr>
<tr>
<td>CONST-135</td>
<td>4</td>
</tr>
<tr>
<td>CONST-215</td>
<td>2</td>
</tr>
<tr>
<td>KNACT-120</td>
<td>0.5</td>
</tr>
<tr>
<td>MATH-092*</td>
<td>4</td>
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</tbody>
</table>

**plus at least 3 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>ENGL-096</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-097</td>
<td>5</td>
</tr>
<tr>
<td>ENGL-098</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.

**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
• Note: This course is part of the career advancement academy construction trades program.

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 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 units SC
• Variable hours

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

CONST-170  Fundamentals of Building Inspection
3 units  SC
• 54 hours lecture per term

This course is focused on basic construction inspection procedures and the inspector’s legal responsibilities. Topics to be covered include inspecting structures, occupancy types, safety, and proper record keeping. CSU

CONST-180  California Building Codes for Disability Access
3 units  SC
• 54 hours lecture per term

This course provides an overview of building codes as they relate to disability access. Federal and State statutes, regulations, and case law associated with disability will also be covered. CSU
CONST-181  Building Code Interpretation: Non-Structural
3 units  SC
- 54 hours lecture per term
This course provides an overview of the legal requirements associated with building inspection. Nonstructural plan check review, and inspection procedures for commercial and industrial buildings will also be covered. CSU

CONST-182  Building Code Interpretation: Structural
3 units  SC
- 54 hours lecture per term
- 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 equivalent
This course will present the procedures for estimating materials, labor costs, time management, and bidding strategies for residential construction projects. CSU

CONST-245  Estimating: Commercial
3 units  SC
- 54 hours lecture per term
- 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 presents an introduction to administrative procedures, contracts, plans and specifications, schedules, diaries, inspections, report writing, and other forms of communication 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
1-4 units SC
• May be repeated three 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. Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit. Students may earn up to a maximum of sixteen units; 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
Beth Hauscarriague, Dean
Counseling Division
Student Services Center, Room 203

Possible career opportunities
Diablo Valley College’s counseling courses are designed to assist students in identifying educational and career goals, and enhancing their success through instruction in career and educational planning and student success strategies.

COUNS-075 Topics in College Readiness
.3-4 units P/NP
• Non degree applicable
• Variable hours
A supplemental course in counseling to provide a study of current concepts and problems in counseling and related subdivisions. Specific topics will be announced in the schedule of classes.

COUNS-095 Educational Planning
.3 unit P/NP
• Non degree applicable
• 6 hours lecture per term
• Limitation on Enrollment: Students must complete the Online Orientation and Online Placement process for math and English assessments prior to enrolling in this course.

This course provides an introduction to educational goal setting and course selection. Students will develop a plan to succeed in achieving their educational goal. Topics will include identification of interest area, educational and career goals, academic placement, counseling, and advising services.
COUNS-096  Orientation for Student-Athletes
.3 unit  P/NP
• Non degree applicable
• 6 hours lecture per term
• Limitation on enrollment: Students must complete the online orientation and math and English assessments prior to enrolling in this course.

This course provides an introduction to educational goal setting and course selection for student-athletes. Students will develop an education plan to succeed in achieving their educational and athletic goals. Topics include general college information, intercollegiate academic eligibility requirements and regulations, registration procedures, and student-athlete academic success strategies. Important college services for student-athletes will be emphasized.

COUNS-097  Educational Planning for DSS Students
.3 unit  P/NP
• Non degree applicable
• 6 hours lecture per term
• Note: Submit disability documentation to the DSS office in SSC-248 prior to registering for this course. Completion of English and mathematics assessment four days prior to this course will facilitate appropriate course selection.

This course provides an introduction to college for students with disabilities using course content tailored to meet the unique needs of this population. It will provide students in Disability Support Services (DSS) with a concrete plan for enrolling and succeeding in college. Topics include: an overview of DSS services and accommodations at Diablo Valley College (DVC), an explanation of the differences between high school and college, an overview of general information about certificate, associate degree and transfer pathways, and how to build a student educational plan.

COUNS-100  New Student Success Strategies
1 unit  SC
• 18 hours lecture per term

This course introduces new students to information, resources and skills necessary for college success. Topics will include educational opportunities, campus resources, study skills and strategies. The class also provides instruction in educational planning to reach certificate, degree and transfer goals. CSU, UC (credit limits 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
Possible career opportunities
The culinary arts program provides professional training for employment as a chef, culinary supervisor, cookbook author, recipe taster, cook, kitchen manager, food server, caterer, food researcher, banquet chef, dining room manager, food stylist, menu planner, community nutrition specialist, and school foodservice specialist.

The baking program is designed to prepare students to work as pastry chefs in local restaurants, hotels, resorts, bakeries, and catering establishments. Career options include bakery production finisher, pastry decorator, caterer, baker assistant, bakery entrepreneur, and bakery chef at grocery food chains, cafes, restaurants, bakeries, hospitals, resorts, child care facilities, cafeterias, food preparation centers, and catering facilities.

The restaurant management program prepares students to enter the restaurant field as a manager-trainee in a food service establishment. Career options include: restaurant owner/operator, hotel banquet manager, dining room manager, purchasing specialist, catering manager, and food editor. Some career options may require more than two years of college study.

Associate in science degree
Hospitality studies - 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. demonstrate an understanding of the properties and functions of various ingredients, and demonstrate proper scaling and measurement techniques.
C. evaluate quality standards in baking and pastry products in written and oral form.

Associate in science degree
Hospitality studies - Culinary arts
Students completing the program will be able to...
A. demonstrate an understanding of 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.

CULINARY ARTS – CULN
Despina Prapavessi, Dean
Business Division
Math Building, Room 267

The associate in science degree in hospitality studies prepares students for entry into mid-level employment in one of three specialty areas of the hospitality and culinary arts industry: baking and pastry, culinary arts, restaurant management. This in-depth, hands-on, American Culinary Federation (ACF) accredited program of study prepares students for a professional hospitality and culinary career in a broad scope of industry opportunities in the following areas of specialization:

The DVC Culinary Program has been successfully preparing students for professional careers for the past 40 years.

Baking and pastry:
DVC has been placing students in small and large bakeries, specialty pastry shops, catering and dessert preparation in restaurants. 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 hotel and restaurant management program’s technical facilities. In addition to training at the DVC facilities, students gain experience working outside the college through a required internship program. DVC’s associate degree in hospitality studies with a specialization 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 arts:
Diablo Valley College’s culinary arts program offers an in-depth, hands-on learning curriculum where students gain both knowledge and experience in the hotel and restaurant management program’s technical facilities. In addition to training at the DVC facilities, students gain experience working outside the college through a required internship program. DVC’s associate degree in hospitality studies with a specialization 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.
### Restaurant management:

Diablo Valley College’s restaurant management program offers an in-depth, hands-on learning curriculum where students gain both knowledge and experience through the hotel and restaurant management 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 60-seat restaurant that is open to the public. In addition to training at the DVC facilities, students gain experience working outside the college through a required internship program. DVC’s associate degree in hospitality studies with a specialization in restaurant management is geared primarily towards DVC’s culinary students desiring some additional management coursework. Students who are interested in pursuing a management-focused program in hospitality should expect to complete a four-year degree program at a university. These students should see a counselor 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.

Students are limited to one associate in science degree regardless of the number of specializations completed. Multiple certificates may be awarded.

#### major requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CULN-105</td>
<td>Introduction to the Kitchen</td>
<td>0.5</td>
</tr>
<tr>
<td>CULN-110</td>
<td>Orientation to Hospitality</td>
<td>3</td>
</tr>
<tr>
<td>CULN-115</td>
<td>Culinary Mathematics</td>
<td>1.5</td>
</tr>
<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-185</td>
<td>Nutritional Guidelines in Food Preparation</td>
<td>2</td>
</tr>
<tr>
<td>CULN-192</td>
<td>Purchasing Operations and Systems Laboratory</td>
<td>2.5</td>
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<tr>
<td>CULN-193</td>
<td>Inventory and Ordering Systems Laboratory</td>
<td>0.3</td>
</tr>
<tr>
<td>CULN-195</td>
<td>Supervisory Management in Food Service</td>
<td>3</td>
</tr>
<tr>
<td>CULN-224</td>
<td>Catering Business and Operations</td>
<td>2</td>
</tr>
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</table>

**plus at least 2 units from one of the following courses:**

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

**plus at least 1 unit from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CULN-230A</td>
<td>Culinary Competition I</td>
<td>0.5</td>
</tr>
<tr>
<td>CULN-230B</td>
<td>Culinary Competition II</td>
<td>0.5</td>
</tr>
<tr>
<td>CULN-235A</td>
<td>Off-Campus Catering I</td>
<td>0.5-1</td>
</tr>
<tr>
<td>CULN-235B</td>
<td>Off-Campus Catering II</td>
<td>0.5-1</td>
</tr>
</tbody>
</table>

**plus at least 1.5 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CULN-240A</td>
<td>On-Campus Catering I</td>
<td>0.5-1</td>
</tr>
<tr>
<td>CULN-240B</td>
<td>On-Campus Catering II</td>
<td>0.5-1</td>
</tr>
<tr>
<td>CULN-240C</td>
<td>On-Campus Catering III</td>
<td>0.5-1</td>
</tr>
</tbody>
</table>

#### Choose one of the following three specialization areas:

**baking and pastry**

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CULN-181</td>
<td>Fundamental Techniques of Baking and Pastry</td>
<td>6.5</td>
</tr>
<tr>
<td>CULN-281</td>
<td>Advanced Techniques of Baking and Pastry</td>
<td>6.5</td>
</tr>
</tbody>
</table>

**plus at least 2 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CULN-129</td>
<td>Introduction to Urban Farming:</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-210</td>
<td>Artisan Bread</td>
<td>1</td>
</tr>
<tr>
<td>CULN-212</td>
<td>Candles, Chocolates, and Truffles</td>
<td>1</td>
</tr>
<tr>
<td>CULN-213</td>
<td>Seasonal Spring Desserts</td>
<td>1</td>
</tr>
<tr>
<td>CULN-214</td>
<td>Seasonal Fall Desserts</td>
<td>1</td>
</tr>
<tr>
<td>CULN-215</td>
<td>Decorative Confectionary Showpieces</td>
<td>1</td>
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</tbody>
</table>

**total minimum units for the major - baking and pastry**

41.3

### Culinary arts

**required courses:**

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>CULN-127</td>
<td>Garde Manger</td>
<td>2</td>
</tr>
<tr>
<td>CULN-154</td>
<td>Menu Development and Planning</td>
<td>2</td>
</tr>
<tr>
<td>CULN-167</td>
<td>Restaurant Operations in the Dining Room</td>
<td>3</td>
</tr>
<tr>
<td>CULN-175</td>
<td>Meat, Poultry and Fish Fabrication</td>
<td>2</td>
</tr>
<tr>
<td>CULN-220</td>
<td>Advanced Cuisine</td>
<td>5</td>
</tr>
</tbody>
</table>

**plus at least 1.5 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CULN-161</td>
<td>Baking for Culinary Students</td>
<td>1.5</td>
</tr>
<tr>
<td>CULN-181</td>
<td>Fundamental Techniques of Baking and Pastry</td>
<td>6.5</td>
</tr>
</tbody>
</table>

**total minimum units for the major - culinary arts**

41.3

### Restaurant management

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSAC-181</td>
<td>Applied Accounting</td>
<td>3</td>
</tr>
<tr>
<td>CULN-154</td>
<td>Menu Development and Planning</td>
<td>2</td>
</tr>
<tr>
<td>CULN-160</td>
<td>Fundamentals of Beverage, Wine and Spirits</td>
<td>3</td>
</tr>
<tr>
<td>CULN-186</td>
<td>Sustainable Hospitality - Energy, Water and Waste</td>
<td>1</td>
</tr>
</tbody>
</table>

**total minimum units for the major - restaurant management**

43.3
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 semester CSU-transferable units.
- Complete the California State University-General Education-Breadth pattern (CSU GE-Breadth); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 1C requirement for Oral Communication.
- Complete a minimum of 18 semester units in the major.
- Obtain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

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

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

Certificate of achievement
Baking and pastry

Students completing the 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. produce an array of bakery and pastry products.
F. evaluate quality standards in bakery and pastry products in written and oral form.

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.

Certificate requirements:

Required course:

- CULN-110 Orientation to Hospitality .................................. 3

Plus at least 8 units from:

- CULN-120 Fundamentals of Cuisine .................................. 5
- CULN-153 Safety and Sanitation ..................................... 2
- CULN-201 Principles of Food, Beverage, and Cost Controls ........................................ 3
- ECON-221 Principles of Microeconomics .................................. 3

Plus at least 7 units from any course not used above or:

- BUSAC-186 Financial Accounting .................................. 4
- BUS-294 Business Law ............................................. 3
- BUS-240 Business Statistics ......................................... 3
- or MATH-142 Elementary Statistics with Probability .................. 4
- or MATH-144 Statway II .................................................... 4
- PSYCH-101 Introduction to Psychology ................................ 3

Total minimum required units 18
required courses:  
CULN-105 Introduction to the Kitchen .......................... 0.5  
CULN-110 Orientation to Hospitality .......................... 3  
CULN-115 Culinary Mathematics .................................... 1.5  
CULN-120 Fundamentals of Cuisine ............................ 5  
CULN-153 Safety and Sanitation .................................. 2  
CULN-181 Fundamental Techniques of Baking and Pastry ......................................................... 6.5  
CULN-185 Nutritional Guidelines in Food Preparation  ...... 2  
CULN-192 Purchasing Operations and Systems Laboratory ................................................................. 2.5  
CULN-193 Inventory and Ordering Systems Laboratory ... 0.3  
CULN-195 Supervisory Management in Food Service ............................................................................. 3  
CULN-224 Catering Business and Operations .................. 2  
CULN-281 Advanced Techniques of Backing and Pastry ................................................................. 6.5  

plus at least 2 units from:  
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  

plus at least 1.5 units from:  
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  

plus at least 2 units from one of the following courses:  
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 required units 41.3

Certificate of achievement

Culinary arts

Students completing the 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. calculate costs and apply procedures in order to run a cost effective food service establishment.
E. create menus that incorporate menu planning principles that maximize sales and profits.
F. 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.
G. demonstrate the ability to work as an effective member of a production team.

This in-depth, hands-on training program prepares students for a professional culinary career. Our certificate program is accredited by the American Culinary Federation Educational Institute, a national organization of professional chefs. Our graduates enter the culinary field and many have progressed to the position of executive chef.

Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file in the Culinary Department Office by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a "C" grade or higher. Certificate requirements may only be completed by attending a combination of day and evening classes.

required courses:  
CULN-105 Introduction to the Kitchen .......................... 0.5  
CULN-110 Orientation to Hospitality .......................... 3  
CULN-115 Culinary Mathematics .................................... 1.5  
CULN-120 Fundamentals of Cuisine ............................ 5  
CULN-127 Garde Manger ....................................... 1.5  
CULN-153 Safety and Sanitation .................................. 2  
CULN-154 Menu Development and Planning ............... 2  
CULN-167 Restaurant Operations in the Dining Room .... 2  
CULN-175 Meat, Poultry and Fish Fabrication ............. 2  
CULN-185 Nutritional Guidelines in Food Preparation ....... 2  
CULN-192 Purchasing Operations and Systems Laboratory .................................................. 2.5  
CULN-193 Inventory and Ordering Systems Laboratory ... 0.3  
CULN-195 Supervisory Management in Food Service ..., 3  
CULN-220 Advanced Cuisine .................................... 5  
CULN-224 Catering Business and Operations ............... 2
plus at least 1.5 units from:
CULN-161 Baking for Culinary Students .................................................. 1.5
CULN-181 Fundamental Techniques of Baking and Pastry .................................................. 6.5

plus at least 2 units from:
CULN-129 Introduction to Urban Farming: Farm-to-Table .................................................. 1
CULN-160 Fundamentals of Beverage, Wine and Spirits .................................................. 3
CULN-186 Sustainable Hospitality - Energy, Water and Waste .................................................. 1

plus at least 1 unit from:
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

plus at least 1.5 units from:
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

plus at least 2 units from one of the following courses:
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 required units 43.8

Certificate of achievement
Restaurant management
Students completing the program will be able to...
A. explain factors that determine quality food.
B. explain and list both the advantages and disadvantages comparing full service to buffet service.
C. plan, organize, setup and serve special events for 100-150 guests.
D. calculate cost and apply procedures in order to run a cost effective food service establishment.

Our in-depth, hands-on training program prepares students to begin their careers in restaurant management. Our graduates enter the hospitality industry and many progress to management positions.

Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file in the Culinary Department Office by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Certificate requirements may only be completed by attending a combination of day and evening classes.

required courses:

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<tr>
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</thead>
<tbody>
<tr>
<td>BUSAC-181</td>
<td>Applied Accounting</td>
<td>3</td>
</tr>
<tr>
<td>CULN-105</td>
<td>Introduction to the Kitchen</td>
<td>0.5</td>
</tr>
<tr>
<td>CULN-110</td>
<td>Orientation to Hospitality</td>
<td>3</td>
</tr>
<tr>
<td>CULN-115</td>
<td>Culinary Mathematics</td>
<td>1.5</td>
</tr>
<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-154</td>
<td>Menu Development and Planning</td>
<td>2</td>
</tr>
<tr>
<td>CULN-160</td>
<td>Fundamentals of Beverage, Wine and Spirits</td>
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</tr>
<tr>
<td>CULN-167</td>
<td>Restaurant Operations in the Dining Room</td>
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<tr>
<td>CULN-185</td>
<td>Nutritional Guidelines in Food Preparation</td>
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<td>CULN-192</td>
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</tr>
<tr>
<td>CULN-193</td>
<td>Inventory and Ordering Systems Laboratory</td>
<td>0.3</td>
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<tr>
<td>CULN-195</td>
<td>Supervisory Management in Food Service</td>
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</tr>
<tr>
<td>CULN-201</td>
<td>Principles of Food, Beverage, and Cost Controls</td>
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<td>CULN-216</td>
<td>Food and Wine Pairing</td>
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</tr>
<tr>
<td>CULN-224</td>
<td>Catering Business and Operations</td>
<td>2</td>
</tr>
</tbody>
</table>

plus at least 1.5 units from:
CULN-161 Baking for Culinary Students .................................................. 1.5
CULN-181 Fundamental Techniques of Baking and Pastry .................................................. 6.5

plus at least 1 unit from:
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

plus at least 1.5 units from:
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

plus at least 2 units from one of the following courses:
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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 required units 43.3

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.
Certificate of accomplishment
Culinary arts

Students completing the program will be able to...
A. explain typical career ladders for employees in the hospitality industry.
B. select and explain the use of the appropriate kitchen equipment for specific kitchen tasks.
C. explain proper health and safety procedures in the kitchen environment.
D. identify critical control points during all food handling processes as a method to minimize the risk of food-borne illness.
E. demonstrate different types of cooking methods.
F. identify and prepare basic stocks, soups, and sauces.
G. demonstrate the following tasks: follow a standard recipe, use standard weights and measures, and perform basic skills with culinary equipment.
H. 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 kitchens and bakeries, specialty shops, and catering businesses. This certificate of accomplishment is the first step in pursuing a certificate of achievement in culinary arts, baking and pastry, or restaurant management.

Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file in the Culinary Department Office by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Certificate requirements may only be completed by attending a combination of day and evening scheduled classes.

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<td>CULN-153</td>
<td>Safety and Sanitation</td>
<td>2</td>
</tr>
<tr>
<td>CULN-161</td>
<td>Baking for Culinary Students</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>total minimum required units</strong></td>
<td></td>
<td><strong>12</strong></td>
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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 Introduction to the Kitchen
.5 unit SC
- 27 hours laboratory per term
- Co-requisite: CULN-153 (may be taken previously) 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 program with an emphasis on hygiene, safety, and kitchen equipment knowledge. 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-115 Culinary Mathematics
1.5 units LR
- 27 hours lecture per term

This course focuses on the application of math competencies to specific business situations in the food service industry. CSU
CULN-120  Fundamentals of Cuisine
5 units  SC
• 270 hours laboratory per term
• Prerequisite: CULN-105 or equivalent
• Co-requisite: CULN-153 (may be taken previously) 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 maintain proper sanitation in the kitchen. The emphasis is on professional skills required by quantity food service. C-ID HOSP 160, CSU

CULN-123  Sauces of the World
1 unit  LR
• 9 hours lecture/27 hours laboratory per term
• Prerequisite: CULN-105 and CULN-153 or equivalents
• 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-127  Garde Manger
2 units  SC
• 18 hours lecture/54 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 gallantines, pates and mousse 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 restaurants 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-150  Topics in Culinary Arts
.3-4 units  SC
• Variable hours
• Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the Culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

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

CULN-153  Safety and Sanitation
2 units  SC
• 36 hours lecture per term
• Note: Credit by examination option available.

This course presents the basic 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 must be taken before or concurrently with the first culinary laboratory course (CULN-120 or CULN-181). C-ID HOSP 110, CSU

CULN-154  Menu Development and Planning
2 units  SC
• 36 hours lecture 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 depending on the class. See instructor at the first class meeting.

This course provides students with an opportunity to plan and develop basic menus, focusing on techniques and flavors typical of a variety of food service establishments. Healthy menus, culturally diverse menus, seasonal and regional menus are addressed. 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 for Culinary Students  
1.5 units  SC  
- 9 hours lecture/54 hours laboratory per term  
- Prerequisite: CULN-105 or equivalent and CULN-153 (may be taken concurrently) 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 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-167  Restaurant Operations in the Dining Room  
3 units  SC  
- 162 hours laboratory per term  
- Co-requisite: CULN-153 (may be taken previously) or equivalent  
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary office by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.  
This course provides students with practical experience in the fundamentals of dining room service, including rules and styles of service, various forms of food service, and basic dining room management and planning. CSU

CULN-175  Meat, Poultry and Fish Fabrication  
2 units  SC  
- 36 hours lecture per term  
- Note: Culinary and food service students must have a current record of satisfactory 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-180  Purchasing Operations and Systems Laboratory  
2.5 units  SC  
- 135 hours laboratory per term  
- Co-requisite: CULN-153 (may be taken previously) and CULN-193 or equivalents  
- Recommended: CULN-115 or MATH-090 and eligibility for ENGL-122 or equivalents  
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.  
This course presents current practices in foodservice purchasing, receiving, storage, issuance, and documentation. This course is appropriate for entry level students and presents product identification and evaluation, as well as the organization of a professional foodservice operation. CSU

CULN-192  Purchasing Operations and Systems Laboratory  
2.5 units  SC  
- 135 hours laboratory per term  
- Co-requisite: CULN-153 (may be taken previously) and CULN-193 or equivalents  
- Recommended: CULN-115 or MATH-090 and eligibility for ENGL-122 or equivalents  
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary office by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.  
This course presents current practices in foodservice purchasing, receiving, storage, issuance, and documentation. This course is appropriate for entry level students and presents product identification and evaluation, as well as the organization of a professional foodservice operation. CSU
CULN-193  Inventory and Ordering Systems Laboratory
.3 unit LR
• 18 hours laboratory by arrangement per term
• Prerequisite: CULN-153 or equivalent
• Co-requisite: CULN-192 or equivalent
• Note: Each student will be assigned to an ordering team which meets either M, T, W or TH from 2-3:30pm. See instructor for details. 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.

In this course, students will learn to order food products for a commercial enterprise, analyze inventory, and utilize specifications, proper pack size, and par levels as needed. 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-210  Artisan Bread
1 unit SC
• 9 hours lecture/27 hours laboratory per term
• Prerequisite: CULN-105 and CULN-153 or equivalents
• Recommended: CULN-161 or 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 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
1 unit SC
• 9 hours lecture/27 hours laboratory per term
• Prerequisite: CULN-105 and CULN-153 or equivalents
• 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-213  Seasonal Spring Desserts
1 unit SC
• 9 hours lecture/27 hours laboratory per term
• Recommended: Eligibility for ENGL-116 and ENGL-118 or equivalents
• 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 to produce a variety of basic pastries and desserts specific to the spring season for hotels, restaurants, wholesale and retail bakeries/pastry shops. CSU

CULN-214  Seasonal Fall Desserts
1 unit SC
• 9 hours lecture/27 hours laboratory per term
• Recommended: Eligibility for ENGL-116 and ENGL-118 or equivalents
• 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 to produce a variety of basic pastries and desserts specific to the fall season for hotels, restaurants, wholesale and retail bakeries/pastry shops. CSU
CULN-215  **Decorative Confectionary 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  **Food and Wine Pairing**  
1.5 units  SC  
- 27 hours lecture 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 Cuisine**  
2 units  SC  
- 27 hours lecture/27 hours laboratory per term  
- Recommended: Eligibility for ENGL-122 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 using cultural, social and historical frameworks. Emphasis will be on cultural contrast that reflects the ethnic culinology of at least three non-European countries. The importance of ethnic cuisine in today's multicultural society and its significance and influence on North American culture will also be discussed. 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, set-up plans, staff management, and service and breakdown techniques. CSU

CULN-281  Advanced Techniques of Baking and Pastry  
6.5 units  SC 
• 36 hours lecture/243 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 advanced theory and techniques in baking and pastry techniques. Students will practice advanced skills to produce a variety of commercial quality goods typical for hotels, restaurants, and retail bakeries. CSU
CULN-295    Occupational Work Experience
Education in CULN
1-4 units SC
• May be repeated three 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. Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit. Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU

CULN-296    Internship in Occupational Work
Experience Education in CULN
1-4 units SC
• May be repeated three 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. The Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit (paid) or one unit for four hours work per week or sixty hours per term (unpaid work). Students may earn up to a maximum of sixteen units; 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

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

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, dance instruction, or 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:  
  - DANCE-212 Ballet I ..............................................................1
  - DANCE-222 Jazz Dance I ..................................................1
  - DANCE-232 Modern Dance I ..............................................1

  plus at least 2 units from 2 different disciplines:
  - DANCE-213 Ballet II ..........................................................1
  - DANCE-223 Jazz Dance II .................................................1
  - DANCE-233 Modern Dance II .............................................1

  plus at least 2 units from 2 different disciplines:
  - DANCE-214 Ballet III .......................................................1
  - DANCE-216 Pointe Technique ..........................................1
  - DANCE-224 Jazz Dance III ..............................................1
  - DANCE-234 Modern Dance III ........................................1
  - KNDAN-105A* Pilates Mat Work I ....................................0.5-2
  - KNDAN-160A* Tap Dance I .............................................0.5-2
  - KNDAN-160B* Tap Dance II ...........................................0.5-2
  - KNDAN-162* Broadway Dance ........................................0.5-2
  - KNDAN-164A* Ballroom/Social Dance I .........................0.5-2
  - KNDAN-166* Swing Dance ..............................................0.5-2
  - KNDAN-168A* Salsa and Latin Dance I ............................0.5-2
  - KNDAN-169A* Argentine Tango ........................................0.5-2
  - KNDAN-170A* Beginning Hip-Hop and Urban Funk Dance ..........0.5-2
  - KNDAN-170B* Intermediate Hip-Hop and Urban Funk Dance ..........0.5-2
  
  *at least one unit required

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

  total core technique requirements 8

Theory requirements

- plus all units from:
  - DANCE-201 Western Dance History: 20th Century to Present ..........3
  - DANCE-205 Music Theory for Dancers ................................2
  - DANCE-250 Dance Choreography ....................................2

Performance requirements

- plus at least 6 units from:
  - DANCE-242 Repertory Dance Production I .......................1
  - DANCE-243 Repertory Dance Production I - Tech Week ....0.5
  - DANCE-244 Repertory Dance Production II ......................1
  - DANCE-245 Repertory Dance Production II - Tech Week ..0.5
  - DANCE-246 Dance Production I .................................1.5
  - DANCE-247 Dance Production I - Tech Week .............0.5
  - DANCE-248 Dance Production II ................................1.5
  - DANCE-249 Dance Production II - Tech Week ............0.5
  - DANCE-256 Dance Production Choreography ..................1.5
  - DANCE-257 Dance Production Choreography - Tech Week ..................0.5
stagecraft requirements

*plus at least 3 units from:*
- 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

art/music/humanities requirements

*plus at least 3 units from:*
- HUMAN-105 Introduction to Humanities: Arts and Ideas .... 3
- MUSIC-114 World Music .....................................................3

**total minimum units for the major** 27

**Limitations on enrollment**

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

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

**Family: Ballet**
- KNDAN-110A Ballet Fundamentals I
- KNDAN-110B Ballet Fundamentals II
- DANCE-212 Ballet I
- DANCE-213 Ballet II
- DANCE-214 Ballet III
- DANCE-216 Pointe Technique

**Family: Jazz**
- KNDAN-120A Jazz Dance Fundamentals I
- KNDAN-120B Jazz Dance Fundamentals II
- DANCE-222 Jazz Dance I
- DANCE-223 Jazz Dance II
- DANCE-224 Jazz Dance III

**Family: Modern**
- KNDAN-130A Modern Dance Fundamentals I
- KNDAN-130B Modern Dance Fundamentals II
- DANCE-232 Modern Dance I
- DANCE-233 Modern Dance II
- DANCE-234 Modern Dance III

**Family: Ballroom Dance**
- KNDAN-150A Argentine Tango
- KNDAN-164A Ballroom/Social Dance I
- KNDAN-164B Ballroom/Social Dance II
- KNDAN-166 Swing Dance
- KNDAN-168A Salsa and Latin Dance I
- KNDAN-168B Salsa and Latin Dance II
- KNDAN-169A Argentine Tango

**Family: Tap**
- KNDAN-160A Tap Dance I
- KNDAN-160B Tap Dance II

**Family: Dance Production**
- DANCE-150A Dance Production II
- DANCE-242 Repertory Dance Production I
- DANCE-244 Repertory Dance Production II
- DANCE-246 Dance Production I
- DANCE-248 Dance Production II
- DANCE-256 Dance Production Choreography

**Family: Dance Performance**
- DANCE-150B Dance Production II - Tech Week
- DANCE-243 Repertory Dance Production I – Tech Week
- DANCE-245 Repertory Dance Production II – Tech Week
- DANCE-247 Dance Production I - Tech Week
- DANCE-249 Dance Production II - Tech Week
- DANCE-257 Dance Production Choreography - Tech Week

**Family: Dance Survey**
- KNDAN-100 Introduction to Dance
- KNDAN-162 Broadway Dance

**Family: Urban Dance**
- KNDAN-150B Beginning Hip-Hop and Urban Funk
- KNDAN-150C Intermediate Hip-Hop and Urban Funk
- KNDAN-170A Hip-Hop and Urban Funk Dance I
- KNDAN-170B Hip-Hop and Urban Funk Dance II

**DANCE-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-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
  - Recommended: Eligibility for 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. Historic styles and movements of dance including the Diaghilev period of Ballet and the development of modern dance are discussed, including their influence on present-day ballet, modern, and contemporary dance practice. CSU, UC
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>SC</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANCE-205</td>
<td>Music Theory for Dancers</td>
<td>2</td>
<td>SC</td>
<td></td>
<td>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</td>
</tr>
<tr>
<td>DANCE-212</td>
<td>Ballet I</td>
<td>1</td>
<td>SC</td>
<td>54 hours laboratory per term</td>
<td>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</td>
</tr>
<tr>
<td>DANCE-213</td>
<td>Ballet II</td>
<td>1</td>
<td>SC</td>
<td>54 hours laboratory per term</td>
<td>This is an advanced course in ballet dance. Basic choreographic principles as they relate to ballet will also be presented. CSU, UC</td>
</tr>
<tr>
<td>DANCE-214</td>
<td>Ballet III</td>
<td>1</td>
<td>SC</td>
<td>54 hours laboratory per term</td>
<td>This is an advanced/pre-professional course in ballet dance. Classical ballet variations and basic pas de deux techniques as they relate to classical ballet will be practiced. CSU, UC</td>
</tr>
<tr>
<td>DANCE-216</td>
<td>Pointe Technique</td>
<td>1</td>
<td>SC</td>
<td>54 hours laboratory per term</td>
<td>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. CSU, UC</td>
</tr>
<tr>
<td>DANCE-222</td>
<td>Jazz Dance I</td>
<td>1</td>
<td>SC</td>
<td>54 hours laboratory per term</td>
<td>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 video and its influence on the jazz dancer and current jazz dance styles will also be covered. CSU, UC</td>
</tr>
<tr>
<td>DANCE-223</td>
<td>Jazz Dance II</td>
<td>1</td>
<td>SC</td>
<td>54 hours laboratory per term</td>
<td>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</td>
</tr>
<tr>
<td>DANCE-224</td>
<td>Jazz Dance III</td>
<td>1</td>
<td>SC</td>
<td>54 hours laboratory per term</td>
<td>This is an advanced/pre-professional course in jazz dance. The focus is on advanced jazz dance technique from contemporary, lyrical, hip-hop and Broadway styles utilizing pre-professional dance performance skills. CSU, UC</td>
</tr>
<tr>
<td>DANCE-232</td>
<td>Modern Dance I</td>
<td>1</td>
<td>SC</td>
<td>54 hours laboratory per term</td>
<td>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. CSU, UC</td>
</tr>
<tr>
<td>DANCE-233</td>
<td>Modern Dance II</td>
<td>1</td>
<td>SC</td>
<td>54 hours laboratory per term</td>
<td>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. CSU, UC</td>
</tr>
</tbody>
</table>

Dance
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

Dental assisting

The Diablo Valley College dental assisting program is approved by the Dental Board of California and accredited by the Commission on Dental Accreditation of the American Dental Association. Upon graduation, students are eligible to take state and national board examinations to become a licensed Registered Dental Assistant in California (RDA) and a Certified Dental Assistant (CDA).

Associate in science degree
Dental assisting

Students completing the program will be able to...
A. act as a member of the dental health team and apply professional, ethical and legal principles while functioning in the role of the Registered Dental Assistant (RDA).
B. assume responsibility for prevention of disease transmission utilizing universal precautions in the work environment to protect those entrusted to their care.
C. show competence in skills as described in the current California Dental Practice Act. Said professional should perform with a balance of professionalism and sensitivity characteristic of genuine compassionate care.
D. exhibit knowledge necessary for successful completion of the California Registered Dental Assistant’s Examination and the National Certified Dental Assistant’s Examination.
E. apply critical thinking and self-assessment skills to enhance learning, research, patient care, professional growth, and continued competency.
F. integrate and apply health literacy and culturally competent communication skills to oral health care services, academic endeavors, community projects, and professional activities.

The required dental assisting program classes are taught during the day; however, the general education courses required for the certificate or degree may be taken in the evening or at an alternate location.

The 10-month program is scheduled to begin each fall term in August and the dental assisting courses will be completed by the middle of May. The two terms include classroom instruction as well as clinical experience in the DVC dental clinic, local dental schools and various dental offices.

In addition to the dental assisting classes the program requires nine units of general education that must be completed prior to graduating from the program and applying to take the state license and national examinations.

Entrance into the Diablo Valley College (DVC) Dental Assisting Program is highly competitive with enrollment limited to 24 students. To be eligible for enrollment, applicants must have a high school diploma or its equivalent and successfully pass DENTL-120 Orientation to the Dental Assisting Program, which is offered prior to enrollment for the fall term.

DENTAL ASSISTING – DENTL

Joseph Gorga, Dean
Biological and Health Sciences Division
Physical Sciences Building, Room 263

Possible career opportunities
The Diablo Valley College dental assisting program prepares students to work as an essential member of the dental team. Employment opportunities for the graduates include: chairside assistant, front office administrator, x-ray technician for dental radiation laboratories, agent for dental insurance companies, or laboratory technician for dental laboratories.
Dental assisting

Prior to August 1, students who have successfully passed DENTL-120 and have been chosen to enroll in the program will be required to show: (1) proof of CPR (AHA/Health Care Provider) certification; (2) required immunizations/titers; (3) proof of negative one-step TREP test; (4) results of a recent physical examination/screening; (5) results of a certified background check; and (6) results of a certified drug test. Reporting documents will be handed out during the orientation meeting.

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.

For dental assisting program information contact the Coordinator of Dental Programs, Counseling Office, or DVC website.

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

Note: It is strongly recommended to complete the required general education courses (*) prior to entering the dental assisting program in the fall term.

major requirements: 
DENTHY-124 Dental Radiography .................................................3
DENTHY-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-122A* First-Year College English for Multilingual Students ....................................3

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

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

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

Note: It is strongly recommended to complete the required general education courses (*) prior to entering the dental assisting program in the fall term.

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-122A* First-Year College English for Multilingual Students ....................................3

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

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

In addition, DVC GE Areas IC, II and III must be satisfied to complete AS degree requirements.

total minimum units for the major 42.3

total minimum required units 42.3
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 operatory 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-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-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-182 Dental Radiography Laboratory
.5 unit LR
- 27 hours laboratory per term
- Prerequisite: DENHY-124 or equivalent
- Limitation of enrollment: Acceptance to the DVC Dental Assisting program, including current TB clearance, hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certificate (Basic Life Support for Healthcare Provider with AED).
- 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
Biological and Health 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.

