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<td>Sports medicine/athletic training</td>
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<td></td>
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UNDERSTANDING THE COURSE DESCRIPTIONS

Course descriptions and numbering
The courses listed in our catalog may not be offered every term or every year. Check the schedule of classes for the course offerings for 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. Courses with numbers between 100 and 299 are generally freshman and sophomore level college courses. Students should carefully review each specific course description to ensure that the selected courses will satisfy requirements for transfer, degree or certificate goals.

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

Prerequisites
When a course description lists a prerequisite, it means that the prerequisite must be successfully completed before the student may enroll in that course. Please see page 32 for more information about course prerequisites and/or co-requisites.

Recommendations
Students are advised to complete the recommended course or courses before enrolling in the selected course. Recommendations increase the student’s ability to succeed.

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

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. Please see page 36 for more information about the grade policy.

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. Students should seek the advice of a counselor for complete information about the transferability of courses toward meeting general education breadth requirements 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 next to a course 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 always help students interpret or explain this information. See course descriptions for C-ID course designations.

PROGRAM LEVEL STUDENT LEARNING OUTCOMES

Program level student learning outcomes have been developed for each of the three options for General Education and all college programs. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

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 may programs may be completed on a part-time basis. DVC offers two types of 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.

COURSE WORK AND STUDY TIME PER UNIT

Units of credit are a measure of the amount of study performed in the course; grades are a measure of the quality of that study. Generally speaking, for each three-unit lecture class, students spend three hours each week in a class and six hours of study time out of class. A four-unit course that includes a lab would add another three hours each week in the laboratory.
ACCOUNTING

See Business Accounting - BUSAC

ADDITION STUDIES – ADS

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

Biological and Health Sciences Division
Physical Sciences

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.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in science degrees
Addiction counseling
Addiction studies

Certificates of achievement
Addiction counseling
Addiction studies

Associate in science degree - Addiction counseling
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 insure 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 major and other graduation 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.

<table>
<thead>
<tr>
<th>major requirements</th>
<th>units</th>
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<tbody>
<tr>
<td>ADS 101</td>
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<tr>
<td>Introduction to Substance Abuse and Treatment</td>
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</tr>
<tr>
<td>ADS 102</td>
<td>2</td>
</tr>
<tr>
<td>Introduction to Motivational Interviewing Skills</td>
<td></td>
</tr>
<tr>
<td>ADS 103*</td>
<td>3</td>
</tr>
<tr>
<td>Group Process</td>
<td></td>
</tr>
<tr>
<td>ADS 151*</td>
<td>1.5</td>
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<tr>
<td>Ethical and Legal Concerns for ADS Paraprofessionals</td>
<td></td>
</tr>
<tr>
<td>ADS 152*</td>
<td>3</td>
</tr>
<tr>
<td>Relapse Prevention</td>
<td></td>
</tr>
<tr>
<td>ADS 154*</td>
<td>3</td>
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<tr>
<td>Dual Disorders</td>
<td></td>
</tr>
<tr>
<td>ADS 155</td>
<td>3</td>
</tr>
<tr>
<td>Diverse Communities and Social Services</td>
<td></td>
</tr>
<tr>
<td>ADS 163</td>
<td>3</td>
</tr>
<tr>
<td>Pharmacology and Medical Aspects of Alcohol and Other Drugs</td>
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</tr>
<tr>
<td>ADS 168*</td>
<td>2</td>
</tr>
<tr>
<td>Group Leadership</td>
<td></td>
</tr>
<tr>
<td>ADS 170</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Codependency and Family Issues</td>
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</tr>
<tr>
<td>ADS 171*</td>
<td>5.5</td>
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<td>ADS Field Work I</td>
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<td>ADS 172*</td>
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<tr>
<td>ADS Field Work II</td>
<td></td>
</tr>
<tr>
<td>total minimum required units</td>
<td>37.5</td>
</tr>
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</table>

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

Associate in science degree - Addiction studies
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 insure that the requirements for transfer to appropriate institutions are met. Certain courses may satisfy both major and other graduation 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.
### ADDICTION STUDIES

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

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

**Required courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
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<td>Dual Disorders</td>
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<td>ADS 155</td>
<td>Diverse Communities and Social Services</td>
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<td>ADS 156*</td>
<td>Pharmacology and Medical Aspects of Alcohol and Other Drugs</td>
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<td>ADS 159</td>
<td>Group Leadership</td>
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<tr>
<td>ADS 170</td>
<td>Introduction to Codependency and Family Issues</td>
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<tr>
<td>ADS 172*</td>
<td>ADS Field Work II</td>
<td>5.5</td>
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**Total minimum required units** 37.5

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

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**Required courses**

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<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
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<td>Diverse Communities and Social Services</td>
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<td>ADS 170</td>
<td>Introduction to Codependency and Family Issues</td>
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<td>ADS 171*</td>
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<td>ADS 172*</td>
<td>ADS Field Work II</td>
<td>5.5</td>
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</table>

**Total minimum required units** 21

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

---

**ADS-101 Introduction to Substance Abuse and Treatment**

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

This course provides basic core knowledge and theories about addiction, treatment, and public policy. CSU
ADS-102 Introduction to Motivational Interviewing Skills
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course provides an overview of motivational interviewing and the stages of change. Essential communication and charting skills needed for working in the substance abuse and chemical dependency field will be explored. CSU

ADS-103 Group Process
2 units SC
• 36 hours lecture per term
• Prerequisite: ADS 101 and ADS 102 or equivalents
• Recommended: ADS 151 and ADS 170 or equivalents
This course provides an introduction to the dynamics of group interaction in working with people with histories of substance abuse, co-dependence, and other addictive behaviors. Students will gain theoretical understanding of group process and dynamics, experience group membership, and demonstrate their ability to function in a group. CSU

ADS-150 Topics in Addiction Studies
.3-4 units SC
• May be repeated three times
• 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-151 Ethical and Legal Concerns for ADS Paraprofessionals
1.5 units SC
• 27 hours lecture per term
• Prerequisite: ADS 101 or equivalent; and ADS 102 or equivalent (may be taken concurrently)
• Recommended: Eligibility for ENGL 122 or equivalent
This course is designed to familiarize ADS paraprofessionals with the legal and ethical issues involved in alcohol/drug counseling. CSU

ADS-152 Relapse Prevention
3 units SC
• 54 hours lecture per term
• Prerequisite: ADS 101 or equivalent
This course examines the research that describes the progressive and predictable warning signs of relapse in addicts and alcoholics. Students will study and practice the skills and techniques used to develop a relapse prevention program. CSU

ADS-154 Dual Disorders
3 units SC
• 54 hours lecture per term
• Prerequisite: ADS 101 or equivalent
This course addresses the common preexistent or concurrent psychiatric disorders that may surface in the area of substance abuse. The relationships between mental health and substance abuse facilities will be examined. CSU

ADS-155 Diverse Communities and Social Services
3 units SC
• 54 hours lecture per term
• Prerequisite: ADS 101 or equivalent
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: Meets the State Department of Social Services licensing requirement for DDS III, Program and Curriculum Development
This course investigates the impact of health status, lifestyle/behavior patterns and personal and cultural beliefs, on individual and group access to social services. Groups studied will include Asian Americans, African Americans, Hispanic/Latino Americans, Native Americans, and Pacific Rim cultures, among others. The course will examine in detail effective strategies for cross and intercultural work in social services, with particular emphasis on addiction prevention, intervention, and treatment services. CSU

ADS-163 Pharmacology and Medical Aspects of Alcohol and Other Drugs
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course provides an in-depth look at physiological effects and medical consequences of alcohol and other drugs. How drugs are metabolized, their effects on body systems and behavior, the addictive process, and current research are covered. CSU

ADS-168 Group Leadership
2 units SC
• 36 hours lecture per term
• Prerequisite: ADS 101, 102 and 103 or equivalents
• Recommended: ADS 151 and 170 or equivalents
This course explores the theory and practice of group facilitation. Students will study and develop the basic observation and communication skills needed for leading support groups. Administrative tasks related to group leadership responsibilities will also be examined. CSU
ADS-170  Introduction to Codependency and Family Issues  
3 units  SC  
- 54 hours lecture per term  
- Recommended: ADS 101 and eligibility for ENGL 122 or equivalents  

This course is an examination of biological, psychological, and sociological issues relevant to family functioning, with a focus on chemically dependent families. Included in this is a close examination of codependency and family system variables, such as family structure, communication, and emotional closeness. CSU  

ADS-171  ADS-Field Work I  
5.5 units  SC  
- 54 hours lecture/144 hours laboratory per term  
- Prerequisite: ADS 101, 102 and eligibility for ENGL 122 or equivalents  
- Note: Formerly a seven unit block consisting of ADS 169, CARER 130, and COOP 170A. It is highly recommended that a student have at least 10 units completed in the addiction studies program before entering the Field Work class.  

This is the first clinical course required for the addiction counseling certificate. Students will have the opportunity to work in community clinical settings that serve clients with substance abuse problems. They will gain first-hand experience and develop clinical competency in assessment, treatment planning, group facilitation, record-keeping, and general agency procedures. The course will consist of seminar and clinical experiences. Students will have supervision on-site, and then debrief their experiences with fellow students, sharing the learning as well as the challenges of providing substance abuse services in a community clinic setting. Additionally students will explore possible locations for employment and interviewing skills. They will also develop skills in treatment planning and understanding all the necessary requirements for state and other professional certification. CSU  

ADS-172  ADS-Field Work II  
5.5 units  SC  
- 54 hours lecture/144 hours laboratory per term  
- Prerequisite: ADS 171 or equivalent  
- Co-requisite: ADS 151 or equivalent (may be taken previously)  
- Note: Formerly a seven unit block consisting of ADS 169, CARER 130, and COOP 170A  

This is the second clinical course required for the addiction counseling certificate of achievement. Students will have the opportunity to work in community clinical settings that serve clients with substance abuse problems. They will gain first-hand experience and develop clinical competency in group facilitation, case-management, and system approaches to addiction treatment in a community setting. This course will consist of seminar and clinical experiences. Students will have supervision on-site, and then debrief their experiences in class, sharing both the learning and the challenges. Students will also prepare for state certification and employment. CSU  

ADS-299  Student Instructional Assistant  
.5-3 units  SC  
- May be repeated three times  
- 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  
Social Sciences Division  
Faculty Offices  

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.  

Program level student learning outcomes  
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.  

Associate in science degree  
Administration of justice  
Certificate of achievement  
Administration of justice
Certificates of accomplishment

Administration of justice - Community relations specialist
Administration of justice - Correctional specialist
Administration of justice - Crime scene investigator
Administration of justice - Criminal law specialist
Administration of justice - Juvenile counseling
Administration of justice - Patrol specialist

Associate in science degree - Administration of justice

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 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 other graduation requirements; however, the units are only counted once.

**major requirements**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ADJUS 120 Introduction to the Administration of Justice</td>
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<td>ADJUS 130 Police Multicultural Relations</td>
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</tr>
<tr>
<td><strong>total minimum required units</strong></td>
<td><strong>28</strong></td>
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**plus at least 7-9 units from:**

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<tbody>
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<td>ADJUS 139 Gangs and Threat Groups in America</td>
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<tr>
<td>ADJUS 203 Physical Evidence and the Crime Laboratory</td>
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<td>3</td>
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<td>ADJUS 260 Patrol Procedures</td>
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</tr>
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Certificate of achievement - Administration of justice

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.

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Certificate of accomplishment - Administration of justice - Community relations specialist

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

**Certificate of accomplishment - Administration of justice - Correctional specialist**

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.

**Certificate of accomplishment - Administration of justice - Crime scene investigator**

This certificate prepares students for entry-level careers as crime scene investigators, criminal analysts, and fingerprint examiners, Examiners, criminalists in limited areas of expertise, crime scene photographers, private security investigators, and criminal investigators. It also is a foundation for those students who wish to pursue advanced careers as criminal profilers or advanced criminalists. Completion of this certificate will greatly improve the 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.

**Certificate of accomplishment - Administration of justice - Criminal law specialist**

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, 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.

**Certificate of accomplishment - Administration of justice - Juvenile counseling**

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

To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Certificate requirements may be completed by a combination of day, evening or weekend courses listed in the Administration of Justice (AJ) Program. Successful completion of the certificate of accomplishment requirements also counts towards the completion of the AJ certificate of achievement.
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<td>ADJUS 124</td>
<td>Elements of Correction</td>
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<td>ADJUS 139</td>
<td>Gangs and Threat Groups in America</td>
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<td>ADJUS 230</td>
<td>Juvenile Procedures</td>
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<tr>
<td>ADJUS 284</td>
<td>Interviewing and Counseling</td>
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</table>

total minimum required units  15

Certificate of accomplishment - Administration of justice - Patrol specialist
This certificate prepares students for entry-level careers as law enforcement officers in federal, state, and local agencies as well as private and corporate security. After completing this certificate, students contemplating enrolling in the POST academies will have a solid foundation that will help to ensure academy success. Students entering private security will have much more training than is required by state law. Completion of this certificate will also give the student a greatly improved opportunity for employment.