This is a two-year program of classroom instruction and clinical experience which prepares students to perform the educational, clinical, and laboratory responsibilities of a dental hygienist. The DVC dental hygiene program is accredited by the American Dental Association Commission on Dental Accreditation (CODA) and approved by the Dental Hygiene Committee of California (DHCC). The program prepares students to take written and clinical licensing exams. The Dental Hygiene curriculum requires two consecutive academic years including summer. Entrance into the DVC Dental Hygiene program is highly competitive with enrollment limited to 20 students.

To be eligible for enrollment into the dental hygiene program, applicants must complete the specified prerequisite courses prior to submitting an application. All science prerequisite courses must be taken within the last seven years. The applicant must have an overall GPA of 3.0 or higher in all science courses, English, and communication studies. 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 successfully complete the orientation course DENHY-101 and by August 1st must show: (1) proof of CPR (AHA/Health Care Provider) certification; (2) required immunizations/titers; (3) proof of negative one-step TB test; (4) results of a recent physical examination/screening; (5) results of a certified background check; and (6) results of a certified drug test. Reporting documents will be handed out during the orientation meeting.

Students who successfully complete the program earn an associate degree in dental hygiene. Associate degree requirements include prerequisite courses, general education courses, and the required dental hygiene program requirements listed below. Students must achieve a “C” grade or higher in each of the degree conferring courses. Dental hygiene required courses are only available during the day. However, required general education courses are available in the day or evening. Students must complete the required general education course prior to beginning the program. For dental hygiene program information and an application packet, contact the Coordinator of Dental Programs, the Counseling office or the DVC website.
Dental hygiene

major requirements:  

program prerequisites or equivalents:  

<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>CHEM-108*</td>
<td>Introductory Chemistry</td>
<td>4</td>
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<tr>
<td>CHEM-109*</td>
<td>Introduction to Organic and Biochemistry</td>
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</tr>
<tr>
<td>ENGL-122</td>
<td>First-Year College Composition and Reading</td>
<td>3</td>
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<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL-122A</td>
<td>First-Year College Composition and Reading for Multilingual Students</td>
<td>3</td>
</tr>
<tr>
<td>NUTRI-160*</td>
<td>Nutrition: Science and Applications</td>
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plus at least 4 units from:  

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>MATH-119***</td>
<td>Beginning and Intermediate Algebra</td>
<td>4</td>
</tr>
<tr>
<td>SOCIO-120**</td>
<td>Introduction to Sociology</td>
<td>3</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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<tbody>
<tr>
<td>COMM-120**</td>
<td>Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>COMM-130**</td>
<td>Small Group Communication</td>
<td>3</td>
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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>PSYCH-101**</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH-122**</td>
<td>Psychology in Modern Life</td>
<td>3</td>
</tr>
</tbody>
</table>

All overall GPA of 3.0 or higher in science, English, and communication studies is required for program admission.

*Science courses must have been completed within the past seven years.

**Course substitutions for general education requirements require department chair approval. See a counselor or program advisor.

***Higher-level math courses are accepted without need for course substitution.

<table>
<thead>
<tr>
<th>Total Minimum Required Units</th>
<th>Program Prerequisites</th>
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<tbody>
<tr>
<td></td>
<td></td>
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<tr>
<td>Total minimum required units</td>
<td>Program prerequisites</td>
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program requirements:  

<table>
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<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>DENHY-101</td>
<td>Dental Hygiene Orientation</td>
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</tr>
<tr>
<td>DENHY-120</td>
<td>Introduction to Dental Hygiene: Theory, Process of Care and Practice</td>
<td>1</td>
</tr>
<tr>
<td>DENHY-121</td>
<td>Introduction to Comprehensive Clinical Dental Hygiene Care</td>
<td>5.5</td>
</tr>
<tr>
<td>DENHY-122</td>
<td>Clinical Dental Hygiene</td>
<td>6</td>
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<tr>
<td>DENHY-123</td>
<td>Oral Health Care Education</td>
<td>2</td>
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<tr>
<td>DENHY-124</td>
<td>Dental Radiography</td>
<td>3</td>
</tr>
<tr>
<td>DENHY-125</td>
<td>Head and Neck Anatomy, Histology, and Embryology</td>
<td>4</td>
</tr>
<tr>
<td>DENHY-126</td>
<td>Dental Morphology</td>
<td>2</td>
</tr>
<tr>
<td>DENHY-127</td>
<td>Infection Control: Theory, Practice and Communication</td>
<td>2</td>
</tr>
<tr>
<td>DENHY-128</td>
<td>Periodontics for the Dental Hygienist</td>
<td>2</td>
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<tr>
<td>DENHY-129</td>
<td>Contemporary Dental Materials for the Dental Hygienist</td>
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<tr>
<td>DENHY-131</td>
<td>Expanded Functions for the Dental Hygienist</td>
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<tr>
<td>DENHY-133</td>
<td>Behavioral Foundations and Communication Skills</td>
<td>1</td>
</tr>
<tr>
<td>DENHY-134</td>
<td>Evaluation of Scientific Research</td>
<td>2</td>
</tr>
<tr>
<td>DENHY-135</td>
<td>Pharmacology for the Dental Hygienist</td>
<td>3</td>
</tr>
<tr>
<td>DENHY-136</td>
<td>Dental Hygiene Care of Patients with Special Needs</td>
<td>1</td>
</tr>
<tr>
<td>DENHY-219</td>
<td>Pathology</td>
<td>2</td>
</tr>
<tr>
<td>DENHY-223</td>
<td>Ethics, Jurisprudence, and Practice Management</td>
<td>2</td>
</tr>
<tr>
<td>DENHY-225</td>
<td>Community Oral Health</td>
<td>1</td>
</tr>
<tr>
<td>DENHY-226</td>
<td>Community Oral Health Service Learning</td>
<td>1.5</td>
</tr>
<tr>
<td>DENHY-227</td>
<td>Advanced Periodontics and Dental Hygiene Topics</td>
<td>2</td>
</tr>
<tr>
<td>DENHY-230</td>
<td>Advanced Clinical Dental Hygiene Care I</td>
<td>6</td>
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<tr>
<td>DENHY-231</td>
<td>Advanced Clinical Dental Hygiene Care II</td>
<td>6.5</td>
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<tr>
<td>DENHY-290</td>
<td>Transitioning from Student to Dental Professional</td>
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<table>
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<tr>
<th>Total Minimum Required Units</th>
<th>Program and Prerequisites</th>
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<tr>
<td>60.5</td>
<td>101.5</td>
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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
DENTHY-120  Introduction to Dental Hygiene: Theory, Process of Care and Practice
1 unit  LR
• 18 hours lecture per term
• Prerequisite: DENTHY-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

DENTHY-121  Introduction to Comprehensive Clinical Dental Hygiene Care
5.5 units  LR
• 54 hours lecture/144 hours laboratory per term
• Prerequisite: DENTHY-101 or equivalent
• Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, Tetanus vaccination, malpractice insurance, and current CPR certificate (Basic Life Support for Healthcare Provider with Automated External Defibrillator [AED]). Certified background check and negative drug test required as a condition of enrollment in this course.

This course provides an introduction to the application of the dental hygiene process of care guided by the human needs conceptual model. The course includes clinical experiences focusing on assessment procedures related to comprehensive dental hygiene care. Instrumentation skill development with an emphasis on safety for the client as well as the clinician will also be addressed. CSU

DENTHY-122  Clinical Dental Hygiene
6 units  LR
• 54 hours lecture/168 hours laboratory per term
• Prerequisite: DENTHY-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

DENTHY-123  Oral Health Care Education
2 units  LR
• 36 hours lecture per term
• Prerequisite: DENTHY-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

DENTHY-124  Dental Radiography
3 units  LR
• 36 hours lecture/54 hours laboratory per term
• Prerequisite: DENTHY-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

DENTHY-125  Head and Neck Anatomy, Histology, and Embryology
4 units  LR
• 54 hours lecture/54 hours laboratory per term
• Prerequisite: DENTHY-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, Practice and Communication
2 units LR
- 36 hours lecture 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. This course will include infection control principles, protocols, Center For Disease Control (CDC) and Occupational Safety and Health Administration (OSHA) recommendations/regulations, and an introduction to effective communication techniques as related to infection control and dental hygiene care delivery. CSU

DENHY-128 Periodontics for the Dental Hygienist
2 units LR
- 36 hours lecture per term
- Prerequisite: DENHY-101 or equivalent
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course presents a structured study of the discipline of periodontics with a focus on the biological, behavioral and clinical aspects of the periodontal diseases. Topics include normal vs. diseased periodontal structures, etiology, risk factors, classification, and epidemiology. Students will apply periodontal assessment techniques leading to the development of appropriate strategies for planning preventative care, initial treatment and maintenance procedures for the periodontal diseases. Students are introduced to evidence-based decision making as they apply course content to simulated cases. CSU

DENHY-129 Contemporary Dental Materials for the Dental Hygienist
1.5 units LR
- 18 hours lecture/36 hours laboratory per term
- Prerequisite: DENHY-101 or equivalent
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course presents the fundamentals of dental materials. Basic science, behavior and manipulation of dental materials in a framework that enables adaptation to the rapidly evolving array of new dental materials and techniques in the professional arena will be covered. CSU

DENHY-131 Expanded Functions for the Dental Hygienist
2 units LR
- 18 hours lecture/54 hours laboratory per term
- Prerequisite: DENHY-127 or equivalent; CHEM-108 and CHEM-109 or equivalent
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course presents dental hygiene advanced clinical functions including clinical practice in administration of local anesthetics, topical anesthetic agents, nitrous oxide/oxygen analgesia and soft tissue curettage. CSU

DENHY-133 Behavioral Foundations and Communications Skills
1 unit LR
- 18 hours lecture per term
- Prerequisite: DENHY-101 or equivalent

This course introduces students to principles drawn from the behavioral sciences to guide dental hygienist-client communication. The basic components of the communication process, verbal and nonverbal communication, therapeutic and non-therapeutic communication techniques, listening skills, major theories of motivation, and the interrelationship between teaching, learning, and communication will be covered. Focus is on the modification of teaching, learning, and communication techniques appropriate for clients throughout the life span and development of abilities to interact with all members of our multicultural society. CSU
DENHY-134  Evaluation of Scientific Research
2 units LR
- 36 hours lecture per term
- Prerequisite: DENHY-120 and ENGL-122 or equivalents
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course is designed to familiarize the student with scientific research methodology and skills to critically review, evaluate and interpret scientific research and professional literature. CSU

DENHY-135  Pharmacology for the Dental Hygienist
3 units LR
- 54 hours lecture per term
- Prerequisite: DENHY-101 or equivalent
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course introduces the discipline of pharmacology. The focus is on categorizing drugs by therapeutic use and understanding the physiologic basis for drug action and interaction. Client case scenarios are introduced to allow students to apply course content to simulated clinical situations. CSU

DENHY-136  Dental Hygiene Care for Clients with Special Needs
1 unit LR
- 18 hours lecture per term
- Prerequisite: DENHY-101 or equivalent
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course focuses on goals, principles, and treatment modification of comprehensive dental hygiene care for clients with special needs. CSU

DENHY-150  Topics in Dental Hygiene
.3-4 units LR
- Variable hours
- Prerequisite: DENHY-101 or equivalent
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course is a supplemental class in dental hygiene to provide a study of current concepts and problems in dental hygiene and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

DENHY-219  Pathology
2 units LR
- 36 hours lecture per term
- Prerequisite: DENHY-120 or equivalent
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course provides an introduction to the principles of general and oral pathology. The focus is to gain skill in recognizing pathologic conditions and to develop an understanding of disease mechanisms, the diagnostic process, referral, and treatment options. CSU

DENHY-223  Ethics, Jurisprudence, and Practice Management
2 units LR
- 36 hours lecture per term
- Prerequisite: DENHY-120 or equivalent
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course examines jurisprudence, ethics, and practice management as these concepts relate to dental hygiene care and the dental profession. The importance of professional conduct, continuous quality improvement, self-assessment and peer evaluation are emphasized. Management and leadership skills essential for dental hygienists to participate in the practice management and administration of a dental hygiene practice will be covered. CSU

DENHY-225  Community Oral Health
1 unit LR
- 18 hours lecture per term
- Prerequisite: DENHY-120 or equivalent

This course is designed to focus on oral health promotion and disease prevention for a variety of populations with diverse oral health needs. It provides students with an introduction to the dental care delivery system and the significant social, political, cultural and economic forces directing the system. CSU
Dental hygiene

DENHY-226  Community Oral Health Service Learning
1.5 unit   LR
- 18 hours lecture/27 hours laboratory by arrangement per term
- Prerequisite: DENHY-134 and DENHY-225 or equivalents
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course provides an introduction to service-learning experiences related to the study of oral health promotion and disease prevention for groups of people. The process of community health program development including assessment, planning, implementation and evaluation will be emphasized. CSU

DENHY-227  Advanced Periodontics and Dental Hygiene Topics
2 units   LR
- 36 hours lecture per term
- Prerequisite: DENHY-120 or equivalent
- Limitation on enrollment: Acceptance to the Diablo Valley College Dental Hygiene program, including current TB Clearance, Hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR certification (Basic Life Support for the Healthcare Provider with Automated External Defibrillator [AED]).

This course presents advanced concepts of dental hygiene theory, comprehensive dental hygiene assessment, and treatment planning. Topics will include evidence-based decision making, powered instrumentation, dential 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
6 units   LR
- 18 hours lecture/279 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
6.5 units   LR
- 18 hours lecture/306 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-295  RDH Examination Preparation
.5 unit   P/NP
- 27 hours laboratory per term
- Prerequisite: DENHY-231 or equivalent

Advanced clinical dental hygiene experience with emphasis on preparation for the Registered Dental Hygienist (RDH) Examination: including patient selection, preparation, self/ peer evaluation to enhance performance on the State of California license examination.
DENHY-298 Independent Study
.5-3 units SC
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

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

Toni Fannin, Dean
Applied and Fine Arts Division
Business and Foreign Language Building, Room 204

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/project artisan, or stage manager.

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

major requirements:

<table>
<thead>
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<th>Course</th>
<th>Units</th>
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<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-122 Basic Principles of Acting</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-200 Introduction to Technical Theater</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-201 Technical Theater Laboratory</td>
<td>1-2</td>
</tr>
<tr>
<td>plus at least 2 units from:</td>
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<tr>
<td>DRAMA-202 Fundamentals of Stage Production-Technical Theater</td>
<td>1-2</td>
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<tr>
<td>plus at least 2 units from:</td>
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<tr>
<td>DRAMA-295 Occupational Work Experience Education in DRAMA</td>
<td>1-4</td>
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<tr>
<td>DRAMA-296 Internship in Occupational Work</td>
<td>1-4</td>
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plus at least 6 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tr>
<td>ART-102 Introduction to Three-Dimensional Design and Sculpture</td>
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<tr>
<td>ART-105 Drawing I</td>
<td>3</td>
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<tr>
<td>ART-107 Figure Drawing I</td>
<td>3</td>
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<tr>
<td>ART-138 Sculpture I</td>
<td>3</td>
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<tr>
<td>ARTCH-119 Introduction to Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ARTCH-126 Computer Aided Design and Drafting</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-149 Fundamentals of Digital Video</td>
<td>3</td>
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<tr>
<td>ARTDM-150 Fundamentals of Digital Video II</td>
<td>3</td>
</tr>
<tr>
<td>COMM-124 Voice and Diction</td>
<td>3</td>
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<tr>
<td>DRAMA-113 Introduction to Costume Design</td>
<td>3</td>
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<td>DRAMA-114 Script Analysis</td>
<td>3</td>
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<tr>
<td>DRAMA-130 Principles of Directing</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA-139 Introduction to Theater</td>
<td>3</td>
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<tr>
<td>DRAMA-142 Multicultural Perspectives in American Theater</td>
<td>2</td>
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<td>DRAMA-150 Children’s Theater</td>
<td>3</td>
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<td>DRAMA-170 Introduction to Musical Theater</td>
<td>3</td>
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<tr>
<td>DRAMA-275 Musical Theater Production</td>
<td>1-2</td>
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<td>DRAMA-299 Student Instructional Assistant</td>
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<td>ENGT-119 Introduction to Technical Drawing</td>
<td>3</td>
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<tr>
<td>MUSX-120 Live Sound</td>
<td>3</td>
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<tr>
<td>SOCIO-122 Critical Thinking about Social and Cultural Issues</td>
<td>3</td>
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</tbody>
</table>

total minimum units for the major 23
Associate in arts in theater arts for transfer
Students completing the program will be able to...
A. demonstrate skill in performing or 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 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 transferring 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: units
DRAMA-122 Basic Principles of Acting..........................3
DRAMA-139 Introduction to Theater ..............................3

plus at least 3 units from:
DRAMA-201 Technical Theater Laboratory.........................1-2*
DRAMA-270 Stage Production..................................1-2*

plus at least 9 units from:
DRAMA-111 Introduction to Lighting Design .....................3
DRAMA-112 Introduction to Stage Makeup ........................3
DRAMA-113 Introduction to Costume Design .....................3
DRAMA-123 Intermediate Principles of Acting ...................3
DRAMA-200 Introduction to Technical Theater ...................3

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, theatre electrician, costume technician, makeup technician, sound/projection artisan, or stage manager.

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

required courses: units
DRAMA-111 Introduction to Lighting Design......................3
DRAMA-112 Introduction to Stage Makeup ........................3
DRAMA-122 Basic Principles of Acting............................3
DRAMA-200 Introduction to Technical Theater ...................3
DRAMA-201 Technical Theater Laboratory ........................1-2

plus at least 2 units from:
DRAMA-202 Fundamentals of Stage Production-Technical Theater..............................1-2

plus at least 2 units from:
DRAMA-295 Occupational Work Experience
Education in DRAMA........................................1-4
DRAMA-296 Internship in Occupational Work
Experience Education in DRAMA..............................1-4

total minimum required units 17
Limitations on enrollment
Effective fall term 2013, changes to the regulations that govern community college enrollments placed limitations on the number of courses that students may take in certain disciplines within the Contra Costa Community College District. The charts below indicate which Diablo Valley College (DVC) courses are assigned to groups of courses (“families”) for which limitations have been imposed. Certain courses within certain “families” may be repeated (see catalog description), however, students are limited to four enrollments within the family. Certain DVC courses are equivalent to courses at Los Medanos College and Contra Costa College. An enrollment in an equivalent course at one of those colleges will count toward the allowable four enrollments within the family.

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

**DRAMA**

**Family: Acting**
- DRAMA-122 Basic Principles of Acting
- DRAMA-123 Intermediate Principles of Acting
- DRAMA-124 Advanced Principles of Acting
- DRAMA-125 Advanced Styles in Scene Study: From Shakespeare to Shaw
- DRAMA-155SC Stage Conflict
- DRAMA-155SH Solving Shakespeare
- DRAMA-155TH Theater for Social Change
- DRAMA-155XX Advanced Acting Styles in Early Modern Theater

**Family: Audition**
- DRAMA-126 Audition and Preparation for the Camera
- DRAMA-127 Audition Techniques
- DRAMA-128 Auditioning and Preparation for the Camera II
- DRAMA-129 Theatre Festival Competition
- DRAMA-155KC KCAC Theater Fest Competition

**Family: Directing**
- DRAMA-130 Principles of Directing
- DRAMA-230 Directing Projects
- DRAMA-155AC Directing the One-Act
- DRAMA-155DV Devised Theater

**Family: Musical Theater**
- DRAMA-150 Children’s Theater
- DRAMA-170 Introduction to Musical Theater I
- DRAMA-171 Musical Theater II
- DRAMA-155VA Acting in Musicals

**Family: Performance Acting**
- DRAMA-270 Stage Production

**Family: Performance - Musical Theater**
- DRAMA-275 Musical Theater Production

**Family: Production/Technical Theater**
- DRAMA-201 Technical Theater Laboratory
- DRAMA-202 Fundamentals of Stage Production - Technical Theater
- DRAMA-260 Technical Theater Practicum

**DRAMA-111 Introduction to Lighting Design**
- 3 units SC
- 54 hours lecture per term
This course will present the theory and techniques of stage lighting including the function of lighting equipment, the operation of basic dimmer systems, and the creation of lighting designs for selected scenes from plays. C-ID THTR 173, CSU, UC

**DRAMA-112 Introduction to Stage Makeup**
- 3 units SC
- 54 hours lecture per term
This course presents the study the aesthetics, materials, and procedures of stage makeup. Corrective makeup, aging techniques, makeups which are inline with a play’s given circumstances, character makeup applications, makeups which accurately depict historical eras and cultural demands, and abstract/linear makeup design projects will be covered. C-ID THTR 175, CSU, UC

**DRAMA-113 Introduction to Costume Design**
- 3 units SC
- 56 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
• 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: C2, C1; 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
1-4 units SC
• May be repeated three 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. Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit. Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU

DRAMA-296  Internship in Occupational Work
Experience Education in DRAMA
1-4 units SC
• May be repeated three times
• Variable hours
• Note: In order to enroll in the DRAMA-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. The Employment Form can be accessed at www.dvc.edu/wrkx. Incomplete grades are not awarded for this course.

DRAMA-296 is a supervised internship in a skilled or professional level assignment in the student’s major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Five hours work per week or seventy-five hours work per term is equal to one unit (paid) or one unit for four hours work per week or sixty hours per term (unpaid work). Students may earn up to a maximum of sixteen units; 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.
Early childhood education

The associate in science program in early childhood education is designed as a two-year curricular pathway that offers students a broad general education while integrating an in-depth study in child development and theory, principles and practices in early care and education. The early childhood education program prepares students for various careers working directly with children, families and other adults in the early childhood profession.

To earn a degree, students must complete each of the courses required for the major with a “C” grade or higher and complete general education requirements as listed in the catalog. Attending classes in the day, the evening or both can complete degree requirements.

**major requirements:**

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<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</td>
<td>3</td>
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<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</td>
<td>3</td>
</tr>
<tr>
<td>ECE-126</td>
<td>Health, Safety, and Nutrition for the Young Child</td>
<td>3</td>
</tr>
<tr>
<td>ECE-128</td>
<td>Advanced Curriculum Development in ECE</td>
<td>3</td>
</tr>
<tr>
<td>ECE-130</td>
<td>Child, Family, and Community</td>
<td>3</td>
</tr>
<tr>
<td>ECE-144</td>
<td>Diversity in Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE-249</td>
<td>Observation and Assessment in the Classroom</td>
<td>4</td>
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<tr>
<td>ECE-250</td>
<td>Practicum in Early Childhood Education</td>
<td>4</td>
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**total minimum units for the major** 29

**recommended degree electives:**

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<tr>
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<th>Course Title</th>
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<td>ECE-129</td>
<td>Strategies for Working with Challenging Behaviors</td>
<td>3</td>
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<tr>
<td>ECE-230</td>
<td>Developmentally Appropriate Practice for Infants</td>
<td>3</td>
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<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>
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<tr>
<td>ECE-240</td>
<td>Language and Literacy for the Young Child</td>
<td>3</td>
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<tr>
<td>ECE-241</td>
<td>Science and Mathematics for Early Childhood Education</td>
<td>3</td>
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<tr>
<td>ECE-242</td>
<td>Music, Dance, and Drama for the Young Child</td>
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<tr>
<td>ECE-243</td>
<td>Creative Art for the Young Child</td>
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<tr>
<td>ECE-251</td>
<td>Administration I: Programs in Early Childhood Education</td>
<td>3</td>
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<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 - Associate 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. apply 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.

<table>
<thead>
<tr>
<th>required courses:</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE-123 Introduction to Curriculum in Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE-124 Child Development and Psychology</td>
<td>3</td>
</tr>
<tr>
<td>ECE-125 Principles and Practices of Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE-130 Child, Family, and Community</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units** 12

### 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.

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<tr>
<th>required courses:</th>
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<tr>
<td>ECE-124 Child Development and Psychology</td>
<td>3</td>
</tr>
<tr>
<td>ECE-125 Principles and Practices of Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE-130 Child, Family, and Community</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units** 29
Certificate of achievement  
Early childhood education - Master teacher

Students completing this program will be able to...

A. create a developmentally appropriate integrated curriculum.
B. analyze the psychological, physical and cognitive influences on child development.
C. identify and apply the principles and ideals of the Early Childhood Education profession.
D. assess how socializing agents and culture impact the lives of children and families.
E. evaluate strategies to maximize the health, safety and nutrition of children in early childhood education programs.
F. apply the principles of anti-bias pedagogy.
G. implement, 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. demonstrate knowledge in a specialization area.
K. apply constructivist theory and intentional teaching methodologies to teacher child interactions.

This early childhood education certificate meets the education requirements for the master teacher level of the Child Development Permit Matrix issued by the State of California Commission on Teacher Credentialing. After meeting additional experience requirements and a fingerprint clearance, graduates are qualified to apply for a Child Development Permit from the California Commission on Teacher Credentialing, which is required to work in federal and state funded programs for children aged 0-5.

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

required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
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<td>ECE-123</td>
<td>Introduction to Curriculum in Early Childhood</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</td>
<td>3</td>
</tr>
<tr>
<td>ECE-126</td>
<td>Health, Safety, and Nutrition for the Young Child</td>
<td>3</td>
</tr>
<tr>
<td>ECE-128</td>
<td>Advanced Curriculum Development in ECE</td>
<td>3</td>
</tr>
<tr>
<td>ECE-130</td>
<td>Child, Family, and Community</td>
<td>3</td>
</tr>
<tr>
<td>ECE-144</td>
<td>Diversity in Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE-249</td>
<td>Observation and Assessment in the Classroom</td>
<td>4</td>
</tr>
<tr>
<td>ECE-250</td>
<td>Practicum in Early Childhood Education</td>
<td>4</td>
</tr>
<tr>
<td>ECE-253</td>
<td>Adult Supervision and Mentoring in Early Childhood Classrooms</td>
<td>2</td>
</tr>
</tbody>
</table>

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>
</tr>
</tbody>
</table>

or one course from:

<table>
<thead>
<tr>
<th>Subject Code</th>
<th>Course Title</th>
<th>Units</th>
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<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>KNDAN-100</td>
<td>Introduction to Dance</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNDAN-110A</td>
<td>Ballet Fundamentals I</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNDAN-130A</td>
<td>Modern Dance Fundamentals I</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNCAN-160A</td>
<td>Tap Dance I</td>
<td>0.5-2</td>
</tr>
<tr>
<td>MUSIC-101</td>
<td>Beginning Guitar</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-102</td>
<td>Intermediate Guitar</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-112</td>
<td>America’s Music – A Multicultural Perspective</td>
<td>3</td>
</tr>
<tr>
<td>MUSCI-150</td>
<td>Beginning Piano I</td>
<td>1</td>
</tr>
<tr>
<td>MUSCI-151</td>
<td>Beginning Piano II</td>
<td>1</td>
</tr>
<tr>
<td>MUSIC-171</td>
<td>Jazz and Popular Solo Voice</td>
<td>1</td>
</tr>
</tbody>
</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>
</tr>
<tr>
<td>ECE-243</td>
<td>Creative Art for the Young Child</td>
<td>1</td>
</tr>
<tr>
<td>ECE-244</td>
<td>Circle Time Activities</td>
<td>1</td>
</tr>
</tbody>
</table>

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>
</tr>
</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>ENGL-177</td>
<td>Children’s Literature</td>
<td>3</td>
</tr>
<tr>
<td>LT-111</td>
<td>Storytelling</td>
<td>2</td>
</tr>
</tbody>
</table>

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>
</tr>
</tbody>
</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>
</tr>
</thead>
<tbody>
<tr>
<td>SIGN-280</td>
<td>American Sign Language (ASL) I</td>
<td>3</td>
</tr>
<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>
</tr>
</tbody>
</table>
### Special Needs

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE-129</td>
<td>Strategies for Working with Challenging Behaviors</td>
<td>3</td>
</tr>
<tr>
<td>ECE-269</td>
<td>Children with Special Needs</td>
<td>3</td>
</tr>
<tr>
<td>EDUSP-101</td>
<td>Introduction to Disabilities and the Law</td>
<td>3</td>
</tr>
<tr>
<td>EDUSP-102</td>
<td>Historical Perspectives of Disabilities</td>
<td>3</td>
</tr>
<tr>
<td>EDUSP-103</td>
<td>Classroom Strategies for the Special Education Paraeducator</td>
<td>3</td>
</tr>
<tr>
<td>SIGN-280</td>
<td>American Sign Language (ASL) I</td>
<td>3</td>
</tr>
<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>
</tr>
</tbody>
</table>

*plus at least 16 units from:

**General Education Courses**

At least 3 units in each of these 4 subject areas: English (only one course from English 116, 117, 117A, or 118 can be used); Math/Science; Humanities (may not use History courses); Social Sciences (may not use ECE courses). CLEP or AP exams may not be used to meet the GE subject area unit requirements.

### Total Minimum Required Units

53

*Topics for ECE-237 vary. Please contact the Early Childhood Education Department to verify if a specific ECE-237 course meets the requirements for a particular area of specialization.

---

### Certificate of Achievement

**Early Childhood Education - Site Supervisor**

Students completing this program will be able to...

A. create a developmentally appropriate integrated curriculum.
B. analyze the psychological, physical and cognitive influences on child development.
C. identify and apply the principles and 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.

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.

### Required Courses

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<tr>
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<th>Course Title</th>
<th>Units</th>
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</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>
<td>3</td>
</tr>
<tr>
<td>ECE-130</td>
<td>Child, Family, and Community</td>
<td>3</td>
</tr>
<tr>
<td>ECE-144</td>
<td>Diversity in Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE-249</td>
<td>Observation and Assessment in the Classroom</td>
<td>4</td>
</tr>
<tr>
<td>ECE-250</td>
<td>Practicum in Early Childhood Education</td>
<td>4</td>
</tr>
</tbody>
</table>

*plus at least 16 units from:

**General Education Courses**

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.

### Plus 8 Units

<table>
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<tr>
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<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<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>
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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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</tr>
<tr>
<td>ECE-126 Health, Safety and Nutrition for the Young Child</td>
<td>3</td>
</tr>
<tr>
<td>ECE-128 Advanced Curriculum Development in ECE</td>
<td>3</td>
</tr>
<tr>
<td>ECE-130 Child, Family, and Community</td>
<td>3</td>
</tr>
<tr>
<td>ECE-144 Diversity in Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE-249 Observation and Assessment in the Classroom</td>
<td>4</td>
</tr>
<tr>
<td>ECE-250 Practicum in Early Childhood Education</td>
<td>4</td>
</tr>
</tbody>
</table>

**plus at least 16 units from:**

**general education courses:**

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.

**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.

**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 it 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. It introduces multiple resources and practical hands-on activities that support child-nature connections. 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
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

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

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

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

This course presents an in-depth investigation in current research, theories, and issues in the study of personality development. The emphasis is on analyzing current and ongoing research along with contemporary trends. CSU

ECE-123 Introduction to Curriculum in Early Childhood Education

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
ECE-144 Diversity in Early Childhood Education
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 III, Program and Curriculum Development
This course examines the impact of various societal influences on the development of children's social identity. Developmentally appropriate, inclusive, and anti-bias approaches are discussed. Self-examination and reflection on issues related to social identity, stereotypes, and bias will also be emphasized. C-ID ECE 230, CSU

ECE-230 Developmentally Appropriate Practice for Infants and Toddlers
3 units SC
- 54 hours lecture per term
- Recommended: ECE-124 and eligibility for ENGL-122 or equivalents
- Note: Meets the State Department of Social Services licensing requirement for DSS IV, Infant Care and Development
This course applies current theory and research to the care and education of infants and toddlers in group settings. It examines essential policies, principles and practices that lead to quality care and developmentally appropriate curriculum for children birth to 36 months, including elements of responsive environments and collaboration with families. CSU

ECE-231 Infant and Toddler Development
3 units SC
- 54 hours lecture per term
- Recommended: ECE-124 and eligibility for ENGL-122 or equivalents
This course studies the physical, cognitive, linguistic, social, and emotional development and growth of infants and toddlers. Students will apply current research and developmental theory to infant and toddler behavior. Emphasis is placed on the role of the family and relationships. CSU

ECE-237 Current Topics in Early Childhood Education
.5-3 units SC
- Variable hours
- Recommended: Eligibility for ENGL-122 or equivalent
- Note: Meets the State Department of Social Services licensing requirement for DSS III, Program and Curriculum Development, if taken for 3 units, and the course is a curriculum course
A supplemental course in child development to provide a study of current concepts and problems in the major theories of child development including their philosophical bases, their techniques and their materials and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

ECE-240 Language and Literacy for the Young Child
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL-122 or equivalent
This course is an introduction to young children's literature, emergent literacy and the development of speech and language during infancy and early childhood. Students will explore teaching techniques which promote language, literacy and literature for the young child. Approaches to reading books, storytelling, story writing, etc. will be introduced and practiced. CSU

ECE-241 Science and Mathematics for Early Childhood Education
3 units SC
- 54 hours lecture per term
- Note: Meets the State Department of Social Services licensing requirement for DSS III, Program and Curriculum Development
This course explores how science, mathematics, the physical and the natural world are integrated into early childhood education curricula. Students will create science and math experiences, select appropriate materials, and learn specific scientific and mathematical techniques for working with young children. The course focuses on tapping into children's natural curiosity by utilizing observation, reasoning skills, inquiry and hands-on, playful experiences. CSU

ECE-242 Music, Dance, and Drama for the Young Child
1 unit SC
- 18 hours lecture per term
- Note: Meets the State Department of Social Services licensing requirement for DSS III, Program and Curriculum Development. This course can be applied to professional development units for Child Development Permit holders, as well as pre-school, transitional kindergarten, and early-primary teachers.
The course presents an introduction to the performing arts domain of the California Preschool Learning Foundations and Frameworks including the strands of music, dance, and drama throughout the curriculum will be explored. CSU

ECE-243 Creative Art for the Young Child
1 unit SC
- 18 hours lecture per term
- 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 can be applied to professional development units for Child Development Permit holders, as well as pre-school, transitional kindergarten, and early-primary teachers.
This course presents an introduction to the visual arts domain of the California Preschool Learning Foundations and Frameworks. The developmental stages of children's artistic expression and practical strategies for exploring creative art mediums with young children will be covered. CSU
ECE-244  Circle Time Activities
1 unit  SC
• 18 hours lecture per term
This course is designed to present the value of circle or group time for young children. Written materials, demonstrations, lecture and discussions, and sharing of student experiences are utilized to teach practical and theoretical application of songs, stories, games, finger plays and other circle time activities. CSU

ECE-249  Observation and Assessment in the ECE Classroom
4 units  SC
• 54 hours lecture/54 hours laboratory by arrangement per term
• Prerequisite: ECE-124, ECE-125 (may be taken concurrently) or equivalent
• 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 laborator work at DVC Children's Center or approved mentor site.
Meets the State Department of Social Services licensing requirement for DSS III, Program and Curriculum Development.

This course focuses on the appropriate use of assessment and observation strategies to document development, growth, play and learning in early childhood education settings. Students will utilize practical classroom experiences to apply a variety of observation methodologies including, child portfolios, recording strategies, rating systems, and multiple assessment tools. Students will explore the connections between developmental theory and practical usage of reflective observation in the DVC Children's Center or an approved mentor site. C-ID ECE 200, CSU

ECE-250  Practicum in Early Childhood Education
4 units  SC
• 36 hours lecture/108 hours laboratory by arrangement per term
• Prerequisite: ECE-123, ECE-124, ECE-125, ECE-249 or equivalents
• 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. Students 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 or equivalents; 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

ECE-254  Language and Literacy for the Young Child
1 unit  SC
• 18 hours lecture per term
• Recommended: Eligibility for ENGL-122 or equivalent
• Note: This course can be applied to professional development units for Child Development Permit holders as well as pre-school, transitional kindergarten, and early-primary teachers

This course presents an introduction to children's literature, emergent literacy, and the development of speech and language development 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.
ECE-255  English Learners in Early Childhood Classroom Settings
1 unit SC
• 18 hours lecture per term
• Recommended: ENGL-122 or equivalent
• Note: This course can be applied to professional development units for Child Development Permit holders, as well as pre-school, transitional kindergarten, and early-primary teachers.

This course presents an introduction to the English language learners domain of the California Preschool Learning Foundations and Frameworks, including strands of listening, speaking, reading and writing. Principles and practices for supporting English language development in second language learners are presented.

ECE-269  Children with Special Needs
3 units SC
• 54 hours lecture per term
• Recommended: ECE-124 and eligibility for ENGL-122 or equivalents

This course provides an introduction to the variations in development of children with special needs, as well as the resulting impact on families, and will focus on the years between birth through aged eight. An overview of historical and societal influences, laws relating to children with special needs, and the identification and referral process will also be discussed. CSU

ECE-295  Occupational Work Experience Education in ECE
1-4 units SC
• May be repeated three times
• Variable hours
• Note: In order to enroll in ECE-295, students must be employed, register for the course, complete an online Employment Form, and participate in an orientation. Employment Form can be accessed at www.dvc.edu/wrxx. Incomplete grades are not awarded for this course.