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

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</table>

total minimum required units  17
ADJUS-125  Report Preparation for Criminal Justice  
3 units  SC  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL 122 or equivalent  
This course emphasizes the practical aspects of gathering, organizing, and preparing written reports for law enforcement and correctional activities on local, state, and federal levels. It will cover the techniques of communicating facts, information, and ideas effectively in a simple, clear, and logical manner for various types of criminal justice system reports, letters, memoranda, directives and administrative reports. Students will gain practical experience in note-taking, report writing, and presenting testimony in court. CSU

ADJUS-130  Police Multicultural Relations  
3 units  SC  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL 122 or equivalent  
• Note: Credit by examination option available  
A theoretical and conceptual overview of multicultural concepts and issues, including those related to gender, age, and sexual preference; an application of those concepts and issues to the three public safety disciplines (Law Enforcement, Judiciary, and Corrections); identification of problems related to our increasingly diverse population; and examination of strategies to overcome those problems, particularly in relation to the maintenance of social order. CSU, UC

ADJUS-139  Gangs and Threat Groups in America  
3 units  SC  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL 122 or equivalent  
An introduction to modern criminal gangs, their philosophy, history, structure, impact on the community and the criminal justice system. A study of the legal codes and prosecution of gang members. Evaluation of prison gangs and their impact on the community. An examination of treatment programs in the institutions and the community. CSU

ADJUS-203  Physical Evidence and the Crime Laboratory  
4 units  LR  
• 54 hours lecture/54 hours laboratory per term  
• Recommended: Eligibility for ENGL 122 or equivalent  
This course is an in-depth analysis and discussion of the nature and significance of various types of physical evidence commonly found at 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. This course combines the theoretical concepts associated with use of physical evidence in the forensic setting with student involvement in the processing of simulated crime scenes. The laboratory component, which will focus on the student applying the principles learned in lectures, will be mandatory. CSU

ADJUS-221  Criminal 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  
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 and case preparation. 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  
Organization, functions, and jurisdiction of juvenile agencies, the processing and detention of juveniles; juvenile case disposition; juvenile statutes and court procedures. CSU

ADJUS-260  Patrol Procedures  
3 units  LR  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL 122 or equivalent  
• Note: Credit by examination option available  
Responsibilities, techniques, purpose and methods of police patrol; decision making and judgment of their community effect. CSU
ADJUS-270 Personal Self Defense and Firearms
2 units SC
- May be repeated once
- 18 hours lecture/54 hours laboratory per term
- Recommended: Eligibility for ENGL 122 or equivalent
- Note: Requires ability to participate in vigorous physical activity. Persons with any felony conviction may not take this course.

This course was designed for anyone seeking training in the area of personal self-defense and firearms training. Although originally developed for law enforcement personnel re-certification, the course will benefit anyone desiring proficiency with handguns, personal safety and defensive tactics. Experienced law enforcement instructors with many years of teaching and training experience will instruct the course. In addition to moral and legal aspects, as well as safety in the use of side arms and the shotgun, the course will include training in the use of pepper spray and mace. Training in the use of electronic stun guns will also be available as part of this course. CSU

ADJUS-280 Probation and Parole
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent

An introduction to probation and parole, its philosophy, history, legal mandates, relations to courts, basic procedures and common treatment approaches. A study of legal codes affecting probation and parole; evaluation of the prison system and inmate community; parole supervision and examination of the success of a contemporary prison and parole system. Specific emphasis will be on California’s probation, institutions and parole system. CSU

ADJUS-284 Interviewing and Counseling
3 units LR
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent

An introduction to the concepts and techniques of communication, casework and counseling as utilized by practitioners in the administration of justice field. Students will review the interview and interrogation process as applicable to the social work function in policing and corrections. A basic course for students planning to enter or for those already employed within the administration of justice field. CSU

ADJUS-298 Independent Study
.5-3 units SC
- May be repeated three times
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.

An opportunity for students to pursue special interests under direction of faculty. CSU

ADJUS-299 Student Instructional Assistant
.5-3 units SC
- May be repeated three times
- 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

Social Sciences Division
Faculty Offices

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.

ANTHR-115 Primate Evolution and Adaptation
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent

An introduction to the biology, behavior, ecology, and evolutionary history of the primate order. Emphasis will be given to the following topics: 1) evolutionary theory; 2) mammalian biology, anatomy, and osteology; 3) primate behavior, ecology, and biogeography; 4) primate evolutionary history; 5) fossil man. CSU, UC

ANTHR-120 Magic, Witchcraft, and Religion in the Americas
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent

A cross-cultural, multicultural 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 tradi-
tions. 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, and will include a cross-cultural comparison of the social and religious traditions that developed within various Native American, African American, Latino/Hispanic American, and Euro-American communities in order to illustrate major systems types and to provide insight into the general functions of religious belief and ritual in human life. CSU, UC

ANTHR-125 Introduction to Archaeology and Prehistory
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
An introduction to archaeological methods and the study of prehistory. Course will deal with field work techniques, the classification and interpretation of artifacts, theory in archaeology and prehistory, and will introduce students to the key developments in the study of human prehistory. Emphasis will be given to the study of the prehistoric inhabitants of the San Francisco Bay Region. CSU, UC

ANTHR-126 Introduction to Archaeological Field Methods
3 units SC
- 18 hours lecture/108 hours laboratory per term
- Recommended: ANTHR 125 or equivalent; 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. A significant portion of class time will be in the field. CSU

ANTHR-130 Cultural Anthropology
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
A survey of culture as a basic aspect of human adaptation. Topics include the concept of culture and enculturation, cultural development and change, ethnocentrism and cultural relativity, race vs. ethnicity, patterns of language, ethics and the principles of ethnographic research. Special emphasis on the experiences of Native American, African American, Asian Pacific American, Chicano/Latino and Arab American sub-cultures in U.S. society. CSU, UC

ANTHR-135 Native Americans
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
A survey of the Native American cultures that developed in North America. The course also 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 Physical Anthropology
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
The physical nature of man including evolution, fossil man, race, and differences. The relationships between human biology and cultural development will receive special emphasis. CSU, UC

ANTHR-141L Physical Anthropology Laboratory
1 unit SC
- Prerequisite: ANTHR 115 or equivalent or ANTHR 140 or equivalent (ANTHR 140 may be taken concurrently)
- Recommended: Eligibility for ENGL 122 or equivalent
An introductory laboratory course in which scientific methodology is taught and used to explore/experiment with topics found in introductory physical anthropology and primate evolution courses. Topics will include: paleontology, hands-on study of fossils, Mendelian and population genetics, human variability, forensics, medical anthropology, epidemiology, non-human primates, primate dental and skeletal anatomy, paleoprimatology, paleoanthropology, hominid dietary patterns, the study of hominids as bio-culturally adapted animals, and a survey of general methodologies utilized in physical anthropological research. Field trips may be included. CSU

ANTHR-155 Topics in Anthropology
.3-4 units SC
- May be repeated three times
- Variable hours
An in-depth study of selected topics, issues, and problems related to anthropological aspects of human behavior. The topic to be offered in a particular term is indicated in the current class schedule. CSU
### ANTHR-298 Independent Study
0.5-3 units SC
- May be repeated three times
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.

An opportunity for advanced students to pursue special interests under the direction of the faculty. CSU

### ANTHR-299 Student Instructional Assistant
0.5-3 units SC
- May be repeated three times
- 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 – ARABC

#### ARABC-120 First Term Arabic
5 units SC
- 90 hours lecture/18 hours laboratory by arrangement 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 class 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
- 90 hours lecture/18 hours laboratory by arrangement per term
- Recommended: ARABC 120 or equivalent

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
0.3-4 units SC
- May be repeated three times
- 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
0.5-3 units SC
- May be repeated three times
- 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**

Physical Sciences and Engineering Division
Physical Sciences Building

**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.

**Program level student learning outcomes**

Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

**Associate in science degrees**

Architecture design

Architecture technology

**Certificate of achievement**

Architecture technology

**Associate in science degree - Architecture design**

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 G.E.). 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 graduation 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 other graduation requirements; however, the units are only counted once.

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<td>ARCHI 121</td>
<td>Architectural Design I</td>
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<td>ARCHI 130</td>
<td>Architectural Graphics I</td>
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<td>ARCHI 131</td>
<td>Architectural Graphics II</td>
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<td>ARCHI 135</td>
<td>Digital Tools for Architecture I</td>
<td>4</td>
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<td>ARCHI 220</td>
<td>Architectural Design II</td>
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</tr>
<tr>
<td>ARCHI 110</td>
<td>Design Build Workshop</td>
</tr>
<tr>
<td>ARCHI 136</td>
<td>Digital Tools for Architecture II</td>
</tr>
<tr>
<td>ARCHI 156</td>
<td>History of World Architecture: Early Civilizations to Middle Ages</td>
</tr>
<tr>
<td>ARCHI 157</td>
<td>History of World Architecture: Middle Ages to 18th Century</td>
</tr>
<tr>
<td>ARCHI 158</td>
<td>History of World Architecture: 18th Century to Present</td>
</tr>
<tr>
<td>ARCHI 160</td>
<td>History of American Architecture</td>
</tr>
<tr>
<td>ARCHI 207</td>
<td>Environmental Control Systems</td>
</tr>
</tbody>
</table>

**total minimum required units**

33

**Associate in science degree - Architecture technology**

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 other graduation requirements; however, the units are only counted once.

<table>
<thead>
<tr>
<th>major requirements</th>
<th>units</th>
</tr>
</thead>
<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>4</td>
</tr>
<tr>
<td>ARCHI 130 Architectural Graphics I</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI 244 Architectural Practice and Working Drawings I</td>
<td>3</td>
</tr>
<tr>
<td>CONST 124 Construction Details and Specifications</td>
<td>3</td>
</tr>
<tr>
<td>CONST 135 Construction Processes (Residential)</td>
<td>4</td>
</tr>
<tr>
<td>CONST 144 Materials of Construction</td>
<td>3</td>
</tr>
</tbody>
</table>

plus at least 6 units from:

<table>
<thead>
<tr>
<th>required courses</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCHI 131 Architectural Graphics II</td>
<td>4</td>
</tr>
<tr>
<td>CONST 116 Plane Surveying</td>
<td>3</td>
</tr>
<tr>
<td>CONST 181 Building Code Interpretation: Non Structural</td>
<td>3</td>
</tr>
<tr>
<td>CONST 183 Title 24: Energy Conservation Codes</td>
<td>3</td>
</tr>
<tr>
<td>COOP 180 Internship in Occupational Work Experience Education</td>
<td>2-3</td>
</tr>
<tr>
<td>ENGIN 226 Computer Aided Drafting Design, Advanced Concepts - AutoCAD</td>
<td>4</td>
</tr>
</tbody>
</table>

**total minimum required units** 29

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**Certificate of achievement - Architecture technology**

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**

<table>
<thead>
<tr>
<th>required courses</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCHI 120 Introduction to Architecture and Environmental Design</td>
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</table>

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</tr>
<tr>
<td>ENGIN 226 Computer Aided Drafting Design, Advanced Concepts - AutoCAD</td>
<td>4</td>
</tr>
</tbody>
</table>

**total minimum required units** 29

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**ARCHI-105 Architectural Assembly and Fabrication**

1 unit SC

- 54 hours laboratory per term

Course covering methods of fabrication for architectural projects in metal, wood, plastic and other materials. Introduction to shop safety, machine and tool operation and small scale design and construction. CSU

**ARCHI-110 Design Build Workshop**

1-2 units SC

- Variable hours
- Recommended: ARCHI 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 2-6 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.

Design-build course for full scale design projects in wood, metal and other materials to be designed and constructed by students working in design teams in consultation with faculty. Course explores fabrication and construction process for larger scale designs utilizing sketching, computer rendering, dimensioned sketches and drawings for creation of full scale architectural projects. CSU
ARCHI-119 Introduction to Technical Drawing
3 units SC
- 36 hours lecture/108 hours laboratory per term
- Note: Same as ENGIN 119. For students with no previous drafting experience. Credit by examination option available. This course requires 108 hours of laboratory (lab). These hours may be offered as face to face lab, online lab, or lab hours by arrangement; see schedule of classes for specific requirements.

Introduction to the use of technical drawing tools, technical lettering and line work, geometric construction, sketching and shape description, orthographic projection, dimensioning, section views, auxiliary views and pictorials. Introduction to the use of computers to produce technical drawings. CSU

ARCHI-120 Introduction to Architecture and Environmental Design
3 units LR
- 36 hours lecture/72 hours laboratory per term

Introduction to the professional field of architecture, architectural design and planning. Investigation and evaluation of the architectural environment with identification and utilization of a creative design process. Study of the use of line, shape, form, texture, light, color, scale, and structure in relation to the creation of architectural space. CSU, UC

ARCHI-121 Architectural Design I
4 units SC
- 54 hours lecture/54 hours laboratory/36 hours laboratory by arrangement per term
- Prerequisite: ARCHI 120 or equivalent

First level studio design class in architectural design. Course focuses on development of fundamental design skills and spatial theory. Exploration of concepts related to site planning and site analysis, spatial qualities of architecture, movement through architectonic space, material qualities, and precedent studies. CSU, UC

ARCHI-126 Computer Aided Design and Drafting AutoCAD
4 units SC
- May be repeated once
- 54 hours lecture/90 hours laboratory per term
- Note: Same as ENGIN 119 or ENGIN 119 or equivalent

Introductory course covering the computer application AutoCAD as it relates to the creation of technical drawings. Course covers two dimensional computer aided drafting of objects in orthographic projection. Hands-on training utilizing a comprehensive overview of the software package and its applications in architectural drafting is stressed. Students are recommended to have a basic knowledge of technical drawing. CSU, UC (credit limits may apply to UC - see counselor)

ARCHI-130 Architectural Graphics I
3 units LR
- 36 hours lecture/72 hours laboratory per term
- Recommended: ARCHI 119 or ENGIN 119 or equivalent

An introduction to architectural graphics related to projection systems, the representation of architectural forms, rendering and shadow casting. Course covers a series of lectures on the history of architectural rendering, methods of graphic representation used by architects, and assignments introducing problem solving in orthographic and pictorial projection and drawing, architectural lettering, shades and shadows and color rendering techniques. Emphasis on mechanical drafting with pencil and beginning introduction to other art media. CSU, UC

ARCHI-131 Architectural Graphics II
4 units SC
- 54 hours lecture/54 hours laboratory/36 hours laboratory by arrangement per term
- Prerequisite: ARCHI 130 or equivalent

Advanced exploration of drawing techniques utilizing freehand and mechanical drawing methods of representation. Emphasis on perspective drawing, shade and tone, color theory, and the mental ordering processes involved in accurately representing the built environment. CSU, UC

ARCHI-132 Architectural Graphics III
4 units SC
- 36 hours lecture/108 hours laboratory per term
- Prerequisite: ARCHI 131 or equivalent