ECE-295 is supervised employment that extends classroom learning to the job site and relates to the student’s chosen field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Five hours work per week or seventy-five hours work per term is equal to one unit (paid) or one unit for four hours work per week or sixty hours per term (unpaid work). Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU

ECE-296  Internship in Occupational Work Experience Education in ECE
1-4 units SC
• May be repeated three times
• Variable hours
• Note: In order to enroll in the ECE-296 course, students must be interning or volunteering, register for the course, complete an online Employment Form, and participate in an orientation. The Employment Form can be accessed at www.dvc.edu/wrxx. Incomplete grades are not awarded for this course.

ECE-296 is a supervised internship in a skilled or professional level assignment in the student’s major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Five hours work per week or seventy-five hours work per term is equal to one unit (paid) or one unit for four hours work per week or sixty hours per term (unpaid work). Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU

ECE-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

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.

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**ECON-220 Principles of Macroeconomics**
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
  • IGEC: 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
  • IGEC: 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
  • IGEC: 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.

The associate in arts in elementary teacher education for transfer is intended for students who plan to complete a bachelor's degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major. The associate in arts in elementary teacher education for transfer is consistent with the mission of the community college to assist students in achieving a seamless transfer to the CSU system.

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 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.

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<tr>
<td>BIOSC-102 Fundamentals of Biological Science with Laboratory</td>
<td>4</td>
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<td>COMM-120 Public Speaking</td>
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<td>ECE-124 Child Development and Psychology</td>
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<td>EDUC-120 Introduction to Teaching in Elementary Schools</td>
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<td>ENGL-122 First-Year College Composition and Reading</td>
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<td>ENGL-123 Critical Thinking: Composition and Literature</td>
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<td>GEOG-135 World Regional Geography</td>
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<td>GEOL-130 Earth Science</td>
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<td>HIST-120 History of the United States before 1877</td>
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<td>HIST-180 World History to 1500</td>
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<td>MATH-125 Mathematical Concepts for Elementary School Teachers</td>
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<td>PHYS-110 Elementary Physics</td>
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<td>PHYS-111 Physics Laboratory</td>
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<td>POLSC-121 Introduction to United States Government</td>
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<td>CHEM-108 Introductory Chemistry</td>
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**at least 3 units from:**

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<td>ENGL-126 Critical Thinking: The Shaping of Meaning in Language</td>
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<td>HIST-122 Critical Reasoning in History</td>
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<td>PHILO-130 Logic and Critical Thinking</td>
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<td>PSYCH-145 Critical Thinking in Psychology</td>
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<td>SOCIO-122 Critical Thinking About Social and Cultural Issues</td>
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**plus at least 3 units from:**

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<td>DANCE-201 Western Culture Dance History: 20th Century to Present</td>
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</tr>
<tr>
<td>DRAMA-139 Introduction to Theater</td>
<td>3</td>
</tr>
<tr>
<td>MUSIC-110 Music Appreciation</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 52
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 Support Services
Student Services Center, Room

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:
EDUC-120 Introduction to Teaching in Elementary Schools ............................................. 3
EDUSP-101 Introduction to Disabilities ........................................................................ 3
EDUSP-102 Historical Perspectives of Disabilities and the Law .................................. 3
EDUSP-103 Classroom Strategies for the Special Education Paraeducator .................. 3
PSYCH-122 Psychology in Modern Life ........................................................................ 3

plus 2-4 units from:
EDUSP-295 Occupational Work Experience Education ........................................... 1-4
EDUSP-296 Internship in Occupational Work Experience Education ......................... 1-4

plus at least 6 units from:
COMM-128 Interpersonal Communication ............................................................... 3
ECE-123 Introduction to Curriculum in Early Childhood Education ......................... 3
ECE-125 Principles and Practices of Early Childhood Education ................................ 3
ECE-126 Health, Safety, and Nutrition for the Young Child ...................................... 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
SIGN-281 American Sign Language (ASL) II ............................................................ 3
SIGN-282 American Sign Language (ASL) III .......................................................... 3

total minimum units for the major 23

218  PROGRAM/COURSE DESCRIPTIONS  chapter four  DIABLO VALLEY COLLEGE  CATALOG 2020-2021
Certificate of achievement
Special education paraeducator/ instructional assistant

Students completing the program will be able to...
A. analyze state and federal legislation pertaining to general and special education.
B. use a variety of instruction strategies and materials that respect individual differences.
C. demonstrate and understanding of how culture affects relationships among children, families, and schooling.

This entry-level program prepares students with practical skills and knowledge to work with people with disabilities in a variety of educational and rehabilitation settings. Additionally, the courses are intended to introduce students to career opportunities in special education or other disability-related fields, and can provide preparation for transfer to four-year institutions to continue a course of study in general education and special education. Classes are designed to serve working individuals wishing to improve their applied skills and professional growth.

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

required courses:
- ECE-124 Child Development and Psychology ................3
- 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 para-professional within the educational workplace. Emphasis is placed on effective communication techniques that facilitate and manage appropriate student behavior and learning. CSU

EDUSP-295 Occupational Work Experience
Education in EDUSP
1-4 units SC
- May be repeated three 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. Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit. Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU
EDUSP-296  Internship in Occupational Work Experience Education in EDUSP

1-4 units  SC  
• May be repeated three 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. The Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit (paid) or one unit for four hours work per week or sixty hours per term (unpaid work). Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU

This program prepares students for jobs installing, repairing, maintaining and servicing electrical and electronics equipment. Electrical/electronics jobs are found in the fields of electrical, medical, industrial, commercial systems, programmable logic controller systems, automotive, communications and others. The following courses are part of the Electricians Trainee Program and approved by the Division of Apprenticeship Standards: ELECT-120, 121, 130, 220, 230, 266, 267, 271, ELTRN-210 and CNT-103.

Selected courses may meet some of the lower division requirements for bachelor of science programs in engineering technology and industrial technology at certain California State University campuses and private technical colleges. Consult with electronics department faculty and college counselors for more information.

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

required courses:  

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELECT-266</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 4 units from:</td>
<td></td>
</tr>
<tr>
<td>ELECT-120</td>
<td>4</td>
</tr>
<tr>
<td>ELTRN-120</td>
<td>4</td>
</tr>
<tr>
<td>plus at least 4 units from:</td>
<td></td>
</tr>
<tr>
<td>ELECT-121</td>
<td>4</td>
</tr>
<tr>
<td>ELTRN-121</td>
<td>4</td>
</tr>
<tr>
<td>plus at least 12 units from:</td>
<td></td>
</tr>
<tr>
<td>ELECT-130</td>
<td>4</td>
</tr>
<tr>
<td>ELECT-220</td>
<td>2</td>
</tr>
<tr>
<td>ELECT-230</td>
<td>2</td>
</tr>
<tr>
<td>ELECT-271</td>
<td>4</td>
</tr>
<tr>
<td>ELTRN-210</td>
<td>4</td>
</tr>
<tr>
<td>plus at least 3 units from any course not used above, or:</td>
<td></td>
</tr>
<tr>
<td>CNT-103</td>
<td>2</td>
</tr>
<tr>
<td>CONST-110</td>
<td>2</td>
</tr>
<tr>
<td>ELECT-267</td>
<td>3</td>
</tr>
<tr>
<td>ELTRN-107</td>
<td>2</td>
</tr>
<tr>
<td>ELTRN-116</td>
<td>3</td>
</tr>
<tr>
<td>total minimum units for the major</td>
<td>26</td>
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</tbody>
</table>

ELECTRICAL/ELECTRONICS TECHNOLOGY – ELECT/ELTRN

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

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.
Certificate of achievement
Electrical/electronics technology
Students completing the program will be able to...
A. identify common electrical circuit components and their use.
B. solve AC and DC circuits for voltage, current, resistance, power, and other parameters.
C. operate and understand common laboratory instruments used in the analysis, construction, and troubleshooting of AC and DC circuits.
D. apply specific sections of the national electrical code to electrical systems.

This program prepares students for jobs installing, repairing, maintaining and servicing electrical and electronics equipment. Electrical/electronics jobs are found in the fields of electrical, medical, industrial, commercial systems, programmable logic controller systems, automotive, communications and others. The following courses are part of the Electricians Trainee Program and approved by the Division of Apprenticeship Standards: ELECT-120, 121, 130, 220, 230, 266, 267, 271, ELTRN-210 and CNT-103.

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

required courses:  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
ELTRN-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

total minimum required units 11

ELECT-110  Survey of Electricity
2 units  SC
- 27 hours lecture/27 hours laboratory per term
- Recommended: MATH-090 or MATH-090E or MATH-090SP 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 Kirchoff’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 eterline. 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  
- Formerly ELTRN-102B  
A study of operational amplifiers, timers, phase-locked loops, and other active devices. Includes analysis and design of basic circuits such as active filters and analog communication circuits. Also includes related laboratory experience. CSU

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

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

Possible career opportunities
An area of increasing job opportunities is in the various fields of alternate or renewable energy. This includes areas related to solar photovoltaics, solar water heating, wind energy systems, biodiesel and biofuels, biomass, fuel cells and related hydrogen energy devices and other small technologies. Most of the jobs in these areas are involved with the installation, design or maintenance of these systems. Most of these areas require skills in electricity, science, and math.

Associate in science degree
Energy systems
Students completing the program will be able to...
A. identify, measure, and analyze the major energy uses in typical businesses operations, focusing beyond the building and into processes.
B. demonstrate the electrical and energy systems skills to successfully interact with builders, architects, engineers, and constructors and advise on building and systems energy use.
C. design medium complexity solar photovoltaic or other energy system for medium size commercial buildings and processes.

This program provides students with a broad view of energy and energy systems and specific skills for those planning on entering the field designing, installing, servicing/repairing and maintaining renewable/sustainable energy systems. This includes wind energy, biodiesel and biofuels, biomass, fuel cells, hydrogen, and other technologies.

To earn an associate in science degree, students must complete each course used to meet a major requirement with a “C” grade or higher, maintain an overall GPA of 2.5 or higher in the coursework required for the major and complete general education requirements as listed in the catalog.

major requirements:  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

Certificate of achievement
Energy systems
Students completing the program will be able to...
A. identify, measure, and analyze the major energy uses in typical businesses operations, focusing beyond the building and into processes.
B. demonstrate the electrical and energy systems skills to successfully interact with builders, architects, engineers, and constructors and advise on building and systems energy use.
C. design medium complexity solar photovoltaic or other energy system for medium size commercial buildings and processes.

This program provides students with a broad view of energy and energy systems and specific skills for those planning on entering the field designing, installing, servicing/repairing and maintaining renewable/sustainable energy systems. This includes wind energy, biodiesel and biofuels, biomass, fuel cells, hydrogen, and other technologies.

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

required courses:  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
Certificate of accomplishment
Energy systems
Students completing the program will be able to...
A. identify, measure, and analyze the major energy uses in typical businesses operations, focusing beyond the building and into processes.
B. demonstrate the electrical and energy systems skills to successfully interact with builders, architects, engineers, and constructors and advise on building and systems energy use.
C. design medium complexity solar photovoltaic or other energy system for medium size commercial buildings and processes.

This program provides students with a broad view of energy, energy systems, and specific entry-level skills for those planning on entering the field of installing, servicing/repairing, and maintaining renewable/sustainable energy systems with a focus on photovoltaic systems. Technologies include wind energy, biodiesel and biofuels, biomass, fuel cells, hydrogen, and other technologies.

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

required courses: units
ENSYS-120 Introduction to Energy Systems ....................... 3
ENSYS-125 Building Envelope and Systems ....................... 3
ENSYS-130 Photovoltaic Systems Design and Installation ....................... 2
ENSYS-230 Advanced Photovoltaic Systems ....................... 2

plus at least 4 units from:
ELECT-120 Direct Current Circuits ............................... 4
ELTRN-120 Direct Current Circuits ............................... 4

total minimum required units 14

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 electromechanical 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

ENGINEERING – ENGIN

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

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:  units
CHEM-120* General College Chemistry I .............................. 5
ENGIN-110 Introduction to Engineering ............................... 3
ENGIN-120 Engineering Drawing........................................... 3
ENGIN-230* Introduction to Circuits and Devices ................. 4
ENGIN-240* Properties of Engineering Materials .................... 4
ENGIN-255* Statics................................................................ 3
MATH-192* Analytic Geometry and Calculus I ...................... 5
MATH-193* Analytic Geometry and Calculus II .................... 5
MATH-292* Analytic Geometry and Calculus III ................... 5
MATH-294* Differential Equations ...................................... 5
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:
ENGIN-135 Programming for Scientists and Engineers .......... 4
ENGIN-136* Computer Programming for Engineers Using MATLAB....................................................... 4
ENGIN-140* Plane Surveying............................................... 4
ENGIN-257* Statics and Strength of Materials ...................... 3

total minimum units for the major 53

*These courses have prerequisites. See a counselor for program sequence.

Associate in science degree
Electrical engineering and computer engineering
Students completing the program will be able to...
A. apply analysis tools and computer tools in problem solving.
B. identify interdisciplinary aspects of engineering projects.
C. apply software engineering principles and procedures.
D. do computer algorithm development using C and C++ techniques.
E. understand the operation and control of electrical measuring equipment.
F. use computer programming skills to develop software for automation, decision making and control of equipment.
G. develop test software for evaluation of digital circuits.
H. analyze the operation of small scale digital and analog circuits.
I. design simple operational amplifier circuits.
J. demonstrate knowledge of magnetism and its applications in the design of transformers and actuators.
K. assemble and test digital and analog circuits from circuit diagrams.

The associate degree program in electrical engineering and computer engineering (EECE) prepares the students for a career in the EECE field or to transfer to a four-year degree program. Graduates entering the workforce will be able to perform the tasks typically expected of an assistant engineer. Students who intend to transfer are advised to select general education Option 2 (IGETC) or Option 3 (CSU GE). General education option 1 (DVC general education) is appropriate for students who do not intend to transfer.
Most core requirement courses have math and science prerequisites. Students must see a counselor for planning appropriate coursework sequence.

To earn an associate degree in electrical engineering and computer engineering, students must complete the core requirements with a “C” grade or higher. Students must also complete general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirement; however the units are only counted once.

**major requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM-120*</td>
<td>General College Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>COMSC-165*</td>
<td>Advanced Programming with C and C++</td>
<td>4</td>
</tr>
<tr>
<td>COMSC-210*</td>
<td>Program Design and Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-110</td>
<td>Introduction to Engineering</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN-230*</td>
<td>Introduction to Circuits and Devices</td>
<td>4</td>
</tr>
<tr>
<td>MATH-192*</td>
<td>Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>MATH-193*</td>
<td>Analytic Geometry and Calculus II</td>
<td>5</td>
</tr>
<tr>
<td>MATH-292*</td>
<td>Analytic Geometry and Calculus III</td>
<td>5</td>
</tr>
<tr>
<td>MATH-294*</td>
<td>Differential Equations</td>
<td>5</td>
</tr>
<tr>
<td>PHYS-130*</td>
<td>Physics for Engineers and Scientists A: Mechanics and Wave Motion</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-230*</td>
<td>Physics for Engineers and Scientists B: Heat and Electro-Magnetism</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-231*</td>
<td>Physics for Engineers and Scientists C: Optics and Modern Physics</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>ENGIN-120</td>
<td>Engineering Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN-121</td>
<td>Engineering Drawing/Descriptive Geometry</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN-135</td>
<td>Programming for Scientists and Engineers</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-136*</td>
<td>Computer Programming for Engineers</td>
<td>4</td>
</tr>
<tr>
<td>ENGT-126</td>
<td>Computer Aided Design and Drafting - Auto CAD</td>
<td>3</td>
</tr>
<tr>
<td>MATH-194*</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH-195*</td>
<td>Discrete Mathematics</td>
<td>4</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 55

*Certain courses required for this degree have prerequisite coursework that could add additional units.

**Associate in science degree**

**Mechanical engineering**

Students completing the program will be able to...

A. apply the skills and knowledge acquired to analyze issues, solve problems, and critically evaluate a proposal or a process.

B. use appropriate quantitative tools to answer scientific questions, represent data, and document scientific findings.

C. demonstrate effective communication with fellow team members, the public, and members of the scientific community, using written, oral, and visual communication methods.

D. safely and appropriately use standard laboratory or field equipment to make precise and reliable measurements.

The associate in science degree in mechanical engineering (ASME) is designed to prepare mechanical engineering students for transfer to a four-year institution. This program enables graduates to apply basic engineering principles and technical skills in support of engineers engaged in the design and development phases of a wide variety of projects involving mechanical systems.

The DVC ASME degree is intended for transfer. Degree requirements at four-year programs differ from institution to institution, so students wishing to transfer to a particular four-year program must consult with a counselor regarding specific major requirements of a particular university program. Additionally, students are advised that other courses in math, physics and chemistry may be required and that engineering courses have science and math prerequisites. It is recommended that the students contact the counseling office for advisement regarding appropriate sequencing. Finally, the ASME is a high-unit major; students are advised to meet with a counselor to determine appropriate general education courses to complete their degree requirements.

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

**major requirements:**

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<tr>
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<tr>
<td>CHEM-120*</td>
<td>General College Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>ENGIN-110</td>
<td>Introduction to Engineering</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN-120</td>
<td>Engineering Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN-230*</td>
<td>Introduction to Circuits and Devices</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-240*</td>
<td>Properties of Engineering Materials</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-255*</td>
<td>Statics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-193*</td>
<td>Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>MATH-292*</td>
<td>Analytic Geometry and Calculus II</td>
<td>5</td>
</tr>
<tr>
<td>MATH-294*</td>
<td>Differential Equations</td>
<td>5</td>
</tr>
<tr>
<td>PHYS-130*</td>
<td>Physics for Engineers and Scientists A: Mechanics and Wave Motion</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-230*</td>
<td>Physics for Engineers and Scientists B: Heat and Electro-magnetism</td>
<td>4</td>
</tr>
</tbody>
</table>

*plus at least 3 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGIN-135</td>
<td>Programming for Scientists and Engineers</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-136*</td>
<td>Computer Programming for Engineers Using MATLAB</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-257*</td>
<td>Statics and Strength of Materials</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 53

*These courses have prerequisites. See counselor for program sequence.
ENGIN-110  Introduction to Engineering
3 units SC
- 36 hours lecture/72 hours laboratory per term
- 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 auxiliary, 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 or equivalent and PHYS-230 or equivalent  
• 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 260L, CSU, UC

ENGIN-240  Properties of Engineering Materials  
4 units  LR  
• 54 hours lecture/72 hours laboratory per term  
• Prerequisite: CHEM-120 and PHYS-130 or equivalents  
This course is a study of properties of engineering materials as related to their atomic, microscopic, and macroscopic structures. The application of the basic principles of physics and chemistry to the engineering properties of materials will be covered. Special emphasis will be devoted to the relation between microstructure and the mechanical properties of metals, concrete, polymers, and ceramics, and the electrical properties of semiconducting materials. C-ID ENGR 140B, CSU, UC

ENGIN-255  Statics  
3 units  LR  
• 54 hours lecture per term  
• Prerequisite: PHYS-130 or equivalent and MATH-193 or equivalent  
• 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

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
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: units
CONST-114 Print Reading .....................................................3
ENGIN-121 Engineering Drawing/Descriptive Geometry .........................3
PHYS-110 Elementary Physics ..................................................3

plus at least 3 units from:
ENGTC-111 Mathematics for Technicians .................................3
MATH-121 Plane Trigonometry .................................................3
MATH-191 Pre-Calculus ..........................................................5

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:
ENGTC-226 Computer Aided Drafting Design, Advanced Concepts - AutoCAD .......................3

plus at least 6 units from:
CONST-116 Plane Surveying ...................................................4
ENGIN-140 Plane Surveying ...................................................4
ENGTC-123 Principles of Civil Drafting ....................................3
GEOG-125 Introduction to Geographic Information Systems (GIS) ..................3
GEOG-126 Advanced Geographic Information Systems ...3
GEOG-160 Introduction to Remote Sensing .................................4
GEOG-162 Map Design and Visualization ..................................3

total minimum units for the major 30
The associate of science degree in engineering technology is offered to prepare students with the required aptitude and skills to enter the workforce as entry-level machinists, tool and die makers, or mold makers. Students will be prepared for careers that are highly in demand for aerospace, medical, electronic, high tech, and automotive and transport industries. Graduates of this program will be well equipped to continue their career advancement as engineers, product developers, prototype/model builders, production machinist, or electro-mechanical maintenance and repair specialists.

Students completing this program will develop familiarity with lathes, mills, drill presses, and precision measuring. They will also be introduced to the concepts of computer numerical control (CNC) machines and 3D (additive) manufacturing processes, geometric dimension and tolerance (GD&T), and modern technical drawing (CAD) techniques.

The DVC machining for mechanical engineering technology major is not intended for transfer. Option 1 (DVC General Education) is advised for students who do not intend to transfer. Students who intend to transfer to a four-year baccalaureate program should consult with a counselor regarding specific major preparation requirements at the transfer institution of their choice. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE).

Students must complete each of the courses required for the major with a “C” grade or higher. Students may not take a pass/no pass option for major courses. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**major requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGTC-119 Introduction to Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-126 Computer Aided Design and Drafting-AutoCAD</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-129 Product Design I Using Solidworks</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-160 Introduction to Industrial and Manufacturing Engineering</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-162 Geometric Dimensioning and Tolerancing</td>
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<tr>
<td>ENGTC-165 Machining and Manufacturing I</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-166 Machining and Manufacturing II</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-168 Introduction to Computer Numerical Control</td>
<td>3</td>
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</tbody>
</table>

**plus at least 3 units from:**

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
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<tbody>
<tr>
<td>ENGTC-111 Mathematics for Technicians</td>
<td>3</td>
</tr>
<tr>
<td>MATH-119 Beginning and Intermediate Algebra</td>
<td>4</td>
</tr>
<tr>
<td>MATH-121 Plane Trigonometry</td>
<td>3</td>
</tr>
<tr>
<td>MATH-191 Pre-Calculus</td>
<td>5</td>
</tr>
<tr>
<td>MATH-192 Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 25

### Associate in science degree

**mTECH - Industrial maintenance machinist/mechanic**

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

A. discuss the role of the industrial maintenance machinist/mechanic in shop and field maintenance safety.

B. interpret blueprints and technical drawings for parts manufacturing and maintenance repair operations.

C. grind high speed steel tool bits for general purpose turning and threading.

D. cut multiple lead and acme threads on a lathe.

E. use the vertical milling machine to drill holes, index, bore hole to a specified diameter and depth, mill surfaces and edges, and use an indicator to reference work.

F. replace a single mechanical seal in a centrifugal pump.

G. align a pump shaft to a motor to a specified tolerance.

This program prepares students for jobs in the manufacturing industry including industrial machinery mechanics, maintenance specialists or technicians, and machinery maintenance workers in industries including chemical, refinery, and public works. These jobs involve repairing, installing, adjusting, or maintaining industrial production and processing machinery or refinery and pipeline distribution systems. The labor market for these high-wage occupations in the Bay Area is strong.

Graduates of this program will gain skills and knowledge in areas that include machining, industrial hydraulics and pneumatics, shop and field maintenance, basic electricity, technical drawing, basic drafting, and applied mathematics. Students are advised to meet with a counselor or program advisor to develop an educational plan that meets their needs.

The DVC mTECH major is not intended for transfer. Option 1 (DVC General Education) is advised for students who do not intend to transfer. Students who intend to transfer to a four-year baccalaureate program should consult with a counselor regarding specific major preparation requirements at the transfer institution of their choice. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE).

Students must complete each of the courses required for the major with a “C” grade or higher. Students may not take a pass/no pass option for major courses. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**major requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONST-110 Occupational Safety</td>
<td>2</td>
</tr>
<tr>
<td>ELECT-110 Survey of Electricity</td>
<td>2</td>
</tr>
<tr>
<td>ENGTC-119 Introduction to Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-165 Machining and Manufacturing I</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-166 Machining and Manufacturing II</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-175 Hydraulic and Pneumatic Systems and Components</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-176 Mechanical Systems and Components</td>
<td>3</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>MATH-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>
</tbody>
</table>

**Total minimum required units:** 19

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

### Plus at least 3 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Units</th>
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</thead>
<tbody>
<tr>
<td>ENGTC-119</td>
<td>Introduction to Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-126</td>
<td>Computer Aided Design and Drafting - AutoCAD</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN-120</td>
<td>Mechanical Engineering</td>
<td>3</td>
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<tr>
<td>ENGIN-121</td>
<td>Plane Trigonometry</td>
<td>3</td>
</tr>
<tr>
<td>MATH-192</td>
<td>Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>MATH-193</td>
<td>Calculus</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total minimum required units:** 30

## 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:

<table>
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<tr>
<th>Course Code</th>
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<td>MATH-191</td>
<td>Pre-Calculus</td>
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**Total minimum required units:** 19

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ARCHI-119</td>
<td>Introduction to Technical Drawing</td>
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</tr>
</tbody>
</table>

**Total minimum required units:** 30

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

### Plus at least 3 units from:

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<td>Computer Aided Design and Drafting - AutoCAD</td>
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<td>3</td>
</tr>
<tr>
<td>MATH-192</td>
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<td>5</td>
</tr>
<tr>
<td>MATH-193</td>
<td>Calculus</td>
<td>3</td>
</tr>
</tbody>
</table>
plus at least 3 units from:

plus at least 3 units from:
GEOG-124  Thinking and Communicating Geospatially ...... 3
GEOG-129  Field Data Acquisition and Management ....... 3

plus at least 6 units from:
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
GEOG-125  Introduction to Geographic Information Systems (GIS) .............................................. 3
GEOG-126  Advanced Geographic Information Systems .... 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-111  Mathematics for Technicians ...................... 3
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-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

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 drafting, 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.

<table>
<thead>
<tr>
<th>required courses:</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONST-110</td>
<td>2</td>
</tr>
<tr>
<td>ELECT-110</td>
<td>2</td>
</tr>
<tr>
<td>ENGT-119</td>
<td>3</td>
</tr>
<tr>
<td>ENGT-165</td>
<td>3</td>
</tr>
<tr>
<td>ENGT-166</td>
<td>3</td>
</tr>
<tr>
<td>ENGT-175</td>
<td>3</td>
</tr>
<tr>
<td>ENGT-176</td>
<td>3</td>
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<tr>
<td>plus 0-5 units from:</td>
<td></td>
</tr>
<tr>
<td>ENGT-111</td>
<td>3</td>
</tr>
<tr>
<td>MATH-119</td>
<td>4</td>
</tr>
<tr>
<td>MATH-121</td>
<td>3</td>
</tr>
<tr>
<td>MATH-191</td>
<td>5</td>
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<tr>
<td>MATH-192</td>
<td>5</td>
</tr>
<tr>
<td>total minimum required units</td>
<td>19</td>
</tr>
</tbody>
</table>

**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>required courses:</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCHI-126</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-126</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
</tr>
<tr>
<td>ARCHI-226</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-226</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
</tr>
<tr>
<td>ARCHI-119</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI-120</td>
<td>3</td>
</tr>
<tr>
<td>CONST-114</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-119</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
</tr>
<tr>
<td>ARCHI-135</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI-136</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM-160</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-129</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-125</td>
<td>3</td>
</tr>
<tr>
<td>IDSGN-120</td>
<td>3</td>
</tr>
<tr>
<td>total minimum required units</td>
<td>12</td>
</tr>
</tbody>
</table>

**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 electromechanical. The courses provide students with skills in technical drawing, computer aided design (CAD), and traditional shop tools.

Students create detailed product specifications and gain knowledge required to safely operate shop tools. Concepts in technical drawing, computer-aided design, and hand drafting will be inclusive. In addition, students use a variety of measuring devices and safely operate traditional machinery including drills, saws and mechanical tools. Completion of the foundation courses and prepare students to transition into technical design, rapid prototyping, computer numerical control (CNC) machining and manufacturing.
To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate.

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGTC-119</td>
<td>Introduction to Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-126</td>
<td>Computer Aided Design and Drafting-AutoCAD</td>
<td>3</td>
</tr>
<tr>
<td>IDSGN-105</td>
<td>Assembly and Fabrication Workshop</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>total minimum required units</strong></td>
<td><strong>8</strong></td>
</tr>
</tbody>
</table>

**ENGTC-111 Mathematics for Technicians**

- **3 units** LR
  - DVC GE: IC
  - 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
  - Formerly ENGIN-111

This course is a study of mathematical topics used for technical applications in the workplace. Topics include an introduction to units of measurement, mathematical operations with application to technical problems, algebraic operations and concepts in geometry and trigonometry. An introduction to coordinate spaces and systems and their application to technical problems in the field are also covered. The calculation of surface areas and volumes are presented in context with problems encountered in technical and design fields. CSU

**ENGTC-119 Introduction to Technical Drawing**

- **3 units** SC
  - 36 hours lecture/72 hours laboratory per term
  - Note: Same as ARCHI-119. For students with no previous drafting experience. Credit by examination option available.
  - Formerly ENGIN-119

This course presents an introduction to technical drawing. Topics include technical lettering and line work, geometric constructions, sketching and shape description, orthographic projection, dimensioning, section views, and auxiliary views. Students will gain experience using computers to produce technical drawings, utilizing 3D modeling and orthographic computer aided design (CAD) drafting. An introduction to computer numerical control (CNC) prototyping and 3D printing is also covered. CSU, UC (credit limits may apply to UC - see counselor)

**ENGTC-123 Principles of Civil Drafting**

- **3 units** LR
  - 36 hours lecture/72 hours laboratory per term
  - Recommended: ENGTC-111 (may be taken concurrently), ENGTC-119 and ENGTC-126 or equivalents
  - Formerly ENGIN-123

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-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.
  - Formerly ENGIN-126

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.
  - Formerly ENGIN-129

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
  - Formerly ENGIN-160

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
- Formerly ENGIN-162

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
- Formerly ENGIN-165

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 machines and related tools will also be covered. CSU

ENGTC-166 Machining and Manufacturing II
3 units LR
- 36 hours lecture/72 hours laboratory per term
- Prerequisite: ENGTC-165 or equivalent
- Formerly ENGIN-166

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
- Formerly ENGIN-168, ENGIN-172

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
- Formerly ENGIN-175

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
- Formerly ENGIN-176

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-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.
- Formerly ENGIN-226

This course covers the concepts and applications of constructing digital three-dimensional (3D) models and photorealistic renderings for presentation using AutoCAD, 3D Studio Max andAlias. 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. CSU, UC (credit limits may apply to UC - see counselor)
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. 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 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.

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**Students taking English 180 may need to take one more course from the above list as Drama and Performance as Literature does not articulate with some university English programs. If so, 3 units earned from English 180 will apply to Group 4: Electives.**
Associate in arts in English for transfer

Students completing the program will be able to...

A. demonstrate knowledge of and familiarity with the methods of interpreting literature across genres.
B. assess, evaluate, and analyze ideas expressed in text or in spoken language.
C. create (write or present) coherent arguments that evidence clear prose and synthesize diverse bodies of knowledge.
D. conceptualize, write, workshop, present for feedback, revise and edit an original text.

The English major at Diablo Valley College (DVC) offers students the opportunity to prepare for a broad range of professions through the study of language, literature, and composition, as well as the opportunity to transfer to UC, CSU, and other four-year colleges and universities to earn a bachelor's degree. The English major curriculum at DVC hones a student's critical thinking, reasoning, and communication skills as it also prepares students pursuing careers in law, government, business, entertainment (film, television, and theater), advertising, writing, editing, and education.

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

In order to earn the degree, students must:

- Complete 60 CSU-transferable units.
- Complete the California State University-General Education pattern (CSU GE); OR the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 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>Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>ENGL-123</td>
<td>Critical Thinking: Composition and Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-126</td>
<td>Critical Thinking: The Shaping of Meaning in Language</td>
<td>3</td>
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plus at least 6 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>ENGL-252</td>
<td>Survey of Early English Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-253</td>
<td>Survey of Late English Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-262</td>
<td>Survey of Early American Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-263</td>
<td>Survey of Late American Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-272</td>
<td>Survey of Early World Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-273</td>
<td>Survey of Late World Literature</td>
<td>3</td>
</tr>
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</table>

plus at least 3 units from:

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>ENGL-124</td>
<td>The Nature of Language: An Introduction to Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-150</td>
<td>Introduction to Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-151</td>
<td>The Short Story</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-154</td>
<td>Shakespeare and His World</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-162</td>
<td>Language, Literature and Culture</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-163</td>
<td>Asian American Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-164</td>
<td>Native American Literatures</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-166</td>
<td>African American Literature</td>
<td>3</td>
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<tr>
<td>ENGL-167</td>
<td>Latin American Literature</td>
<td>3</td>
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<tr>
<td>ENGL-168</td>
<td>The Literatures of America</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-170</td>
<td>World Mythology</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-172</td>
<td>The Bible as Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-173</td>
<td>Queer Literature Across Cultures</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-175</td>
<td>Science Fiction and Fantasy Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-177</td>
<td>Children’s Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-178</td>
<td>Young Adult Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-222</td>
<td>Creative Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-223</td>
<td>Short Story Writing</td>
<td>3</td>
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<tr>
<td>ENGL-224</td>
<td>Poetry Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-225</td>
<td>Creative Nonfiction Writing</td>
<td>3</td>
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plus at least 3 units from:

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>ENGL-140</td>
<td>Tutor Training</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-152</td>
<td>Film as Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-153</td>
<td>Contemporary Poetry</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-176</td>
<td>The Graphic Novel as Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-180</td>
<td>Drama and Performance as Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-190</td>
<td>Multicultural Literature by American Women</td>
<td>3</td>
</tr>
<tr>
<td>JRNAL-120</td>
<td>Introduction to Newswriting and Reporting</td>
<td>3</td>
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<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL-090</td>
<td>English in a Minute: Bridge to College English</td>
<td>2</td>
</tr>
</tbody>
</table>

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  
- 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
- 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
- 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 Equiv.
This course focuses on the reading and writing process, including strategies for analyzing college-level readings and composing college-level essays that are coherent, developed, free of serious error, as well as employ various rhetorical strategies and integrate outside sources. C-ID ENGL 100, CSU, UC (credit limits may apply to UC 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 Equiv.
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-122A; or placement into ENGL-122; or ESL-117A; or ENGL-117; or ENGL-116 and 118; or assessment process or equivalent.
This course is designed for multilingual students who do not speak English as their primary language. The course is for those who are ready for transfer-level reading, writing, and speaking. The course focuses on the analysis of college-level readings and composition of college-level essays that are coherent, detailed, and free from serious error. Rhetorical strategies, research, strengthening linguistic monitors, 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 SC
• IGETC: 1A; CSU GE: A2; DVC GE: IA
• 72 hours lecture per term
• Prerequisite: Placement into ENGL-122A; or placement into ENGL-122; or ESL-117A; or ENGL-117; or ENGL-116 and 118; or assessment process or equivalent.
This course is designed for multilingual students who do not speak English as their primary language. The course is for those who are ready for transfer-level reading, writing, and speaking. The course focuses on the analysis of college-level readings and composition of college-level essays that are coherent, detailed, and free from serious error. Rhetorical strategies, research, strengthening linguistic monitors, American academic norms, and the reading and grammar concepts specific to the needs of multilingual students at this level are emphasized. C-ID ENGL 100, CSU, UC (credit limits may apply to UC and CSU - see counselor)

ENGL-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 ENGL-117A; or ENGL-116 and 118; or assessment process or equivalent
This course is designed for students who place into ENGL-122 with the requirement or recommendation of additional support. The course focuses on the practice of reading and writing at the college level, while also offering support in effective reading, writing, and critical-thinking strategies, as well as other academic best practices. This course also encourages students to apply disciplined thought to language in order to comprehend and analyze college-level readings and to compose college-level essays that are coherent, detailed, and free of serious error. In their essays, students will use a variety of types of support including primary and secondary research and employ varied rhetorical strategies used by accomplished writers. C-ID ENGL 100, CSU, UC (credit limits may apply to UC and CSU - see counselor)

ENGL-122M  First Year College Composition and Reading with Support
4 units SC
• 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 ENGL-117A; or ENGL-116 and 118; or assessment process or equivalent
This course is designed for students who place into ENGL-122 with the requirement or recommendation of support. The course focuses on the practice of reading and writing at the college level, while also offering support in effective reading, writing, and critical-thinking strategies. The course also encourages students to apply disciplined thought to language in order to comprehend and analyze college-level readings and to compose college-level essays that are coherent, detailed, and free of serious error. In their essays, students will use a variety of types of support including primary and secondary research and employ varied rhetorical strategies used by accomplished writers. C-ID ENGL 100, CSU, UC (credit limits may apply to UC and CSU - see counselor)

ENGL-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. C-ID 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: C2, C1; 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-films 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

ENGL-154  Shakespeare and His World
3 units  SC
- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Recommended: ENGL-122 or equivalent
This course will focus on the language, structure, characterization, and philosophy of a representative selection of Shakespeare’s plays and sonnets within the framework of the historical, social, and artistic forces of the Elizabethan and Jacobean ages. The course will also examine Shakespeare’s work not only as literature, but also as performance art in various media. Students will also practice the skills needed for analyzing and writing about literature. CSU, UC