Advanced exploration of drawing and rendering techniques utilizing freehand drawing, mechanical drawing and contemporary methods of representation. Emphasis on perspective drawing, shade and tone, color in architectural renderings, and advanced representation of materials, textures and landscape elements. Course covers advanced topics in the use of mixed media, presentation formats, layout and composition in relation to architectural rendering. CSU

ARCHI-135 Digital Tools for Architecture I
4 units SC
- 36 hours lecture/72 hours laboratory/36 hours laboratory by arrangement per term

An introduction to the use of computers in architectural design and representation. Course covers topics in presentation graphics, digital modeling and digital portfolio design. Students will be introduced to a variety of software packages for graphic presentations and design, web authoring and publication, and three dimensional modeling. CSU
ARCHI-136 Digital Tools for Architecture II
4 units SC
• 36 hours lecture/72 hours laboratory/36 hours laboratory by arrangement per term
Course covering the use of computers in architectural design for advanced architectural graphics, three dimensional modeling, rendering and fabrication. Course covers topics utilizing Rhino and the use of Vectorworks CAD and 3-D modeling software. Topics include current computer graphics and architectural CAD standards, modeling of complex non-orthogonal geometries and sculptural forms, Building Information Management (BIM), work-group organization and parametric modeling. CSU

ARCHI-150 Topics in Architecture
.3-4 units SC
• May be repeated three times
• 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
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: ARCHI 156, 157 and 158 may be taken in any order
Architecture and urbanism from prehistory to the Middle Ages. Social, cultural, and physical conditions that influenced the built environment in the Mediterranean region, Europe, Asia, Africa, and Pre-Columbian Americas. 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
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: ARCHI 156, 157 and 158 may be taken in any order
World architecture and urbanism from the Middle Ages until the end of the 18th Century. Exploration of social, cultural, and physical conditions that influenced the built environment of Europe, Asia and the Colonial Americas. Course covers 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
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: ARCHI 156, 157 and 158 may be taken in any order
Architecture and urbanism of the modern world, from the 18th century to the present. Exploration of social, cultural, and physical conditions influencing the built environment of Europe, Asia, and the Americas. Course covers American architectural contributions of Frank Lloyd Wright and the Chicago School of Architecture, Art Nouveau and the work of Gaudi with in depth discussion of the influence of industrialization in architecture as well as topics in Russian Constructivism, 20th Century Modernism, Post-modernism and Deconstructivism. CSU, UC

ARCHI-160 History of American Architecture
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
A survey of American architectural history from Native American dwellings to the present, utilizing lectures, slides, and field trips. Course covers the architectural influence of immigrant groups from multiple cultural and ethnic backgrounds as well as the influences of architectural design movements through the course of history. Topics covered include Native American dwellings, early Colonial houses and structures, the Georgian and Federal Styles, the planning of Washington DC, Greek, Gothic and other European Revival movements in the United States, as well as the development of the high rise in major metropolitan areas such as Chicago and New York. Material related to the lives and work of noted architects such as Louis Sullivan, Frank Lloyd Wright, Julia Morgan and Bernard Maybeck are presented in relation to their social, political and economic contexts. CSU, UC

ARCHI-165 Architecture and Urbanism of Paris and France
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course will include the history of the urban development of Paris from early Roman settlements to the present. The cultural and architectural developments during major significant historical periods will be presented. Influence from social and political movements on growth, design, and construction of buildings and public urban spaces are discussed. This course also reviews the architectural history of Versailles, chateaux of the Loire Valley and neighboring Chartres Cathedral. CSU
ARCHI-207 Environmental Control Systems
3 units SC
- 54 hours lecture per term
- Recommended: MATH 110 or equivalent
Course covering the use of environmental control systems in buildings, including heating, cooling and ventilation. Topics include the use of passive solar techniques, cross and stack ventilation, daylighting methods and an introduction to mechanical systems for environmental control in buildings. Emphasis on green building technology and sustainable practices in design of environmental control systems. CSU

ARCHI-220 Architectural Design II
3 units LR
- 36 hours lecture/108 hours laboratory per term
- Prerequisite: ARCHI 121 and 130 or equivalents
Second level studio design class continuing the study of architectural design. Course focuses on development of fundamental design skills utilizing concepts related to site planning and site analysis, spatial qualities of architecture and movement through architectonic space. Continuing investigation of topics in material qualities, general methods of assembly and construction, and human factors in design. Methods of presentation and design development include drawing, model making and architectural reviews and critiques. CSU, UC

ARCHI-221 Architectural Design III
3 units LR
- 36 hours lecture/108 hours laboratory per term
- Prerequisite: ARCHI 220 or equivalent
Third level studio design class continuing the study of architectural design. Course focuses on applying fundamental design skills and spatial theories to design projects of greater architectural complexity. Projects will incorporate the use of concepts of site planning, structural systems and circulation through space into a variety of design problems. Projects will also explore concepts in human, cultural, historical and advanced structural and circulation systems in architectural design. CSU

ARCHI-226 Computer Aided Drafting Design, Advanced Concepts - AutoCAD
4 units SC
- May be repeated once
- 54 hours lecture/90 hours laboratory per term
- Recommended: ARCHI 126 or ENGIN 126 or equivalent
- Note: Same as ENGIN 226. May be repeated once when software changes.
Course is designed for students with previous knowledge and experience in using AutoCAD. Course covers (1) surface/wireframe and solid modeling features of AutoCAD for 3-dimensional modeling and photorealistic rendering, (2) customization and optimal application of AutoCAD and (3) utility options for presentation purposes and project management. CSU, UC (credit limits may apply to UC - see counselor)

ARCHI-244 Architectural Practice and Working Drawings I
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Recommended: ARCHI 130 or equivalent
- Formerly ARCHI 222
Course covers the methods and processes for the interpretation and creation of architectural working drawings and specifications. Topics covered include schematic design, design development, assembly and graphic representation of building elements and the creation of architectural drawings and construction documents. Site plans, foundations, framing systems, bearing walls, structural frames, electrical and mechanical systems in addition to details and cladding systems for floors, walls and roofs are included in course curriculum. Discussion of the CSI format and use of reference material such as local planning ordinances, building codes, architectural graphic standards, and information published by building product manufacturers are included in course curriculum. Students are introduced to the design review process, standards of practice and graphic representation, and the role of the architect, client and local governing agencies. CSU

ARCHI-245 Architectural Practice and Working Drawings II
3 units SC
- 36 hours lecture/72 hours laboratory per term
- Recommended: ARCHI 222 or equivalent
- Formerly ARCHI 223
Preparation and interpretation of architectural working drawings and specifications, with emphasis on heavy timber, concrete, masonry, and steel construction. Use of reference material such as local planning ordinances, building codes, architectural graphic standards, and information published by building product manufacturers. CSU

ARCHI-298 Independent Study
.5-3 units SC
- May be repeated three times
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.
An opportunity for advanced students to study special interests under the direction of faculty. CSU
ARCHI-299  Student Instructional Assistant  
.5-3 units  SC  
- May be repeated three times  
- Variable hours  
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

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

ART – ART
Applied and Fine Arts Division
Michael Almaguer, Dean
Business and Foreign Language Building 204
925-685-1230, ext. 2312

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

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in art degree
Fine arts

Associate in art degree - Fine arts
The associate in arts degree in fine 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 fine 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 fine arts curriculum develops a student’s critical thinking skills, hones problem-solving skills, and establishes visual literacy. Career opportunities in fine arts include: exhibiting artist, art critic, art dealer, educator, art historian, graphic designer, photographer, sculptor, ceramist, jeweler, printmaker, painter, art illustrator, art technician, museum curator, art journalist, arts administrator, product designer, advertising specialist and other professions in creative endeavor.

The fine 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 fine arts studio courses. The second component is two required art history courses. The third component offers students choices in 10 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. Fine 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 fine 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 (CSU G.E.). Option 1 (DVC General Education) is not generally advised.

To earn an associate in arts degree with a major in fine arts, 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 graduation requirements as listed in the catalog. Degree requirements may be completed by attending classes in the day, evening, or weekends. Certain courses may satisfy both major and other graduation requirements; however, the units are only counted once.

major requirements  

<table>
<thead>
<tr>
<th>units</th>
<th>major requirements</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>ART 105  Introduction to Drawing, Color, and Two Dimensional Design</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>ART 140  Introduction to Sculpture and 3-D Design</td>
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</tr>
</tbody>
</table>

plus at least 6 units from:

<table>
<thead>
<tr>
<th>units</th>
<th>major requirements</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>ARTHS 193  History of Asian Art</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>ARTHS 195  History of Prehistoric and Ancient Art</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>ARTHS 196  History of Medieval and Renaissance Art</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>ARTHS 197  History of Baroque to Early 20th Century Art</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>ARTHS 199  Contemporary Art History</td>
<td></td>
</tr>
</tbody>
</table>
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 Early 20th Century Art... 3
- ARTHS 199 Contemporary Art History..................... 3

**ceramics**
- ART 152 Wheel Thrown Ceramic Art.......................... 3
- ART 155 The Art of Ceramic Sculpture..................... 3
- ART 156 Figurative Ceramic Art .............................. 3

**digital media**
- ARTDM 112 Digital Imaging for the Artist.................. 3
- ARTDM 140 Motion Graphics.................................... 3
- ARTDM 171 Introduction to Web Design..................... 3

**drawing**
- ART 105 Drawing and Composition............................ 3
- ART 106A Drawing and Composition: Controlled............. 3
- ART 106B Figure Drawing II................................... 3

**graphic design**
- ARTDM 214 Introduction to Graphic Design ................ 3
- ARTDM 224 Typography........................................... 3

**metalsmithing**
- ART 145 Metalsmithing and Jewelry II ...................... 3
- ART 147 Metalsmithing and Jewelry III ..................... 3

**painting**
- ART 120 Watercolor I ........................................... 3
- ART 126 Oil/Acrylic Painting I ................................ 3
- ART 127 Oil/Acrylic Painting II ................................ 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................................. 3

**sculpture**
- ART 141 Sculpture I ............................................. 3
- ART 142 Metal Art I .............................................. 3

**total minimum required units** 24

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

**ART-105**  
Introduction to Drawing, Color, and Two Dimensional Design  
3 units SC  
- May be repeated once  
- 36 hours lecture/72 hours laboratory per term  
- Recommended: Eligibility for ENGL 116/118 or equivalent  
- Note: ART 105A and 105B combined are equal to ART 105  

Presentation of drawing concepts and techniques, perspective, as well as color theory fundamentals, with emphasis on design principles and composition. C-ID ARTS 100, CSU, UC

**ART-105A**  
Introduction to Drawing  
1.5 units SC  
- 18 hours lecture/36 hours laboratory per term  
- Recommended: Eligibility for ENGL 116/118 or equivalent  
- Note: ART 105A is equivalent to the first half of ART 105. ART 105A and 105B combined are equivalent to ART 105  
- Formerly ART 100  

Presentation of fundamentals of drawing and composition and the basic application thereof. CSU, UC

**ART-105B**  
Introduction to Color  
1.5 units SC  
- 18 hours lecture/36 hours laboratory per term  
- Recommended: Eligibility for ENGL 116/118 or equivalent  
- Note: ART 105B is equivalent to the second half of ART 105. ART 105A and 105B combined are equivalent to ART 105  
- Formerly ART 101  

Presentation of the fundamentals of color theory, color function, and color application. CSU, UC

**ART-106**  
Drawing and Composition  
3 units SC  
- May be repeated once  
- 36 hours lecture/72 hours laboratory per term  
- Recommended: ART 105 or equivalent; eligibility for ENGL 116/118 or equivalent  
- Note: ART 106 is equivalent to ART 106A and ART 106B combined  

An exploration of drawing concepts, descriptive drawing, and logical form rendering with an emphasis on stylistic development. Students will explore additional color media such as pastel and Prismacolor pencils. CSU, UC

**ART-106A**  
Drawing and Composition: Controlled  
1.5 units SC  
- 18 hours lecture/36 hours laboratory per term  
- Recommended: ART 105A or equivalent; eligibility for ENGL 116/118 or equivalent  
- Note: ART 106A is equivalent to the first half of ART 106. ART 106A and ART 106B combined are equivalent to ART 106.  

Techniques of drawing including descriptive drawing and creative composition through the employment of traditional drawing media with an emphasis on graphite, charcoal, and conte. CSU, UC
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
<th>SC</th>
<th>Lecture/Laboratory</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-106B</td>
<td>Drawing and Composition: Expressive</td>
<td>1.5</td>
<td>SC</td>
<td>18 hours/36 hours</td>
<td>ART 105A or equivalent, eligibility for ENGL 116/118 or equivalent</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Note: ART 106B is equivalent to the second half of ART 106. ART 106A and ART 106B combined are equivalent to ART 106.</td>
</tr>
<tr>
<td>ART-107</td>
<td>Figure Drawing I</td>
<td>3</td>
<td>SC</td>
<td>May be repeated</td>
<td>ART 105 or equivalent, eligibility for ENGL 116/118 or equivalent</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>36 hours/72 hours</td>
</tr>
<tr>
<td>ART-108</td>
<td>Figure Drawing II</td>
<td>3</td>
<td>SC</td>
<td>May be repeated</td>
<td>ART 105 or equivalent, ART 106 or equivalent, eligibility for ENGL 116/118 or equivalent</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>36 hours/72 hours</td>
</tr>
<tr>
<td>ART-109</td>
<td>Printmaking: Monotype</td>
<td>3</td>
<td>SC</td>
<td>May be repeated</td>
<td>ART 105 or equivalent, eligibility for ENGL 116/118 or equivalent</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>36 hours/72 hours</td>
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<tr>
<td>ART-110</td>
<td>Introduction to Printmaking</td>
<td>3</td>
<td>SC</td>
<td>May be repeated</td>
<td>ART 105 or equivalent, eligibility for ENGL 116/118 or equivalent</td>
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<td>36 hours/72 hours</td>
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<td>ART-111</td>
<td>Printmaking: Etching</td>
<td>3</td>
<td>SC</td>
<td>May be repeated</td>
<td>ART 105 or equivalent, eligibility for ENGL 116/118 or equivalent</td>
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<td>36 hours/72 hours</td>
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<tr>
<td>ART-112</td>
<td>Printmaking: Etching II</td>
<td>3</td>
<td>SC</td>
<td>May be repeated</td>
<td>ART 105 or equivalent, eligibility for ENGL 116/118 or equivalent</td>
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<td>ART-113</td>
<td>Printmaking: Woodblock</td>
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<td>SC</td>
<td>May be repeated</td>
<td>ART 105 or equivalent, eligibility for ENGL 116/118 or equivalent</td>
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<tr>
<td>ART-114</td>
<td>Printmaking: Stencil and Screen Print</td>
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<td>SC</td>
<td>May be repeated</td>
<td>ART 105 or equivalent, eligibility for ENGL 116/118 or equivalent</td>
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<td>ART-116</td>
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<td>SC</td>
<td>May be repeated</td>
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<tr>
<td>ART-120</td>
<td>Watercolor I</td>
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<td>SC</td>
<td>May be repeated</td>
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<td>36 hours/72 hours</td>
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</tbody>
</table>

Techniques of drawing, descriptive drawing, and creative composition through the employment of traditional drawing media. May explore additional color media, such as pastel and Prismacolor pencils. CSU, UC
ART-120A  Introduction to Watercolor
1.5 units SC
• 18 hours lecture/36 hours laboratory per term
• Recommended: Eligibility for ENGL 116/118 or equivalent
• Note: ART 120A is equivalent to the first half of ART 120.
  ART 120A and 120B combined are equivalent to ART 120.
• Formerly ART 102
Emphasis on the study of beginning techniques and materials of watercolor painting. CSU, UC

ART-120B  Watercolor Workshop
1.5 units SC
• 18 hours lecture/36 hours laboratory per term
• Recommended: ART 120A or equivalent; eligibility for ENGL 116/118 or equivalent
• Note: ART 120B is equivalent to the second half of ART 120; and ART 120A and 120B combined are equal to ART 120.
• Formerly ART 103
Emphasis on problem solving concept, development, and skill demonstration in watercolor. CSU, UC

ART-121  Watercolor II
3 units SC
• May be repeated once
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART 120 or equivalent; eligibility for ENGL 116/118 or equivalent
A continuation of watercolor skill development, with an emphasis on compositional components and painting concepts. CSU, UC

ART-125  Color Theory and its Application to 2-D Media
3 units SC
• May be repeated once
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART 105 or equivalent and ART 126 or equivalent; eligibility for ENGL 116/118 or equivalent
The study, practice, and analysis of color theory as it affects formal and conceptual elements in 2-D media. CSU, UC

ART-126A  Introduction to Oil/Acrylic Painting A
1.5 units SC
• 18 hours lecture/36 hours laboratory per term
• Recommended: ART 105 or equivalent; eligibility for ENGL 116/118 or equivalent
• Note: ART 126A is equivalent to the first half of ART 126. ART 126A and ART 126B combined are equivalent to ART 126.
Course designed for the student who has had no experience with oil/acrylic painting. The emphasis of the class is on basic painting techniques. Specific assignments are designed to enable students to achieve basic goals. CSU, UC

ART-126B  Introduction to Oil/Acrylic Painting B
1.5 units SC
• 18 hours lecture/36 hours laboratory per term
• Recommended: ART 105 or equivalent; ART 126A or equivalent; eligibility for ENGL 116/118 or equivalent
• Note: ART 126B is equivalent to the second half of ART 126. ART 126A and ART 126B combined are equivalent to ART 126.
This course presents painting as a means of communication and the practical study of established styles and techniques. Emphasis will be upon traditional materials and techniques including direct and indirect methods. CSU, UC

ART-127  Oil/Acrylic Painting II
3 units SC
• May be repeated three times
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART 105 or equivalent, ART 125, and ART 126 or equivalent; eligibility for ENGL 116/118 or equivalent
This course is an intermediate level painting class. This course provides students with painting projects designed to further enhance techniques, technical skills, and problem solving abilities. CSU, UC

ART-128  Symbols and Visions
3 units SC
• May be repeated once
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART 105 or equivalent, ART 125, ART 126 or equivalent, and ART 127 or equivalent; eligibility for ENGL 116/118 or equivalent
A course designed to develop the artist’s imagination. Presentations of ideas and themes of historic and contemporary painting concerns will be made, with emphasis on the conceptualization of imagery. CSU, UC
ART-129  Advanced Painting
3 units  SC
- 36 hours lecture/72 hours laboratory per term
- Recommended: ART 105, ART 125, ART 126, ART 127, and ART 128 or equivalents; 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. This course is designed to develop the artist's portfolio with a cohesive and thematic series of paintings. 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

A study of the skills, theories, and practices necessary to prepare works of art for public display and their practical application in the DVC Art Gallery. Matting, framing, exhibition design, conservation, advertising, and legal issues will be addressed. Students will develop professional skills needed to interact within art and related business environments. Off-campus professional internships may be possible upon completing this class. CSU

ART-140  Introduction to Sculpture and 3-D Design
3 units  SC
- May be repeated once
- 36 hours lecture/72 hours laboratory per term
- Recommended: Eligibility for ENGL 116/118 or equivalent

A hands-on introduction to the basic elements of three-dimensional design and sculpture. Students comprehend form, volume, and spatial relationships through hands on projects in a variety of media. Students also survey the history of 20th century sculpture as a basis for exploring and understanding three-dimensional design fundamentals. CSU, UC

ART-141  Sculpture I
3 units  SC
- May be repeated once
- 36 hours lecture/72 hours laboratory per term
- Recommended: ART 140 or equivalent

As a continuation of ART 140, this course consists of hands on projects that guide students through processes and principles of three dimensional design. Students develop a conceptual dialogue with the instructor, and create a portfolio of sculptural work. CSU, UC

ART-142  Metal Art I
3 units  SC
- May be repeated three times
- 36 hours lecture/72 hours laboratory per term
- Recommended: ART 140 or equivalent

This course is a comprehensive introduction to various metal sculpture processes. This course applies mold-making techniques for casting bronze, aluminum, and iron objects, as well as basic welded sculpture. Emphasis will be on 3-D design quality and process. CSU

ART-143  Metal Art II
3 units  SC
- May be repeated three times
- 36 hours lecture/72 hours laboratory per term
- Recommended: ART 140 or equivalent and ART 142 or equivalent

A continuation of various aspects of metal arts. Advanced techniques in metal casting of bronze, aluminum, and iron are explored, as well as the fabrication of steel sculpture using the forge and welding. Emphasis will be on advanced design and technique with research in the history of traditional and contemporary metal sculpture. CSU

ART-144  Metal Casting Techniques I
3 units  SC
- May be repeated once
- 36 hours lecture/72 hours laboratory per term
- Recommended: ART 140 or equivalent

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 140 or equivalent and ART 144 or equivalent

This course expands on foundry casting skills with emphasis on more complex casting problems. The casting process for aluminum, bronze, and iron will be thoroughly explored. Advanced mold-making techniques in resin-bonded sand molds, green sand, and burnout investment molds, and shell molds are covered. Emphasis added to sustainable studio practice and design concerns. CSU
ART-146  Metalsmithing and Jewelry I  
3 units  SC  
- May be repeated once  
- 36 hours lecture/72 hours laboratory per term  
- Recommended: ART 140 or equivalent  

This is a beginning course providing skills in basic jewelry and metalsmithing design and hands-on processes. The studio course work 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  
- May be repeated once  
- 36 hours lecture/72 hours laboratory per term  
- Recommended: ART 146 or equivalent  

This is an advanced metalsmithing/jewelry course with emphasis on hands-on processes. It provides further exploration of traditional and contemporary metalsmithing design and aesthetics. A variety of techniques such as advanced chainmaking, advanced stone setting, forming and raising, chasing, moldmaking, and casting are introduced. An emphasis is placed on individual design and conceptualization. CSU

ART-150  Topics in Studio Art  
3-4 units  SC  
- May be repeated three times  
- 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-152  Wheel-Thrown Ceramic Art  
3 units  SC  
- May be repeated once  
- 36 hours lecture/72 hours laboratory per term  
- Recommended: Eligibility for ENGL 116/118 or equivalent  

This course is an introduction to the creation of ceramic vessels on the potter's wheel and the development of critical thinking skills through the examination of ceramic art. Through the study of the art of various western and non-western 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 Ceramic Art II  
3 units  SC  
- May be repeated once  
- 36 hours lecture/72 hours laboratory per term  
- Recommended: ART 152 or equivalent; eligibility for ENGL 116/118 or equivalent  

This intermediate wheel throwing class is geared towards further developing the skill of students who already have the grasp of the techniques of making vessels on the potter's wheel. Through the examination of historical and contemporary ceramic genres and the development of technical skills, including glaze experimentation, students will construct complex, wheel-thrown forms. The fundamentals of three-dimensional design will be used to develop a personal aesthetic, and also to guide critique of finished forms. CSU, UC

ART-154  Hand-Built Ceramic Art  
3 units  SC  
- May be repeated two times  
- 36 hours lecture/72 hours laboratory per term  
- Recommended: Eligibility for ENGL 116/118 or equivalent  

Using functional objects as a starting point, students will learn traditional and contemporary hand-building techniques. Students will then explore the creative potential of these methods during the construction of ceramic vessels. CSU, UC

ART-155  The Art of Ceramic Sculpture  
3 units  SC  
- May be repeated once  
- 36 hours lecture/72 hours laboratory per term  
- Recommended: Eligibility for ENGL 116/118 or equivalent  

Students will examine various western and non-western cultures, learn the fundamentals of three-dimensional design and develop a vocabulary of aesthetic terms and theories for both critical discussion and creative application producing ceramic sculpture. CSU, UC

ART-156  Figurative Ceramic Art  
3 units  SC  
- May be repeated two times  
- 36 hours lecture/72 hours laboratory per term  
- Recommended: Eligibility for ENGL 116/118 or equivalent  

Students will explore the artistic potential of the human figure through the ceramic medium. Students will analyze a broad range of aesthetic styles and philosophies and synthesize a variety of construction and firing techniques relevant to their creative projects. CSU, UC
ART-160  Photography I
3 units  SC
• May be repeated once
• 36 hours lecture/72 hours laboratory per term
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: Students supply SLR camera, digital image capture device and flash drive.

An introductory photography class that offers students a working knowledge of the basics of traditional darkroom photography and digital photography including history, theory and practice. Students will explore the technical aspects of photography and the historical and contemporary role of photography in visual expression, including contributions from diverse cultures. Class critiques will be used to analyze and discuss photographic images as a form of personal expression and communication. CSU, UC

ART-161  Photography II
3 units  SC
• May be repeated once
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART 160 or equivalent
• Note: Students supply their own working roll-film camera with manual exposure controls and a lightmeter (either hand held or built into the camera), a digital image capture device, and a flash drive

An intermediate photography class that enhances students knowledge of materials and techniques used in traditional black and white and digital photography. The course will concentrate on the specific controls of image processing and the multiple characteristics of a variety of photographic materials. Beyond technique, emphasis will be placed on developing concept, editing, and aesthetic considerations relating to image presentation. CSU, UC (credit limits may apply to UC - see counselor)

ART-162  Photography III
3 units  SC
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART 161 or equivalent
• Note: Students supply their own working roll-film camera with manual exposure controls a lightmeter (either hand held or on camera), a digital image capture device, and a flash drive

This course offers students an opportunity to develop advanced skills using the materials and techniques of traditional and digital photography. Advanced 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-163  Documentary Photography
3 units  SC
• May be repeated three times
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART 160 or equivalent; eligibility for ENGL 116/118 or equivalent
• Note: Students supply cameras and flash drive

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. CSU

ART-250  Projects in Art
.3-4 units  SC
• May be repeated three times
• Variable hours

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

ART-265  Advanced Photography Workshop
3 units  SC
• May be repeated three times
• 18 hours lecture/90 hours laboratory per term
• Recommended: ART 160 or equivalent

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 define and develop an individual photographic project based on their aesthetic concerns. CSU

ART-298  Independent Study
.5-3 units  SC
• May be repeated three times
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.