ENGL-155  Topics in English
.3-4 units  SC
- Variable hours
A supplemental course in English to provide a study of current concepts and problems in English and related substantive areas. Specific topics will be announced in the schedule of classes. CSU

ENGL-162  Language, Literature and Culture
3 units  SC
- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Recommended: Eligibility for ENGL-116/118 or equivalent
This course examines language, literature and other aspects of culture using texts that reflect a broad variety of cultural perspectives. These texts will serve as a springboard to discuss and analyze cultural traditions and trends and their dynamic nature, which shift in response to various factors such as time or geography. The course will also explore the challenges of cross-cultural communication and introduce students to the techniques used to analyze literature of any culture or genre. CSU, UC
ENGL-163 Asian American Literature
3 units SC
- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Recommended: ENGL-122 or equivalent
This course presents a variety of literary works that illuminate Asian American experiences, culture identities, and languages. Readings are chosen for their literary, historical, cultural, philosophical, and psychological importance within the context of Asian American communities. The course focuses on the relation between texts and broader historical, political, aesthetic, and cultural themes and conditions. This course also exposes students to distinguishing elements of selected literary forms and to the art and practice of analyzing and writing about literature. CSU, UC

ENGL-164 Native American Literatures
3 units SC
- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Recommended: ENGL-122 or equivalent
This course presents the literary traditions and cultures of various Native American nations through the study of oral and written literary works (such as songs, myths, folktales, oratories, autobiographies, films, plays, poetry and prose). Through reading, analysis and discussion, the course will connect Native American literatures to historical, social, cultural, and aesthetic contexts and examine issues central to Native peoples, such as cultural identity, language, and self-determination. CSU, UC

ENGL-166 African American Literature
3 units SC
- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Recommended: ENGL-122 or equivalent
This course presents a variety of literary works that illuminate African American experiences, history and culture. Readings are chosen for their literary, historical, cultural, philosophical, and psychological importance within the context of African American communities. The course focuses on the relation between texts and broader historical, political, aesthetic, and cultural themes and conditions. This course also exposes students to distinguishing elements of selected literary forms and to the art and practice of analyzing and writing about literature. CSU, UC

ENGL-167 Latin American Literature
3 units SC
- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Recommended: ENGL-122 or equivalent
The course presents a variety of literary works that illuminate Latin American experiences, cultural identities, and history. The course focuses on the relation between texts and broader historical, political, aesthetic, and cultural themes and conditions of Latin America. This course also exposes students to distinguishing elements of selected literary forms and to the art and practice of analyzing and writing about literature. CSU, UC

ENGL-168 The Literatures of America
3 units SC
- IGETC: 3B; CSU GE: C2; DVC GE: III
- 54 hours lecture per term
- Recommended: ENGL-122 or equivalent
This course examines literary works of American authors from underrepresented groups: African American, Asian American, Mexican American, and Native American. We will read selected contributions from novels, plays, short stories, nonfiction and poetry to understand the influences that shape the literatures of America. CSU, UC

ENGL-170 World Mythology
3 units SC
- 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
3 units SC
- 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
3 units SC
- 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
3 units SC
- 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 genreís unique characteristics, its significant works so 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 heroís 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
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 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
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 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-222  Creative Writing
3 units  SC  
- CSU GE: C2  
- 54 hours lecture per term  
- Prerequisite: Eligibility for ENGL-122 or equivalent
In this course, students read in different genres--primarily fiction and poetry--in order to learn various writing techniques, styles, and conventions. This study leads to the composition of original poems and short prose pieces that students workshop in class, focusing on the revision and editing process. C-ID ENGL 200, 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 or selected literary forms and to the art and practice of analyzing and writing about literature. C-ID ENGL 165, CSU, UC
ENGL-262  Survey of Early American Literature  
3 units SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Prerequisite: ENGL-122 or equivalent  
This course provides a survey of early American literature from before first contact through the Civil War, a body of work comprising diverse cultures, traditions, and genres. The course focuses on the development of literary forms and the relation between texts and the broader historical, political, aesthetic and cultural themes and conditions. The course also exposes students to distinguishing elements of selected literary forms and to the art and practice of analyzing and writing about literature. C-ID ENGL 130, CSU, UC

ENGL-263  Survey of Late American Literature  
3 units SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Prerequisite: ENGL-122 or equivalent  
This course provides a survey of late American literature from the Civil War through the present day, a body of work comprising diverse traditions, genres, and cultures. The course focuses on the development of late American literary forms and the relation between texts and broader historical, political, aesthetic and cultural themes and conditions. The course also exposes students to distinguishing elements of selected literary forms and to the art and practice of analyzing and writing about literature. C-ID ENGL 135, CSU, UC

ENGL-272  Survey of Early World Literature  
3 units SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Recommended: ENGL-122 or equivalent  
This course provides a survey of early world literature from antiquity to mid-late seventeenth century from cultures around the world, including significant literary movements of the timeframe: ancient times, the middle ages, and both the English and Italian Renaissance. The course focuses on the development of early world literary forms and the relation between texts and broader historical, political, aesthetic and cultural themes and conditions. The course also exposes students to distinguishing elements of selected literary forms and to the art and practice of analyzing and writing about literature. C-ID ENGL 140, CSU, UC

ENGL-273  Survey of Late World Literature  
3 units SC  
- IGETC: 3B; CSU GE: C2; DVC GE: III  
- 54 hours lecture per term  
- Prerequisite: ENGL-122 or equivalent  
This course provides a survey of late world literature from the seventeenth century to modern times from cultures around the world, including significant literary movements of this timeframe: romanticism, realism, modernism, post-colonial, and contemporary literature. The course focuses on the development of late world literary forms and the relation between texts and broader historical, political, aesthetic and cultural themes and conditions. The course also exposes students to distinguishing elements of selected literary forms and to the art and practice of analyzing and writing about literature. C-ID ENGL 145, CSU, UC

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

ENGLISH AS A SECOND LANGUAGE – ESL

Obed Vazquez, Dean  
English Division  
Faculty Office Building, Room 136

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>
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<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>
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</thead>
<tbody>
<tr>
<td>ESL-076</td>
<td>3</td>
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<tr>
<td>ESL-078</td>
<td>3</td>
</tr>
<tr>
<td>ESL-086</td>
<td>3</td>
</tr>
<tr>
<td>ESL-088</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units** 12

**Certificate of accomplishment**

**Advanced ESL reading and writing**

Students completing the program will be able to:

A. demonstrate advanced-level essay writing skills.

B. demonstrate advanced-level critical reading skills.

C. demonstrate advanced-level critical thinking skills.

D. demonstrate language control and sentence clarity in writing by focusing on the grammar in the context of their writing.

E. demonstrate improved conversation skills, as well as career/major exploration.

**required courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>CARER-130</td>
<td>1</td>
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<tr>
<td>ESL-090</td>
<td>3</td>
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<tr>
<td>ESL-096A</td>
<td>3</td>
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<tr>
<td>ESL-098A</td>
<td>3</td>
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<tr>
<td>ESL-097A</td>
<td>5</td>
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</tbody>
</table>

**plus at least 5 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>ESL-086</td>
<td>3</td>
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<tr>
<td>ESL-088</td>
<td>3</td>
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<tr>
<td>ESL-090A</td>
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<td>ESL-096A</td>
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<td>ESL-088A</td>
<td>3</td>
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<tr>
<td>ESL-097A</td>
<td>5</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</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL-122 First-Year College Composition and Reading</td>
<td>3</td>
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<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>ENGL-122A First-Year College English for Multilingual Students</td>
<td>3</td>
</tr>
<tr>
<td>COUNS-120 Student Success</td>
<td>3</td>
</tr>
</tbody>
</table>
English as a second language

plus at least 5 units from:
ENGL-116 College Reading Development ....................... 3
ENGL-117 Integrated College Reading and Writing Development ........................................ 5
ENGL-118 College Writing Development ....................... 3
ESL-096A Advanced Academic Reading Skills ............ 3
ESL-098A Advanced Academic Writing Skills ............... 3
ESL-117A Integrated Reading and Writing: Advanced English Language Learners ........ 5

plus at least 2 units from:
ESL-090 Advanced Grammar for Multilingual Students ............................................................ 3
ESL-095 Advanced Oral Communication Skills ............... 2

total minimum required units 13

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-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-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-075 Intermediate Oral Communication Skills
2 units SC
- Non degree applicable
- 18 hours lecture/54 hours laboratory per term
- Recommended: Eligibility for ESL-067 or equivalent
This 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-080 High-Intermediate Grammar for Multilingual Students
3 units SC
- Non degree applicable
- 54 hours lecture per term
- Recommended: ESL-078 or equivalent
This course is intended to address the grammar needs of multilingual students at the high-intermediate level. Students will have opportunities to review basic English-grammar concepts and will be introduced to new, increasingly complex concepts as well. The course emphasizes grammar in the context of students’ own reading and writing tasks as well as a variety of social circumstances.

ESL-085 High-Intermediate Oral Communication Skills
2 units SC
- Non degree applicable
- 18 hours lecture/54 hours laboratory per term
- Recommended: Eligibility for ESL-075 or equivalent
This high-intermediate course complements the ESL reading and writing courses, ESL-086 and ESL-088, and is designed for non-native speakers of English at the high-intermediate Level. Building on ESL-075, this course focuses on listening and speaking skills for academic purposes. Exploring a variety of topics, students will work on oral comprehension of lectures and presentations, note-taking, and academic discussion. This course will also present strategies for developing a self-awareness of strengths and challenges of communicating in English.
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-088  High-Intermediate Academic Writing Skills
3 units   SC
• Non degree applicable
• 54 hours lecture/18 hours laboratory per term
• Recommended: ESL-078 or placement through the ESL assessment process or equivalent

This course focuses on the needs of ESL students at the high-intermediate level, with the aim or helping them increase confidence, fluency, and accuracy as they write coherent paragraphs and thesis-driven essays. Following the steps of the writing process, students will compose paragraphs and essays for an audience of their peers. They will also practice editing strategies to identify and correct sentence-level errors common to high-intermediate ESL learners, including errors in mechanics and usage. Norms of the American college classroom will also be covered.

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.

ESL-091  Topics in Vocational English Skills
.3-4 units   SC
• Non degree applicable
• Variable hours

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.

ESL-095  Advanced Oral Communication Skills
2 units   SC
• Non degree applicable
• 18 hours lecture/54 hours laboratory per term
• Recommended: Eligibility for ESL-085 or equivalent

This advanced ESL course complements the ESL reading and writing courses, ESL-096A and ESL-098A and is designed for non-native speakers of English at the Advance Level. Building on ESL-085, this course focuses on listening and speaking skills with an emphasis on listening and speaking in academic settings. 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. This course will also present strategies for developing a self-awareness of strengths and challenges of communicating in English.

ESL-096A  Advanced Academic Reading Skills
3 units   SC
• Non degree applicable
• 54 hours lecture/18 hours laboratory per term
• Recommended: ESL-086 and ESL-088 or placement through the ESL assessment process or equivalent

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.

ESL-097A  Advanced Integrated Reading, Writing, and Study Skills
5 units   SC
• 90 hours lecture/18 hours laboratory per term
• Recommended: ESL-086 or ESL-088 or equivalent

This course focuses on the needs of multilingual students at the advanced level to help them increase their confidence, fluency, and accuracy as they develop critical reading, writing, and academic skills. Students will practice strategies for reading, comprehending, analyzing, and responding to college-level texts. Following the steps of the writing process, they will compose thesis-driven essays for an academic audience, with coherent paragraphs and a variety of sentence structures. They will also practice editing strategies to identify and correct sentence-level errors common to advanced English-language learners, as well as errors in mechanics and usage. Although the central focus of the course is on the connections between reading and writing, it also emphasize study skills, campus resources, and the norms of the American college classroom.
ESL-098A Advanced Academic Writing Skills
3 units SC
• Non degree applicable
• 54 hours lecture/18 hours laboratory per term
• Recommended: ESL-086 and ESL-088 or placement through the ESL assessment process or equivalents
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.

ESL-110 Reading and Writing Skills for ECE-124
3 units SC
• 54 hours lecture per term
• Co-requisite: ECE-124 or Equivalent
• Recommended: ESL-088 or Equivalent
This course is designed for English as a Second Language students concurrently enrolled in ECE-124. It is intended for advanced ESL students to develop college-level reading, writing, listening, speaking, and study skills at the same time as they are learning the content in ECE-124. This course will use the ECE-124 textbook as the subject matter on which to practice and build students’ English-language skills.

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.

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.

ESL-117A Integrated Reading and Writing: Advanced English Language Learners
5 units SC
• 90 hours lecture per term
• Recommended: ESL-098A and ESL-098B 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.

ESL-098A Advanced Academic Writing Skills
3 units SC
• Non degree applicable
• 54 hours lecture/18 hours laboratory per term
• Recommended: ESL-086 and ESL-088 or placement through the ESL assessment process or equivalents

ESL-110 Reading and Writing Skills for ECE-124
3 units SC
• 54 hours lecture per term
• Co-requisite: ECE-124 or Equivalent
• Recommended: ESL-088 or Equivalent

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

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

ESL-117A Integrated Reading and Writing: Advanced English Language Learners
5 units SC
• 90 hours lecture per term
• Recommended: ESL-098A and ESL-098B 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.

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ESL-117A Integrated Reading and Writing: Advanced English Language Learners
5 units SC
• 90 hours lecture per term
• Recommended: ESL-098A and ESL-098B 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.

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• 90 hours lecture per term
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Environmental science

ENVIRONMENTAL SCIENCE - ENVSC
Joseph Gorga, Dean
Biological and Health Sciences Division
Physical Sciences Building, Room 263

Possible career opportunities
Career opportunities in the field of environmental studies have grown with the increase of human population and the need to document and study the relationship between humans and nature. Environmental scientists are needed to monitor, interpret, analyze and enforce the guidelines of governmental policies. Careers include working for the government at all levels, working for companies in science and technology, as well as working in companies in energy fields. Such specialties include pollution prevention, resource conservation and environmental restoration, environmental stewardship, and newly emerging fields such as energy management technology, geospatial technology, and biodiversity preservation. Individuals studying in this field are trained to provide both public and private environmental services in a variety of settings: private business, consulting services and government agencies.

Associate in science degree
Environmental science

Students completing the program will be able to...
A. differentiate between different biotic and abiotic components of the environment.
B. explain and analyze man-made impacts on the environment
C. apply the scientific method for environmental analysis.
D. explain, illustrate and analyze chemical bonds and reactions.
E. apply environmental science concepts and analytical procedures in various fields.

The associate in science degree in environmental science offers a distinctive program of interdisciplinary study. It is a field of inquiry exploring energy and climate systems and their complex relationships with the world’s diverse human cultures. To achieve this goal, students and faculty work together across disciplines to develop an understanding of environmental sustainability in all its dimensions. The program focuses on current environmental concerns that have far-reaching implications for the fate of human society, ecological systems, and energy diversity. This involves an integration of knowledge from a variety of disciplines to understand the function of the ecological system and human impact upon these systems at a local, regional, and global scale.

Students are advised that there are a wide range of environmental science areas of emphasis offered at the university level. Therefore, while choosing electives, students are advised to consult with a counselor or faculty advisor to select courses that will meet the requirements of an area of emphasis at their selected transfer institution. DVC environmental science students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE). General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

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

major requirements:  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-170</td>
<td>Environmental Science</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-140</td>
<td>Introduction to Weather</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-120</td>
<td>Physical Geology</td>
<td>3</td>
</tr>
</tbody>
</table>

plus at least 4 units from:
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM-108</td>
<td>Introductory Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-120</td>
<td>General College Chemistry</td>
<td>5</td>
</tr>
</tbody>
</table>

plus at least 4 units from:
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH-142</td>
<td>Elementary Statistics with Probability</td>
<td>4</td>
</tr>
<tr>
<td>MATH-192</td>
<td>Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
</tbody>
</table>

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>ARCHI-207</td>
<td>Environmental Control Systems</td>
<td>3</td>
</tr>
<tr>
<td>BIOSC-126</td>
<td>Ecology and Field Biology</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN-130</td>
<td>Energy, Society, and the Environment</td>
<td>3</td>
</tr>
<tr>
<td>ENSYS-120</td>
<td>Introduction to Energy Systems</td>
<td>3</td>
</tr>
<tr>
<td>ENSYS-125</td>
<td>Building Envelope and Systems</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-124</td>
<td>Thinking and Communicating Geospatially</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-125</td>
<td>Introduction to Geographic Information System</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-129</td>
<td>Field Data Acquisition and Management</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-160</td>
<td>Introduction to Remote Sensing</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-120</td>
<td>General College Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-121</td>
<td>General College Physics II</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-130</td>
<td>Physics for Engineers and Scientists A: Mechanics and Wave Motion</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-230</td>
<td>Physics for Engineers and Scientists B: Heat and Electro-Magnetism</td>
<td>4</td>
</tr>
</tbody>
</table>

total minimum units for the major .............. 26
Associate in science in environmental science for transfer

Students completing the program will be able to...

A. recognize and understand chemical components in physical and biological aspects of ecosystems.
B. apply the scientific method to collect data on environmental problems, and use data to analyze and solve quantitative and qualitative problems.
C. evaluate the relationship of organisms to each other and to their changing chemical and physical environment.
D. integrate environmental and economic issues.
E. demonstrate the proper use of common laboratory equipment and use proper laboratory techniques in running experiments.

The associate in science in environmental science for transfer degree is designed as a two-year program that offers an introduction to the basic principles of environmental science, which includes an integration of knowledge from a variety of disciplines to understand ecological systems and human impacts on these systems.

In order to earn the degree, students must:

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

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

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

### Major Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-170</td>
<td>Environmental Science</td>
<td>3</td>
</tr>
<tr>
<td>ECON-221</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-142</td>
<td>Elementary Statistics with Probability</td>
<td>4</td>
</tr>
<tr>
<td>MATH-192</td>
<td>Analytic Geometry and Calculus I</td>
<td>5</td>
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<tr>
<td>select 1 of 2 options:</td>
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<td></td>
</tr>
<tr>
<td><strong>Option 1:</strong> Biology sequence</td>
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<td></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 Ecology, Evolution and Organismal Biology</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-120</td>
<td>General Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>or</td>
<td><strong>Option 2:</strong> Chemistry sequence</td>
<td></td>
</tr>
<tr>
<td>BIOSC-130</td>
<td>Principles of Cellular and Molecular Biology</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-120</td>
<td>General Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-121</td>
<td>General Chemistry II</td>
<td>5</td>
</tr>
<tr>
<td>plus 4 units from:</td>
<td></td>
<td></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>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOG-120</td>
<td>Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-121</td>
<td>Physical Geography Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>plus 8 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHYS-120</td>
<td>General College Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-121</td>
<td>General College Physics II</td>
<td>4</td>
</tr>
<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>
<tr>
<td>PHYS-230</td>
<td>Physics for Engineers and Scientists B: Heat and Electro-Magnetism</td>
<td>4</td>
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<tr>
<td>total minimum units for the major</td>
<td>42</td>
<td></td>
</tr>
</tbody>
</table>

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### ENVSC-100 Exploring Environmental Science and Engineering

1 unit, P/NP

- 5 hours lecture/35 hours laboratory per term

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**

1-4 units  SC  
- May be repeated three times  
- Variable hours  
- **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. Employment Form can be accessed at www.dvc.edu/wrkx. Incomplete grades are not awarded for this course.

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. Five hours work per week or seventy-five hours work per term is equal to one unit. Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU

**FILM, TELEVISION, AND ELECTRONIC MEDIA – FTVE**

Toni Fannin, Dean  
Applied and Fine Arts Division  
Business and Foreign Language Building, Room 204

Possible career opportunities

Students majoring in FTVE enter broadcasting, cable, online media, and related industries. They can pursue graduate degrees in the field of mass or electronic communication for work in audio and video production, web development, radio and television, cable television, and media departments of agencies, institutions, and businesses.

Associate in arts degree

Television arts

Students completing the program will be able to...

A. produce for broadcast and digital distribution utilizing three-camera studio format principles.  
B. operate cameras and professional sound equipment.  
C. perform digital nonlinear editing.  
D. produce for broadcast and digital distribution utilizing field production principles.  
E. direct projects for various production formats.  
F. qualify for entry-level employment in broadcasting.  
G. apply their planning skills for project management.  
H. identify major trends in the history of broadcasting.

The associate degree program in television arts is designed as a two year curricular pathway that offers a broad general education while preparing students for entry-level positions such as: associate producer, assistant director, on-camera talent, camera operator, sound technician, video switcher, floor director, videotape editor, production assistant, radio board operator, radio producer, radio production engineer, and radio on-air talent.

Students must complete each of the required courses with a “C” grade or higher. Required courses can only be completed by attending a combination of day and evening classes. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

Selected courses in the program may also meet some lower division requirements for bachelor of arts programs at certain California State University campuses. Students who intend to transfer are advised to consult with a counselor regarding specific requirements.