An opportunity for advanced students to study special interests under the direction of the faculty. CSU

ART-299  Student Instructional Assistant
.5-3 units  SC
• May be repeated three times
• 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
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.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in arts degree
Art digital media

Certificates of achievement
Art digital media - Character animation
Art digital media - Digital audio
Art digital media - Digital imaging
Art digital media - Motion graphics
Art digital media - 3D Modeling and animation
Art digital media - Web design

Certificate of accomplishment
Art digital media - Foundation

Associate in arts degree - Art digital media
The art digital media associate in arts program prepares students for entry level employment in one of six specialty areas of the digital media industry: character animation, digital imaging, web design, motion graphics, 3D animation and digital audio. 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 other graduation requirements; however, the units are only counted once.

major requirements

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<th>Course Title</th>
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<tr>
<td>ART 105</td>
<td>Introduction to Drawing, Color, and Two Dimensional Design</td>
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<td>ARTDM 110</td>
<td>Digital Imaging Process and Technique I</td>
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<tr>
<td>ARTDM 111</td>
<td>Digital Imaging Process and Technique II</td>
<td>1.5</td>
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<td>ARTDM 130</td>
<td>Introduction to Digital Audio</td>
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<td>ARTDM 149</td>
<td>Fundamentals of Digital Video</td>
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<td>ARTDM 190</td>
<td>Digital Media Projects</td>
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<tr>
<td>ARTDM 191</td>
<td>Multimedia Portfolio Development</td>
<td>3</td>
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plus 8-9 units from one of the following six specialty areas:

character animation
ART 107 Figure Drawing I .................................. 3
ARTDM 165 Cartoon Drawing for Digital Animation .......... 3
ARTDM 170 Animation and Interactivity .................. 3

digital audio
MUSIC 172 Introduction to Electronic Music and MIDI ...... 3
MUSIC 173 Advanced Electronic Music ........................ 3
MUSIC 174 Introduction to Pro Tools ........................ 3

motion graphics
ARTDM 140 Motion Graphics .................................. 3
ARTDM 145 Digital Editing ................................... 3
ARTDM 170 Animation and Interactivity .................. 3

3D modeling and animation
ARTDM 160 3D Modeling and Animation I .................. 3
ARTDM 161 3D Modeling and Animation II ................ 3
ARTDM 165 Cartoon Drawing for Digital Animation ........ 3

web design
ARTDM 170 Animation and Interactivity .................. 3
ARTDM 171 Introduction to Web Design ................... 3
COMSC 195 WWW Publishing with HTML .................... 1
COMSC 196 Advanced WWW Publishing ..................... 1

plus at least 9 units from:

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<td>ARTDM 112</td>
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<tr>
<td>ARTDM 115</td>
<td>Digital Imaging Process and Technique III</td>
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<tr>
<td>ARTDM 117</td>
<td>Digital Illustration</td>
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<tr>
<td>ARTDM 136</td>
<td>Introduction to Digital Photography</td>
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<td>Motion Graphics</td>
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<td>3</td>
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<td>ARTDM 161</td>
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ART DIGITAL MEDIA

ARTDM 165 Cartoon Drawing for Digital Animation............. 3
ARTDM 166 Intermediate Cartoon Drawing for Digital Animation .................................................. 3
ARTDM 170 Animation and Interactivity .......................... 3
ARTDM 171 Introduction to Web Design .......................... 3
ARTDM 175 Flash Interactivity .................................. 3
ARTDM 214 Introduction to Graphic Design ....................... 3
ARTDM 224 Typography ........................................ 3
BUS 109 Introduction to Business ................................ 3
BUSMG 191 Small Business Management ........................ 3
COMSC 165 Advanced Programming with C and C++ ......... 4
COMSC 195 WWW Publishing with HTML ...................... 1
COMSC 196 Advanced WWW Publishing ......................... 1
COMSC 255 Programming with Java ............................ 4
MUSIC 172 Introduction to Electronic Music and MIDI ........ 3
MUSIC 173 Advanced Electronic Music .......................... 3
MUSIC 174 Introduction to Pro Tools .......................... 3
total minimum required units 33.5

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

Certificate of achievement -
Art digital media

The art digital media program prepares students for entry level employment in one of six specialty areas of the digital media industry: character animation, digital audio, digital imaging, motion graphics, 3D modeling and animation, and web design. This program of study will provide students with the design and technical skills needed for creating nonlinear 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 a certificate of achievement, students must complete each course used to meet a certificate requirement with a "C" grade or higher. Required courses are available in the evening and during the day.

required courses units
ART 105 Introduction to Drawing, Color, and Two Dimensional Design ............................................. 3
ARTDM 110 Digital Imaging Process and Technique I ........ 1.5
ARTDM 111 Digital Imaging Process and Technique II .......... 1.5
ARTDM 130 Introduction to Digital Audio ........................ 1.5
ARTDM 149 Fundamentals of Digital Video ..................... 3
ARTDM 190 Digital Media Projects .............................. 3
ARTDM 191 Multimedia Portfolio Development .................. 3

plus 8-9 units from one of the 6 specialty areas listed below*:

character animation

ART 107 Figure Drawing ...................................... 3
ARTDM 165 Cartoon Drawing for Digital Animation ........... 3
ARTDM 166 Intermediate Cartoon Drawing for Digital Animation .................................................. 3
ARTDM 170 Animation and Interactivity .......................... 3
digital audio

MUSIC 172 Introduction to Electronic Music and MIDI ....... 3
MUSIC 173 Advanced Electronic Music .......................... 3
MUSIC 174 Introduction to Pro Tools .......................... 3
digital imaging

ARTDM 112 Digital Imaging for the Artist ........................ 3
ARTDM 115 Digital Imaging Process and Technique III ........ 3
ARTDM 214 Introduction to Graphic Design ....................... 3
motion graphics

ARTDM 140 Motion Graphics ...................................... 3
ARTDM 145 Digital Editing ....................................... 3
ARTDM 170 Animation and Interactivity .......................... 3
3D modeling and animation

ARTDM 160 3D Modeling and Animation I ........................ 3
ARTDM 161 3D Modeling and Animation II ......................... 3
ARTDM 165 Cartoon Drawing for Digital Animation ........... 3
web design

ARTDM 170 Animation and Interactivity .......................... 3
ARTDM 171 Introduction to Web Design .......................... 3
COMSC 195 WWW Publishing with HTML ...................... 1
COMSC 196 Advanced WWW Publishing ......................... 1

plus at least 9 units from:

ART 106 Drawing and Composition .............................. 3
ART 107 Figure Drawing ...................................... 3
ART 126 Color Theory and its Application to 2-D Media .................. 3
ARTDM 112 Digital Imaging for the Artist ........................ 3
ARTDM 115 Digital Imaging Process and Technique III ........ 3
ARTDM 117 Digital Illustration .................................. 3
ARTDM 136 Introduction to Digital Photography .................. 3
ARTDM 140 Motion Graphics ...................................... 3
ARTDM 145 Digital Editing ....................................... 3
ARTDM 160 3D Modeling and Animation I ........................ 3
ARTDM 161 3D Modeling and Animation II ......................... 3
ARTDM 165 Cartoon Drawing for Digital Animation ........... 3
ARTDM 166 Intermediate Cartoon Drawing for Digital Animation .................................................. 3

plus 8-9 units from one of the 6 specialty areas listed below*:

total minimum required units 33.5

*Note: There may be no duplication of course units between major specialty area requirements and elective courses.
Certificate of accomplishment - Art digital media - Foundation

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.

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<td>ARTDM 160 3D Modeling and Animation I</td>
<td>3</td>
<td>SC</td>
</tr>
<tr>
<td>ARTDM 161 3D Modeling and Animation II</td>
<td>3</td>
<td>SC</td>
</tr>
<tr>
<td>ARTDM 170 Animation and Interactivity</td>
<td>3</td>
<td>SC</td>
</tr>
<tr>
<td>ARTDM 171 Introduction to Web Design</td>
<td>3</td>
<td>SC</td>
</tr>
<tr>
<td>ARTDM 214 Introduction to Graphic Design</td>
<td>3</td>
<td>SC</td>
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<td>COMSC 195 WWW Publishing with HTML</td>
<td>1</td>
<td>SC</td>
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<tr>
<td>COMSC 196 Advanced WWW Publishing</td>
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<td>MUSIC 172 Introduction to Electronic Music and MIDI</td>
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<td>SC</td>
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<tr>
<td>MUSIC 173 Advanced Electronic Music</td>
<td>3</td>
<td>SC</td>
</tr>
</tbody>
</table>

total minimum required units 16.5

ARTDM-110 Digital Imaging Process and Technique I

1.5 units SC

- 18 hours lecture/27 hours laboratory per term
- Note: Basic computer editing and file management skills. Credit by examination option available.

This course covers basic design concepts, processes, and aesthetic interpretation of making digital imagery. The course will provide students with experience creating computer graphics and with experience in editing digital images from scanned photographs and digital photography. CSU

ARTDM-111 Digital Imaging Process and Technique II

1.5 units SC

- May be repeated once
- 18 hours lecture/27 hours laboratory per term
- Recommended: ARTDM 110 or equivalent

This course builds on the introductory concepts of digital imaging and covers design concepts, processes, and aesthetic interpretation of making digital imagery. Students will learn advanced digital imaging techniques and will be further exposed to design and composition. CSU

ARTDM-112 Digital Imaging for the Artist

3 units SC

- May be repeated once
- 36 hours lecture/72 hours laboratory per term
- Recommended: ART 105 or equivalent; eligibility for ENGL 116/118 or equivalent
- Formerly ART 112

This is a course in digital imaging for the artist. This course is designed to develop a fine arts approach to computer-generated imaging. Students will utilize leading graphic arts software programs. An emphasis will be placed on the application and integration of color theory as well as design principles with digital imaging. CSU, UC

ARTDM-115 Digital Imaging Process and Technique III

3 units SC

- May be repeated once
- 36 hours lecture/54 hours laboratory per term
- Recommended: ARTDM 111 or equivalent

This intermediate digital imaging course builds on the foundation learned in ARTDM 111. The deeper and more complex topics of digital imaging will be covered. Students will explore digital imaging for interface design as well as the creation of graphics for print, web, video, motion graphics and interactive CD/DVD content. Design and content will be stressed. Topics will include advanced image compositing, advanced color correction, filters, vectors, and text. CSU

ARTDM-117 Digital Illustration

3 units SC

- May be repeated once
- 36 hours lecture/54 hours laboratory per term
- Recommended: ARTDM 111 or equivalent
- Note: Course may be repeated only when software is revised

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
ARTDM-130 Introduction to Digital Audio
1.5 units SC
- May be repeated once
- 18 hours lecture/27 hours laboratory per term
- Note: Basic computer editing and file management skills

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 CD-ROM, DVDs, 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
- May be repeated once
- 36 hours lecture/72 hours laboratory per term
- Recommended: ART 160 or equivalent
- Note: Students must have digital camera with manual functions

This introductory course focuses on the required skills 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-140 Motion Graphics
3 units SC
- May be repeated once
- 36 hours lecture/54 hours laboratory per term
- Recommended: ARTDM 110 or equivalent

This introductory course focuses on the creative design skills required to create effective motion graphics. Students will learn how to create motion graphics and output them utilizing digital video and various graphics file formats. The theory and production of animated 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 Affects. CSU

ARTDM-145 Digital Editing
3 units SC
- 36 hours lecture/54 hours laboratory per term
- Note: Same as FILM 165 and BCA 165

An introduction to the techniques, concepts and aesthetics of digital non-linear, computerized editing for film, television and digital media. The student will become familiar with various professional software programs and develop an understanding of organization, timelines and story as well as editing for visual and audio effect. CSU

ARTDM-149 Fundamentals of Digital Video
3 units SC
- May be repeated once
- 36 hours lecture/54 hours laboratory per term
- Note: Students should be proficient in basic computer editing and file management skills

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

ARTDM-150 Topics in Digital Media
.5-4 units SC
- May be repeated three times
- Variable hours

Supplementary topics to the digital media curriculum designed to provide a study of current concepts and problems in multimedia. Specific topics will be announced in the schedule of classes. CSU

ARTDM-160 3D Modeling and Animation I
3 units SC
- May be repeated once
- 36 hours lecture/54 hours laboratory per term
- Recommended: ARTDM 110 or equivalent

This course covers the basic concepts of 3D modeling and animation. The fundamentals of computer geometry are taught by looking at the basic elements that make computer models: Cartesian Space, points, curves, surfaces, nurbs, polygons and textures. Students will explore production of three-dimensional computer animation. Modeling, animation, lighting, texture mapping and rendering are introduced. Several hands-on 3D animation projects will be planned, storyboarded, designed, and then produced. CSU

ARTDM-161 3D Modeling and Animation II
3 units SC
- May be repeated once
- 36 hours lecture/54 hours laboratory per term
- Recommended: ARTDM 160 or equivalent

Building on the skills acquired in 3D Modeling and Animation I, this course will focus on the creation of short animated movies. Students will explore the principles that govern animation and learn techniques for implementing them in 3D. CSU
ARTDM-165 Cartoon Drawing for Digital Animation
3 units SC
• May be repeated once
• 36 hours lecture/54 hours laboratory per term
• Recommended: ART 105 or equivalent
• Note: Course may be repeated only when software is revised

This course will introduce students to the skills necessary to create character animations, script development and story board animations. Students will survey the history of animation and be exposed to the techniques of animated drawing. It is designed to prepare students to develop a particular style of animation in any of a wide variety of other digital media courses. This course is designed as a good companion to and/or preparation for ARTDM 170 and/or ARTDM 160. CSU

ARTDM-166 Intermediate Cartoon Drawing for Digital Animation
3 units SC
• May be repeated once
• 36 hours lecture/54 hours laboratory per term
• Recommended: ART 165 or equivalent

Students will be able to prepare a “story bible” that addresses fluidity of movement, multiple visual perspectives, and creating a unified cast of characters. Through a series of projects and experiments we will explore the above subjects and discover how to create an animator’s “story bible.” CSU

ARTDM-170 Animation and Interactivity
3 units SC
• May be repeated once
• 36 hours lecture/54 hours laboratory per term
• Recommended: ARTDM 110 or equivalent

This course will provide an introduction to animated web design which includes fundamentals of cell-based animation and the integration of sound and video elements. Design concepts that are unique to the World Wide Web's nonlinear, interactive features are emphasized. Publishing multimedia websites will also be covered. The course will also involve hands-on work with a variety of computer work stations and applications. CSU

ARTDM-175 Flash Interactivity
3 units SC
• May be repeated once
• 36 hours lecture/54 hours laboratory per term
• Recommended: ARTDM 170 or equivalent
• Note: Course may be repeated only when software is revised

This course will introduce students to the interactive possibilities of Macromedia Flash’s programming language. Action script. Basic programming principles will be covered to introduce students to the thought processes necessary to design interactive projects. This basic knowledge of programming will be adapted for use in developing interactive animated projects in Macromedia’s Flash authoring environment. CSU

ARTDM-171 Introduction to Web Design
3 units SC
• May be repeated once
• 36 hours lecture/54 hours laboratory per term
• Recommended: ARTDM 110 or equivalent

This introductory course focuses on the creative design skills required to create effective web page designs using XHTML, CSS and a variety of software packages. The basic principles of type, color, illustration and layout are explored. The students develop an understanding of the internet and the World Wide Web in a series of hands on exercises. CSU

ARTDM-190 Digital Media Projects
3 units SC
• 36 hours lecture/54 hours laboratory per term
• Recommended: ART 105, ARTDM 111, 130, 149 or equivalents