**major requirements:**

```markdown
<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTDM-105 Introduction to Digital Imaging</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-120 Introduction to TV Studio Production</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-130 Intermediate TV Studio Production</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-165 Digital Editing</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-240 Survey of Broadcasting and Electronic Media</td>
<td>3</td>
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plus at least 6 units from:

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<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTVE-132 Advanced TV Studio Production</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-140 Introduction to Film and Media Scriptwriting</td>
<td>3</td>
</tr>
<tr>
<td>FTVE-160 Introduction to Film Production</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-100 AV Essentials: Systems and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-120 Live Sound</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-147 Introduction to Music Technology and Pro Tools</td>
<td>3</td>
</tr>
<tr>
<td>MUSX-178 Music and Sound for Film, Games, and Digital Media</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 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 as radio-television-film, television-film, video, film, and electronic arts. Students completing this degree are guaranteed admission to the CSU system, but not necessarily to a particular major or campus.

In order to earn the degree, students must:

• Complete 60 CSU-transferable units.
• Complete the California State University-General Education pattern (CSU GE); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern, including the Area 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: units
ARTDM-130 Introduction to Digital Audio ....................... 3
FTVE-140 Introduction to Film and Media Scriptwriting ... 3
FTVE-205 Introduction to Film and Media Arts ................. 3

plus at least 3 units from:
FTVE-240 Survey of Broadcasting and Electronic Media .......... 3
JRNL-110 Mass Media of Communication .......................... 3

plus at least 3 units from:
FTVE-120 Introduction to TV Studio Production ................. 3
FTVE-160 Introduction to Film Production ........................ 3

plus at least 3 units from:
any course not used above or:
FTVE-161 Intermediate Film Production .......................... 3
FTVE-280 American Cinema 1900-1950 ............................. 3
FTVE-281 World Cinema 1900-1960 ................................. 3
FTVE-283 World Cinema 1960 to the Present .................... 3

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: units
ARTDM-105 Introduction to Digital Imaging ....................... 3
FTVE-120 Introduction to TV Studio Production ................. 3
FTVE-130 Intermediate TV Studio Production .................... 3
FTVE-165 Digital Editing ........................................... 3
FTVE-240 Survey of Broadcasting and Electronic Media .......... 3

254 PROGRAM/COURSE DESCRIPTIONS
DIABLO VALLEY COLLEGE CATALOG 2020-2021
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, 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-160  Introduction to Film Production .......................... 3
FTVE-165  Digital Editing .................................................... 3
FTVE-240  History of Broadcasting and Electronic Media .................. 3

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. identify major trends in the history of broadcasting.

The television arts program prepares students for entry level positions in one of four specialty areas: studio production, field production, post production, and writing.

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

required courses:  units
FTVE-140  Introduction to Film and Media Scriptwriting... 3
FTVE-141  Intermediate Film and Media Scriptwriting........ 3
FTVE-142  Advanced Film and Media Scriptwriting............. 3
FTVE-240  Survey of Broadcasting and Electronic Media .................. 3
plus at least 3 units from:

COMM-148  Performance of Literature ........................................... 3
ENGL-151  The Short Story ...................................................... 3
FTVE-150  Topics in Film, Television, and Electronic Media .................. 0.3-4
FTVE-295  Occupational Work Experience Education in FTVE .................. 1-4
FTVE-296  Internship in Occupational Work Experience Education in FTVE ...... 1-4
FTVE-298  Independent Study ..................................................... 0.5-3
JRNL-110  Mass Media Communication ........................................ 3

total minimum required units  15

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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 short, single-camera digital videos focusing on the aesthetics and fundamentals of scripting, producing, directing on location, post-production, and exhibition/distribution. Theory, terminology, and operation of single camera video production, including composition and editing techniques, camera operation, portable lighting, video recorder operation, audio control 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
• Recommended: Eligibility for ENGL-122 or equivalent
In this course students produce intermediate level, single-camera digital videos that utilize mixed soundtracks, sophisticated lighting schemes, sync sound, polished editing and the use of visual metaphors. CSU, UC

FTVE-165  Digital Editing
3 units  SC
• 36 hours lecture/72 hours laboratory per term
This course is an introduction to the techniques, concepts, and aesthetics of digital editing for film, television, and digital media using professional software programs. Emphasis is placed on organization, timelines, and story development as well as editing for visual and audio effect. CSU, UC

FTVE-166  Intermediate Digital Editing
3 units  SC
• 36 hours lecture/72 hours laboratory per term
• Prerequisite: FTVE-165 or equivalent
• Recommended: Eligibility for ENGL-122 or equivalent
This intermediate course is designed to advance the student’s editing skills using current industry standard software programs. CSU, UC

FTVE-205  Introduction to Film and Media Arts
3 units  SC
• IGETC: 3A; CSU GE: C1; DVC GE: III
• 54 hours lecture per term
• Recommended: Eligibility for ENGL-122 or equivalent
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-210  American Ethnic Cultures in Film
3 units  SC
• IGETC: 3A; CSU GE: C1, C2; DVC GE: III
• 54 hours lecture per term
• Recommended: Eligibility for ENGL-122 or equivalent
In this course, students will evaluate and explore various American cultures: African American, Native American, Asian American, Hispanic, and European American as represented in feature film. Emphasis is placed on the analysis of similarities and differences, paying particular attention to social and cultural representations. In addition, the course will introduce issues specific to the world of cinema such as how film language communicates ideas and stimulates emotional responses. Economic considerations that influence Hollywood distribution practices will also be covered. CSU, UC

FTVE-240  Survey of Broadcasting and Electronic Media
3 units  SC
• IGETC: 4; CSU GE: D; DVC GE: IV
• 54 hours lecture per term
This course 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
3 units SC
• IGETC: 3B; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
This course will evaluate and explore the treatment of race and ethnicity in U.S. television. The historical, commercial, ideological, and social factors that influence the cultural diversity of television programming are examined. Focus is placed on representation including the number and quality of on-screen roles as well as industry demographics behind the scenes. Students will analyze dominant racial caricatures and stereotypes while examining similarities and differences in the way various cultures are portrayed. Television’s role in communicating ideas and stimulating emotional responses while functioning as a socializing force that teaches us about ourselves and other people is emphasized. CSU, UC

FTVE-280 American Cinema 1900-1950
3 units SC
• IGETC: 3A; CSU GE: C1; DVC GE: III
• 54 hours lecture per term
• Recommended: Eligibility for ENGL-122 or equivalent
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

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-295 Occupational Work Experience Education in FTVE
1-4 units SC
• May be repeated three times
• Variable hours
• Note: In order to enroll in FTVE-295, students must be employed, register for the course, complete an online Employment Form, and participate in an orientation. Employment Form can be accessed at www.dvc.edu/wrkx. Incomplete grades are not awarded for this course.

FTVE-295 is supervised employment that extends classroom learning to the job site and relates to the student’s chosen field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Five hours work per week or seventy-five hours work per term is equal to one unit. Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU
**FTVE-296 Internship in Occupational Work Experience Education in FTVE**

1-4 units SC  
- May be repeated three 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. The Employment Form can be accessed at www.dvc.edu/wrkx. Incomplete grades are not awarded for this course.

FTVE-296 is a supervised internship in a skilled or professional level assignment in the student's major field of study or area of career interest. Under the supervision of a college instructor, students will engage in on-the-job and other learning experiences that contribute to their employability skills and occupational or educational goals. Internships may be paid, non-paid, or some partial compensation provided. Five hours work per week or seventy-five hours work per term is equal to one unit (paid) or one unit for four hours work per week or sixty hours per term (unpaid work). Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU

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

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

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

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

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**FRENCH – FRNCH**

Toni Fannin, Dean  
Applied and Fine Arts  
Business and Foreign Language Building, Room 204

**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.

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.

Complete a minimum of 20 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRNCH-120  First Term French</td>
<td>5</td>
</tr>
<tr>
<td>FRNCH-121  Second Term French</td>
<td>5</td>
</tr>
<tr>
<td>FRNCH-220  Third Term French</td>
<td>5</td>
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<tr>
<td>FRNCH-221  Fourth Term French</td>
<td>5</td>
</tr>
<tr>
<td>FRNCH-230 Fifth Term French</td>
<td>3</td>
</tr>
<tr>
<td>FRNCH-231 Sixth Term French</td>
<td>3</td>
</tr>
</tbody>
</table>

Total minimum units for the major: 20

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 provides students, prospective employers and others with documented evidence of persistence and academic accomplishment in the language. The certificate requires completion of at least 13 units from one of the following lists of courses. Students may not take a credit/no credit option for required courses and each course must be completed with a “C” grade or higher.

**List A**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRNCH-120  First Term French</td>
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</tr>
<tr>
<td>FRNCH-221  Fourth Term French</td>
<td>5</td>
</tr>
<tr>
<td>FRNCH-230 Fifth Term French</td>
<td>3</td>
</tr>
<tr>
<td>FRNCH-231 Sixth Term French</td>
<td>3</td>
</tr>
</tbody>
</table>

Total minimum required units: 13

**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
• 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-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 third term French course in a 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-221  Fourth Term French
5 units  SC
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
• 90 hours lecture per term
• Prerequisite: FRNCH-220 or four years of high school study or equivalent
• Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the fourth term French course in the sequence that develops intermediate fluency in understanding, speaking, reading and writing French. The grammatical moods are reviewed and developed; the sequences of tenses are introduced. Additional vocabulary and idiomatic expressions are introduced and connected to the selected readings. These readings about French culture and literature will be analyzed. This course is taught entirely in French. CSU, UC

FRNCH-230  Fifth Term French
3 units  SC
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Prerequisite: FRNCH-221 or equivalent
• Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the fifth term advanced course emphasizing reading, writing (prioritizing the mechanics of academic writing), listening, and speaking skills. The rich heritage of French society and Francophone societies are explored through a wide range of materials including short stories, articles, poems, films, and documentaries. This course is taught entirely in French. CSU, UC

FRNCH-231  Sixth Term French
3 units  SC
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
• 54 hours lecture per term
• Prerequisite: FRNCH-230 or equivalent
• Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the sixth term advanced French language course strengthening reading, writing (prioritizing the mechanics of academic writing), listening, and speaking skills. Deepening the exploration of the rich heritage of French and Francophone societies through a wide range of materials including novels, articles, poems, films, documentaries, and dramas. This course is taught entirely in French. CSU, UC
FRNCH-298 Independent Study  
.5-3 units SC  
• Variable hours  
• Note: Submission of acceptable educational contract to department and Instruction Office is required.

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

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

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

GEOGRAPHY – GEOG

Joseph Gorga, Dean  
Physical Sciences and Engineering 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</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>ANTHR-130 Cultural Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-120 Physical Geography</td>
<td>3</td>
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<tr>
<td>GEOG-130 Cultural Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-135 World Regional Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-162 Map Design and Visualization</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO-131 The Urban Community</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 18
**Associate in arts in geography for transfer**

Students completing the program will be able to...

A. describe the various components of the geosystems and explain how they interact.

B. explain the interaction between physical and human components of the environment and how the nature of interaction varies in different parts of the world.

C. describe the role and significance of geospatial techniques in assessing and mapping the physical and cultural environments.

D. describe the characteristics of different cultural realms and demonstrate a respect for diversity that exists between and among cultural or geographic regions.

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

In order to earn the degree, students must:

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

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

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

<table>
<thead>
<tr>
<th>major requirements:</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG-120 Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-121 Physical Geography Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>GEOG-125 Introduction to Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-130 Cultural Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-135 World Regional Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-255 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 Advanced Geographic Information Systems 3
- GEOG-126 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
- GEO-120 Physical Geology 3

**total minimum units for the major ............. 19**

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**Associate in science degree**

**Geographic information systems/Global positioning system**

Students completing the program will be able to...

A. analyze the inter-disciplinary applications of GIS, GPS, and remote sensing.

B. synthesize data from various sources and different formats for spatial analyses.

C. apply spatial tools and techniques in a research or work environment.

D. explain the fundamentals of the different geospatial technologies and how they function.

The associate in science degree program in geographic information systems (GIS)/global positioning system (GPS) is designed to prepare students for entry into careers that employ generalized or specialized applications of GIS. GIS is a versatile and powerful technology that allows data input, data management, analysis and display of result within a single setup. Most local, state, and federal government agencies use GIS, as do businesses, planners, architects, foresters, geologists and a host of other occupations. Students learn technical and analytical skills for research as well as practical skills necessary to enter the job market and obtain positions with such titles as GIS technician, GIS specialist, GIS analyst, GIS programmer, GIS coordinator, GIS supervisor and GIS manager. To earn a degree, students must complete each course used to meet a major requirement with a “C” grade or higher and complete general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**major requirements:**

<table>
<thead>
<tr>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG-125 Introduction to Geographic Information Systems (GIS)</td>
</tr>
<tr>
<td>GEOG-126 Advanced Geographic Information Systems</td>
</tr>
<tr>
<td>GEOG-129 Field Data Acquisition and Management</td>
</tr>
<tr>
<td>GEOG-160 Introduction to Remote Sensing</td>
</tr>
<tr>
<td>GEOG-162 Map Design and Visualization</td>
</tr>
</tbody>
</table>

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.................1-4
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.

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

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

264 PROGRAM/COURSE DESCRIPTIONS chapter four DIABLO VALLEY COLLEGE CATALOG 2020-2021
The geographic information systems (GIS)/global positioning system 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:

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

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.

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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

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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

Certificate of accomplishment
Geographic information systems/
Global positioning system

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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.
plus at least 3 units from:
ANTHR-126  Introduction to Archeological Field Methods ...................................................... 3
BIOSC-126  Ecology and Field Biology ........................................... 4
BIOSC-170  Environmental Science ...................................................... 3
COMTC-120  SQL Programming ...................................................... 4
ENGTC-126  Computer Aided Design and Drafting - AutoCAD ...................................................... 3
GEOG-126  Physical Geography ...................................................... 3
GEOG-121  Physical Geography Laboratory ...................................................... 1
GEOG-124  Thinking and Communicating Geospatially ...................................................... 3
GEOG-160  Introduction to Remote Sensing  ...................................................... 4
GEOG-162  Map Design and Visualization ...................................................... 3
GEOG-295  Occupational Work Experience Education in GEOG ...................................................... 1-4
GEOG-298  Independent Study ...................................................... 0.5-3
GEOL-120  Physical Geology ...................................................... 3
GEOL-122  Physical Geology Laboratory ...................................................... 1

total minimum required units  12

GEOG-120  Physical Geography
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 or equivalent

This course introduces the fundamental principles of physical geography. Focus is placed on providing an intelligent understanding of the Earth as the home of human beings and to show the interrelationships found within the physical environment. Quantitative reasoning, development of mathematical concepts and problem solving are emphasized. C-ID GEOG 110, CSU, UC

GEOG-121  Physical Geography Laboratory
1 unit SC
- IGETC: 5C; CSU GE: B3
- 54 hours laboratory per term
- Prerequisite: GEOG-124 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-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 per term
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-150 Topics in Geography
.3-4 units LR
• 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-295  Occupational Work Experience
Education in GEOG
1-4 units SC
• May be repeated three 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. Employment Form can be accessed at www.dvc.edu/wrxx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit. Students may earn up to a maximum of sixteen units; 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
Physical Sciences and Engineering Division
Physical Sciences Building, Room 263

Possible career opportunities
Geologists work in exploration for oil, natural gas, coal and uranium for energy, and for metals used in everyday life. They search for clean sources of groundwater for drinking and agriculture (hydrology). They seek to understand geologic hazards and how to mitigate them (seismology, flood and landslide control, and volcanology). They work to monitor and clean up pollutants in soil, groundwater and surface water. Currently, the best employment opportunities are in hydrology and pollution control. Many career options may require more than two years of college study.

Associate in science degree
Geology

Students completing the program will be able to...

A. identify, describe, and classify earth materials, formations, and structures and interpret them in terms of geologic processes.
B. synthesize information from a variety of physical science disciplines to solve geologic problems.
C. develop and demonstrate analytical and critical thinking skills required for transfer into a four-year geologic science program.

The geology major at Diablo Valley College (DVC) prepares students to transfer to a University of California, California State University, or other baccalaureate-granting college or university to earn a bachelor’s degree in geology or other earth science.

The geology major at DVC consists of at least 38 units of study, including 8 units of geology where students will learn the fundamentals of geologic science and gain hands-on experience in geology laboratories. In addition, students will complete a year of calculus courses, a year of chemistry courses, and a year of physics courses that are typically required for a bachelor’s degree at baccalaureate-granting institutions. A list of electives including courses such as California Geology, Maps and Cartography, or Introduction to Field Geology allows the student to explore specific fields of greater interest.

The DVC geology major is intended for transfer. Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to baccalaureate-granting institutions of their choice are met. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE). Option 1 (DVC General Education) is not generally advised.
To earn an associate in science degree with a major in geology, students must complete each course used to meet a major requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the major. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**Group 1: Core geology courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL-120 Physical Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-121 Earth and Life Through Time</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-122 Physical Geology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>GEOL-124 Earth and Life Through Time Laboratory</td>
<td>1</td>
</tr>
</tbody>
</table>

**Group 2: Core mathematics courses**

**complete at least the first two courses (at least 10 units):**

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

**Group 3: Core chemistry courses**

**complete 10 units from:**

<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>
</tbody>
</table>

**Group 4: Core physics courses**

**complete a minimum of two terms from one sequence (at least 8 units):**

<table>
<thead>
<tr>
<th>Course</th>
<th>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>
<tr>
<td>PHYS-231 Physics for Engineers and Scientists C: Optics and Modern Physics</td>
<td>4</td>
</tr>
<tr>
<td>or PHYS-120 General College Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-121 General College Physics II</td>
<td>4</td>
</tr>
</tbody>
</table>

**Group 5: Electives**

**complete at least one course (2-4 units):**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG-125 Introduction to Geographic Information Systems (GIS)</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-160 Introduction to Remote Sensing</td>
<td>4</td>
</tr>
<tr>
<td>GEOG-162 Map Design and Visualization</td>
<td>4</td>
</tr>
<tr>
<td>GEOL-125 Geology of California</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-135 Introduction to Field Geology</td>
<td>2</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 38

**Associate in science in geology for transfer**

Students completing the program will be able to:

A. identify, describe, and classify earth materials, formations, and structures and interpret them in terms of geologic processes.

B. synthesize information from a variety of physical science disciplines to solve geologic problems.

C. develop and demonstrate analytical and critical thinking skills required for transfer into a four-year geologic science program.

The associate in science in geology for transfer at Diablo Valley College (DVC) prepares students to transfer to a California State University (CSU) or other four-year college or university to earn a bachelor’s 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.

**Associate in science in geology for transfer major requirements:**

<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>GEOL-120 Physical Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-121 Earth and Life Through Time</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-122 Physical Geology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>GEOL-124 Earth and Life Through Time Laboratory</td>
<td>1</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>
</tr>
</tbody>
</table>
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

Toni Fannin, Dean
Applied and Fine Arts Division
Business and Foreign Language Building, Room 204

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:   units
GRMAN-120 First Term German .........................5
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

total minimum units for the major 20
Certificate of achievement
German

Students completing the program will be able to...

A. communicate verbally in the target language with accurate pronunciation in meaningful situations present in both informal and formal contexts.
B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.
C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.
D. discuss, describe, and infer information from authentic texts in the target language.
E. demonstrate cultural appreciation by making (comparative) connections, on both an individual and societal level, between the target cultures and students’ own cultures.
F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

This certificate of achievement was created to give students the opportunity to show potential employers in this country and in other countries that the student has completed a certain number of courses in German and prepares students with an intermediate to advanced knowledge of German and familiarizes them with the culture of the German-speaking world.

This certificate of achievement provides students, prospective employers and others with documented evidence of persistence and academic accomplishment in the language. The certificate requires completion of at least 13 units from the following list of courses. Students may not take a credit/no credit option for required courses and each course must be completed with a “C” grade or higher.

**complete at least 13 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
<th>Type</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRMAN-120</td>
<td>First Term German</td>
<td>5</td>
<td>SC</td>
<td>IGETC: 6A; 90 hours lecture per term; Note: This course is equivalent to two years of high school study.</td>
</tr>
<tr>
<td>GRMAN-121</td>
<td>Second Term German</td>
<td>5</td>
<td>SC</td>
<td>IGETC: 3B, 6A; CSU GE: C2; DVC GE: III; 90 hours lecture per term; Prerequisite: GRMAN-120 or three years of high school study or equivalent; Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.</td>
</tr>
<tr>
<td>GRMAN-150</td>
<td>Topics in German</td>
<td>3-4</td>
<td>SC</td>
<td>Variable hours</td>
</tr>
<tr>
<td>GRMAN-220</td>
<td>Third Term German</td>
<td>5</td>
<td>SC</td>
<td>IGETC: 3B, 6A; CSU GE: C2; DVC GE: III; 90 hours lecture per term; Prerequisite: GRMAN-121 or three years of high school study or equivalent; Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.</td>
</tr>
</tbody>
</table>

This course provides an introduction to the German language and the culture of German-speaking countries. Topics include the four language skills: speaking, listening, reading, and writing. Emphasis is placed on active use of the language in class as well as basic communicative functions and structures. CSU, UC

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

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

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

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**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.

Joseph Gorga, Dean
Biological and Health Sciences Division
Physical Sciences Building, Room 263

**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 Code</th>
<th>Course 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><strong>plus at least 4 units from:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOSC-102</td>
<td>Fundamentals of Biological Science</td>
<td></td>
</tr>
<tr>
<td>BIOSC-117</td>
<td>Human Biology with Laboratory</td>
<td></td>
</tr>
<tr>
<td>BIOSC-119</td>
<td>Fundamentals of Microbiology</td>
<td></td>
</tr>
<tr>
<td>BIOSC-139</td>
<td>Human Anatomy</td>
<td></td>
</tr>
<tr>
<td>BIOSC-140</td>
<td>Human Physiology</td>
<td></td>
</tr>
<tr>
<td>BIOSC-146</td>
<td>Principles of Microbiology</td>
<td></td>
</tr>
<tr>
<td><strong>plus at least 3 units from:</strong></td>
<td></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-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><strong>plus at least 6 units from any course not used above, or:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BUS-240</td>
<td>Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>or MATH-142</td>
<td>Elementary Statistics with Probability</td>
<td>4</td>
</tr>
<tr>
<td>or MATH-144</td>
<td>Statway II</td>
<td>4</td>
</tr>
<tr>
<td>or CHEM-108</td>
<td>Introduction to Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>or PSYCH-101</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>or SOCIO-120</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 19

**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 of 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 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.

<table>
<thead>
<tr>
<th>major requirements:</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-101: Fundamentals of Biological Science</td>
<td>3</td>
</tr>
<tr>
<td>BIOSC-102: Fundamentals of Biological Science with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-139: Human Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-140: Human Physiology</td>
<td>5</td>
</tr>
<tr>
<td>BUS-240: Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-142: Elementary Statistics with Probability</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-108: Introductory Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-120: General College Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>HSCI-124: Health and Wellness</td>
<td>3</td>
</tr>
<tr>
<td>HSCI-130: Introduction to Public Health</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH-101: Introduction to Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

plus at least 3 units from:

<table>
<thead>
<tr>
<th>course</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON-220: Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>HSCI-127: Drugs, Health, and Society</td>
<td>3</td>
</tr>
<tr>
<td>HSCI-135: Health and Social Justice</td>
<td>3</td>
</tr>
<tr>
<td>HSCI-140: Human Sexuality</td>
<td>3</td>
</tr>
<tr>
<td>NUTRI-160: Nutrition: Science and Applications</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO-120: Introduction to Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

**HSCI-124**  
**Health and Wellness**  
3 units  
- **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)

<table>
<thead>
<tr>
<th>course</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSCI-126: Stress Management and Health</td>
<td>3</td>
</tr>
</tbody>
</table>

- 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

<table>
<thead>
<tr>
<th>course</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSCI-127: Drugs, Health, and Society</td>
<td>3</td>
</tr>
</tbody>
</table>

- 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, CSU, UC (credit limits may apply to UC - see counselor)
Health science

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. 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; 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
1-4 units SC
- May be repeated three 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. The Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit (paid) or one unit for four hours work per week or sixty hours per term (unpaid work). Students may earn up to a maximum of sixteen units; 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
Joseph Gorga, Dean
Physical Sciences and Engineering Division
Physical Sciences 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.
Anchor 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 in AC refrigeration.
B. analyze the electrical parts of the refrigeration system.
C. differentiate between many types of motor.
D. distinguish between mechanical and electrical controls.
E. demonstrate basic control design that have applications to the HVACR industry.
F. identify the different types of controllers for the HVACR industry.

In collaboration with Plumbers-steamfitters-Refrigeration Union Local 342 www.ua342.org, DVC currently offers three five-year apprenticeship programs: steamfitting, plumbing, and HVACR. Apprenticeship is training that is designed to prepare an individual for a career in the skilled crafts and trades. Apprentices develop technical skills, experience the sharing of assignments and see how technical tasks relate specifically with theoretical knowledge and interpretation. Apprentices earn a wage while learning. Enrollment in this program is restricted. You must be registered as an apprentice with the State of California to participate in the program and accepted into the apprenticeship program by our union partners.

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 also meet some of the requirements of the major for the associate in science degree.

<table>
<thead>
<tr>
<th>required courses:</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>complete at least 21 units from:</td>
<td></td>
</tr>
<tr>
<td>HVACR-112</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-113</td>
<td>1.5</td>
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<tr>
<td>HVACR-114</td>
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<td>HVACR-128</td>
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</tr>
<tr>
<td>HVACR-129</td>
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</tbody>
</table>

**Total units for the major:** 30
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-Steafmfiters-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:**  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HVACR-110</td>
<td>Electrical Theory I</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-111</td>
<td>Mechanical Refrigeration Theory</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-112</td>
<td>Electrical Theory II</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-113</td>
<td>The Refrigeration Cycle</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-114</td>
<td>Intermediate Electrical I</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-115</td>
<td>Intermediate Mechanical Refrigeration I</td>
<td>1.5</td>
</tr>
<tr>
<td>HVACR-116</td>
<td>Intermediate Electrical II</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**total minimum required units** 7.5

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**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 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 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.

HVACR-122  Introduction to Market Refrigeration Systems
1.5 units LR
• 18 hours lecture/36 hours laboratory per term
• Note: This program is sponsored by the 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 refrigeration equipment, cases, defrost methods, timers, control devices, oil float systems, and heat reclaim controls. Topics will include print reading, wiring and piping diagrams, and refrigeration schedule in a typical market setting. Operation and location of compressors, evaporators, condensers, refrigerated cases, walk-ins, heat reclaim, and connecting paraphernalia will also be presented.

HVACR-123  Introduction to Pneumatic Controls
1.5 units LR
• 18 hours lecture/36 hours laboratory per term
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course presents the operation of direct and reverse acting controls, air compressors, sizing of valves and dampers, thermostats, auxiliary devices, transmitters, pneumatic and receiver controllers.

HVACR-124  Introduction to Boilers
1.5 units LR
• 18 hours lecture/36 hours laboratory per term
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course covers the components and operation of boiler systems used in hotels, apartment buildings, schools, and other large institutions. A comprehensive overview of the safe and efficient operation of high pressure boilers and related equipment is provided, including the latest combustion control technology, and Environmental Protection Agency (EPA) regulations and their implications. This course is designed to prepare students for licensing examinations.

HVACR-125  Advanced Compressor and Motor Theory
1.5 units LR
• 18 hours lecture/36 hours laboratory per term
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

The course presents reciprocating compressor disassembly and assembly. Topics include compressor function, safety, troubleshooting, alignment, and performance. Unloaders, oils, electrical, refrigerant gas, starters, and start-up procedures will also be explored.

HVACR-126  Start Test Balance: Water Side I
1.5 units LR
• 18 hours lecture/36 hours laboratory per term
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course introduces the basic principles of air and water flow. The Mollier Diagram will be used to apply these principles to air conditioning and refrigeration.

HVACR-127  Start Test Balance: Air Side I
1.5 units LR
• 18 hours lecture/36 hours laboratory per term
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course provides an overview of commercial air conditioning systems operations. Topics include direct expansion (DX) and chiller systems, fan types, pumps, boiler controls, related systems, and service methods. The use and application of heat load equations, charts, and procedures is introduced.

HVACR-128  Start Test Balance: Water Side II
1.5 units LR
• 18 hours lecture/36 hours laboratory per term
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course describes proper procedures for start, test, and balance of air conditioning systems utilizing principles of air and water flow. Topics include sizing of refrigerant piping for liquid, the benefits of psychrometrics on human comfort, fan laws, air movement, pumps, piping, evaporative cooling, and air and water measurement.
In order to earn the degree, students must:

- 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.

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 CSU campus or to a university or college that is not part of the CSU system, or those students who do not intend to transfer.

Some courses in the major satisfy both major and CSU GE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Transferability</th>
<th>Prerequisites</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST-120</td>
<td>History of the United States before 1865</td>
<td>3</td>
<td>SC, IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV</td>
<td>54 hours lecture per term</td>
<td>Recommended: Eligibility for ENGL-122 or equivalent</td>
</tr>
<tr>
<td>HIST-121</td>
<td>History of the United States after 1865</td>
<td>3</td>
<td>SC, IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV</td>
<td>54 hours lecture per term</td>
<td>Recommended: Eligibility for ENGL-122 or equivalent</td>
</tr>
<tr>
<td>HIST-122</td>
<td>Critical Reasoning in History</td>
<td>3</td>
<td>SC, IGETC: 1B; CSU GE: A3; DVC GE: IB</td>
<td>54 hours lecture per term</td>
<td>Prerequisite: ENGL-122 or equivalent</td>
</tr>
<tr>
<td>HIST-124</td>
<td>History of California</td>
<td>3</td>
<td>SC, IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV</td>
<td>54 hours lecture per term</td>
<td>Recommended: Eligibility for ENGL-122 or equivalent</td>
</tr>
<tr>
<td>HIST-125</td>
<td>History of the United States: A Mexican American Perspective</td>
<td>3</td>
<td>SC, IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV</td>
<td>54 hours lecture per term</td>
<td>Recommended: Eligibility for ENGL-122 or equivalent</td>
</tr>
<tr>
<td>HIST-126</td>
<td>The American West</td>
<td>3</td>
<td>SC, IGETC: 3B, 4; CSU GE: C2, D; DVC GE: III, IV</td>
<td>54 hours lecture per term</td>
<td>Recommended: Eligibility for ENGL-122 or equivalent</td>
</tr>
</tbody>
</table>

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, Latino/a 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

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 United States' society. 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 Latino/a 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

This course presents the multicultural history of the United States from 1865 to present. Students will explore social, political, cultural, and economic factors in the development of United States' society. 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 Latino/a 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

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

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 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 in recent history. 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
Biological and Health 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 year of college work.

Associate in science in agriculture plant science for transfer
Students completing this program will be able to...
A. recognize and remediate soil properties in terms of chemistry, plant growth requirements, erosion, organic content, pore space and carbon sequestration.
B. produce plants using sexual and asexual methods of propagation, identifying water, nutrient, light, pH and temperature requirements per crop to produce crop production cost estimates.
C. evaluate, formulate, and apply needed nutrients for specific crops grown on given soils on a seasonal basis.
D. demonstrate pest problem solving skills through data analysis of biological and environmental factors influencing pest populations and application of integrated pest management options.
E. describe how markets function as applied to plant science.

The associate in science in agriculture plant science for transfer degree (AS-T in Agriculture Plant Science) provides students with courses aligned for transfer to the California State University plant science baccalaureate majors and courses in agriculture plant sciences. Potential careers include: Pest Control Advisor (PCA), farm management positions, landscape design, greenhouse manager, quality control manager, county and governmental compliance inspector, sales and marketing of seed and crop related materials. Courses include soils, plant propagation, plant identification, plant pest control, and water management.

Students transferring to a CSU campus that accepts this degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. Students should consult with a counselor for more information on specific university admission and transfer requirements.
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 IC requirement for Oral Communication.
- Complete a minimum of 18 semester units in the major.
- Obtain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

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

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

**major requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORT-110</td>
<td>Introduction to Horticulture and Plant Science</td>
<td>4</td>
</tr>
<tr>
<td>HORT-120</td>
<td>Soil Science and Management</td>
<td>3</td>
</tr>
<tr>
<td>HORT-121</td>
<td>Soil Science and Management Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>CHEM-108</td>
<td>Introductory Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td>CHEM-120</td>
<td>General College Chemistry I</td>
</tr>
<tr>
<td>ECON-221</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>BUS-240</td>
<td>Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>MATH-142</td>
<td>Elementary Statistics with Probability</td>
</tr>
<tr>
<td>or</td>
<td>MATH-144</td>
<td>Statway II</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>HORT-111*</td>
<td>Plant Propagation and Production: Winter and Spring</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>HORT-112*</td>
<td>Plant Propagation and Production: Summer and Fall</td>
</tr>
<tr>
<td>HORT-113</td>
<td>Plant Materials and their Uses: Winter and Spring</td>
<td>3</td>
</tr>
<tr>
<td>HORT-114</td>
<td>Plant Materials and their Uses: Summer and Fall</td>
<td>3</td>
</tr>
<tr>
<td>CHEM-226</td>
<td>Organic Chemistry I</td>
<td>5</td>
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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORT-170</td>
<td>Woody Plants: Identification and Maintenance</td>
<td>3.5</td>
</tr>
<tr>
<td>HORT-171</td>
<td>Pruning Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>HORT-179</td>
<td>Arboriculture</td>
<td>4</td>
</tr>
<tr>
<td>HORT-185</td>
<td>Site Analysis</td>
<td>1.5</td>
</tr>
<tr>
<td>HORT-187</td>
<td>Sustainable Water Practices</td>
<td>3</td>
</tr>
</tbody>
</table>

*plus at least 2 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORT-296</td>
<td>Internship Occupational Work Experience Education in HORT</td>
<td>1-4</td>
</tr>
</tbody>
</table>

| total minimum required units | 21 |

**Certificate of achievement Arboriculture**

Students completing the program will be able to...

A. identify commonly planted trees in local landscapes.
B. use dichotomous keys to correctly identify tree species.
C. use site analysis data to determine appropriate tree species.
D. explain how trees should be planted, staked, pruned, and irrigated.
E. identify common insect pests and disease pathogens of common trees.
F. assess tree health and recognize potential hazards.
G. interpret local tree ordinance regulations for county residents.
H. describe tree selection mistakes.
I. demonstrate techniques to mitigate tree pruning errors.

This certificate of achievement prepares students for employment as arborists in a variety of settings including public and private gardens, parks, golf courses, institutions, municipalities, utilities, government agencies, and commercial and residential tree care services. It includes classroom, laboratory, and work experience/internships. Completion of the certificate requirements will also prepare students to sit for the International Society of Arboriculture (ISA) certification.

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

**required courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORT-110</td>
<td>Introduction to Horticulture</td>
<td>4</td>
</tr>
<tr>
<td>HORT-120</td>
<td>Soil Science and Management</td>
<td>3</td>
</tr>
<tr>
<td>HORT-125</td>
<td>Integrated Pest Management</td>
<td>3.5</td>
</tr>
<tr>
<td>HORT-170</td>
<td>Woody Plants: Identification and Maintenance</td>
<td>4</td>
</tr>
<tr>
<td>HORT-171</td>
<td>Pruning Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>HORT-179</td>
<td>Arboriculture</td>
<td>4</td>
</tr>
<tr>
<td>HORT-185</td>
<td>Site Analysis</td>
<td>1.5</td>
</tr>
<tr>
<td>HORT-187</td>
<td>Sustainable Water Practices</td>
<td>3</td>
</tr>
<tr>
<td>HORT-296</td>
<td>Internship Occupational Work Experience Education in HORT</td>
<td>1-4</td>
</tr>
</tbody>
</table>

| plus at least 2 units from:
| HORT-296 | Internship Occupational Work Experience Education in HORT | 1-4 |

| 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. create presentations through graphic sketching and drafting.  
E. identify plant and non-plant material suitable for specific site design.  
F. produce a portfolio and related documents necessary to enter the marketplace.  

This certificate presents the fundamental skills used by landscape designers. Using hand-drawing and digital tools, students will develop designs based upon environments typical of residential and small commercial landscape sites. Through portfolio development and presentations, students will emulate the industry practice of designer/client interaction.  

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  
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................................................. 1-4  

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................................................. 1-4  

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 ................. 1-4

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 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

total minimum required units  24

Certificate of accomplishment

Horticulture technician

Students completing the program will be able to...
A. integrate the knowledge of higher plant functions with site analysis.
B. describe local geographical features and their relationship to soils.
C. describe the relationship between plants, soil and water.
D. evaluate plant pruning needs.

This certificate introduces students to the comprehensive field of plant science and horticulture, the green industry. Green industry professionals are responsible for nurturing and protecting our natural resources and integrating them into the built environment. This foundational certificate can lead to further study in the fields of landscape installation, maintenance, park service, plant propagation, nursery, and remediation.

To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available evenings and/or weekends.

required courses:  
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  

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  

**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:  
HORT-110 Introduction to Horticulture and Plant Science .................................................... 4  
HORT-163 Nursery and Greenhouse Practices: Summer/Fall ...................................................... 3  

**Certificate of accomplishment**  
**Tree technician**  
Students completing the program will be able to...  
A. implement tree trimming safety procedures.  
B. use field examinations to determine tree problems.  
C. diagnose woody plant suitability for given sites.  
D. recognize species and the characteristics of a given species.  

This program prepares students for employment as assistant tree trimmers, pruners, or fallers working under certified arborists.

To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available evenings and/or on weekends.

required courses:  
HORT-110 Introduction to Horticulture and Plant Science .................................................... 4  
HORT-170 Woody Plants: Identification and Maintenance ....................................................... 4  
HORT-171 Pruning Laboratory ....................................................... 1  
HORT-179 Arboriculture ....................................................... 4  

**HORT-110**  
**Introduction to Horticulture and Plant Science**  
4 units  
- 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 related to horticulture. Topics include plant morphology, growth processes, propagation, physiology, growth media, biological competitors, and post-harvest factors of food, fiber, ornamental and native plants. CID AG-PS 106L, CSU, UC  

**HORT-111**  
**Plant Propagation and Production: Winter and Spring**  
3 units  
- 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
**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 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, 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, CHEM-106, MATH-110 or equivalents  
- Formerly HORT-120L  
The lab for soils will include identifying soil types, classifications, reactions, fertility and physical properties. Soil management, biology, chemistry and microbiology will be explored. Regional soils and soil quality are investigated. Laboratory required for transfer to CSU. 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, 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 known as Controlled Environment Agriculture (CEA). Topics include hydroponics, aquaponics, and aeroponic systems, as well as a review of basic plant anatomy and physiology. Emphasis is placed on cultural practices, plant protection (insects and diseases), pollination/fertilization and bee management, plant nutrition and disorders, irrigation systems and nutrient solutions, transplant production, structures, control systems and energy conservation, harvesting, grading and storage, marketing and economics of CEG systems. CSU

HORT-160  Plant Propagation
1.5 units SC
• 18 hours lecture/27 hours laboratory per term
• 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 Nurserymen, California Landscape Contractor’s Licensing and satisfies International Society of Arboriculture Continuing Education units.
• Formerly HORT-143 and HORT-143L
Students will learn the taxonomy, identification, growth habits, landscape values, maintenance requirements and natures 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
• Formerly HORT-137L
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, HORT-110 or equivalents
- Note: This course meets the requirements for the California Association of Nurserypersons and International Society of Arboriculture Continuing Education Units (CEU).

This comprehensive class teaches students how to manage trees in urban and suburban landscapes. Included are the benefits that trees provide, and species profiles, form and ecological functions. Observational analysis skills will be taught in conjunction with scientific knowledge to direct assessment and diagnosis. Tree health subjects and applications include species selection, planting and establishment, pruning, safety, cabling, bracing, staking, watering, fertilizing, and pest control. The focus will be on trees appropriate for Contra Costa soils and micro-climates. CSU