This advanced course is designed for students who are preparing for employment in the digital media industry. Students will work on special production-oriented projects in digital media including client-driven multimedia projects. Working independently and in teams, students will use the design, tool, and business skills they have developed in prior terms to create digital media projects. Students will involve themselves in the production process and create presentations combining a variety of digital media. CSU

ARTDM-191 Multimedia Portfolio Development
3 units SC
• May be repeated once
• 36 hours lecture/54 hours laboratory per term
• Recommended: ART 105, ARTDM 110, 111, 130, 149 or equivalents

This advanced course is designed for students who are preparing for employment in the multimedia industry. Students will explore multimedia career opportunities and the basic principles of professional portfolio preparation for digital media. Students will 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
• May be repeated three times
• 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 multimedia 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  
- **May be repeated once**  
- **36 hours lecture/54 hours laboratory per term**  
- **Recommended: Eligibility for ENGL 122 or equivalent**

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; integration of text and image. Students will survey the history of 20th century design as a basis for exploring and understanding graphic design fundamentals. CSU, UC

**ARTDM-224 Typography**
3 units SC  
- **May be repeated once**  
- **36 hours lecture/54 hours laboratory per term**  
- **Recommended: Eligibility for ENGL 122 or equivalent**

Fundamentals of typography including history, theory, and practice, study of letterforms and type design. Emphasis is on the vocabulary of typographic form and its relationship to message and purpose. CSU, UC

**ARTDM-299 Student Instructional Assistant**
.5-3 units SC  
- **May be repeated three times**  
- **Variable hours**  
- **Recommended: Eligibility for ENGL 116/118 or equivalent**

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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**ART HISTORY – ARTHS**

Applied and Fine Arts Division  
Michael Almaguer, Dean  
Business and Foreign Language Building 204  
925-685-1230, ext. 2312

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

**ARTHS-190 Topics in Art History**
.3-4 units SC  
- **May be repeated three times**  
- **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-193 History of Asian Art**
3 units SC  
- **54 hours lecture per term**  
- **Recommended: Eligibility for ENGL 116/118 or equivalent**

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, especially Western societies. CSU, UC

**ARTHS-195 History of Prehistoric and Ancient Art**
3 units SC  
- **54 hours lecture per term**  
- **Recommended: Eligibility for ENGL 116/118 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. CSU, UC
ARTHS-196 History of Medieval and Renaissance Art
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 116/118 or equivalent
A 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. CSU, UC

ARTHS-197 History of Baroque to Early 20th Century Art
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 116/118 or equivalent
A history of Western art from the 17th century to early 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
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
A survey of contemporary art in the United States and Europe from 1945 to the present. Recent global tendencies 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 produced during this time. CSU, UC

ARTHS-299 Student Instructional Assistant
.5-3 units SC
- May be repeated three times
- 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
Physical Sciences and Engineering Division
Physical Sciences Building

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
- 54 hours lecture per term
- Recommended: MATH 110 or equivalent; eligibility for ENGL 122 or equivalent
Fundamental concepts in astronomy and observational techniques including selected mathematical concepts used in developing an understanding of celestial motions and coordinate systems and their importance to humanity. The planetarium sky is a major learning tool. CSU, UC (credit limits may apply to UC - see counselor)

ASTRO-120 Elementary Astronomy
3 units LR
- 54 hours lecture per term
- Recommended: MATH 110 and MATH 114 and eligibility for ENGL 122 or equivalents
Elementary mathematical approach to the solving of problems relating to solar and stellar systems. Topics include instrumentation used for and the analysis of electromagnetic radiation. Properties and evolution of stars and galaxies as well as their role in the evolution of the universe will be the major emphasis. CSU, UC (credit limits may apply to UC - see counselor)

ASTRO-128 The Universe for Beginners
4 units LR
- 54 hours lecture/54 hours laboratory per term
- Recommended: MATH 110 or equivalent, and eligibility for ENGL 122 or equivalent
This course provides an overview of our current state of knowledge concerning the universe and the methods astronomers use to arrive at their conclusions. Students will observe the sky and physical phenomena and will solve astronomical problems to solidify their knowledge and skills. The internet will be used extensively. CSU, UC (credit limits may apply to UC - see counselor)
ASTRO-130 Astronomy Laboratory
1 unit LR
• 54 hours laboratory per term
• Prerequisite: ASTRO 110 or 120 or equivalent (may be taken concurrently)

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

ASTRO-298 Independent Study
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.

An opportunity for advanced students to pursue special interests under the direction of the faculty. CSU

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

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

BIOLOGICAL SCIENCE – BIOSC

Diablo Valley college is approved by the California Board of Registered Nurses for continuing education credits. Biological Science courses which can be used are BIOSC 119, 120, 139, 140 and 146.

BIOLOGICAL AND HEALTH SCIENCES DIVISION
Physical Sciences Building

Possible career opportunities
Completion of the biology program prepares students for advanced study; for 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.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in science degrees
Allied health
Biology
Life science
Natural science

Certificates of achievement
Allied health
Allied health fundamentals

Associate in science degree - Allied health
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, and nutrition (as stated in the courses learning objectives). These are common prerequisites for above mentioned 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 G.E.). 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 graduation requirements as listed in the catalog. Major requirements may be taken only on a “for grade” basis. Certain courses may satisfy both a major and other DVC graduation requirements; however, the units are only counted once.

### Associate in science degree - Life science

The associate in science degree with a major in life science is designed as a two-year program that offers a broad general education background and an introduction to the basic principles of biology and the supporting knowledge of 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 sciences and III: cellular and molecular biology.

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

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

```plaintext
Associate in science degree - Life science

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 further study in the life sciences.

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

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

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**major requirements**

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<td>BIOSC 139</td>
<td>Human Anatomy</td>
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<td>BIOSC 140</td>
<td>Human Physiology</td>
<td>5</td>
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<tr>
<td>NUTRI 160</td>
<td>Nutrition: Science and Applications</td>
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**plus at least 4 units from:**

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<th>units</th>
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<tbody>
<tr>
<td>BIOSC 119</td>
<td>Fundamentals of Microbiology</td>
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<tr>
<td>BIOSC 146</td>
<td>Principles of Microbiology</td>
<td>5</td>
</tr>
</tbody>
</table>

**total minimum required units** 21

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**Associate in science degree - 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 further study in the life sciences.

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

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

```plaintext
### major requirements

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<tr>
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<tbody>
<tr>
<td>BIOSC 130</td>
<td>Principles of Cellular and Molecular Biology</td>
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<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>
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</tr>
<tr>
<td>CHEM 121</td>
<td>General College Chemistry II</td>
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</table>

**total minimum required units** 20

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**Associate in science degree - Life science**

The associate in science degree with a major in life science is designed as a two-year program that offers a broad general education background and an introduction to the basic principles of biology and the supporting knowledge of 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 sciences and III: cellular and molecular biology.

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

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

**major requirements complete at least 4 units from:**

<table>
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<th>units</th>
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<tbody>
<tr>
<td>BIOSC 102</td>
<td>Fundamentals of Biological Science with Laboratory</td>
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</tr>
<tr>
<td>BIOSC 117</td>
<td>Human Biology with Laboratory</td>
<td>4</td>
</tr>
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</table>

**or both**

<table>
<thead>
<tr>
<th>course code</th>
<th>course name</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC 130</td>
<td>Principles of Cellular and Molecular Biology</td>
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<tr>
<td>BIOSC 131</td>
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<td>5</td>
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**complete at least 4 units from:**