HORT-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, 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
1-4 units SC
- May be repeated three 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. The Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit (paid) or one unit for four hours work per week or sixty hours per term (unpaid work). Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU
This degree is designed for students who wish to study a broad range of the arts: music, dance, visual arts, architecture, literature, drama, film, philosophy and history. Through this course of study students will learn to analyze, interpret, and compare a diverse range of art forms and cultures while deepening their understanding of the arts as human expression and honing their critical thinking and writing skills.

The associate in arts in humanities degree is both an interdisciplinary and integrative degree dedicated to the student of arts and ideas in their cultural contexts and to the comparative analysis of the arts. The degree provides a well-rounded and rich background in the creative and intellectual expression of major world civilizations, intellectual and cultural movements, and cultural works of creative expression. Humanities students develop skills in artistic analysis, aesthetic judgements, and other modes of critical thinking. Students develop the ability to view cultural material from multiple perspectives, appreciate and evaluate diverse forms of cultural expression, and understand the criticism and theory regarding major artistic works, styles, forms and movements.

DVC humanities students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE). General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

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

**major requirements:**

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUMAN-110 Humanities: Ancient Civilizations (to 500 A.D.)</td>
<td>3</td>
</tr>
<tr>
<td>HUMAN-111 Humanities: The Middle Ages and Renaissance</td>
<td>3</td>
</tr>
<tr>
<td>HUMAN-112 Humanities: The Modern World</td>
<td>3</td>
</tr>
<tr>
<td>HUMAN-105 Introduction to Humanities: Arts and Ideas</td>
<td>3</td>
</tr>
<tr>
<td>HUMAN-108 Humanities: The Roots of Hell</td>
<td>3</td>
</tr>
<tr>
<td>HUMAN-115 Humanities: The Multicultural American Experience</td>
<td>3</td>
</tr>
<tr>
<td>HUMAN-116 Humanities: The Arts and Culture of Asia</td>
<td>3</td>
</tr>
<tr>
<td>HUMAN-118 Humanities: Film, Fiction, and Criticism</td>
<td>3</td>
</tr>
<tr>
<td>HUMAN-123 Humanities: American Popular Culture</td>
<td>3</td>
</tr>
<tr>
<td>HUMAN-124 Humanities: California Culture</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum units for the major** 18
<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>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUMAN-105</td>
<td>Introduction to Humanities: Arts and Ideas</td>
<td>3</td>
<td>SC</td>
<td>3B</td>
<td>C2</td>
<td>III</td>
<td>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</td>
</tr>
<tr>
<td>HUMAN-108</td>
<td>Humanities: The Roots of Hell</td>
<td>3</td>
<td>SC</td>
<td>3B</td>
<td>C2</td>
<td>III</td>
<td>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</td>
</tr>
<tr>
<td>HUMAN-110</td>
<td>Humanities: Ancient Civilizations</td>
<td>3</td>
<td>SC</td>
<td>3B</td>
<td>C2</td>
<td>III</td>
<td>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</td>
</tr>
<tr>
<td>HUMAN-111</td>
<td>Humanities: The Middle Ages and Renaissance</td>
<td>3</td>
<td>SC</td>
<td>3B</td>
<td>C2</td>
<td>III</td>
<td>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</td>
</tr>
<tr>
<td>HUMAN-112</td>
<td>Humanities: The Modern World</td>
<td>3</td>
<td>SC</td>
<td>3B</td>
<td>C2</td>
<td>III</td>
<td>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</td>
</tr>
<tr>
<td>HUMAN-115</td>
<td>Humanities: The Multicultural American Experience</td>
<td>3</td>
<td>SC</td>
<td>3B</td>
<td>C2</td>
<td>III</td>
<td>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</td>
</tr>
<tr>
<td>HUMAN-116</td>
<td>Humanities: The Arts and Culture of Asia</td>
<td>3</td>
<td>SC</td>
<td>3B</td>
<td>C2</td>
<td>III</td>
<td>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</td>
</tr>
<tr>
<td>HUMAN-118</td>
<td>Humanities: Film, Fiction, and Criticism</td>
<td>3</td>
<td>SC</td>
<td>3B</td>
<td>C2</td>
<td>III</td>
<td>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</td>
</tr>
<tr>
<td>HUMAN-123</td>
<td>Humanities: American Popular Culture</td>
<td>3</td>
<td>SC</td>
<td>3B</td>
<td>C2</td>
<td>III</td>
<td>This course presents an introduction to humanities focusing on American popular culture, including the arts, entertainment, myths, the heroic tradition, and symbols. CSU, UC</td>
</tr>
</tbody>
</table>
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
Joseph Gorga, Dean
Physical Sciences and Engineering Division
Physical Sciences Building, Room 263

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.

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>ENGTC-119</td>
<td>Introduction to Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-126</td>
<td>Computer Aided Design and Drafting-AutoCAD</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-129</td>
<td>Product Design I Using SolidWorks</td>
<td>3</td>
</tr>
<tr>
<td>IDSGN-105</td>
<td>Assembly and Fabrication Workshop</td>
<td>2</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>ENGTC-165</td>
<td>Manufacturing Processes: Material Machining I</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-168</td>
<td>Introduction to Computer Numerical Control</td>
<td>3</td>
</tr>
<tr>
<td>IDSGN-107</td>
<td>Furniture Design Studio</td>
<td>2</td>
</tr>
<tr>
<td>IDSGN-220</td>
<td>Soft Goods Product Design Workshop</td>
<td>4</td>
</tr>
<tr>
<td>IDSGN-221</td>
<td>Transportation Design Studio</td>
<td>4</td>
</tr>
</tbody>
</table>

Total minimum units for the major: 29

plus at least 3 units from:
- ENGTC-165  Manufacturing Processes: Material Machining I  3 units
- ENGTC-168  Introduction to Computer Numerical Control        3 units
- IDSGN-107  Furniture Design Studio                           2 units
- IDSGN-220  Soft Goods Product Design Studio                  4 units
- IDSGN-221  Transportation Design Studio                      4 units

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.

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:  

<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>ENGTC-119</td>
<td>Introduction to Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-126</td>
<td>Computer Aided Design and Drafting-AutoCAD</td>
<td>3</td>
</tr>
<tr>
<td>ENGTC-129</td>
<td>Product Design I Using SolidWorks</td>
<td>3</td>
</tr>
<tr>
<td>IDSGN-105</td>
<td>Assembly and Fabrication Workshop</td>
<td>2</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>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>
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<tr>
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<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>
</tbody>
</table>

plus at least 3 units from:
- ENGTC-165  Manufacturing Processes: Material Machining I  3 units
- ENGTC-168  Introduction to Computer Numerical Control        3 units
- IDSGN-107  Furniture Design Studio                           2 units
- IDSGN-220  Soft Goods Product Design Studio                  4 units
- IDSGN-221  Transportation Design Studio                      4 units

Total minimum required units: 29

IDSGN-105  Assembly and Fabrication Workshop
2 units  SC

* 18 hours lecture/54 hours laboratory per term

This course presents methods of fabrication for projects in metal, wood, plastic and other materials and includes an introduction to shop safety. The use of hand tools, power tools and an introduction to computer controlled tools such as laser cutters and computer numerical control (CNC) routers is also covered. This course introduces the principles necessary to fabricate parts, components, and prototypes for a variety of technical applications. CSU
IDSGN-107  Furniture Design Studio  
2 units SC  
• 18 hours lecture/54 hours laboratory per term  
• Recommended: IDSGN-105 or equivalent  
This course introduces furniture design, construction, and assembly. Topics include design development, working drawings and assembly drawings, digital and physical modeling, and final assembly of furniture. Detailing, fabrication, and utilization of computer numerical control (CNC) routers to build finished products will be emphasized. CSU

IDSGN-120  Introduction to Industrial and Product Design  
3 units SC  
• 36 hours lecture/72 hours laboratory per term  
This introductory course will expose students to a broad spectrum of product design and general design principles and theories with a focus on visual theory, aesthetics, and historical context. Emphasis is placed on development 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-137  Digital Fabrication and Prototyping  
3 units SC  
• 36 hours lecture/72 hours laboratory per term  
• Recommended: ENGTC-119 or Equivalent  
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-121 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

Kim Schenk, Senior Dean  
Instruction Office  
Administration Building, AB 214

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.

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.

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

INTD-140 Tutor Training
1 unit SC
• 18 hours lecture per term
• Note: Students who want to tutor in the Pleasant Hill Campus English Lab must take ENGL-140 instead of INTD-140. Students who want to tutor in the Pleasant Hill Campus Math Lab must take MATH-140 instead of INTD-140.
This one-unit course will provide students with an introduction to the principles of effective tutoring. Students will learn the strategies of tutoring that foster independent learning and will use strategies such as questioning techniques to deepen critical thinking.

ITALIAN – ITAL

Toni Fannin, Dean
Applied and Fine Arts
Business and Foreign Language Building, Room 204

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

Associate in arts degree
Italian
Students completing the program will be able to...
A. communicate verbally in the target language with accurate pronunciation in meaningful situations present in both informal and formal contexts.
B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.
C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.
D. discuss, describe, and infer information from authentic texts in the target language.
E. demonstrate cultural appreciation by making (comparative) connections, on both an individual and societal level, between the target cultures and students’ own cultures.
F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

The associate in arts degree in Italian at DVC will provide students with skills in understanding, speaking, reading and writing Italian. It also gives students a greater understanding of Italian culture and civilization and will prepare them for a broad range of international and domestic career opportunities and professions. The degree will also provide students the opportunity to transfer to UC, CSU and other four-year colleges and universities to earn a bachelor’s degree.

The DVC Italian major is intended for transfer. Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to baccalaureate-granting institutions of their choice are met. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE). Option 1 (DVC General Education) is appropriate for those students who do not intend to transfer. Students may not take a pass/no pass option for major courses and each of the major requirements must be completed with a “C” grade or higher. Certain courses may satisfy both major and general education requirements; however, the units are counted only once.
To earn an associate degree in Italian, students must complete 20 units from the list of major requirements, which will provide students with the essential grammar of the language, culture and basic literature of Italy. Students with no previous knowledge of Italian when entering DVC will take the first four courses in the list for a total of 20 units. If students enter the program with previous knowledge of Italian, they may start at the second term level and take fifth and sixth terms to achieve a total of 21 units.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITAL-120</td>
<td>First Term Italian</td>
<td>5</td>
<td>IGETC: 6A</td>
</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>
</tr>
<tr>
<td>ITAL-220</td>
<td>Third Term Italian</td>
<td>5</td>
<td>90 hours lecture per term</td>
</tr>
<tr>
<td>ITAL-221</td>
<td>Fourth Term Italian</td>
<td>5</td>
<td>Prerequisite: ITAL-120 or two years of high school study or equivalent</td>
</tr>
<tr>
<td>ITAL-230</td>
<td>Fifth Term Italian</td>
<td>3</td>
<td>Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.</td>
</tr>
<tr>
<td>ITAL-231</td>
<td>Sixth Term Italian</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>total minimum units for the major</td>
<td>20</td>
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</tr>
</tbody>
</table>

**Certificate of achievement**

**Italian**

Students completing the program will be able to...

A. communicate verbally in the target language with accurate pronunciation in meaningful situations present in both informal and formal contexts.

B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.

C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.

D. discuss, describe, and infer information from authentic texts in the target language.

E. demonstrate cultural appreciation by making (comparative) connections, on both an individual and societal level, between the target cultures and students’ own cultures.

F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

This certificate of achievement was created to give students the opportunity to show potential employers in this country and in other countries that the student has completed a certain number of courses in Italian and prepares students with an intermediate to advanced knowledge of Italian and familiarizes them with the culture of Italy. This certificate of achievement provides students, prospective employers and others with documented evidence of persistence and academic accomplishment in the language. The certificate requires completion of at least 13 units from the following list of courses. Students may not take a credit/no credit option for required courses and each course must be completed with a “C” grade or higher.

<table>
<thead>
<tr>
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<tr>
<td>ITAL-120</td>
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<tr>
<td>ITAL-121</td>
<td>Second Term Italian</td>
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<td></td>
</tr>
<tr>
<td>ITAL-220</td>
<td>Third Term Italian</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>ITAL-221</td>
<td>Fourth Term Italian</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>ITAL-230</td>
<td>Fifth Term Italian</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ITAL-231</td>
<td>Sixth Term Italian</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>total minimum required units</td>
<td>13</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
Toni Fannin, Dean
Applied and Fine Arts
Business and Foreign Language Building, Room 204

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.
Japanese

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 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 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.

### Certificates of Achievement

**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.

### Lists of Courses

#### List A

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>JAPAN-120</td>
<td>First Term Japanese</td>
<td>5</td>
</tr>
<tr>
<td>JAPAN-121</td>
<td>Second Term Japanese</td>
<td>5</td>
</tr>
<tr>
<td>JAPAN-220</td>
<td>Third Term Japanese</td>
<td>5</td>
</tr>
<tr>
<td>JAPAN-221</td>
<td>Fourth Term Japanese</td>
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**Total minimum units for the major 20**

#### List B

<table>
<thead>
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<th>Units</th>
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</thead>
<tbody>
<tr>
<td>JAPAN-121</td>
<td>Second Term Japanese</td>
<td>5</td>
</tr>
<tr>
<td>JAPAN-130</td>
<td>First Term Kanji</td>
<td>3</td>
</tr>
<tr>
<td>JAPAN-131</td>
<td>Second Term Kanji</td>
<td>3</td>
</tr>
<tr>
<td>JAPAN-132</td>
<td>Third Term Kanji</td>
<td>3</td>
</tr>
<tr>
<td>JAPAN-220</td>
<td>Third Term Japanese</td>
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</tr>
<tr>
<td>JAPAN-221</td>
<td>Fourth Term Japanese</td>
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</table>

**Total minimum units for the major 21**

#### List C

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAPAN-130</td>
<td>First Term Kanji</td>
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</tr>
<tr>
<td>JAPAN-131</td>
<td>Second Term Kanji</td>
<td>3</td>
</tr>
<tr>
<td>JAPAN-132</td>
<td>Third Term Kanji</td>
<td>3</td>
</tr>
<tr>
<td>JAPAN-220</td>
<td>Third Term Japanese</td>
<td>5</td>
</tr>
<tr>
<td>JAPAN-221</td>
<td>Fourth Term Japanese</td>
<td>5</td>
</tr>
</tbody>
</table>

**Total minimum units for the major 19**

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302 PROGRAM/COURSE DESCRIPTIONS chapter four DIABLO VALLEY COLLEGE CATALOG 2020-2021
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-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-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 Kanji used in everyday life. The course will cover up to 345 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 course develops fluency in speaking, listening, reading, and writing skills in Japanese. Students will learn both formal and informal speech styles, and expand conversational skills and vocabulary with new Kanji characters. A variety of contemporary and traditional Japanese cultural elements will be explored. 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 course further develops the fluency in speaking, listening, reading, and writing skills in Japanese. Students will extend their ability to communicate effectively and properly in various real-life situations, learn complex grammatical structures, and increase vocabulary using a significant number of Kanji characters. This course includes further study of contemporary and traditional Japanese cultural elements. CSU, UC
JAPAN-298  Independent Study
.5-3 units SC
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office is required.

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

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

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

JOURNALISM – JRNAL

Obed Vazquez, Dean
English 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, 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.
Journalism

**major requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>JRNAL-110</td>
<td>Mass Media of 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>
<tr>
<td></td>
<td>plus at least 3 units from:</td>
<td></td>
</tr>
<tr>
<td>JRNAL-127</td>
<td>News Production Laboratory II</td>
<td>3</td>
</tr>
<tr>
<td>JRNAL-130</td>
<td>Multimedia Reporting</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>plus at least 6 units from:</td>
<td></td>
</tr>
<tr>
<td>ART-160</td>
<td>Photography I</td>
<td>3</td>
</tr>
<tr>
<td>BUS-240</td>
<td>Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>or 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 Language</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>or</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

**JRNAL-110**  
Mass Media of Communication  
3 units SC  
- IGEC: 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-118 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-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 Dance 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 IC requirement for Oral Communication.
- Complete a minimum of 18 units in the major.
- Attain a minimum grade point average (GPA) of 2.0.
- Earn a grade of “C” or higher in all courses required for the major.

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

Students must complete each course used to meet a major requirement with a “C” grade or higher. Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

**major requirements:**

<table>
<thead>
<tr>
<th>Course 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></td>
</tr>
<tr>
<td>KINES-210</td>
<td>Introduction to Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>BUS-240</td>
<td>Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>MATH-142 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>PHYS-130 Physics for Engineers and Scientists A-</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Mechanics and Wave Motion</td>
<td></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>KNCMB-110</td>
<td>Self Defense</td>
<td>5</td>
</tr>
<tr>
<td>KNCMB-118A</td>
<td>Beginning Taekwondo</td>
<td>5</td>
</tr>
<tr>
<td>KNCMB-126A</td>
<td>Beginning Aikido</td>
<td>5</td>
</tr>
<tr>
<td>KNCMB-134</td>
<td>Karate</td>
<td>5</td>
</tr>
<tr>
<td>KNACT-100A</td>
<td>Beginning Swimming</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-102A</td>
<td>Beginning Aquatic Fitness</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-110A</td>
<td>Beginning Hatha Yoga</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-126</td>
<td>Aerobics/Step Aerobics</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-130A</td>
<td>Beginning Fitness Walking</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-148A</td>
<td>Beginning Power Lifting</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-160A</td>
<td>Beginning Badminton</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-162</td>
<td>Bowling</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-164A</td>
<td>Beginning Golf</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-164B</td>
<td>Intermediate Golf</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-166A</td>
<td>Beginning Tennis</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-170A</td>
<td>Beginning Basketball</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-176A</td>
<td>Beginning Soccer</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-182A</td>
<td>Beginning Volleyball</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-182B</td>
<td>Intermediate Volleyball</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-182C</td>
<td>Advanced Volleyball</td>
<td>0.5-2</td>
</tr>
</tbody>
</table>

**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.
Kinesiology

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>
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</table>

plus at least 3 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>BIOSC-101</td>
<td>Fundamentals of Biological Science</td>
<td>3</td>
</tr>
<tr>
<td>BIOSC-102</td>
<td>Fundamentals of Biological Science with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-116</td>
<td>Human Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIOSC-117</td>
<td>Human Biology with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-120</td>
<td>Introduction to Human Anatomy and Physiology</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-139</td>
<td>Human Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>BIOSC-140</td>
<td>Human Physiology</td>
<td>5</td>
</tr>
</tbody>
</table>

plus at least 3 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course 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-170</td>
<td>Women’s Health</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>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>
</tbody>
</table>

plus at least 2 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNACT-146A</td>
<td>Theory and Practice of Strength Training and Fitness I</td>
<td>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 Lifting</td>
<td>0.5-2</td>
</tr>
</tbody>
</table>

plus at least 2 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNACT-110A</td>
<td>Beginning Hatha Yoga</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-110B</td>
<td>Intermediate Hatha Yoga</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-110C</td>
<td>Advanced Hatha Yoga</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-114A</td>
<td>Beginning Stretch and Yoga for Sports</td>
<td>0.5-2</td>
</tr>
<tr>
<td>KNACT-114B</td>
<td>Intermediate Stretch and Yoga for Sports</td>
<td>0.5-2</td>
</tr>
<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-126</td>
<td>Aerobics/Step Aerobics</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-142A</td>
<td>Beginning Boot Camp</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>
</tr>
<tr>
<td>KNDAN-105A</td>
<td>Pilates Mat Work I</td>
<td>0.5-2</td>
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</tbody>
</table>

total minimum units for the major 41.5

recommended courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSMG-191</td>
<td>Small Business Management</td>
<td>3</td>
</tr>
<tr>
<td>KINES-210</td>
<td>Introduction to Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>KINES-230</td>
<td>Overview of Sports Medicine and Fitness Professions</td>
<td>2.5</td>
</tr>
<tr>
<td>KINES-232</td>
<td>Advanced Sports Medicine and Athletic Training</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>
</tr>
<tr>
<td>KINES-257</td>
<td>Theory &amp; Practice of Corrective</td>
<td>2</td>
</tr>
<tr>
<td>KINES-258</td>
<td>Personal Training National Examination Preparation</td>
<td>2</td>
</tr>
</tbody>
</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.

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 individual components of kinesiology.
E. utilize these disciplines in completing a transfer degree pathway.

The associate in science degree in kinesiology offers students two areas of specialization from which to choose: sport and recreation management or coaching. The degree is a two-year course of study designed for students who are interested in a career as an athletic coach and/or preparing for an entry level job in sports or recreation administration at a wide variety of businesses such as fitness centers, spas and wellness centers, recreational facilities, etc.

While most of the kinesiology major requirements are transferable and many meet prerequisites required in associate majors, this degree is not designed as a transfer curriculum. Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Possible programs of study at the baccalaureate level include pursuit of a teaching credential to become a secondary school teacher/coach, or exercise science, sports management or other specialty area related to the discipline of kinesiology. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE). Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.
To earn this degree, students must complete the core major requirements as indicated and select an area of specialization. Students must complete each course used to meet a major requirement with a “C” grade or higher and complete general education requirements as listed in the catalog. Certain courses may satisfy both major and general education requirements; however, the units are only counted once. For this degree a maximum of 15 units may be double-counted.

**major requirements:**

- HSCI-230 Advanced First Aid/CPR .............................................. 3
- KINES-210 Introduction to Kinesiology ........................................ 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-248 Sport and Society .............................................................. 3
- PSYCH-101 Introduction to Psychology ................................................. 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 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

**recommended degree electives:**

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

**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** 36

**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

**Kinesiology**
Kinesiology

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: units
BIOSC-239 Human Anatomy ................................................. 5
KINES-230 Overview of Sports Medicine and Fitness .......................... 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 II ..................... 2
KINES-237 Clinical Experiences in Sports Medicine and Athletic Training III ................... 2
KINES-238 Clinical Experiences in Sports Medicine and Athletic Training IV ................... 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: units
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-182C Advanced Volleyball .....................................0.5-2
KNACT-195A Beginning Plyometrics and Agility ..............................0.25-1
Training for Female Athletes .....................................0.25-1
KNACT-195B Intermediate Plyometrics and Agility ..............................0.25-1
Training for Female Athletes .....................................0.25-1
KNACT-195C Advanced Plyometrics and Agility ..............................0.25-1
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

*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 prepare 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.
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-222 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, conducting 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/societal 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 is 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 the adaptations/adjustments (appropriate progressions/regressions) of fitness programs to meet the changing needs of the client’s fitness level and risk factor management and development of long and short term fitness goals. CSU

KINES-255  Practical Experience in Personal Training and Fitness Instruction II
4 units  SC
- 36 hours lecture/108 hours laboratory by arrangement per term
- Prerequisite: KINES-240 (may be taken concurrently) and KINES-250 (may be taken concurrently) or equivalents
This is an internship course where students experience the practical application and responsibilities of personal training. Students perform objective assessments with clients, prepare, and execute program design, as well as create long and short term health and wellness goals based on assessments outcomes. CSU

KINES-256  Theory and Practice of Performance Exercise Training and Exam Prep.
2 units  SC
- 36 hours lecture per term
- 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  
1-4 units  SC  
• May be repeated three 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. Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit. Students may earn up to a maximum of sixteen units; 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 Dance Division
Kinesiology Office Building, Room 104

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

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

### KINESIOLOGY

#### Family: Swimming
- KNACT-100A Beginning Swimming
- KNACT-100B Intermediate Swimming

#### Family: Yoga
- KNACT-110A Beginning Hatha Yoga
- KNACT-110B Intermediate Hatha Yoga
- KNACT-110C Advanced Hatha Yoga
- KNACT-114A Beginning Stretch and Yoga for Sports
- KNACT-114B Intermediate Stretch and Yoga for Sports

#### Family: Walking/jogging
- KNACT-130A Beginning Fitness Walking
- KNACT-130B Intermediate Fitness Walking
- KNACT-132 Hiking
- KNACT-134A Beginning Fitness Jogging
- KNACT-134B Intermediate Fitness Jogging
- KNACT-136 Distance Track Training

#### Family: Aerobics
- KNACT-102A Beginning Aquatic Fitness
- KNACT-102B Intermediate Aquatic Fitness
- KNACT-104 Water Aerobics
- KNACT-120 Physical Fitness
- KNACT-125 Zumba
- KNACT-126 Aerobics/Step Aerobics
- KNACT-128A Beginning Cardio Kickboxing
- KNACT-128B Intermediate Cardio Kickboxing
- KNACT-140 Indoor Cycling
- KNACT-142A Beginning Boot Camp
- KNACT-144A Beginning Super Circuit
- KNACT-144B Intermediate Super Circuit
- KNACT-150A Zumba
- KNACT-150E Boot Camp

#### Family: Core
- KNACT-122A Beginning Body Sculpt
- KNACT-122B Intermediate Body Sculpt
- KNACT-124A Beginning Hips, Thighs and Abs
- KNACT-124B Intermediate Hips, Thighs and Abs
- KNDAN-105A Pilates Mat Work I
- KNDAN-105B Pilates Mat Work II

#### Family: Sport specific conditioning
- KNACT-150C Advanced Plyometrics and Agility Training for Female Athletes
- KNACT-195A Beginning Plyometrics and Agility Training for Female Athletes
- KNACT-195B Intermediate Plyometrics and Agility Training for Female Athletes
- KNACT-195C Advanced Plyometrics and Agility Training for Female Athletes

#### Family: Resistance
- KNACT-146A Theory and Practice of Strength Training and Fitness I
- KNACT-146B Theory and Practice of Strength Training and Fitness II
- KNACT-146C Theory and Practice of Strength Training and Fitness III
- KNACT-146D Theory and Practice of Strength Training and Fitness IV
- KNACT-148A Beginning Power Lifting
- KNACT-148B Intermediate Power Lifting

#### Family: Golf
- KNACT-164A Beginning Golf
- KNACT-164B Intermediate Golf

#### Family: Tennis
- KNACT-150B Intermediate Tennis
- KNACT-166A Beginning Tennis
- KNACT-166B Intermediate Tennis
Family: Badminton
KNACT-160A Beginning Badminton
KNACT-160B Intermediate Badminton

Family: Bowling
KNACT-162 Bowling

Family: Basketball
KNACT-170A Beginning Basketball
KNACT-170B Intermediate Basketball

Family: Football
KNACT-172 Flag Football

Family: Lacrosse
KNACT-150D Intermediate Lacrosse
KNACT-174A Beginning Men’s Lacrosse
KNACT-174B Intermediate Men’s Lacrosse

Family: Soccer
KNACT-176A Beginning Soccer
KNACT-176B Intermediate Soccer
KNACT-178A Beginning Indoor Soccer
KNACT-178B Intermediate Indoor Soccer

Family: Volleyball
KNACT-182A Beginning Volleyball
KNACT-182B Intermediate Volleyball
KNACT-182C Advanced Volleyball
KNACT-184A Beginning Beach Volleyball

**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. 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-114A  Beginning Stretch and Yoga for Sports**  
.5-2 units SC  
- CSU GE: E  
- Variable hours  
This is a beginning level activity course introducing principles of yoga asanas, stretch and relaxation techniques, as related to a particular sport or activity. Students will practice beginning level warm-up activities, flexibility and stretching exercises, for the primary purpose of preventing injury in their particular sport/activity. Students will learn methods for measuring changes in flexibility and alignment. CSU, UC (credit limits may apply to UC - see counselor)

**KNACT-114B  Intermediate Stretch and Yoga for Sports**  
.5-2 units SC  
- CSU GE: E  
- Variable hours  
This is a course presenting intermediate principles of stretch technique, intermediate yoga asanas, and imagery techniques, as related to a particular sport or activity. Students will participate in intermediate level warm-up activities, intermediate flexibility and strengthening exercises, and injury prevention methods, with the goal of enhancing sport/activity performance. Students will utilize flexibility and alignment measurements for the development of an individualized stretch program. 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 physical fitness through participation in flexibility routines, resistance training, core strengthening, and cardiovascular exercise. Fitness training that benefits a particular sport or activity, as well as, the benefits of physical fitness as an aspect of overall well-being, are 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 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 training elements will be developed. 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  
This is an activity course designed to teach intermediate elements of body sculpt. Body sculpt is 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 toning and strengthening of the hip, thigh, and abdominal areas. A basic level of anatomy will be included. Various beginning conditioning techniques and modalities will be utilized including, but not limited to, speed walking, body resistance activities and basic use of resistance tubing. 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  
This is an activity course emphasizing an intermediate level of toning and strengthening of the hip, thigh, and abdominal areas. An intermediate level of muscle tone development and progressive levels of muscle physiology, will be included. A variety of measured conditioning techniques and modalities will be utilized including, but not limited to, running, bender balls, stability balls and Pilates rings. 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-126  Aerobics/Step Aerobics
.5-2 units SC
• CSU GE: E
• Variable hours
This is an activity course designed to improve aerobic cardiorespiratory fitness utilizing a variety of current aerobic fitness training formats including choreographed and non-choreographed floor movement patterns, step training, and aerobic interval training. Muscle endurance, flexibility training, core strengthening and discussion of the science of aerobic fitness will 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
• Note: Ability to participate in vigorous activity is recommended
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
• Note: Ability to participate in vigorous activity is recommended
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 of beginning fitness levels who would like to utilize walking as a fitness enhancing activity. Introductory technique will be emphasized and basic walking programs will be developed. Walking routes begin on campus and explore a multitude of 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
This is an activity course intended for students of intermediate fitness levels 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 a multitude of 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-142A  Beginning Boot Camp  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
• Note: Students must be healthy enough to participate in vigorous physical activity.  
This is an activity course that incorporates a total body workout with minimal rest in between a given set of exercises. Cardiovascular endurance, core exercises, muscular strength, muscular endurance, body weight exercises, and free weights will be combined to assist students in achieving fitness goals. Flexibility exercises, nutritional information, and fitness principles will also be presented. 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 cardiovascular fitness, muscular strength, muscular endurance, and flexibility in a unique and simultaneous combination of aerobic and resistance training exercises in one seamless total fitness workout. 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  
This is an activity course for intermediate level students participating in a unique and simultaneous combination of aerobic and resistance training exercises in one seamless total fitness workout utilizing elements of cardiovascular fitness, muscular strength, muscular endurance, and flexibility. Individual health and fitness assessments will be conducted during the semester. Nutrition and other wellness topics will also be included. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-146A  Theory and Practice of Strength Training and Fitness I  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
This is an activity course designed to increase muscular strength, muscular endurance, and fitness utilizing introductory resistance techniques and equipment training. Endurance training activities will also be included. Students will be instructed on information pertaining to safety, warm-up, and musculoskeletal anatomy. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-146B  Theory and Practice of Strength Training and Fitness II  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
This is an activity course designed to increase muscular strength, muscular endurance, and fitness utilizing beginning level strength training techniques, equipment, and endurance training activities. Information on safety, warm-up, anatomy, and basic program design will also be presented. CSU, UC (credit limits may apply to UC - see counselor)

KNACT-146C  Theory and Practice of Strength Training and Fitness III  
.5-2 units SC  
• CSU GE: E  
• Variable hours  
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  
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  
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 focuses on intermediate level skills and strategies of badminton. 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-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-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
• Formerly PE-193

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 advance 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

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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.

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KINESIOLOGY
Family: Combatives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNCMB-110</td>
<td>Self-Defense</td>
<td>.5-2</td>
<td>SC</td>
</tr>
<tr>
<td>KNCMB-114</td>
<td>Jujitsu</td>
<td>.5-2</td>
<td>SC</td>
</tr>
<tr>
<td>KNCMB-118A</td>
<td>Beginning Taekwondo</td>
<td>.5-2</td>
<td>SC</td>
</tr>
<tr>
<td>KNCMB-118B</td>
<td>Intermediate Taekwondo</td>
<td>.5-2</td>
<td>SC</td>
</tr>
<tr>
<td>KNCMB-118C</td>
<td>Advanced Taekwondo</td>
<td>.5-2</td>
<td>SC</td>
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<tr>
<td>KNCMB-128A</td>
<td>Beginning Aikido</td>
<td>.5-2</td>
<td>SC</td>
</tr>
<tr>
<td>KNCMB-128B</td>
<td>Intermediate Aikido</td>
<td>.5-2</td>
<td>SC</td>
</tr>
<tr>
<td>KNCMB-128</td>
<td>Aikido Weapons-Jo and Bokken</td>
<td></td>
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</tr>
<tr>
<td>KNCMB-130</td>
<td>Judo</td>
<td>.5-2</td>
<td>SC</td>
</tr>
<tr>
<td>KNCMB-134</td>
<td>Karate</td>
<td>.5-2</td>
<td>SC</td>
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<tr>
<td>KNCMB-150A</td>
<td>Intermediate Taekwondo</td>
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<tr>
<td>KNCMB-150B</td>
<td>Advanced Taekwondo</td>
<td>.5-2</td>
<td>SC</td>
</tr>
</tbody>
</table>

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-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-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 the history, philosophy, techniques and safety aspects of Kajukenbudo Karate. This martial art form teaches the way of the “empty hand” using legs, arms and fists, as well as Ki (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

KINESIOLOGY DANCE – KNDAN

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

Limitations on enrollment
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KINESIOLOGY

Family: Ballet  
KNDAN-110A  Ballet Fundamentals I  
KNDAN-110B  Ballet Fundamentals II  
DANCE-212  Ballet I  
DANCE-213  Ballet II  
DANCE-214  Ballet III  
DANCE-216  Pointe Technique

Family: Jazz  
KNDAN-120A  Jazz Dance Fundamentals I  
KNDAN-120B  Jazz Dance Fundamentals II  
DANCE-222  Jazz Dance I  
DANCE-223  Jazz Dance II  
DANCE-224  Jazz Dance III

Family: Modern  
KNDAN-130A  Modern Dance Fundamentals I  
KNDAN-130B  Modern Dance Fundamentals II  
DANCE-232  Modern Dance I  
DANCE-233  Modern Dance II  
DANCE-234  Modern Dance III
Family: Ballroom Dance
KNDAN-150A Argentine Tango
KNDAN-164A Ballroom/Social Dance I
KNDAN-166 Swing Dance
KNDAN-168A Salsa and Latin Dance I
KNDAN-168B Salsa and Latin Dance II
KNDAN-169A Argentine Tango

Family: Tap
KNDAN-160A Tap Dance I
KNDAN-160B Tap Dance II

Family: Dance Production
DANCE-150A Dance Production II
DANCE-242 Repertory Dance Production I
DANCE-244 Repertory Dance Production II
DANCE-246 Dance Production I
DANCE-248 Dance Production II
DANCE-256 Dance Production Choreography

Family: Dance Performance
DANCE-150B Dance Production II - Tech Week
DANCE-243 Repertory Dance Production I - Tech Week
DANCE-245 Repertory Dance Production II - Tech Week
DANCE-247 Dance Production I – Tech Week
DANCE-249 Dance Production II - Tech Week
DANCE-257 Dance Production Choreography - Tech Week

Family: Dance Survey
KNDAN-100 Introduction to Dance
KNDAN-162 Broadway Dance

Family: Urban Dance
KNDAN-150A Beginning Hip-Hop and Urban Funk
KNDAN-150B Intermediate Hip-Hop and Urban Funk
KNDAN-170A Hip-Hop and Urban Funk Dance I
KNDAN-170B Hip-Hop and Urban Funk Dance II

KNDAN-100 Introduction to Dance
.5-2 units SC
- CSU GE: E
- Variable hours
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

KNDAN-105A Pilates Mat Work I
.5-2 units SC
- CSU GE: E
- Variable hours
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 as it relates to intermediate level exercises. CSU, UC (credit limits may apply to UC - see counselor)

KNDAN-105B Pilates Mat Work II
.5-2 units SC
- CSU GE: E
- Variable hours
- Recommended: KNDAN-105A or equivalent
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)

KNDAN-110A Ballet Fundamentals I
.5-2 units SC
- CSU GE: E
- Variable hours
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

KNDAN-110B Ballet Fundamentals II
.5-2 units SC
- Recommended: KNDAN-110A or equivalent
- Variable hours
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

KNDAN-120A Jazz Dance Fundamentals I
.5-2 units SC
- CSU GE: E
- Variable hours
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

KNDAN-120B Jazz Dance Fundamentals II
.5-2 units SC
- Recommended: KNDAN-120A or equivalent
- Variable hours
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
KNDAN-130A Modern Dance Fundamentals I
.5-2 units SC
• CSU GE: E
• Variable hours
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

KNDAN-130B Modern Dance Fundamentals II
.5-2 units SC
• CSU GE: E
• Variable hours
• Recommended: KNDAN-130A or equivalent
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

KNDAN-150 Topics in Dance Arts
.3-4 units SC
• CSU GE: E
• Variable hours
A supplemental course in the dance arts to provide a study of current concepts and problems in dance field and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

KNDAN-160A Tap Dance I
.5-2 units SC
• CSU GE: E
• Variable hours
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

KNDAN-160B Tap Dance II
.5-2 units SC
• CSU GE: E
• Variable hours
• Recommended: KNDAN-160A or equivalent
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

KNDAN-162 Broadway Dance
.5-2 units SC
• CSU GE: E
• Variable hours
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

KNDAN-164A Ballroom/Social Dance I
.5-2 units SC
• CSU GE: E
• Variable hours
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

KNDAN-164B Ballroom/Social Dance II
.5-2 units SC
• CSU GE: E
• Variable hours
• Recommended: KNDAN-164A or equivalent
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

KNDAN-166 Swing Dance
.5-2 units SC
• CSU GE: E
• Variable hours
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

KNDAN-168A Salsa and Latin Dance I
.5-2 units SC
• CSU GE: E
• Variable hours
This is an introductory course in the Latin dances, including Salsa. The techniques, terminology, steps, patterns, rhythms, music, history and development of a variety of Latin dances will be explored. This is a social dance class but a partner is not required. CSU, UC

KNDAN-168B Salsa and Latin Dance II
.5-2 units SC
• CSU GE: E
• Variable hours
• Recommended: KNDAN-168A or equivalent
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
Kinesiology Dance

KNDAN-169A Argentine Tango I
.5-2 units SC
• CSU GE: E
• Variable hours
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

KNDAN-170A Hip-Hop and Urban Funk Dance I
.5-2 units SC
• CSU GE: E
• Variable hours
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

KNDAN-170B Hip-Hop and Urban Funk Dance II
.5-2 units SC
• CSU GE: E
• Variable hours
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 foot work, 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

KNDAN-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 INTERCOLLEGIATE ATHLETICS – KNICA

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

KNICA-098 Intercollegiate Pre-Participation Orientation
.3 unit P/NP
• Non degree applicable
• 6 hours lecture per term
This course is designed to prepare new students who intend to try-out/compete for an inter-collegiate athletic team, in the upcoming academic term and season of competition. Students will complete the California Community College Athletic Association’s (CCCAA) athletic eligibility requirements, required medical forms and waivers, register for the National Collegiate Athletic Association (NCAA) Clearinghouse, and fulfill other requirements for community college athletic competition.

KNICA-100 Student-Athlete Success I
1.5 units SC
• 27 hours lecture per term
This course is designed to assist student-athletes through the transition to collegiate-level academic achievement and athletic performance. Topics will include, student-athlete academic eligibility requirements, college resources and services, and personal responsibility skills. Students will be actively involved in the evaluation of services and application of skills in order to successfully navigate their first year of the college academic and athletic experience. CSU

KNICA-101 Student-Athlete Success II
1.5 units SC
• 27 hours lecture per term
• Prerequisite: KNICA-100 or equivalent
This course is designed to assist student-athletes toward successful degree completion, transfer, and/or professional employment while competing in intercollegiate athletics. Topics include transfer and athletic eligibility requirements for four year institutions, transfer applications and/or professional employment processes, scholarships and financial aid, leadership skills, and personal responsibility for life success. CSU
KNICA-120 Analysis of the Multiple Aspects of Modern Day Football
.5-2 units SC
- Variable hours
- 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)
### Kinesiology intercollegiate athletics

<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>KNICA-210</td>
<td>Intercollegiate Soccer, Women</td>
<td>3</td>
<td>SC</td>
<td>This course provides instruction and intercollegiate competition in women's soccer. CSU, UC (credit limits may apply to UC - see counselor)</td>
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<tr>
<td></td>
<td><strong>May be repeated once</strong></td>
<td></td>
<td></td>
<td><strong>175 hours activity per term</strong></td>
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<tr>
<td></td>
<td><strong>Recommended: Competitive high school soccer experience or equivalent</strong></td>
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<td></td>
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<tr>
<td>KNICA-215</td>
<td>Intercollegiate Softball, Women</td>
<td>3</td>
<td>SC</td>
<td>This course provides instruction and intercollegiate competition in women's softball. CSU, UC (credit limits may apply to UC - see counselor)</td>
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<td></td>
<td><strong>175 hours activity per term</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Recommended: Competitive high school softball experience or equivalent</strong></td>
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<tr>
<td>KNICA-216</td>
<td>Intercollegiate Swimming and Diving, Men</td>
<td>3</td>
<td>SC</td>
<td>This course provides instruction and intercollegiate competition in men's swimming and diving. CSU, UC (credit limits may apply to UC - see counselor)</td>
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<tr>
<td></td>
<td><strong>May be repeated once</strong></td>
<td></td>
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<td><strong>175 hours activity per term</strong></td>
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<tr>
<td></td>
<td><strong>Recommended: Competitive high school swimming/diving experience or equivalent</strong></td>
<td></td>
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<tr>
<td>KNICA-217</td>
<td>Intercollegiate Swimming and Diving, Women</td>
<td>3</td>
<td>SC</td>
<td>This course provides instruction and intercollegiate competition in women's swimming and diving. CSU, UC (credit limits may apply to UC - see counselor)</td>
</tr>
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<tr>
<td>KNICA-218</td>
<td>Intercollegiate Tennis, Men</td>
<td>3</td>
<td>SC</td>
<td>This course provides instruction and intercollegiate competition in men's tennis. CSU, UC (credit limits may apply to UC - see counselor)</td>
</tr>
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<td><strong>Recommended: Competitive high school tennis experience or equivalent</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KNICA-219</td>
<td>Intercollegiate Tennis, Women</td>
<td>3</td>
<td>SC</td>
<td>This course provides instruction and intercollegiate competition in women's tennis. CSU, UC (credit limits may apply to UC - see counselor)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>KNICA-220</td>
<td>Intercollegiate Track and Field, Men</td>
<td>3</td>
<td>SC</td>
<td>This course provides instruction and intercollegiate competition in men's track and field. CSU, UC (credit limits may apply to UC - see counselor)</td>
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<td></td>
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</tr>
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<td><strong>Recommended: Competitive high school track and field experience or equivalent</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>KNICA-221</td>
<td>Intercollegiate Track and Field, Women</td>
<td>3</td>
<td>SC</td>
<td>This course provides instruction and intercollegiate competition in women's track and field. CSU, UC (credit limits may apply to UC - see counselor)</td>
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<td></td>
<td><strong>175 hours activity per term</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Recommended: Competitive high school track and field experience or equivalent</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>KNICA-223</td>
<td>Intercollegiate Volleyball, Women</td>
<td>3</td>
<td>SC</td>
<td>This course provides instruction and intercollegiate competition in women's volleyball. CSU, UC (credit limits may apply to UC - see counselor)</td>
</tr>
<tr>
<td></td>
<td><strong>May be repeated once</strong></td>
<td></td>
<td></td>
<td><strong>175 hours activity per term</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Recommended: Competitive high school volleyball experience or equivalent</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KNICA-224</td>
<td>Intercollegiate Water Polo, Men</td>
<td>3</td>
<td>SC</td>
<td>This course provides instruction and intercollegiate competition in men's water polo. CSU, UC (credit limits may apply to UC - see counselor)</td>
</tr>
<tr>
<td></td>
<td><strong>May be repeated once</strong></td>
<td></td>
<td></td>
<td><strong>175 hours activity per term</strong></td>
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<tr>
<td></td>
<td><strong>Recommended: Competitive high school water polo experience or equivalent</strong></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
**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 and Learning Resources 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 and Learning Resources 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, 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 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.
Library technology

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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<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>
<td>1</td>
</tr>
</tbody>
</table>

plus at least 2 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT-295</td>
<td>Occupational Work Experience Education in LT</td>
<td>1-4</td>
</tr>
<tr>
<td>LT-296</td>
<td>Internship in Occupational Work Experience Education in LT</td>
<td>1-4</td>
</tr>
</tbody>
</table>

plus at least 2 units from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL-177</td>
<td>Children’s Literature</td>
<td>3</td>
</tr>
<tr>
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<td>Topics in Library Studies</td>
<td>0.3-4</td>
</tr>
<tr>
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<td>2</td>
</tr>
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<td>ARTDM-105</td>
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<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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</tr>
</tbody>
</table>