<table>
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<tr>
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<th>units</th>
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</thead>
<tbody>
<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>
```
plus at least 12 units from the following areas of specialization; with a minimum of 3 units from each area.

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

### field studies
- BIOSC 126 Nature Study and Conservation ............................... 4
- BIOSC 131 Principles of Organismal Biology, Evolution and Ecology .................. 5
- BIOSC 161 Fundamentals of Marine Biology .......... 3
- BIOSC 162 Fundamentals of Marine Biology with Laboratory ................. 4
- BIOSC 170 Environmental Science ........................................... 3
- BIOSC 171 Environmental Science with Laboratory .......... 4
- BIOSC 205 Fundamentals of Plant Biology ........................................ 4
- HORT 148L California Native Plants Laboratory ............. 1
- OCEAN 101 Fundamentals of Oceanography ........... 3
- OCEAN 102 Fundamentals of Oceanography with Laboratory .......... 4

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

**total minimum required units** 20

### Associate in science degree - Natural science

The associate in science degree in letters and science with an area of emphasis in natural sciences 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 Breadth). 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 letters and science with an area of emphasis in natural sciences, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all graduation requirements as listed in the catalog. Certain courses may satisfy both a major and other graduation requirements; however the units are only counted once.

**Major requirements - Students will select 18 units total from courses in the biological sciences and physical sciences**

### Biological science

**minimum of 6 units required** (four of the six units must be from IGETC approved courses that include a laboratory)

- BIOSC 101 Fundamentals of Biological Science .......................... 3
- BIOSC 102 Fundamentals of Biological Science with Laboratory ........................................ 4
- BIOSC 107 Genetics and Evolution ......................................... 4
- BIOSC 116 Human Biology .................................................. 5
- BIOSC 117 Human Biology with Laboratory ......................... 4
- BIOSC 119 Fundamentals of Microbiology ........................................ 4
- BIOSC 120 Introduction to Human Anatomy and Physiology .................. 5
- BIOSC 126 Nature Study and Conservation ............................... 4
- BIOSC 130 Principles of Cellular and Molecular Biology ....... 5
- BIOSC 131 Principles of Organismal Biology, Evolution and Ecology .................. 5
- BIOSC 139 Human Anatomy .................................................. 5
- BIOSC 140 Human Physiology .................................................. 5
- BIOSC 146 Principles of Microbiology ........................................ 5
- BIOSC 161 Fundamentals of Marine Biology .............................. 3
- BIOSC 170 Environmental Science ........................................... 3
- BIOSC 171 Environmental Science with Laboratory .......... 4
- BIOSC 205 Fundamentals of Plant Biology ........................................ 4
- HORT 110 Introduction to Horticulture ........................................ 4
- HORT 148L California Native Plants Laboratory ............. 1
- NUTRI 160 Nutrition: Science and Applications .................. 3

### Physical science

**minimum 6 units required** (four of the six units must be from IGETC approved courses that include a laboratory)

- ASTRO 110 The Visible Universe ........................................... 3
- ASTRO 120 Elementary Astronomy .......................................... 3
- ASTRO 128 The Universe for Beginners ....................................... 4
- ASTRO 130 Astronomy Laboratory ........................................... 1
- ASTRO 298 Independent Study ............................................. 0.5-3
- CHEM 106 Chemistry for Non-Science Majors ............................... 4
- CHEM 108 Introductory Chemistry ........................................... 4
- CHEM 109 Introduction to Organic and Biochemistry ............. 4
- CHEM 120 General College Chemistry I ........................................ 4
- CHEM 121 General College Chemistry II ........................................ 5
- CHEM 226 Organic Chemistry I ........................................... 5
- CHEM 227 Organic Chemistry II ........................................... 5
- CHEM 298 Independent Study ............................................. 0.5-3
- GEOG 120 Physical Geography ............................................. 3
- GEOG 121 Physical Geography Laboratory ........................................ 1
- GEOG 125 Introduction to Geographic Information Systems (GIS) ............. 3
<table>
<thead>
<tr>
<th>Program and Course Descriptions</th>
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<tbody>
<tr>
<td>GEOG 126 Advanced Geographic Information Systems</td>
</tr>
<tr>
<td>GEOG 127 Introduction to Global Positioning Systems</td>
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<tr>
<td>GEOG 128 Advanced Global Positioning Systems</td>
</tr>
<tr>
<td>GEOG 140 Introduction to Weather</td>
</tr>
<tr>
<td>GEOG 141 Introduction to Weather Laboratory</td>
</tr>
<tr>
<td>GEOG 160 Introduction to Remote Sensing</td>
</tr>
<tr>
<td>GEOG 162 Maps and Cartography</td>
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<tr>
<td>GEOG 298 Independent Study</td>
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<tr>
<td>GEOL 120 Physical Geology</td>
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<tr>
<td>GEOL 121 Earth and Life Through Time</td>
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<tr>
<td>GEOL 122 Physical Geology Laboratory</td>
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<tr>
<td>GEOL 124 Earth and Life Through Time Laboratory</td>
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<tr>
<td>GEOL 125 Geology of California</td>
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<tr>
<td>GEOL 298 Independent Study</td>
</tr>
<tr>
<td>OCEAN 101 Fundamentals of Oceanography</td>
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<tr>
<td>OCEAN 102 Fundamentals of Oceanography with Laboratory</td>
</tr>
<tr>
<td>PHYS 110 Elementary Physics</td>
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<tr>
<td>PHYS 111 Physics Laboratory</td>
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<tr>
<td>PHYS 113 Elementary Modern Physics: From Atoms to the Big Bang</td>
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<td>PHYS 120 General College Physics I</td>
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<tr>
<td>PHYS 121 General College Physics II</td>
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<tr>
<td>PHYS 124 Calculus Supplement for PHYS 120</td>
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<tr>
<td>PHYS 125 Calculus Supplement for PHYS 121</td>
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<tr>
<td>PHYS 129 Introductory Physics for Engineers</td>
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<td>PHYS 130 Physics for Engineers and Scientists A: Mechanics and Wave Motion</td>
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<tr>
<td>PHYS 230 Physics for Engineers and Scientists B: Heat and Electro-Magnetism</td>
</tr>
<tr>
<td>PHYS 231 Physics for Engineers and Scientists C: Optics and Modern Physics</td>
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<tr>
<td>PHYS 112 Fundamentals of Physical Science</td>
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<tr>
<td>PHYS 298 Independent Study</td>
</tr>
</tbody>
</table>

**Total minimum units for the major** 18

**Certificate of achievement - Allied health fundamentals**

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

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

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

**Required courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>BIOSC 119 Fundamentals of Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC 146 Principles of Microbiology</td>
<td>5</td>
</tr>
</tbody>
</table>

**Total minimum required units** 21

**Certificate of achievement - Allied health**

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

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

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

**Required courses**

<table>
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<tbody>
<tr>
<td>BIOSC 120 Introduction to Human Anatomy and Physiology</td>
<td>5</td>
</tr>
</tbody>
</table>

**Total minimum required units** 12

**BIOSC-101 Fundamentals of Biological Science**

3 units **SC**

- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
- Note: This course does not include a laboratory.

Students requiring or wanting a laboratory to accompany this course should enroll in BIOSC 102.

A selection of biological concepts which are relevant to the student and to other college courses. Inquiry into the process of evolution by means of natural selection, cell structure and function, plant and animal growth and development, reproduction, genetics and homeostasis within and among living things, populations and communities. CSU, UC (credit limits may apply to UC - see counselor)
BIOSC-102  Fundamentals of Biological Science with Laboratory
4 units  SC
- 72 hours lecture/36 hours laboratory per term
- Recommended: Eligibility for ENGL 122 or equivalent
- Note: Not open to students who have taken BIOSC 101

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

BIOSC-107  Genetics and Evolution
4 units  SC
- 72 hours lecture/36 hours laboratory per term
- Recommended: Eligibility for ENGL 122 or equivalent

This course includes a study of various aspects of genetics and evolution. Topics may include cellular reproduction, Mendelian Genetics, DNA structure and function, protein syntheses, 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. A 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
- 54 hours lecture
- Recommended: Eligibility for ENGL 122 or equivalent
- Note: Not open to students who have taken BIOSC 117, 120, 139, or 140

The broad concepts and principles of biology as applied to humans. Topics include human evolution, ecology, human genetics, DNA structure and function, disease factors, nutrition and metabolism, growth and development and a survey of body systems. CSU, UC (credit limits may apply to UC - see counselor)

BIOSC-117  Human Biology with Laboratory
4 units  SC
- 72 hours lecture/36 hours laboratory per term
- Recommended: Eligibility for ENGL 122 or equivalent
- Note: Not open to students who have taken BIOSC 116, 120, 139, or 140

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
- Prerequisite: 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

Fundamentals of microbiology with an emphasis on microbiology as it pertains to the allied health professions. Topics include: microscopy, cell structure and function, aseptic technique, culture and control of microbes, metabolism, microbial genetics and biotechnology, medical microbiology and immunology, 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
- 90 hours lecture/72 hours laboratory per term
- Recommended: High school or college biology or chemistry and eligibility for ENGL 122 or equivalents

The structure and function of the human body stressing the levels of organization within the body, relationship between structure and function, and 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) reinforces the lecture material. CSU, UC (credit limits may apply to UC - see counselor)

BIOSC-126  Nature Study and Conservation
4 units  SC
- 72 hours lecture/36 hours laboratory per term
- Recommended: Eligibility for ENGL 122 or equivalent

This non-majors biology course surveys the natural history of ecological communities in Northern California. Conservation of our natural resources is stressed. Frequent guided field laboratories emphasize identification methods for native plants and animals; the ecology of the local communities; evolutionary adaptations and the influences of geological and meteorological phenomena on those communities. CSU, UC
BIOSC-130  Principles of Cellular and Molecular Biology
5 units  SC
• 90 hours lecture/72 hours laboratory per term
• Prerequisite: CHEM 120 or equivalent
• Recommended: BIOSC 101 or BIOSC 102 and eligibility for ENGL 122 or equivalents
• Note: It is strongly recommended to take BIOSC 130 before BIOSC 131. BIOSC 130 requires strong written and oral English language skills.

This course is intended for biology majors or other students with an in-depth interest in the biological sciences. The course studies the universal biological processes of all organismal life with an emphasis upon the cellular level of organization. Topics include principles of biochemistry, cellular morphology and ultrastructure, biochemical pathways and enzymes, cellular communication, classical and molecular genetics, gene control, embryology, immunology, and selected topics of animal physiology with emphasis on homeostatic control mechanisms. The laboratory component focuses on methodologies necessary for analyzing molecular, cellular and genetical problems like microscopy, spectrophotometry, graphing and statistical analysis, as well as recombinant DNA technologies. As part of the laboratory component students will design, execute and present in written and oral format an experimental research project. All aspects of the project will follow the format of a standard scientific investigation which includes the research, evaluation and appropriate incorporation of information already published in primary sources. CSU, UC

BIOSC-131  Principles of Organismal Biology, Evolution and Ecology
5 units  SC
• 90 hours lecture/72 hours laboratory per term
• Prerequisite: CHEM 120 or equivalent
• Recommended: BIOSC 130 and eligibility for ENGL 122 or equivalents
• Note: It is strongly recommended to take BIOSC 130 before BIOSC 131. BIOSC 131 requires strong written and oral English language skills.

This course is intended for biology majors or other students with an in-depth interest in the biological sciences. The course focuses on universal biological processes with emphasis on the whole organism and higher levels of organization. The course is formed around three main biological principles: evolution, unity/diversity of life, and ecology. Topics include: evidence and mechanisms of evolution and speciation; evolutionary history and diversity of life; general, population and community ecology; ecosystems and environmental concerns; plant physiology. The laboratory covers similar themes with hands-on observations, dissections, laboratory activities and field exercises. CSU, UC

BIOSC-139  Human Anatomy
5 units  SC
• 90 hours lecture/72 hours laboratory per term
• Recommended: BIOSC 102 and eligibility for ENGL 122 or equivalents

The physical structure of the human body as an integrated unit is studied stressing normal structure and the changes that occur with aging and disease. The course content is appropriate for majors in physical and health education; nursing; physical, occupational and respiratory therapy; paramedical; nurse practitioner and physician assistant programs. 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. CSU, UC (credit limits may apply to UC - see counselor)

BIOSC-140  Human Physiology
5 units  SC
• 90 hours lecture/72 hours laboratory per term
• Prerequisite: BIOSC 120 or BIOSC 139 and CHEM 108 or one year high school chemistry or CHEM 109 or CHEM 120 or equivalents
• Recommended: BIOSC 102; eligibility for ENGL 122; MATH 120 or equivalents

The lectures are designed to help students understand the physiological mechanisms of the human body. Special emphasis will be given to regulatory mechanism on the cell and organ-system level employing chemical, mathematical and physical principles. The laboratory section will focus on the application, analysis and evaluation of major physiological principles using molecular technologies, bioelectronics, computer analysis, and/or live organisms. CSU, UC (credit limits may apply to UC - see counselor)

BIOSC-146  Principles of Microbiology
5 units  SC
• 90 hours lecture/72 hours laboratory per term
• Prerequisite: CHEM 108 or CHEM 109 or CHEM 120 or equivalent
• Recommended: Eligibility for ENGL 122 and MATH 120 or equivalents

Topics include microscopy, culture of microbes and aseptic technique, control and identification of microbes, bacterial biochemistry, metabolism and physiology, cell structure and function, microbial genetics, recombinant DNA and biotechnology, viruses and their life cycles, immunology, epidemiology and study of select infectious diseases. CSU, UC (credit limits may apply to UC - see counselor)

BIOSC-150  Topics in Biology
3-4 units  SC
• May be repeated three times
• 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. CSU
BIOSC-161  Fundamentals of Marine Biology
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: This course does not include a laboratory. Students requiring or wanting a laboratory to accompany this course should enroll in BIOSC 162. This course may include field trips outside of regularly scheduled class time. Not open to students who have taken Fundamentals of Marine Biology with Laboratory, BIOSC 162.

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. Lecture topics will include: the scientific method and its utilization in the marine sciences; properties of the marine environment; marine organisms (including their diversity and evolutionary adaptations; marine ecosystems with a focus on local estuarine and coastal environments; marine ecology.) and the sustainable use of marine biological resources. CSU, UC

BIOSC-162  Fundamentals of Marine Biology with Laboratory
4 units  SC
• 72 hours lecture/36 hours laboratory per term
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: Students who have taken Fundamentals of Marine Biology (BIOSC 161) will not receive credit for Fundamentals of Marine Biology with Laboratory (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

BIOSC-170  Environmental Science
3 units  SC
• 54 hours lecture per term
• Recommended: BIOSC 101 or 102; eligibility for ENGL 122 or equivalent
• Note: Class trips may be organized to local sites related to course topics

An introductory course designed to expose students to environmental science. This course will examine human interactions with the environment and their consequences for living and nonliving systems. Topics may include but are not limited to 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
• 72 hours lecture/36 hours laboratory per term
• Recommended: BIOSC 101 or BIOSC 102 or equivalents; eligibility for ENGL 122 or equivalent
• Note: Class trips may be organized to local sites related to course topics

An introductory course designed to expose students to environmental science with a laboratory. The lecture component will examine human interactions with the environment and their consequences for living and nonliving systems. Topics may include but are not limited to 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 be in conjunction with the lecture. It will introduce the scientific method, including experimental design, sampling methods, data gathering and analysis. Laboratory and field techniques will be used to study concepts such as natural selection, climate change, biodiversity, and air and water pollution and its effects on organisms. Some laboratories may involve field trips to different ecosystems where various field collection techniques will be used to study ecological concepts. Emphasis will be placed on proper 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-205  Fundamentals of Plant Biology
4 units  SC
• 72 hours lecture/36 hours laboratory per term
• Recommended: Eligibility for ENGL 122 or equivalent

This non-majors biology course is an introduction to the science of biology by studying fundamental biological concepts with emphasis on plants. Topics studied include plant cell structure and function, metabolism, genetics, evolution, plant physiology, plant reproduction, plant diversity, and ecology. Economic uses of plants and some aspects of plant biotechnology are also studied. CSU, UC

BIOSC-299  Student Instructional Assistant
.5-3 units  SC
• May be repeated three times
• 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
BROADCAST COMMUNICATION ARTS – BCA

Applied and Fine Arts Division
Michael Almaguer, Dean
Business and Foreign Language Building 204
925-685-1230, ext. 2312

Possible career opportunities
Students majoring in BCA 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.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in arts degree
Broadcast communication arts

Certificate of achievement
Broadcast communication arts

Certificates of accomplishment
Broadcast communication arts -
Basic digital field production
Broadcast communication arts -
Basic studio production
Broadcast communication arts -
Basic writing for digital medium

Associate in arts degree - Broadcast communication arts
The associate degree program in broadcast communication arts is designed as a two year curricular pathway that offers a broad general education while preparing students for entry-level positions in the broadcast communication industries 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 other graduation requirements; however, the units are only counted once. Selected courses in the program may also meet some lower division requirements for bachelor of arts programs at certain California State University campuses. Students who intend to transfer are advised to consult with a counselor regarding specific requirements.

major requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>units</th>
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<tbody>
<tr>
<td>ARTDM 110</td>
<td>Digital Imaging Process and Technique I</td>
<td>1.5</td>
</tr>
<tr>
<td>BCA 120</td>
<td>Introduction to TV Studio Production</td>
<td>3</td>
</tr>
<tr>
<td>BCA 125</td>
<td>Introduction to Digital Film Style Production</td>
<td>3</td>
</tr>
<tr>
<td>BCA 130</td>
<td>Intermediate TV Studio Production</td>
<td>3</td>
</tr>