Notes: maximum number of units applicable to the program units in LT-295 or LT-196 is four. There may be no duplication of course units between groups of restricted electives.

Certificate of achievement

Library technology

Students completing the program will be able to...

A. explain library fundamental principles including intellectual freedom, open access, diversity, and patron privacy and confidentiality.

B. apply knowledge and skills gained through the coursework to perform library technician-level tasks.

C. describe the characteristics of libraries and the roles of libraries in a diverse, multicultural, and democratic society, and how these needs can be met.

D. apply the basic principles and standardized systems of ordering, cataloging, classifying, processing, and maintaining library materials and resources.

E. demonstrate the workplace communication skills necessary to successfully interact with users and staff in the library and other information services.

F. identify and use the technologies found in the library and other information services.

G. analyze information critically to draw conclusions and/or solve problems when working with patrons, materials, and technology.

This certificate program prepares students for employment in the dynamic field of library and information services. The skills learned in this program may be used in public, school, academic, and 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.

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:

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<tbody>
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</tr>
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<td>LT-112</td>
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</tr>
<tr>
<td>LT-296</td>
<td>Internship in Occupational Work</td>
<td>1-4</td>
</tr>
<tr>
<td></td>
<td>Experience Education in LT</td>
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</tbody>
</table>

**total minimum required units**  19

Notes: maximum number of units applicable to the program units in LT-295 or LT-196 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 technician's role in the delivery of services, and strategies for successful job placement are emphasized. The course also explores current library issues and trends, as well as the relationship of libraries to the communities and populations they serve. CSU

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**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

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**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

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**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 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
• Formerly L-111
This course is an introduction to storytelling in the library, classroom, home, and other settings. Various types, formats, and techniques of storytelling will be explored. Practice in presenting and evaluating a variety of stories will also be included. CSU

LT-112  Internet Skills for Library Personnel
1 unit  SC
• 18 hours lecture per term
• Recommended: Eligibility for ENGL-122 or equivalent
• Formerly L-112
This course presents uses of the Internet in providing online library and information services to the public and library operations. The course is designed for library personnel using the Internet and other information systems for work-related tasks such as reference, cataloging, acquisitions, programming, and other information management activities. Exploration of networking fundamentals, advanced searching techniques, user training and teaching, and evaluation of online resources are included. CSU

LT-150  Topics in Library Technology
.3-4 units  SC
• Variable hours
• Recommended: Eligibility for ENGL-122 or equivalent
• Formerly L-150
A supplemental course in Library to provide a study of current concepts and problems in library technology. Specific topics will be announced in the schedule of classes. CSU

LT-295  Occupational Work Experience Education in LT
1-4 units  SC
• May be repeated three 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. Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit. Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU

LT-296  Internship in Occupational Work Experience Education in LT
1-4 units  SC
• May be repeated three 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. The Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit (paid) or one unit for four hours work per week or sixty hours per term (unpaid work). Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU
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.

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

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

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

Major requirements: units

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

plus at least 3 units from:

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

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

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

Total minimum units for the major 22
MATH-021  Support for Success in MATH-121
Plane Trigonometry
1 unit  P/NP
• Non degree applicable
• 9 hours lecture/27 hours of laboratory per term
• Co-requisite: MATH-121 or equivalent
• Note: This course provides students with support to be successful in MATH-121 Plane Trigonometry. 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-121 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-121 Plane Trigonometry. Additional practice with math concepts directly relevant to MATH-121 are integrated into instruction, as well as study skills strategies, mindset, and other academic supports.

MATH-035  Support for Success in MATH-135
College Algebra
2 units  P/NP
• Non degree applicable
• 18 hours lecture/54 hours of laboratory per term
• Co-requisite: MATH-135 or equivalent
• Note: This course provides students with support to be successful in MATH-135 College Algebra. 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-135 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-135 College Algebra. Additional practice with math concepts directly relevant to MATH-135 are integrated into instruction, as well as study skills strategies, mindset, and other academic supports.

MATH-040  In-Progress Arithmetic and Basic Algebra Review Self-Paced
4 units  P/NP
• Non degree applicable
• 216 hours laboratory per term
• Note: Students do not enroll directly in this course. Enrollment is limited to transfer by instructor.

This course is designed to allow students who are enrolled in MATH-085SP to receive non-degree applicable credit for mastery of some but not all of the outcomes in MATH-085SP. In order to receive credit for MATH-040, students must enroll in MATH-085SP and make reasonable progress through the content.

MATH-041  In-Progress Beginning and Intermediate Algebra Self-Paced
4 units  P/NP
• Non degree applicable
• 216 hours laboratory per term
• 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-090 or MATH-090SP 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.
Mathematics

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-085  Arithmetic and Basic Algebra Review
4 units  SC
• Non degree applicable
• 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 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.
This course is a 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-090  Elementary Algebra
5 units  SC
• Non degree applicable
• 90 hours lecture per term
• Prerequisite: Placement through the assessment process or MATH-075 or MATH-075SP or equivalent
This course is an introduction to the techniques and reasoning of algebra, including linear equations and inequalities, development and use of formulas, algebraic expressions, systems of equations, graphs and introduction to quadratic equations.

MATH-090E  Elementary Algebra with Study Skills
6 units  SC
• Non degree applicable
• 108 hours lecture per term
• Prerequisite: Placement through the assessment process or MATH-075 or MATH-075SP or equivalent
This course integrates study skills for math success with an introduction to the techniques and reasoning of algebra, including linear equations and inequalities, development and use of formulas, algebraic expressions, systems of equations, graphs and introduction to quadratic equations. Study skills topics will include time management, note taking, memory techniques, studying for tests, test anxiety and math anxiety.

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
• Prerequisite: Placement through the assessment process or MATH 075 or MATH 075SP or equivalent
• Note: TI-83 or TI-84 graphing calculator 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.
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 MATH-121 Plane Trigonometry or MATH-135 College Algebra.
MATH-119SP  Beginning and Intermediate Algebra - Self Paced
4 units  SC
- DVC GE: IC
- 216 hours laboratory per term
- 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, conics, complex numbers, the binomial theorem, logarithms, 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 MATH-090SP or MATH-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-119SP; or MATH-120; or MATH-120SP; or MATH-021 (may be taken concurrently with MATH-121); or assessment process. Or Equiv.
- 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, 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. Topics may include exponential functions, logarithmic scales, probability, statistics, finance, matrix operations, logic or geometry. Historical context of some of the great ideas of mathematics will also be explored. CSU, UC
MATH-120  Subsystems. Emphasis is on comprehension and analysis of topics in mathematics, including real number systems and reasoning skills through in-depth, integrated explorations of polynomial equations, analytic geometry, and inequalities. CSU, UC (credit limits may apply to UC - see counselor).

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 Equiv.

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 Equiv.
- 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 Equiv.
- Note: TI-83 or TI-84 Graphing Calculator 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: TI-83 or TI-84 graphing calculator 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-182; 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-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 sequence in calculus for management, life science, and social science majors, and is a continuation of MATH-182. Topics include techniques of integration, applications of the integral, multivariable functions, differential equations, and Taylor polynomials. CSU, UC (credit limits may apply to UC - see counselor)

MATH-191  Pre-Calculus
5 units  LR
• IGETC: 2A; CSU GE: B4; DVC GE: IB, IC
• 90 hours lecture per term
• Prerequisite: Placement into MATH-191; or MATH-121; or 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. Conic sections, 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. Topics include functions and their graphs, including polynomial, rational, logarithmic, exponential and trigonometric functions, conic sections, nonlinear systems, vectors and complex numbers. 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)
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<td>Recommended: Eligibility for ENGL-122 or equivalent</td>
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<td></td>
<td>This course is a continuation of MATH-192.</td>
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<td></td>
<td>Techniques and applications of integration in geometry, science and engineering</td>
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<td></td>
<td>will be explored. Work with algebraic and transcendental functions will be</td>
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<td>continued. Other topics will include numerical methods in evaluation of the</td>
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<td>integral, infinite series, solving differential equations, applications of</td>
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<td>differential equations, polar coordinates, parametric equations and conic</td>
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<td>sections. C-ID MATH 220, CSU, UC (credit limits may apply to UC - see</td>
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<td>counselor)</td>
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<tr>
<td>MATH-194</td>
<td>Linear Algebra</td>
<td>3</td>
<td>LR</td>
<td>IGETC: 2A; CSU GE: B4; DVC GE: IB, IC</td>
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<td>54 hours lecture per term</td>
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<td>Prerequisite: MATH-193 or equivalent</td>
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<td>Recommended: Eligibility for ENGL-122 or equivalent</td>
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<td>This course is an introduction to linear algebra,</td>
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<td>covering vector spaces, matrices, determinants, bases, and linear transformations</td>
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<td>Techniques for solving systems of equations using matrices, and applications of</td>
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<td>linear transformations will be covered. C-ID MATH 250, CSU, UC</td>
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<td>MATH-195</td>
<td>Discrete Mathematics</td>
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<td>LR</td>
<td>IGETC: 2A; CSU GE: B4; DVC GE: IB, IC</td>
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<td>72 hours lecture per term</td>
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<td>Prerequisite: MATH-193 or equivalent</td>
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<td>Recommended: Eligibility for ENGL-122 or equivalent</td>
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<td>Note: MATH-193 or equivalent may be taken either as a prerequisite or concurrently</td>
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<td></td>
<td>This course provides an introduction to propositional logic,</td>
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<td>induction, set theory, relations, and functions, counting and combinatorics,</td>
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<td>introduction to trees, graph theory, algorithms, and algebraic structures.</td>
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<td>The emphasis is on topics of interest to computer science students. CSU, UC</td>
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<tr>
<td>MATH-289</td>
<td>Introduction to Upper Division Mathematics</td>
<td>4</td>
<td>SC</td>
<td>72 hours lecture per term</td>
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<td>Prerequisite: MATH-193 or equivalent</td>
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<td>Recommended: Eligibility for ENGL 116/118 or equivalent</td>
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<td>This course is designed for students who intend to</td>
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<td>transfer to a four-year college or university and study upper-division</td>
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<td>mathematics. Topics include number theory, set theory, and methods of proof</td>
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<td>including induction, direct and indirect proof as well as other topics from</td>
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<td>upper-division mathematics including abstract algebra. CSU, UC</td>
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<tr>
<td>MATH-292</td>
<td>Analytic Geometry and Calculus III</td>
<td>5</td>
<td>LR</td>
<td>IGETC: 2A; CSU GE: B4; DVC GE: IB, IC</td>
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<td>90 hours lecture per term</td>
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<td>Prerequisite: MATH-193 or equivalent</td>
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<td>Recommended: MATH-193 or equivalent (may be taken concurrently)</td>
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<td>Note: TI-83 or TI-84 graphing calculator required.</td>
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<td>This course is a continuation of MATH-193.</td>
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<td>Topics include limits, parametric equations, vector-valued functions, analytic</td>
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<td></td>
<td>geometry of three dimensions, partial derivatives, multiple integrals, and</td>
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<td>Green's, Stokes’ and the Divergence theorems. C-ID MATH 230, CSU, UC</td>
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<tr>
<td>MATH-294</td>
<td>Differential Equations</td>
<td>5</td>
<td>LR</td>
<td>IGETC: 2A; CSU GE: B4; DVC GE: IB, IC</td>
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<td>90 hours lecture per term</td>
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<td>Prerequisite: MATH-292 or equivalent</td>
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<td>Recommended: MATH-194 or equivalent (may be taken concurrently)</td>
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<td>Note: TI-83 or TI-84 graphing calculator required.</td>
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<td>This course presents an introduction to the theory</td>
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<td>and applications of ordinary differential equations and an introduction to</td>
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<td>partial differential equations. C-ID MATH 240, CSU, UC</td>
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<tr>
<td>MATH-298</td>
<td>Independent Study</td>
<td>5-3</td>
<td>SC</td>
<td>Variable hours</td>
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<td>Note: Submission of acceptable educational contract to department and Instruction Office required.</td>
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<td>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, UC</td>
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<tr>
<td>MATH-299</td>
<td>Student Instructional Assistant</td>
<td>5-3</td>
<td>SC</td>
<td>Variable hours</td>
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<td>Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.</td>
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<td>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</td>
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</tbody>
</table>
MUSIC – MUSIC

Toni Fannin, Dean
Applied and Fine Arts Division
Business and Foreign Language Building, Room 204

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, songwriting, editor (print music publishing), choir director, midi engineering, recording engineer, studio director or manager, sound designer, music therapist, instrumental soloist, sound technician, and tour coordinator. Many careers require more than two years of study.

Program learning outcomes
Program learning outcomes are subject to change. The most current list of program learning outcomes for each program is published on the DVC website at www.dvc.edu/slo.

Associate in arts degree
Music

Students completing the program will be able to...

A. perform music with technical facility and artistry on his/her voice or choice of instrument as a soloist and as a member of an ensemble.

B. demonstrate practical musical literacy, both theoretical and historical.

C. listen to music with practical awareness, theoretical, critical, and historical.

The associate in arts degree in music offers students the opportunity to attain the basic skills and knowledge needed as preparation for careers in music and further undergraduate study. The music major is a two-year program of transferable courses open to all students. Required courses include applied music, theory and musicianship, piano proficiency, and ensemble. The choice of ensemble performance courses and literature courses enables the student to customize his/her own needs and/or special interests.

This degree provides students with the foundations for a broad range of musical specializations such as instrumental performance, vocal performance, jazz performance, composition, theory, musicology, ethnomusicology, music education, and music industry. Music faculty and staff are dedicated to assisting students in exploring performance and teaching opportunities, and transfer to four-year institutions of higher learning.

The DVC music major is intended for transfer. Students who intend to transfer to a four-year baccalaureate program should consult with a counselor regarding specific major preparation requirements at the transfer institution of their choice. Students may not take a pass/no pass option for major courses. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU GE). Option 1 (DVC General Education) is not generally advised.

Students must complete each of the courses required for the major with a “C” grade or higher. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

major requirements: 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 Composets..............................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 DVC 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:**

<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*</td>
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<tr>
<td>MUSIC-122</td>
<td>Theory and Musicianship I</td>
<td>4</td>
</tr>
<tr>
<td>MUSIC-123</td>
<td>Theory and Musicianship II</td>
<td>4</td>
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<tr>
<td>MUSIC-222</td>
<td>Theory and Musicianship III</td>
<td>4</td>
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<tr>
<td>MUSIC-223</td>
<td>Theory and Musicianship IV</td>
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</table>

*must be taken 4 times (total 4 units)

**plus at least 4 units from:**

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>MUSIC-135</td>
<td>Vocal Jazz Ensemble</td>
<td>1</td>
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<tr>
<td>MUSIC-136</td>
<td>Jazz Ensemble</td>
<td>1</td>
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<tr>
<td>MUSIC-137</td>
<td>Jazz Combos</td>
<td>1</td>
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<tr>
<td>MUSIC-140</td>
<td>Wind Ensemble</td>
<td>1</td>
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<tr>
<td>MUSIC-162</td>
<td>Concert Choir</td>
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<tr>
<td>MUSIC-166</td>
<td>Chamber Singers</td>
<td>1-2</td>
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<tr>
<td>MUSIC-240</td>
<td>Symphonic Band</td>
<td>1</td>
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<tr>
<td>MUSIC-290</td>
<td>DVC Philharmonic Orchestra</td>
<td>1</td>
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</tbody>
</table>

**total minimum units for the major** 24

**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-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’s 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-101  Beginning Guitar
1 unit  SC

- 54 hours laboratory per term
- Note: Students must provide an acoustic six-string guitar for use in the course

This course provides beginning six-string guitar instruction in both folk and classical styles. First position keys and chords, harmonization by ear, transposition, various strums and styles, finger-picking accompaniments, bass notes, basic music theory, and note reading are presented. No previous musical experience is necessary. CSU, UC

MUSIC-102  Intermediate Guitar
1 unit  SC

- 60 hours laboratory per term
- Recommended: MUSIC-101 or equivalent
- Note: Students must provide an acoustic six-string guitar for use in the course

This course provides instruction in intermediate six-string guitar skills. Intermediate-level classical solo repertoire as well as equivalent level popular music will be examined. Bar chords, intermediate level keys and arpeggios, transposition with and without a capo, strums, bass runs, and classical theory will be presented. 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
• 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
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  
- Limitation 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  
- Prerequisite: Audition

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 term to address different 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  
- Prerequisite: Audition  
- Audition required. Specific days and times are announced in the Schedule of Classes.  
- Prerequisite: Audition

This course is a study of performance in a jazz ensemble both as a soloist and a member of a section. Skills addressed include section and ensemble intonation, rhythmic accuracy, tone, blend, balance, style-specific articulation, phrasing, expression, and improvisation. A variety of styles will be studied including ballad, shuffle and funk. Public performance is included. Literature studied will vary each semester. C-ID MUS 180, CSU, UC

MUSIC-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
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
• 54 hours laboratory per term
• Recommended: MUSIC-150 or equivalent
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-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 on enrollment: 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  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.
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 on enrollment: 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 on enrollment: 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-211  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-221  Theory and Musicianship III
4 units  SC
• 54 hours lecture/54 hours laboratory per term
• Prerequisite: MUSIC-123 or Equivalent.
This course presents the study of harmony and voice-leading in the Western Common Practice. Topics include sequences, melodic and rhythmic figuration, leading-tone 7th chords, mixture, applied dominants and modulation, four-part voice leading, large formal structures, harmonic and formal analysis, and musicianship skills including sight singing, rhythmic training, ear training, dictation, and keyboard realization. C-ID MUS 140, MUS 145, CSU, UC

MUSIC-222  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
• Limitation on enrollment: 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-290  DVC Philharmonic Orchestra
1 unit SC
• May be repeated three times
• 72 hours laboratory per term
• Limitation on enrollment: Audition required. Specific days and times are announced in the Schedule of Classes.

In this course students will study, rehearse, and publicly perform the standard Western classical orchestral literature along with new orchestral compositions. New literature will be studied each term so that different technical and artistic issues are addressed. C-ID MUS 180, 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

Toni Fannin, Dean
Applied and Fine Arts Division
Business and Foreign Language Building, Room 204

Possible career opportunities
Career options include: conductor, arranger, film scorer/composer, music business/manager, music editor, music supervisor/director, songwriter, transcriber, editor (print music publishing), choir director, midi engineering, recording engineer, studio director or manager, sound designer, sound technician, and tour coordinator. Many careers require more than two years of study.

Associate in science degree
Audio visual technology

Students completing the program will be able to...
A. analyze and describe the science and technology for basic audio, visual, and audiovisual systems integration.
B. set up and test an audio, video, and audiovisual network.
C. describe and explain the components of sound and hearing, and vision and light, as they pertain to human perception and venue limitations.
D. display proper customer service and professional behavior.

The audiovisual technician associate in science degree is designed to prepare students for the Certified Technology Specialist (CTS) certification exam administered by AVIXA International and entry-level jobs in the audiovisual industry. Audiovisual (AV) technicians set up and operate audio and video equipment including microphones, sound speakers, video screens, projectors, video monitors, recording equipment, connecting wires and cables, sound and mixing boards, and related electronic equipment for concerts, sports events, meetings and conventions, presentations, and news conferences. AV systems facilitate essential 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:

- MUSX-100 AV Essentials: Systems and Analysis ............... 3
- MUSX-101 AV Essentials: Management and Solutions ...... 3
- MUSX-120 Live Sound .........................................................3
- MUSX-124 Introduction to Music Production and Multi-Track Recording .......................................3
- FTVE-120 Introduction to TV Studio Production  ...............3
- FTVE-160 Introduction to Film Production  ........................3
- CNT-103 Voice, Video and Network Cabling ................... 2

plus at least 2 units from:

- MUSX-296 Internship in Occupational Work Experience Education in MUSX ......................................................... 1-4

total minimum units for the major 22
Music industry studies

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 required courses 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:

- 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 Digital 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...................................... 1-4

Certificate of achievement
Audio visual technology

Students completing this program will be able to...
A. analyze and describe the science and technology for basic audio, visual, and audiovisual systems integration.
B. set up and test an audio, video, and audiovisual network.
C. describe and explain the components of sound and hearing, and vision and light, as they pertain to human perception and venue limitations.
D. display proper customer service and professional behavior.

The audiovisual technician certificate of achievement is designed to prepare students for the Certified Technology Specialist (CTS) certification exam administered by AVIXA International and entry-level jobs in the audiovisual industry. Audiovisual (AV) technicians set up and operate audio and video equipment including microphones, sound speakers, video screens, projectors, video monitors, recording equipment, connecting wires and cables, sound and mixing boards, and related electronic equipment for concerts, sports events, meetings and conventions, presentations, and news conferences. AV systems facilitate essential communications and often require connectivity with various types of networks, requiring AV technicians to work with information technology (IT) teams to set up and maintain that connectivity. This aspect of audiovisual technology is evolving and is influencing changes in the industry.

To earn the certificate of achievement, students must complete each of the required courses with a “C” grade or higher.

required courses: units
- MUSX-100 AV Essentials: Systems and Analysis............ 3
- MUSX-101 AV Essentials: Management and Solutions...... 3
- MUSX-120 Live Sound........................................... 3
- MUSX-124 Introduction to Music Production and Multi-Track Recording.......................................................... 3
- FTVE-120 Introduction to Television Production.............. 3
- FTVE-160 Introduction to Film Production.................... 3
- CNT-103 Voice, Video and Network Cabling.................. 2

plus at least 2 units from:
- MUSX-296 Internship in Occupational Work Experience Education in MUSX...................................... 1-4

total minimum required units 22
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:

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</table>

Total minimum required units 24

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, present the essentials for AV (Audio Visual) technology. Topics will include the fundamentals of analog signals, digital signals, audio systems and preparation for AV technician certification. CSU

MUSX-101 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. 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

<table>
<thead>
<tr>
<th>Units</th>
<th>Lecture / Laboratory / Practical Hours Per Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>54</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Units</th>
<th>Lecture / Laboratory / Practical Hours Per Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>54</td>
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</table>

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

<table>
<thead>
<tr>
<th>Units</th>
<th>Lecture / Practical Hours Per Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>.3-4</td>
<td>Variable</td>
</tr>
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</table>

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

<table>
<thead>
<tr>
<th>Units</th>
<th>Lecture / Laboratory / Practical Hours Per Term</th>
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</thead>
<tbody>
<tr>
<td>3</td>
<td>36/36/36</td>
</tr>
</tbody>
</table>

This is an introductory course that provides the foundational skills necessary for the creation of electronic music on a digital audio workstation capable of utilizing MIDI (Musical Instrument Digital Interface). Students will gain direct hands-on experience with MIDI-capable synthesizers, tone generators and samplers, digital signal processors, and computer-based music sequencing software. C-ID CMUS 110X, CSU

### MUSX-173 Advanced Electronic Music

<table>
<thead>
<tr>
<th>Units</th>
<th>Lecture / Laboratory / Practical Hours Per Term</th>
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</thead>
<tbody>
<tr>
<td>3</td>
<td>36/36/36</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Units</th>
<th>Lecture / Laboratory / Practical Hours Per Term</th>
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</thead>
<tbody>
<tr>
<td>3</td>
<td>36/36/36</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Units</th>
<th>Lecture / Laboratory / Practical Hours Per Term</th>
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</thead>
<tbody>
<tr>
<td>3</td>
<td>36/36/36</td>
</tr>
</tbody>
</table>

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: Formerly MUSIC-178. 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  
• Note: Formerly Music-181  
This course presents an introduction to the music industry, including its evolution, corporate structure, and legal practices. Topics include record production, music publishing, marketing, use of music in film, television, and advertising, touring, development and implementation of business plan, and career strategies. C-ID: CMUS 140X, CSU

MUSX-182  Songwriting I  
3 units  SC  
• 54 hours lecture per term  
In this course, students will study the process of songwriting. Songs will be analyzed in terms of chord structure, form, rhythm, melody, harmony, and lyrics. Original compositions and performances will be expected from all students. C-ID CMUS 150X, CSU

MUSX-183  Artist Development in the Music Industry  
3 units  SC  
• 54 hours lecture per term  
• 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 equivalent  
This course presents the study of production concepts and arranging techniques for a variety of digital instrument sounds. Students will participate in listening, reading, discussion, and arranging exercises to help develop professional-sounding digital arrangements. CSU

MUSX-270  Advanced Digital Audio Techniques  
3 units  SC  
• 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term  
• Recommended: MUSX-176, MUSX-177 Or Equiv.  
This course provides students the opportunity to learn advanced digital audio techniques utilizing various digital audio software. Topics will include audio manipulation, digital signal processing, mixing, vocal effect chains, programming drums, drum mixing, sampling, loops, and advanced MIDI. CSU

Music industry studies
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
1-4 units  SC
• May be repeated three 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. Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit. Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU

MUSX-296  Internship in Occupational Work Experience Education in MUSX
1-4 units  SC
• May be repeated three 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. The Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit (paid) or one unit for four hours work per week or sixty hours per term (unpaid work). Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU

NATURAL SCIENCE
See Biological science - BIOSC

NUTRITION – NUTRI
Diablo Valley College is approved by the California Board of Registered Nurses for continuing education credits (Provider #CEP 7992). Nutrition courses that can be used are NUTRI-115 and 160.

Joseph Gorga, Dean
Biological and Health Sciences Division
Physical Sciences Building, Room 263

Possible career opportunities
Courses offered within the nutrition discipline prepare students for numerous career paths. These courses begin to prepare the student for careers in food science, dietetics, nursing, dental hygiene, restaurant management, and sports nutrition as well as many other food related or health related professions. Specific courses also meet the requirements for certain certificate program and majors offered at DVC and other colleges.

Associate in science in nutrition and dietetics for transfer
Students completing the program will be able to...
A. analyze data and critique information in the nutritional sciences.
B. identify nutrition-related chronic diseases by applying knowledge of nutrient functions, food sources and physiologic systems.
C. explain how genetics and life style factors affect nutritional and health status.
D. assess a diet for nutrient adequacy using a current computerized dietary analysis database.

The associate in science in nutrition and dietetics for transfer offers students basic knowledge in microbiology, human anatomy and physiology, chemistry and nutrition. It is intended for students who plan to complete a bachelor’s degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major. In order to earn the degree, students must complete 60 required term units of CSU-transferable coursework with a minimum GPA of 2.0. Students transferring to a CSU campus that accepts the degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system, or those students who do not intend to transfer.
Students with degrees in nutrition and dietetics find employment within a wide range of organizations, such as medical facilities, research labs, government agencies, universities, pharmaceutical companies, and the food industry. This degree is also an excellent preparation for students planning to continue training in medicine, public health and/or other allied health sciences.

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

In order to earn the degree, students must:

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

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

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

**major requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM-120</td>
<td>5</td>
</tr>
<tr>
<td>NUTRI-160</td>
<td>3</td>
</tr>
</tbody>
</table>

plus at least 4 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC-119</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC-146</td>
<td>5</td>
</tr>
</tbody>
</table>

plus at least 8 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>BIOSC-139</td>
<td>5</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>BIOSC-140</td>
<td>5</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>BUS-240</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>MATH-142</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>MATH-144</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
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</tr>
<tr>
<td>CHEM-121</td>
<td>5</td>
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<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>CHEM-226</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>ANTHR-130</td>
<td>3</td>
</tr>
<tr>
<td>CULN-120</td>
<td>5</td>
</tr>
<tr>
<td>NUTRI-130</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO-120</td>
<td>3</td>
</tr>
</tbody>
</table>

total minimum units for the major 26

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**Certificate of achievement**

**Nutrition, health, and wellness**

Students completing the program will be able to...

A. summarize the basic functions, food sources, digestion and absorption of the major nutrients.
B. analyze a menu and its preparation for nutritional adequacy and food sanitation practices.
C. describe the nutritional requirements and health concerns of each phase of the life span.
D. summarize the impact of food choices on exercise performance, as well as an expression of cultural, socio-economic 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 well-being. 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:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSCI-124</td>
<td>Health and Wellness</td>
<td>3</td>
</tr>
<tr>
<td>NUTRI-100</td>
<td>Introduction to the Nutrition Professions</td>
<td>1</td>
</tr>
<tr>
<td>NUTRI-120</td>
<td>Sports Nutrition: Fueling the Athlete</td>
<td>3</td>
</tr>
<tr>
<td>NUTRI-130</td>
<td>Food and Nutrition: Cross Cultural Perspectives</td>
<td>3</td>
</tr>
<tr>
<td>NUTRI-160</td>
<td>Nutrition: Science and Applications</td>
<td>3</td>
</tr>
<tr>
<td>NUTRI-170</td>
<td>Nutrition: Across the Lifespan</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 2 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CULN-153</td>
<td>Safety and Sanitation</td>
<td>2</td>
</tr>
<tr>
<td>PSYCH-101</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units:** 1

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**NUTRI-100 Introduction to the Nutrition Professions**

<table>
<thead>
<tr>
<th>1 unit</th>
<th>SC</th>
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<tbody>
<tr>
<td>• 18 hours lecture per term</td>
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</tbody>
</table>

This course is designed to assist students in making educational and career decisions for a wide spectrum of nutrition-related occupations. It provides an overview of nutrition-related careers and their respective career paths, educational and skill requirements, professional responsibilities, and certification and licensing requirements. Skills required by nutrition-related careers, such as emphasizing personal attributes, demonstrating professionalism, engaging in teamwork, and building communication skills will be covered. CSU

**NUTRI-115 Nutrition and Health: Personal Applications**

<table>
<thead>
<tr>
<th>3 units</th>
<th>SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>• CSU GE: E</td>
<td></td>
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<tr>
<td>• 54 hours lecture per term</td>
<td></td>
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</tbody>
</table>

This course is an introduction to nutrition designed for a variety of students. The focus is on the application of basic nutrition concepts to personal life skills. The interface of culture, socioeconomic conditions and personal behaviors with nutritional health will be examined. Practical application of the course content includes, personal nutrition assessments and diet planning. CSU, UC (credit limits may apply to UC - see counselor)

**NUTRI-120 Sports Nutrition: Fueling the Athlete**

<table>
<thead>
<tr>
<th>3 units</th>
<th>SC</th>
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<tbody>
<tr>
<td>• 54 hours lecture per term</td>
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<tr>
<td>• Recommended: Eligibility for ENGL-122 or equivalent</td>
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</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>3 units</th>
<th>SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>• IGETC: 4; CSU GE: D, E; DVC GE: IV</td>
<td></td>
</tr>
<tr>
<td>• 54 hours lecture per term</td>
<td></td>
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<tr>
<td>• Recommended: Eligibility for ENGL-122 or equivalent</td>
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</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>.3-4 units</th>
<th>SC</th>
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</thead>
<tbody>
<tr>
<td>• Variable hours</td>
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</table>

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**

<table>
<thead>
<tr>
<th>3 units</th>
<th>SC</th>
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<tbody>
<tr>
<td>• CSU GE: E</td>
<td></td>
</tr>
<tr>
<td>• 54 hours lecture per term</td>
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<tr>
<td>• Recommended: Eligibility for ENGL-122 or equivalent</td>
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</tbody>
</table>

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: Eligibility for ENGL-122 or equivalent, NUTRI-160 or equivalent

This course examines the nutritional needs during an individual’s life span from conception to death. Emphasis will be placed on the biological, psychological, and environmental influences on eating habits and nutrient intake, including the impact on skill level development and identification of risk factors that can lead to potential health problems. Nutrition assessment and management with diet planning at every stage of the life span is included. CSU, 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, help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU, UC

OCEANOGRAPHY – OCEAN

Joseph Gorga, Dean
Biological and Health Sciences Division
Physical Sciences Building, Room 263

Possible career opportunities
The diverse range of subjects examined and the multidisciplinary approach taken within the oceanography program prepares students for a variety of career paths. Courses focus on biological, physical, geological and chemical aspects of oceanography. Many oceanographers are employed as researchers and/or educators by public and private research institutions, universities, and colleges. Students graduating with degrees in oceanography or aquatic science fields may work as laboratory or field technicians; water monitoring specialists; for environmental protection, consulting and nonprofit firms; as observers aboard fishing vessels; or in the natural resource management fields. Limited numbers are employed to work with marine animals at aquariums, theme parks, or research facilities. Most career options are likely to require more than two years of college study.

OCEAN-101 Fundamentals of Oceanography
3 units SC
- IGETC: 5A; CSU GE: B1; DVC GE: II
- 54 hours lecture per term
- 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 world’s oceans and interactions amongst 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; 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, and preservation of marine environments; and the deep sea: properties, animals and 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 world’s oceans and interactions among them. Topics will 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; 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, and preservation of marine environments; and the deep sea: properties, animals and adaptations. In the laboratory, students will experience the role of the oceanographer as they prepare for, participate in, and analyze data collected on research trips to local bay environments. CSU, UC (credit limits may apply to UC - see counselor)
### Oceanography

**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

**PERSN-120  First Term Persian**

- 5 units SC
  - IGETC: 6A
  - 90 hours lecture per term
  - Note: This course is equivalent to two years of high school study.

This course provides an introduction to the Persian language and the culture of Persian-speaking countries. Topics include the four language skills: speaking, listening, reading, and writing. Emphasis is placed on active use of the language in class as well as basic communicative functions and structures. CSU, UC

**PERSN-121  Second Term Persian**

- 5 units SC
  - IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
  - 90 hours lecture per term
  - Prerequisite: PERSN-120 or two years of high school study or equivalent
  - Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the second course in a sequence of Persian language courses. Topics will include understanding, speaking, reading and writing of the Persian language. The course will continue to expand vocabulary, communicative functions and structures and further examine the cultures of the Persian-speaking countries. CSU, UC

**PERSN-150  Topics in Persian**

- .3-4 units SC
  - Variable hours

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

**PERSN-299  Student Instructional Assistant**

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

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

### Philosophy – PHILO

**PERSN-120  First Term Persian**

- 5 units SC
  - IGETC: 6A
  - 90 hours lecture per term
  - Note: This course is equivalent to two years of high school study.

This course provides an introduction to the Persian language and the culture of Persian-speaking countries. Topics include the four language skills: speaking, listening, reading, and writing. Emphasis is placed on active use of the language in class as well as basic communicative functions and structures. CSU, UC

**PERSN-121  Second Term Persian**

- 5 units SC
  - IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
  - 90 hours lecture per term
  - Prerequisite: PERSN-120 or two years of high school study or equivalent
  - Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the second course in a sequence of Persian language courses. Topics will include understanding, speaking, reading and writing of the Persian language. The course will continue to expand vocabulary, communicative functions and structures and further examine the cultures of the Persian-speaking countries. CSU, UC

**PERSN-150  Topics in Persian**

- .3-4 units SC
  - Variable hours

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

**PERSN-299  Student Instructional Assistant**

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

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

**PERSN-120  First Term Persian**

- 5 units SC
  - IGETC: 6A
  - 90 hours lecture per term
  - Note: This course is equivalent to two years of high school study.

This course provides an introduction to the Persian language and the culture of Persian-speaking countries. Topics include the four language skills: speaking, listening, reading, and writing. Emphasis is placed on active use of the language in class as well as basic communicative functions and structures. CSU, UC

**PERSN-121  Second Term Persian**

- 5 units SC
  - IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
  - 90 hours lecture per term
  - Prerequisite: PERSN-120 or two years of high school study or equivalent
  - Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the second course in a sequence of Persian language courses. Topics will include understanding, speaking, reading and writing of the Persian language. The course will continue to expand vocabulary, communicative functions and structures and further examine the cultures of the Persian-speaking countries. CSU, UC

**PERSN-150  Topics in Persian**

- .3-4 units SC
  - Variable hours

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

**PERSN-299  Student Instructional Assistant**

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

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

### Philosophy – PHILO

**PHILOSOPHY – PHILO**

- Toni Fannin, Dean
  - Applied and Fine Arts Division
  - Business and Foreign Language Building, Room 204

**Possible career opportunities**

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

**PERSN-120  First Term Persian**

- 5 units SC
  - IGETC: 6A
  - 90 hours lecture per term
  - Note: This course is equivalent to two years of high school study.

This course provides an introduction to the Persian language and the culture of Persian-speaking countries. Topics include the four language skills: speaking, listening, reading, and writing. Emphasis is placed on active use of the language in class as well as basic communicative functions and structures. CSU, UC

**PERSN-121  Second Term Persian**

- 5 units SC
  - IGETC: 3B, 6A; CSU GE: C2; DVC GE: III
  - 90 hours lecture per term
  - Prerequisite: PERSN-120 or two years of high school study or equivalent
  - Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the second course in a sequence of Persian language courses. Topics will include understanding, speaking, reading and writing of the Persian language. The course will continue to expand vocabulary, communicative functions and structures and further examine the cultures of the Persian-speaking countries. CSU, UC

**PERSN-150  Topics in Persian**

- .3-4 units SC
  - Variable hours

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

**PERSN-299  Student Instructional Assistant**

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

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

### Philosophy – PHILO

- Toni Fannin, Dean
  - Applied and Fine Arts Division
  - Business and Foreign Language Building, Room 204

**Possible career opportunities**

For those who wish for a career in philosophy, teaching and research at the university level is an attractive option. There is also an emerging demand for experts in applied ethics, especially in the areas of medical, business, environmental ethics, law, politics and information technology. Most career options will require an advanced degree.
**Associate in arts degree**

**Philosophy**

Students completing the program will be able to...

A. use their critical thinking skills to analyze and evaluate both formally and informally, arguments and positions taken regarding various philosophical topics.

B. compare and contrast various philosophical perspectives, both historically and in the context of larger philosophical texts.

C. recognize and explain the integration of philosophical perspectives and ideas in selected cultural, historical, and thematic contexts.

D. demonstrate their ability to articulate clearly in oral and written form an objective analysis of major works from the various philosophic and religious literatures.

E. explicate the historical development of major philosophical ideas and arguments within the western intellectual tradition.

The Philosophy Department views critical thinking and reflection about distinctively human issues to be central to human existence and well-being. Students able to think and articulate viewpoints clearly and in an informed fashion not only enhance their own life, but contribute significantly to interpersonal relationships and social existence, including in the realm of political, economic, cultural, and social institutions.

The program prepares students with effective thinking and communication skills, which are useful in many fields including business, sales, writing, teaching, legal profession, political campaigning, news reporting, and other fields in which critical thinking and eloquent articulation of viewpoints is required.

Although this program is not designed as a transfer program, selected courses in the program do meet general education and lower division requirements for the bachelor of arts degree at many California State University and University of California campuses. Consult with department faculty and the counseling department for more information. DVC philosophy students who intend to transfer must consult with a program adviser or counselor to ensure that the requirements for transfer to the baccalaureate institution of their choice are met.

Students who intend to transfer area advised to select either General Education Option 2 (IGETC) or Option 3 (CSU GE). General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

To earn an associate in arts degree with a major in philosophy, students must complete five core courses (15 units total) supplemented by a set of restricted electives from which students select one course (3 units). Students must complete each course used to meet a major requirement with a grade of “C” or higher and also maintain an overall GPA of 2.5 or higher in the coursework required for the major. Certain courses may satisfy both major and general education requirements; however, the units are only counted once.

**Associate in arts in philosophy for transfer**

Students completing the program will be able to...

A. use their critical thinking skills to analyze and evaluate both formally and informally, arguments and positions taken regarding various philosophical topics.

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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.

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**Philosophy**

**Associate in arts degree**

**Philosophy**

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**Philosophy**

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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.

**Next Image**
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

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  
- Recommended: PHILO-130 or equivalent; eligibility for ENGL-122 or equivalent  
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
Philosophy

PHILO-225  History of Western Philosophy: Descartes to Present
3 units  SC
•  IGETC: 3B; CSU GE: C2; DVC GE: III
•  54 hours lecture per term
•  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

PHYSICAL SCIENCE – PHYSC

See Art - ART

PHYSICS – PHYS
Joseph Gorga, Dean
Physical Sciences and Engineering 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 special relativity using calculus.
E. 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.

**PHYS-110 Elementary Physics**

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- 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 equivalent
- Note: Students specifically interested in focusing on modern physics should take PHYS-113.

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**

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- 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

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**

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- 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**

<table>
<thead>
<tr>
<th>Units</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>LR</td>
</tr>
</tbody>
</table>

- 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, the physics department strongly recommends completion of PHYS-129 before enrolling in PHYS-130

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, Newton’s 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, electricity, 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-231  Physics for Engineers and Scientists C: Optics and Modern Physics
4 units  LR
- IGETC: 5A, 5C; CSU GE: B1, B3; DVC GE: II
- 54 hours lecture/72 hours laboratory per term
- Prerequisite: PHYS-230 or equivalent; MATH-294 (may be taken concurrently) or equivalent
- 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 210, 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
Joseph Gorga, Dean
Physical Sciences and Engineering Division
Physical Sciences Building, Room 263

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:  

<table>
<thead>
<tr>
<th>PLUMB-110 OSHA-CPR</th>
<th>1.5-2.5 units LR</th>
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<tbody>
<tr>
<td>Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section. This class is the same as STMFT-110.</td>
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<tr>
<td>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.</td>
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<table>
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<tr>
<th>PLUMB-111 Trade Mathematics</th>
<th>1.5-2.5 units LR</th>
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<tbody>
<tr>
<td>Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section. This class is the same as STMFT-111.</td>
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<tr>
<td>This course covers the approaches to mathematical problem solving used in pipe fitting and metric conversion.</td>
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<tr>
<th>PLUMB-112 Water Supply Systems</th>
<th>1.5-2.5 units LR</th>
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</thead>
<tbody>
<tr>
<td>Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section. This class is the same as STMFT-112.</td>
<td></td>
</tr>
<tr>
<td>This course presents an introduction to the principles and methods of water distribution and treatment regarding water supply systems.</td>
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</tbody>
</table>
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.

PLUMB-121 Plumbing Tool Workshop II
1.5-2.5 units LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course covers the practical and theoretical aspects of plumbing tool processes. Topics will include the proper use and of advanced trade tools for processes such as T-drilling, hot taps, and freeze pipe installation. Safe work practices will be emphasized.
PLUMB-122  Plumbing Code I
1.5-2.5 units  LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course presents articles 100-900 of the Uniform Plumbing Code.

PLUMB-123  Plumbing Code II
1.5-2.5 units  LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.

This course presents articles 901-1622 of the Uniform Plumbing Code.

PLUMB-124  Welding for Plumbers
1.5-2.5 units  LR
• Variable hours
• Note: This program is sponsored by the 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 techniques and methods of welding for plumbers. Standard safety practices from the Occupational Safety and Health Administration (OSHA), American National Standards Institute (ANSI), and Compliance, Safety, Accountability (CSA) are emphasized.

PLUMB-125  Electricity for Plumbing
1.5-2.5 units  LR
• Variable hours
• Note: This program is sponsored by the 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 specialized knowledge and techniques required for the effective operation and function of electrical systems for plumbing applications.

PLUMB-126  Gas Installation in Plumbing
1.5-2.5 units  LR
• Variable hours
• Note: This program is sponsored by the 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 principles and installation methods of gas piping systems. Safety practices are emphasized.

PLUMB-127  Backflow Prevention
1.5-2.5 units  LR
• Variable hours
• Note: This program is sponsored by the 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 approved methods and appropriate devices to ensure backflow and cross-connection are eliminated.

PLUMB-128  Plumbing Fixtures
1.5-2.5 units  LR
• Variable hours
• Note: This program is sponsored by the 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 modern plumbing fixtures and appliances. Topics include proper selection, installation, and maintenance.

PLUMB-129  Certification Preparation
1.5-2.5 units  LR
• Variable hours
• Note: This program is sponsored by the 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 information necessary to sit for the state plumbing certification examination. The course will expand upon information presented in other plumbing courses within the program to emphasize knowledge required for passing this exam.

PLUMB-130  Green Awareness
1.5-2.5 units  LR
• Variable hours
• Note: This program is sponsored by the 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 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:**

**POLSC-121 Introduction to U.S. Government** ........................................... units

plus at least 9 units from:

- **BUS-240 Business Statistics** ................................................................. 3
- **MATH-142 Elementary Statistics with Probability** ................................... 3
- **MATH-144 Statway II** ................................................................................. 4
- **MATH-144 Statway II** ................................................................................. 4
- **POLSC-120 Introduction to Politics** .......................................................... 3
- **POLSC-220 Comparative Politics** .............................................................. 3
- **POLSC-240 Political Theory** ...................................................................... 3
- **POLSC-250 International Relations** .......................................................... 3

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

- **ANTHR-130 Cultural Anthropology** ....................................................... 3
- **ECON-220 Principles of Macroeconomics** .............................................. 3
- **ECON-221 Principles of Microeconomics** .............................................. 3
- **HIST-140 History of Western Civilization to the Renaissance** ............... 3
- **HIST-141 History of Western Civilization since the Renaissance** .......... 3
- **POLSC-127 Introduction to Law and Democracy** .................................... 3
- **POLSC-151 California Politics** ................................................................. 3
- **SOCSC-101 Introduction to Social Justice** .............................................. 3

**total minimum units for the major** 18-19

**POLSC-120 Introduction to 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 an introduction to key concepts of politics, the state, and relations between the state and individual as applied to the United States political system. Comparison of the United States system with other political systems will also be discussed. C-ID POLS 150, CSU, UC

**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, viewed in the context of political culture, political parties, pressure groups and citizenship. Emphasis will be placed on the impact of federal, state, and local governments in California. C-ID POLS 110, 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-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
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

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

PSYCHOLOGY – PSYCH

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

Possible career opportunities
Psychology students will find classes related to helping them understand, predict, and deal with their own behavior and that of others. Careers include psychotherapist, school psychologist, college professor, researcher, counselor and administrator. Most career options require more than two years of college study.

Associate in arts in psychology for transfer

Students completing the program will be able to...

A. identify the major theoretical orientations in psychology and demonstrate knowledge of basic psychological concepts regarding behavior and mental processes.

B. demonstrate knowledge of research methods, ethical considerations in conducting research, and effective user of the American Psychological Association (APA) style in presenting information.

C. utilize critical thinking skills to analyze, evaluate, and make decisions concerning complex contemporary issues in psychology.

D. recognize the complexity of social, cultural, and international diversity.

E. apply psychological principles to the development of interpersonal, occupational, and social skills, and life-long personal growth.

F. demonstrate understanding of major theories, concepts, and research findings in selected content areas of psychology, such as lifespan development, personality and social psychology, neuroscience, and abnormal psychology.

G. correctly apply statistical concepts to organize and understand data from psychological research.

H. demonstrate an understanding of biological processes underlying behavior and experience.

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: units
PSYCH-101 Introduction to Psychology ......................... 3
PSYCH-215 Introduction to Research Methods in Psychology .................................................. 3

at least 3 units from:
BUS-240 Business Statistics ........................................ 3
MATH-142 Elementary Statistics with Probability .......... 4

complete at least 3 units from:
BIOSC-102 Fundamentals of Biological Science with Laboratory ........................................ 4
BIOSC-117 Human Biology with Laboratory .................. 4
PSYCH-130 Introduction to Biological Psychology........ 3
complete at least 3 units from:
PSYCH-145 Critical Thinking in Psychology .......................... 3
PSYCH-200 Life Span Development.................................... 3
PSYCH-225 Social Psychology............................................. 3

complete at least 3 units from:
PSYCH-122 Psychology in Modern Life............................... 3
PSYCH-140 Psychology of African-Americans in a Multicultural Society ........................................... 3
PSYCH-141 Psychology of Latinos/Chicanos in the U.S. ...... 3
PSYCH-160 Psychology of Women ....................................... 3
PSYCH-190 Psychology of Adolescence................................ 3
PSYCH-220 Psychology of Personality: Personal, Social, Cultural Differences........................................... 3
PSYCH-230 Abnormal Psychology....................................... 3
PSYCH-240 Transpersonal Psychology................................... 3

total minimum units for the major 18

PSYCH-101 Introduction to Psychology
3 units SC
• IGTC: 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, abnormal psychology, therapies, social psychology, research findings, and applied psychology. C-ID PSY 110, CSU, UC

PSYCH-130 Introduction to Biological Psychology
3 units SC
• IGTC: 4; CSU GE: D; 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
• IGTC: 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
• IGTC: 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 males and females. 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. 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 in PSYCH
1-4 units  SC
• May be repeated three 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. Employment Form can be accessed at www.dvc.edu/ wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit. Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU
PSYCH-296  Internship in Occupational Work
Experience Education in PSYCH

1-4 units  SC
- May be repeated three 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. The Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit (paid) or one unit for four hours work per week or sixty hours per term (unpaid work). Students may earn up to a maximum of sixteen units; 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

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. For applications and information, contact the Ohlone College RT program director at www.ohlone.edu/instr/rt. All applicants are required to attend a Pre-Application Orientation. Dates are posted annually on the Ohlone website.

required program prerequisites or equivalents:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>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>PSYCH-200</td>
<td>Life Span Development</td>
<td>3</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</td>
<td>5</td>
</tr>
</tbody>
</table>

plus at least 4 units from:
plus at least 3 units from:
ENGL-122  First-Year College Composition and Reading .... 3
ENGL-122AL First-Year College English Intensive for 
       Multilingual Students ....................................... 5
ENGL-122L First-Year College Composition and Reading 
       with Additional Support .................................... 5

plus at least 4 units from:
MATH-119  Beginning and Intermediate Algebra ................... 4
MATH-119SP Beginning and Intermediate Algebra – 
       Self-Paced ............................................................4

**total minimum units of program prerequisites 28**

recommended course before entering the program: 
**complete at least 3 units from:**
COMM-120 Public Speaking ........................................ 3
COMM-128 Interpersonal Communication .......................... 3
COMM-130 Small Group Communication ........................... 3

**major requirements:**
AH 151* Applied Clinical Pharmacology ......................... 2
RT-101* Principles of Respiratory Therapy I ................. 3
RT '101L* Beginning Clinical Practice ............................ 1
RT 102* Beginning Laboratory ..................................... 2
RT 103* Basic Patient Care ......................................... 0.5
RT 104A* Principles of Respiratory Therapy II ............... 3
RT 104B* Principles of Respiratory Therapy III ............. 3
RT 105A* Intermediate Laboratory I ............................... 1
RT 105B* Intermediate Laboratory II ............................. 0.5
RT 107* Intermediate Clinical Practice ......................... 4
RT 108* Basic Principles of Respiratory 
       Pathophysiology ................................................ 1
RT 130A* Advanced Respiratory Therapy I ................. 2.5
RT 130B* Advanced Respiratory Therapy II .......... 1.5
RT 130L* Advanced Clinical Practice ............................. 2
RT 131A* Principles of Mechanical Ventilation I ........... 2.5
RT 131B* Principles of Mechanical Ventilation II ........... 2.5
RT 132* Advanced Laboratory ....................................... 1
RT 133* Mechanical Ventilation Laboratory ................... 2
RT 134* Neonatal and Pediatric Respiratory Care .......... 1
RT 134L* Clinical Practicum in Neonatal and Pediatric 
       Respiratory Care .................................................. 1.5
RT 135* Computer Simulations for Respiratory Care ....... 0.5
RT 136* Critical Care Clinical Practice .......................... 3.5
RT 137* Home Respiratory Care and Pulmonary 
       Rehabilitation ................................................... 0.5
RT 138* Special Rotations in Respiratory Care ............... 0.5
RT 139* Pulmonary Function Testing ............................. 1
RT 139L* Clinical Practice in Pulmonary Function Testing ... 0.5

**total minimum required RT units 44**

*These are Ohlone College courses.

**Prerequisites and support course may be “in progress” at the 
time of application. These courses must be completed no later 
the end of the spring term during the year of application.

In addition to above courses, students must complete Ohlone College 
general education requirements:

**Ohlone**

Area III, Fine Arts/Humanities 
3 units required

Area V, Physical Education/Wellness 
1 unit required

Area VI, Intercultural/International 
Studies 
3 units required

**DVC**

Area III, Arts and 
Humanities

Minimum of 1 unit of 
activity courses including:

KNACT and KNDAN, 
1 unit or HSCI-124, 126, 
127, 130, 135, 140, 164, 
170

Area VII, Information competency 
1 units required

One course from: 
ADS-155, ADJUS-130, 
ANTHR-120, 130, 135, 
ARCHI-158, ARTHS- 
193, BUSMG-131, 
COMM-125, CULN-228, 
DRAMA-142, ECE-144, 
EDUSP-101, ENGL-162, 
163, 164, 166, 167, 168, 
170, 173, 177, 178, 190, 
225, 252, 262, 272, 273, 
FTVE-210, 260, 281, 283, 
GEOG-130, 135, HIST- 
124, 125, 126, 127, 128, 
129, 135, 136, 150, 151, 
170, 171, 181, HSCI-137, 
164, 170,HUMAN- 
112, 115, 116, 124, 
MUSIC-112, 114, 115, 
117, 118, 119, NUTRI- 
130, PHILO-140, 145, 
220, POLSC-122, 123, 
220, 250, 252, PSYCH- 
122, 140, 141, 160, 220 
SOCIO-122, 124, 125, 
131, 135, SOCSC-110, 
111, 120, 123, 220

Area VII, Information competency 
1 units required

LS-121 required
RUSSIAN – RUSS

Toni Fannin, Dean
Applied and Fine Arts Division
Business and Foreign Language Building, Room 204

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.

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>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
<th>Prerequisite</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUSS-120</td>
<td>First Term Russian</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RUSS-121</td>
<td>Second Term Russian</td>
<td>5</td>
<td>RUSS-120 or two years of high school study</td>
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<tr>
<td>RUSS-220</td>
<td>Third Term Russian</td>
<td>5</td>
<td>RUSS-121 or three years of high school study or equivalent</td>
<td></td>
</tr>
<tr>
<td>RUSS-221</td>
<td>Fourth Term Russian</td>
<td>5</td>
<td>RUSS-121 or three years of high school study or equivalent</td>
<td></td>
</tr>
</tbody>
</table>

Total minimum required units: 15

### RUSS-120 First Term Russian
5 units SC
- IGETC: 6A
- 90 hours lecture per term
- Prerequisite: RUSS-120 or two years of high school study
- Note: This course is equivalent to two years of high school study.

This is a basic course in understanding, speaking, reading and writing Russian. It offers a balanced approach to the language and culture. Basic communicative functions and structures are introduced as well as a basic exploration of the culture of the Russian-speaking countries. CSU, UC

### RUSS-121 Second Term Russian
5 units SC
- IGETC: 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 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-120 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

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

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; labor studies; latin american studies; liberal studies w/option in interdisciplinary studies in culture and society; liberal studies - border studies option; mexican-american studies; modern jewish studies; negotiation, conflict resolution and peace building; sociology - concentration in critical race studies; sociology – concentration race, class, and gender; sociology with inequalities and diversity option; social science with emphasis in islamic and arabic studies; women, gender, and sexuality studies; women's studies. Students completing this degree are guaranteed admission to the CSU system, but not necessarily to a particular major or campus.

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

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

Students must complete each course used to meet a major requirement with a “C” grade or higher. Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

### required courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>SOCSC-101</td>
<td>Introduction to Social Justice 3</td>
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<td>or</td>
<td></td>
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<tr>
<td>SOCIO-135</td>
<td>Introduction to Race and Ethnicity 3</td>
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<tr>
<td>SOCIO-124</td>
<td>Gender, Culture and Society 3</td>
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### plus at least 3 units from:

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ENGL-163</td>
<td>Asian American Literature 3</td>
</tr>
<tr>
<td>ENGL-167</td>
<td>Latin American Literature 3</td>
</tr>
<tr>
<td>HIST-125</td>
<td>History of the United States: A Mexican American Perspective 3</td>
</tr>
<tr>
<td>HIST-127</td>
<td>African American Perspective 3</td>
</tr>
<tr>
<td>HIST-128</td>
<td>African American Perspective 3</td>
</tr>
<tr>
<td>HIST-129</td>
<td>History of Asian and Pacific Islanders in the United States 3</td>
</tr>
<tr>
<td>PSYCH-140</td>
<td>Psychology of African Americans in a Multicultural Society 3</td>
</tr>
<tr>
<td>SOCSC-120</td>
<td>Women and Social Change in the United States: 1890-Present 3</td>
</tr>
<tr>
<td>SOCSC-220</td>
<td>Women in United States Society 3</td>
</tr>
</tbody>
</table>

### plus at least 3 courses from two areas:

#### history

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>HIST-170</td>
<td>History of Women in the United States before 1877 3</td>
</tr>
<tr>
<td>HIST-171</td>
<td>History of Women in the United States after 1865 3</td>
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#### arts and humanities

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ENGL-164</td>
<td>Native American Literature 3</td>
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<tr>
<td>ENGL-166</td>
<td>African American Literature 3</td>
</tr>
<tr>
<td>ENGL-168</td>
<td>The literatures of America 3</td>
</tr>
<tr>
<td>ENGL-173</td>
<td>Queer literature across cultures 3</td>
</tr>
<tr>
<td>ENGL-190</td>
<td>Multicultural literature by American women 3</td>
</tr>
<tr>
<td>FTVE-210</td>
<td>American Ethnic Cultures in Film 3</td>
</tr>
<tr>
<td>FTVE-260</td>
<td>Ethnic Images in United States (U.S.) Television 3</td>
</tr>
<tr>
<td>HUMAN-115</td>
<td>Humanities: The Multicultural American Experience 3</td>
</tr>
<tr>
<td>MUSIC-112</td>
<td>American’s Music: A Multicultural Perspective 3</td>
</tr>
<tr>
<td>MUSIC-117</td>
<td>History of Rock and R&amp;B 3</td>
</tr>
<tr>
<td>MUSIC-118</td>
<td>The History of Jazz 3</td>
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</table>

#### social science

<table>
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<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>PSYCH-141</td>
<td>Psychology of Latinos/Chicanos in the US 3</td>
</tr>
<tr>
<td>SOCIO-121</td>
<td>Social Problems 3</td>
</tr>
<tr>
<td>SOCIO-125</td>
<td>Families, Relationships, and Commitment 3</td>
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#### quantitative reasoning and research methods

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<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>MATH-142</td>
<td>Elementary Statistics and Probability 4</td>
</tr>
<tr>
<td>MATH-144</td>
<td>Statway II 4</td>
</tr>
<tr>
<td>PSYCH-215</td>
<td>Introduction to Research Methods in Psychology 3</td>
</tr>
<tr>
<td>SOCIO-123</td>
<td>Introduction to Social Research 3</td>
</tr>
</tbody>
</table>

#### major preparation

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSCI-135</td>
<td>Health and Social Justice 3</td>
</tr>
<tr>
<td>HSCI-170</td>
<td>Women’s Health 3</td>
</tr>
</tbody>
</table>

**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
SOCSC-101 Introduction to Social Justice .........................3

plus at least 6 units from:
HIST-125 History of the United States: A Mexican American Perspective ..........................3
HIST-127 African American Perspective ..........................3
HIST-128 African American Perspective ..........................3
POLSC-122 Black Politics and American Government ..........3
POLSC-123 Black Politics and American Government ..........3
PSYCH-140 Psychology of African-Americans in a Multicultural Society ............................3
PSYCH-141 Psychology of Latinos/Chicanos in the U.S. .....3
SOCIO-124 Gender, Culture, and Society ........................3
SOCIO-135 Introduction to Race and Ethnicity ..................3

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’s changing nature in the United States of America. Looking through the lens of popular culture, this course will examine social and political institutions, such as federal and California state government, and various values that shape American popular culture. The course considers the significant contributions of Asian-American, Latinx, African-American, Native-American, and Jewish communities in shaping the evolution of American popular culture, and considers the importance of women as both producers and consumers of popular culture. CSU, UC

SOCSC-155  Topics in Social Science
.3-4 units  SC
• Variable hours
A supplemental course in the social sciences to provide a study of current concepts and problems in social sciences and related substantive areas. Specific topics will be announced in the schedule of classes. CSU

SOCSC-220  Women in United States Society
3 units  SC
• IGETC: 4; CSU GE: D; DVC GE: IV
• 54 hours lecture per term
• 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
1-4 units  SC
• May be repeated three 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. Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit. Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253, CSU

SOCSC-296  Internship in Occupational Work Experience Education in SOCSC
1-4 units  SC
• May be repeated three 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. The Employment Form can be accessed at www.dvc.edu/wrkx. 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. Five hours work per week or seventy-five hours work per term is equal to one unit (paid) or one unit for four hours work per week or sixty hours per term (unpaid work). Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253, CSU
**SOCIOLOGY – SOCIO**

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

**Possible career opportunities**  
Sociology provides students with career opportunities including criminologist, employment counselor, interviewer, researcher, social worker, and urban planner. Most career options require more than two years of college study.

**Associate in arts in sociology for transfer**  
Students completing the program will be able to...

- A. define and apply sociological concepts.
- B. identify, explain and provide possible solutions to social problems.
- C. identify and apply the major theoretical paradigms, functionalist, conflict and interactionist perspectives to analyze social and cultural issues.
- D. demonstrate knowledge of research methods and ethical considerations in conducting research.
- E. utilize critical thinking skills to analyze and evaluate complex social issues.
- F. utilize data to study social phenomena.
- G. make connections between individuals’ lives, their biographies and their social context.

The sociology major is a valuable liberal arts major for students planning careers in social research, criminology, demography, or social psychology, but also for those pursuing a course of study in public administration, gerontology, education, social work and market research. Sociology provides a useful background for those planning to enter law, business, marketing, medicine, community planning and services, architecture, and politics. In many professional programs in human services, courses in sociology are part of the required training. Sociologists with graduate degrees may teach at the high school, college or graduate levels. They may also become research sociologists in both the public and private sectors and work in areas of public policy, the law and international studies. Applied sociologists may work with social service agencies and community programs on behalf of others, including underrepresented or neglected populations.

Sociology at Diablo Valley College offers a broad range of courses including the urban environment, marriage and families, minority and race relations, social problems, social research and gender studies.

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

In order to earn the degree, students must:

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

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

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

**major requirements:**  

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>SOCIO-120 Introduction to Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

**388**  
**PROGRAM/COURSE DESCRIPTIONS**  
**chapter four**  
**DIABLO VALLEY COLLEGE**  
**CATALOG 2020-2021**
plus at least 6 units from:
BUS-240  Business Statistics with Probability .................. 3
or
MATH-142  Elementary Statistics with Probability .............. 4
SOCIO-121  Introduction to Social Problems ...................... 3
SOCIO-123  Introduction to Social Research ....................... 3

plus at least 6 units from any course not used above, or:
PSYCH-225  Social Psychology .......................................... 3
SOCIO-122  Critical Thinking About Social and Cultural Issues ........................................ 3
SOCIO-124  Gender, Culture and Society............................... 3
SOCIO-125  Families, Relationships, and Commitment .......... 3
SOCIO-135  Introduction to Race and Ethnicity .................... 3

plus at least 3 units from any course not used in either group above, or:
SOCIO-131  The Urban Community ...................................... 3
SOCSC-120  Women and Social Change in the United States:1890-Present ................................ 3

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 beginning with the family, religion, and education is 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 is a survey of perspectives on major social problems, primarily in the urban, industrial settings. Includes sources, consequences of and means of coping with a variety of social problems. The scientific methodology required for accurate analysis is emphasized. Topics will be selected from social problems such as aging, health care, mental illness, environmental issues, labor force conditions, gender and sexuality, poverty, crime, juvenile delinquency, suicide, addiction, abuse, migration and relations with minority groups, or membership in deviant subcultures. C-ID SOCI 115, CSU, UC

**SOCIO-122  Critical Thinking About Social and Cultural Issues**
3 units  SC
- IGETC: 1B; CSU GE: A3; DVC GE: IB
- 54 hours lecture per term
- Prerequisite: ENGL-122 or equivalent
Critical reasoning in sociology is a process of questioning, analyzing and evaluating oral and written ideas, concepts, and interpretations of the political, economic and social issues and patterns found in human societies. This course will include an introduction to the principles of logic, the structure of language, research methodologies, and prevailing theoretical models in sociology. Students will complete a series of increasingly complex analytical essays that identify sociological perspectives, gather and analyze sociological information, recognize sociological relationships and patterns, and discuss the relevancy of sociological insights and theories as a background for understanding current events and issues. CSU, UC

**SOCIO-123  Introduction to Social Research**
3 units  SC
- IGETC: 4; CSU GE: D; DVC GE: IV
- 54 hours lecture per term
- Prerequisite: SOCI-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
Sociology

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, Latinos, 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 ethnic cultures in the United States. Topics include political, economic, religious, judicial, and familial organization of ethnic communities, the effects of the dominant society on these institutions and recent socio-political movements. C-ID SOCI 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

Toni Fannin, Dean
Applied and Fine Arts Division
Business and Foreign Language Building, Room 204

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.

Complete at least 20 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>SPAN-120</td>
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<td>SPAN-220</td>
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<td>SPAN-230</td>
<td>3</td>
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<td>SPAN-231</td>
<td>3</td>
</tr>
</tbody>
</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 individual and societal level, between target cultures and students’ own cultures.

F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

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

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

In order to earn the degree, students must:

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

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

Students must complete each course used to meet a major requirement with a “C” grade or higher. Some courses in the major satisfy both major and CSUGE/IGETC general education requirements; however, the units are only counted once toward the 60 unit requirement for an associate degree. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

Major requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>SPAN-120</td>
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<td>SPAN-221</td>
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<td>SPAN-230</td>
<td>3</td>
</tr>
</tbody>
</table>

Total minimum units for the major: 23
Certificate of achievement
Spanish

Students completing the program will be able to...

A. communicate verbally in the target language with accurate pronunciation in meaningful situations present in both informal and academic contexts.
B. effectively apply rules of grammar and syntax in tandem with appropriate vocabulary in written and oral communication.
C. demonstrate auditory comprehension of instruction, authentic content, and purposeful conversations in the target language.
D. discuss, describe and infer information from authentic texts in the target language.
E. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.
F. create (write or present) narratives and/or arguments that demonstrate cohesive critical thinking in the target language.

This certificate of achievement was created to give students the opportunity to show potential employers in this country and in other countries that the student has completed a certain number of courses in Spanish and prepares students with an intermediate to advanced knowledge of Spanish and familiarizes them with the culture of Spain and Latin America.

This certificate of achievement provides students, prospective employers and others with documented evidence of persistence and academic accomplishment in the language. The certificate requires completion of at least 13 units from one of the following lists of courses. Students may not take a credit/no credit option for required courses and each course must be completed with a “C” grade or higher.

<table>
<thead>
<tr>
<th>List A</th>
<th>units</th>
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<tbody>
<tr>
<td>SPAN-120 First Term Spanish</td>
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<tr>
<td>SPAN-231 Sixth Term Spanish</td>
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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>SPAN-121 Second Term Spanish</td>
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<td>SPAN-220 Third Term Spanish</td>
<td>5</td>
</tr>
<tr>
<td>SPAN-221 Fourth Term Spanish</td>
<td>5</td>
</tr>
</tbody>
</table>

| total minimum required units | 13 |

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

SPAN-121 Second Term Spanish
5 units SC
- IGETC: 3B, 6A; CSU GE: C2; DVC GE: I
- 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-157  Third Term Beginning Conversational Spanish  
3 units  SC  
• 54 hours lecture per term  
• Recommended: SPAN-156 or equivalent  
• Note: This course does not satisfy the academic requirements of the SPAN-120-121 series.

This is the third term of the beginning Spanish conversation series. It is a participatory class based on practical material with oral-aural practice. The future and conditional tenses are emphasized and the subjunctive mood is introduced. New vocabulary and the examination of some of the cultures of the Spanish speaking world are covered. CSU

SPAN-220  Third Term Spanish  
5 units  SC  
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III  
• 90 hours lecture per term  
• Prerequisite: SPAN-121 or three years of high school study or equivalent  
• Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the third term Spanish course in the sequence that develops intermediate fluency in understanding, speaking, reading and writing Spanish. All verbal tenses are reviewed, expanded and refined. Advanced grammar concepts, new vocabulary, and idiomatic expressions are introduced. Selected readings about the culture and literature of Spain and Latin American countries will be explored. This course is taught entirely in Spanish. C-ID SPAN 200, CSU, UC

SPAN-221  Fourth Term Spanish  
5 units  SC  
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III  
• 90 hours lecture per term  
• Prerequisite: SPAN-220 or four years of high school study or equivalent  
• Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the fourth term Spanish course in the sequence that develops high-intermediate fluency in understanding, speaking, reading and writing Spanish. The grammatical moods are reviewed and developed; the sequences of tenses are introduced. Additional vocabulary and idiomatic expressions are introduced and connected to the selected readings. These readings about Latin American and Spanish culture and literature will be analyzed. This course is conducted entirely in Spanish. C-ID SPAN 210, CSU, UC

SPAN-230  Fifth Term Spanish  
3 units  SC  
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III  
• 54 hours lecture per term  
• Prerequisite: SPAN-221 or equivalent  
• Note: Students may meet equivalency in a variety of ways. Students should seek assistance at Admissions and Records.

This is the fifth term advanced Spanish language course emphasizing reading, writing (prioritizing the mechanics of academic writing), listening, and speaking skills. The rich Hispanic heritage is explored through a wide range of materials including short stories, articles, poems, films, and documentaries. This course is taught entirely in Spanish. CSU, UC

SPAN-231  Sixth Term Spanish  
3 units  SC  
• IGETC: 3B, 6A; CSU GE: C2; DVC GE: III  
• 54 hours lecture per term  
• Prerequisite: SPAN-230 or equivalent  

This is the sixth term advanced Spanish language course strengthening reading, writing (prioritizing the mechanics of academic writing), listening, and speaking skills. Deepening the exploration of the rich Hispanic heritage through a wide range of materials including novels, articles, poems, films, documentaries, and dramas. This course is taught entirely in Spanish. CSU, UC

SPAN-240  Spanish for Heritage Speakers I  
5 units  SC  
• CSU GE: C2  
• 90 hours lecture per term  
• Prerequisite: SPAN-121 or equivalent

This course is designed for heritage speakers of Spanish or other linguistically qualified students. It explores and increases awareness of formal and informal linguistic registers and builds on existing listening, speaking, reading, and writing skills of heritage speakers of Spanish. Formal grammatical concepts are introduced and practiced. Special emphasis is given to the development of academic reading and writing skills and cultural literacy skills including an understanding and appreciation for the linguistic and cultural variations of Spanish speakers in and outside of the United States. This course is conducted entirely in Spanish. C-ID SPAN 220, CSU, UC
SPAN-241 Spanish for Heritage Speakers II
5 units SC
- IGETC: 3B; CSU GE: C2; DVC GE: III
- 90 hours lecture per term
- Prerequisite: SPAN-240 or Equiv.

This course continues the study presented in SPAN-240 and is designed for heritage speakers of Spanish or other linguistically qualified students, emphasizing development of advanced formal Spanish language skills and structures. This course includes the refinement and integration of the essential principles of grammar and usage through reading, discussion and analysis of authentic fiction and non-fiction texts, as well as through required critical and creative writing and oral activities. Comparative linguistic and cultural materials are presented to further develop understanding and knowledge of the linguistic and cultural diversity of the Spanish-speaking world. This course is conducted entirely in Spanish. C-ID SPAN 230, CSU, UC

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

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

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

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

SPECIAL EDUCATION – SPEDU
See Education - Special education - EDUSP

SPORTS MEDICINE/ATHLETIC TRAINING
See Kinesiology theory - KINES

STEAMFITTING – STMFT
Joseph Gorga, Dean
Physical Sciences and Engineering Division
Physical Sciences Building, Room 263

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
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 training is required for the major. The associate in science degree with a major in steamfitting is not a transfer program. Students 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.

Program requirements:

complete at least 30 units from:

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<tr>
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<th>Course Title</th>
<th>Units</th>
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<td>STMFT-110</td>
<td>OSHA-CPR</td>
<td>1.5-2.5</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>
<td>1.5-2.5</td>
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<td>STMFT-113</td>
<td>Welding Safety/Plate Welding</td>
<td>1.5-2.5</td>
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<td>STMFT-114</td>
<td>Oxygen/Acetylene Cutting</td>
<td>1.5-2.5</td>
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<td>STMFT-115</td>
<td>Pipe Shop I</td>
<td>1.5-2.5</td>
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<td>STMFT-116</td>
<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>STMFT-120</td>
<td>Instrumentation I</td>
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<td>Instrumentation II</td>
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<td>STMFT-122</td>
<td>Steam Systems</td>
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<td>STMFT-123</td>
<td>Electricity for Steamfitting</td>
<td>1.5-2.5</td>
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<td>STMFT-124</td>
<td>Industrial Rigging</td>
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<td>Beginning AutoCAD</td>
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<td>STMFT-126</td>
<td>Advanced AutoCAD</td>
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<td>STMFT-131</td>
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<td>Welding 10</td>
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<td>STMFT-138</td>
<td>Orbital Welding</td>
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<tr>
<td>STMFT-140</td>
<td>Construction Management in Steamfitting</td>
<td>1.5-2.5</td>
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</tbody>
</table>

Total minimum units for the major: 30

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 training is required for the major. The associate in science degree with a major in steamfitting is not a transfer program. Students 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.
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.

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.

### 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-Steammelters-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.

### Courses

#### Required Courses

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<tr>
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<tr>
<td>STMFT-129</td>
<td>Union Heritage</td>
<td>3</td>
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</tbody>
</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 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.

### Courses

#### 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>STMFT-110</td>
<td>OSHA-CPR</td>
<td>1.5-2.5</td>
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<tr>
<td>STMFT-111</td>
<td>Trade Mathematics</td>
<td>1.5-2.5</td>
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<tr>
<td>STMFT-112</td>
<td>Use and Care of Tools</td>
<td>1.5-2.5</td>
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<tr>
<td>STMFT-113</td>
<td>Welding Safety/Plate Welding</td>
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**Total minimum required units:** 10.5

#### Additional Courses

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**Total minimum required units:** 21

### Notes

- 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-111.
STMFT-112 Use and Care of Tools
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 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 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 an introduction to welding safety and theory. Student 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 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 an introduction to oxygen and acetylene cutting and safety. The processes on how to cut for various plate thicknesses and layouts will also be discussed and practiced.

STMFT-115 Pipe Shop I
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course gives related technical instruction to enhance the apprentice’s on-the-job training in pipefitting and related technology. 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 apprentice’s on-the-job training in pipefitting and related technology. Students will be introduced to basic isometric drawing and steam systems with copper connections to be made with soldering, brazing, and welding procedures.

STMFT-117 Related Science in the Piping Trades
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section. This class is the same as PLUMB-117.

This course covers the scientific and mechanical principles that are basic to the work of the piping industry. An overview of hydraulic and pneumatic systems as well as industrial plumbing and piping systems and materials will be covered.

STMFT-118 Beginning Drawing and Plan Reading for the Piping Trades
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section. This class is the same as PLUMB-118.

This course covers the interpretation of drawings and sketches associated with piping installation. An introduction to basic drawing and drafting methods, technical symbols, and notation will be covered in orthographic and isometric drawing views.

STMFT-119 Advanced Drawing in the Piping Trades
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section. This class is the same as PLUMB-119.

In this course students will Interpret, coordinate and make drawings and sketches associated with piping installation.
STMFT-120 Instrumentation I
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course gives related technical instruction to enhance the apprentice’s on-the-job training in pipefitting and related technology. Students will be introduced to instrumentation, which includes basic descriptions of processes, loop diagrams and documentation in the instrumentation field.

STMFT-121 Instrumentation II
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course gives related technical instruction to enhance the apprentice’s on-the-job training in pipefitting and related technology. Students will be introduced to more advanced Instrumentation including pneumatic controls, liquid level instruments, analyzers, and fiber optic signals.

STMFT-122 Steam Systems
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course gives related technical instruction to enhance the apprentice’s on-the-job training in pipefitting and related technology. Students will be introduced to the properties of saturated steam, traps, boilers, and heating systems.

STMFT-123 Electricity for Steamfitting
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This is an introductory course in electrical concepts, components, systems, and equipment. Ohm’s and Kirchoff’s laws are used to calculate and measure resistance, voltage, amperage, power in circuits, and safety in the field of steamfitting.

STMFT-124 Industrial Rigging
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course presents the study of rigging for the pipe trades and emphasizes principles of safety. Topics will include safety, load limits, crane ratings, basic knots, and organizing a rigging plan.

STMFT-125 Beginning AutoCAD
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This introductory course presents the fundamentals of AutoCAD and its application to the creation of technical drawings. Hands-on training is utilized to provide a comprehensive overview of the software package and its applications to technical drafting.

STMFT-126 Advanced AutoCAD
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course is designed for students with previous knowledge and experience in using AutoCAD. Three-dimensional modeling, solid models, customization, and optimal application of AutoCAD are presented.

STMFT-127 Pumps
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course presents the practical and theoretical aspects of pump systems. Topics include concepts and theory as well as common systems, components, devices, installation, and operation. The laboratory emphasizes hands-on exercises in the installation, operation, and maintenance of industrial pumps.
STMFT-128 Tube Bending
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course presents the practical and theoretical aspects of tube bending. Topics include theory and concepts of tube bending, as well as components, tools, and installation. The laboratory emphasizes hands-on exercises in the mechanical skills of industrial tube bending including calculating angles, different types of tubing, valves, fittings, clamps and installation.

STMFT-129 Union Heritage
3 units LR
• 54 hours lecture per term
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course presents the heritage and traditions of the United Association, which represents plumbers, steamfitters, and welders among other occupations. Topics include partnerships between the United Association and local union contractors, good work practices, and history of the pipe trades.

STMFT-131 Pipe Welding 1
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This course covers the practical and theoretical aspects of welding processes for the steamfitting apprentice. Safe procedures, components, regulator settings and practices for use of the cutting torch, and groove pipe welding are presented.

STMFT-132 Welding 5
1.5-3.5 units LR
• Variable hours
• Note: This program is sponsored by the 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 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 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 an introduction to the techniques and methods for welding processes for the steamfitting apprentice. Techniques studied will include string beads on an open groove pipe weld and proper torch positioning for advanced torch cutting.

STMFT-134 Welding 7
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 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 square groove welding processes.

STMFT-135 Welding 8
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 introduces the techniques and methods for welding processes for steamfitting apprentices. Topics include identification of trapped slag using an x-ray image as well as completing a root bead in a welding coupon in 6G position.
STMFT-137  Welding 10
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 is an introduction to the techniques and methods for welding processes for the steamfitting apprentice. The topics will include identification of materials, butt-weld root and filler beads, and tools needed for stainless steel welding processes.

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**

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**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 their jobs are unrelated to their major. WRKX-170: Students who are employed and their 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.
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.

WORKFORCE PREPARATION - WRKP

Emily Stone, Dean
Student Support Services
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.

WRKX-160 General Work Experience Education
1-3 units SC
• May be repeated three 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. Students may earn one unit for five hours work per week or seventy-five hours work per term. Does not meet requirements for veterans’ benefits. Employment Form can be accessed at www.dvc.edu/wrkx. Incomplete grades are not awarded for WRKX. Students may repeat to a maximum of twelve units; an appeal will be required after three repetitions.
• Formerly COOP-160

WRKX-170 Occupational Work Experience Education
1-4 units SC
• May be repeated three 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. Employment Forms can be accessed at www.dvc.edu/wrkx. Incomplete grades are not awarded for this course.
• Formerly COOP-170

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. CSU

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. Five hours per week or 75 hours work per term is equal to one unit. Students may earn up to a maximum of 16 units; repetition allowed per Title 5, Section 55253. CSU
WRKX-180  Internship in Occupational Work Experience Education

1-4 units  SC

• May be repeated three 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. The Employment Form can be accessed at www.dvc.edu/wrkx. Incomplete grades are not awarded for this course.
• Formerly COOP-180

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. Five hours work per week or seventy-five hours work per term is equal to one unit (paid) or one unit for four hours work per week or sixty hours per term (unpaid work). Students may earn up to a maximum of sixteen units; repetition allowed per Title 5 Section 55253. CSU