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<td>BCA 140</td>
<td>History of Broadcasting</td>
<td>3</td>
</tr>
<tr>
<td>BCA 165</td>
<td>Digital Editing</td>
<td>3</td>
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plus at least 3 units from:

<table>
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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>units</th>
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<tbody>
<tr>
<td>BCA 290</td>
<td>Beginning Writing for Digital Media</td>
<td>3</td>
</tr>
<tr>
<td>JRNAL 110</td>
<td>Mass Media of Communication</td>
<td>3</td>
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plus at least 3 units from:

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<tr>
<th>Course Code</th>
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</thead>
<tbody>
<tr>
<td>BCA 110</td>
<td>Introduction to Radio Production</td>
<td>3</td>
</tr>
<tr>
<td>BCA 126</td>
<td>Intermediate Digital Field Production</td>
<td>3</td>
</tr>
<tr>
<td>BCA 132</td>
<td>Advanced TV Studio Production</td>
<td>3</td>
</tr>
<tr>
<td>BCA 150</td>
<td>Music Video Production</td>
<td>3</td>
</tr>
<tr>
<td>BCA 166</td>
<td>Intermediate Digital Editing</td>
<td>3</td>
</tr>
<tr>
<td>BCA 190</td>
<td>Topics in Broadcast Communication Arts</td>
<td>3</td>
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<tbody>
<tr>
<td>ARTDM 150</td>
<td>Digital Imaging Process and Technique II</td>
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<td>ARTMD 149</td>
<td>Fundamentals of Digital Video</td>
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<td>ARTDM 170</td>
<td>Animation and Interactivity</td>
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<td>BCA 126</td>
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<td>BCA 132</td>
<td>Advanced TV Studio Production</td>
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<td>Intermediate Digital Editing</td>
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<tr>
<td>BCA 190</td>
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<td>ARTDM 115</td>
<td>Digital Imaging Process and Technique III</td>
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<td>ARTDM 149</td>
<td>Fundamentals of Digital Video</td>
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</tr>
<tr>
<td>ARTDM 170</td>
<td>Animation and Interactivity</td>
<td>3</td>
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<tr>
<td>BCA 126</td>
<td>Intermediate Digital Field Production</td>
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<tr>
<td>BCA 132</td>
<td>Advanced TV Studio Production</td>
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<tr>
<td>BCA 166</td>
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<td>3</td>
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<tr>
<td>BCA 190</td>
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<tbody>
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<td>American Ethnic Images in Television</td>
<td>3</td>
</tr>
<tr>
<td>BCA 298</td>
<td>Independent Study</td>
<td>0.5</td>
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<tr>
<td>BUSMG 191</td>
<td>Small Business Management</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 192</td>
<td>Entrepreneurship and Venture</td>
<td>3</td>
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</tbody>
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</tbody>
</table>
## Certificate of achievement - Broadcast communication arts

This program prepares students for entry-level positions in the broadcast communication industries such as: associate producer, assistant director, on-camera talent, camera operator, sound technician, video switcher, floor director, videotape editor, production assistant, radio board operator, radio producer, radio production engineer, and radio on-air talent.

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

To earn a certificate of achievement, students must complete each of the required courses with a “C” grade or higher. Required courses can only be completed by attending a combination of day and evening classes.

### Required courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>ARTDM 110</td>
<td>Digital Imaging Process and Technique I</td>
<td>1.5</td>
</tr>
<tr>
<td>BCA 120</td>
<td>Introduction to TV Studio Production</td>
<td>3</td>
</tr>
<tr>
<td>BCA 125</td>
<td>Introduction to Digital Film Style Production</td>
<td>3</td>
</tr>
<tr>
<td>BCA 130</td>
<td>Intermediate TV Studio Production</td>
<td>3</td>
</tr>
<tr>
<td>BCA 140</td>
<td>History of Broadcasting</td>
<td>3</td>
</tr>
<tr>
<td>BCA 165</td>
<td>Digital Editing</td>
<td>3</td>
</tr>
<tr>
<td>BCA 290</td>
<td>Beginning Writing for Digital Media</td>
<td>3</td>
</tr>
<tr>
<td>JRNAL 110</td>
<td>Mass Media of Communication</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
<td></td>
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<tr>
<td>BCA 110</td>
<td>Introduction to Radio Production</td>
<td>3</td>
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<td>BCA 126</td>
<td>Intermediate Digital Field Production</td>
<td>3</td>
</tr>
<tr>
<td>BCA 132</td>
<td>Advanced TV Studio Production</td>
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</tr>
<tr>
<td>BCA 150</td>
<td>Music Video Production</td>
<td>3</td>
</tr>
<tr>
<td>BCA 166</td>
<td>Intermediate Digital Editing</td>
<td>3</td>
</tr>
<tr>
<td>BCA 190</td>
<td>Topics in Broadcast Communication Arts</td>
<td>3</td>
</tr>
<tr>
<td>FILM 293</td>
<td>Fundamentals of Film Making - Intermediate</td>
<td>3</td>
</tr>
</tbody>
</table>

### Total minimum required units: 31.5

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

## Certificate of accomplishment - Broadcast communication arts - Basic digital field production

The broadcast communication arts program prepares students for entry level in one of four specialty areas of broadcasting industry; 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

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<tr>
<th>Course Code</th>
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</tr>
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<tbody>
<tr>
<td>BCA 125</td>
<td>Introduction to Digital Film Style Production</td>
<td>3</td>
</tr>
<tr>
<td>BCA 126</td>
<td>Intermediate Digital Field Production</td>
<td>3</td>
</tr>
<tr>
<td>BCA 140</td>
<td>History of Broadcasting</td>
<td>3</td>
</tr>
<tr>
<td>BCA 165</td>
<td>Digital Editing</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARTDM 115</td>
<td>Digital Imaging Process and Technique II</td>
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<tr>
<td>ARTDM 149</td>
<td>Fundamentals of Digital Video</td>
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<td>BCA 190</td>
<td>Topics in Broadcast Communication Arts</td>
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<tr>
<td>BUSMG 191</td>
<td>Small Business Management</td>
<td>3</td>
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<tr>
<td>BUSMG 192</td>
<td>Entrepreneurship and Venture Management</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 193</td>
<td>Digital Imaging Process and Technique II</td>
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<tr>
<td>PLUS 193</td>
<td>Digital Imaging Process and Technique II</td>
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<tr>
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</tbody>
</table>

*Note: There may be no duplication of course units between major requirements and elective courses.
Certificate of accomplishment - Broadcast communication arts - Basic studio production
The broadcast communication arts program prepares students for entry level in one of four specialty areas of broadcasting industry: 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
BCA 120 Introduction to TV Studio Production .................................. 3
BCA 130 Intermediate TV Studio Production ........................................ 3
BCA 132 Advanced TV Studio Production ........................................... 3
BCA 140 History of Broadcasting ....................................................... 3

plus at least 3 units from:
ARTDM 110 Digital Imaging Process and Technique I ..................... 1.5
ARTDM 111 Digital Imaging Process and Technique II ..................... 1.5
ARTDM 195 Applied Production for Digital Media ......................... 3
BCA 190 Topics in Broadcast Communication Arts .......................... 0.3-4
BCA 260 American Ethnic Images in Television ............................. 3
BCA 298 Independent Study ............................................................ 0.5-3
COOP 170 Occupational Work Experience Education .................. 1-4

total minimum required units 15

Certificate of accomplishment - Broadcast communication arts - Basic writing for digital medium
The broadcast communication arts program prepares students for entry level in one of four specialty areas of broadcasting industry: 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
BCA 140 History of Broadcasting ....................................................... 3
BCA 290 Beginning Writing for Digital Media ................................... 3
FILM 291 Film and TV Scriptwriting-Intermediate ......................... 3
FILM 294 Film and TV Scriptwriting-Advanced ............................... 3

plus at least 3 units from:
BCA 190 Topics in Broadcast Communication Arts .......................... 0.3-4
BCA 260 American Ethnic Images in Television ............................. 3
BCA 298 Independent Study ............................................................ 0.5-3
COOP 170 Occupational Work Experience Education .................. 1-4
ENGL 151 The Short Story .............................................................. 3
JRNAL 110 Mass Media of Communication .................................... 3
SPCH 148 Performance of Literature ............................................... 3

total minimum required units 15

BROADCAST COMMUNICATION ARTS
BCA-130  Intermediate TV Studio Production
3 units  SC
• 36 hours lecture/54 hours laboratory per term
• Prerequisite: BCA 120 or equivalent
• Recommended: Eligibility for ENGL 122 or equivalent
An intermediate class designed to advance the student’s skills in producing and directing TV programs and operating television equipment in a high definition, digital video environment. The emphasis will be on producing and directing programs for cable casting. Designed to prepare students for positions in broadcast and cable TV as well as industrial television production facilities. CSU

BCA-132  Advanced TV Studio Production
3 units  SC
• 36 hours lecture/54 hours laboratory per term
• Prerequisite: BCA 130 or equivalent; eligibility for ENGL 122 or equivalent
An advanced class designed to increase the student’s skills in producing and directing TV programs and operating television equipment in a high definition, digital video environment. The emphasis will be on producing and directing programs for cable casting. Designed to prepare students for positions in broadcast and cable TV as well as industrial television production facilities. CSU

BCA-140  History of Broadcasting
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This is a survey course designed to provide the student with a fundamental knowledge of the history, trends, and the impact of electronic media on American society. Topic areas include: the role of government, radio and television regulation, cultural influences of media, advertising, commercial and noncommercial broadcasting, domestic and global audiences, emerging technologies, the Internet, and future uses of broadcast media. CSU, UC

BCA-150  Music Video Production
3 units  SC
• 54 hours lecture per term
• Recommended: BCA 165 or equivalent, eligibility for ENGL 122 or equivalent
In this course, students will learn to produce music videos. Students will start with an audio master then, utilizing single or multi-camera production methodologies, produce a music video. Concept, design and implementation will be significant elements of the course content. CSU

BCA-165  Digital Editing
3 units  SC
• 36 hours lecture/54 hours laboratory per term
• Note: Same as FILM 165 and ARTDM 145
An introduction to the techniques, concepts and aesthetics of digital non-linear, computerized editing for film, television and digital media. The student will become familiar with various professional software programs and develop an understanding of organization, timelines and story as well as editing for visual and audio effect. CSU

BCA-166  Intermediate Digital Editing
3 units  SC
• Prerequisite: BCA 165 or equivalent
• Recommended: Eligibility for ENGL 122 or equivalent
An intermediate class designed to advance the students’ skills in non-linear digital editing. The emphasis will be on utilizing software applications such as Avid and Final Cut Pro. CSU

BCA-180  Television and Film Lighting
3 units  SC
• May be repeated once
• 36 hours lecture/54 hours laboratory per term
An introduction to television and film lighting for studio and location productions. Students will learn to use a wide variety of lighting instruments and how to light typical situations, to solve common lighting problems, to use light meters and to make aesthetic choices part of the storytelling process. CSU

BCA-190  Topics in Broadcast Communication Arts
.3-.4 units  SC
• May be repeated three times
• Variable hours
A supplemental course in broadcast communication arts to provide a study of current concepts and problems in broadcast communication arts. Specific topics will be announced in the schedule of classes. CSU

BCA-260  American Ethnic Images in Television
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course will evaluate and explore various American cultures: African American, American Indian, Asian American, Hispanic, and European American as represented in American Television. It will analyze similarities and differences paying particular attention to social and cultural representations. In addition, the course will include issues specific to the world of broadcasting television including how television communicates ideas and stimulates emotional responses, while FCC regulations and marketing practices limit what can be broadcast. CSU
BCA-290  Beginning Writing for Digital Media
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
Students in this course will learn to write for multimedia and short-form digital formats such as news, product introductions, sports and reality programming. The emphasis would be on scripts no longer than five minutes in length that rely on field production images, animation or combinations. Numerous writing assignments and exercises will be assigned with the intent of developing a student’s ability to write for a short-form visual medium. The course will include libel and slander laws and emphasize proper format as well as content. CSU

BCA-298  Independent Study
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.
An opportunity for advanced students to study special interests under the direction of the faculty. CSU

BCA-299  Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• 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

Business Division
Rachel Westlake, Dean
Math Building 267
925-685-1230, ext. 2199

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in arts degree
Business - transfer

Associate in science degree
Business
Specializations:
• Advanced general business
• Business marketing
• Management and leadership studies
• Real estate
• Small business management/entrepreneurship
• Wealth management

Certificates of achievement
Advanced general business
Business - transfer
Business marketing
General business
Management and leadership studies
Real estate
Small business management/entrepreneurship
Wealth management

Certificate of accomplishment
Business essentials

Associate in arts degree - Business - transfer
This curriculum is designed to provide an opportunity for the business major to achieve an associate in arts degree in business-transfer while completing the first and second year requirements for transfer to a four-year institution. 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. Although the associate degree recognizes the completion of lower division general education requirements, it does not guarantee admission to a specific college or university nor does it guarantee admission to a specific major. Some majors and colleges or universities may require different lower division preparation and/or a higher GPA than is necessary for this associate degree.

Students who intend to transfer must meet all current transfer requirements including minimum GPA. 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.

Note: a student may be awarded an associate degree in this major without being fully eligible for transfer.
To earn an associate degree, students must: complete each course used to meet a major requirement with a "C" grade or higher; complete all graduation requirements; and complete at least 25 percent of all major coursework at Diablo Valley College. Certain courses may satisfy both major and other graduation requirements; however, the units are only counted once. All coursework required for the degree must be completed within seven years of the degree date.

**major requirements**

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<tbody>
<tr>
<td>BUSAC 186 Financial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUSAC 187* Managerial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>ECON 220* Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 221* Principles of Microeconomics</td>
<td>3</td>
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**plus at least 3 units from:**

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>MATH 182* Calculus for Management, Life Science and Social Science I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 192* Analytic Geometry and Calculus I</td>
<td>4</td>
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**plus at least 3 units from:**

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<tbody>
<tr>
<td>BUS 240* Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 142* Elementary Statistics with Probability</td>
<td>4</td>
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**plus at least 3 units from:**

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<tbody>
<tr>
<td>BUS 109 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 294 Business Law</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units** 23

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

## Associate in science degree - Business

This curriculum is designed to provide an opportunity for business students to achieve an associate in science degree in general business after completing a series of foundational and more advanced courses that focus on a specific area of business, through completing coursework in an area of specialization such as general business, management and leadership, marketing, wealth management, small business/entrepreneurship, or real estate. Completion of this curriculum will demonstrate commitment to the field and provide comprehensive preparation for employment in business-related occupations. This degree is not designed for transfer students.

To earn an associate degree with a major in business with an area of specialization, students must complete each course used to meet a major requirement with a "C" grade or higher; complete all graduation requirements; and complete at least 25 percent of all business-related course work at Diablo Valley College. Certain courses may satisfy both major and other graduation requirements; however, the units are only counted once.

For this degree, all major requirements must be completed as well as all requirements in the area of specialization.

Students are limited to one associate in science in business degree regardless of the number of specializations completed. Multiple certificates may be awarded. All coursework required for the degree must be completed within seven years of the degree date.

**major requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 109 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 250 Business Communications I</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>
</tbody>
</table>

Choose one of the following six specialization areas:

**advanced general business**

**required courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 209 International Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 240 Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 121 Practices and Concepts of Supervision</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>Any BUS course not listed in the core requirements</td>
<td>3</td>
</tr>
<tr>
<td>Any BUSAC course not listed in the core requirements</td>
<td>3</td>
</tr>
<tr>
<td>Any BUSMG course not listed in the core requirements</td>
<td>3</td>
</tr>
<tr>
<td>Any BUSMK course not listed in the core requirements</td>
<td>3</td>
</tr>
<tr>
<td>Any RE course not listed in the core requirements</td>
<td>3</td>
</tr>
</tbody>
</table>

**business marketing**

**required courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 240 Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BUSMK 256 Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 6 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 209 International Business</td>
<td>3</td>
</tr>
<tr>
<td>BUSMK 158 Professional Selling</td>
<td>3</td>
</tr>
<tr>
<td>BUSMK 255 Advertising</td>
<td>3</td>
</tr>
<tr>
<td>Any RE course</td>
<td>3</td>
</tr>
</tbody>
</table>

**management and leadership studies**

**required courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSMG 121 Practices and Concepts of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 132 Human Resource Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 6 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSMG 131 Gender Issues in Management</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 191 Small Business Management</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 192 Entrepreneurship and Venture Management</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 226 Group Behavior and Leadership</td>
<td>3</td>
</tr>
</tbody>
</table>

**real estate**

**required courses**

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

**plus at least 6 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>RE 161 Legal Aspects of Real Estate</td>
<td>3</td>
</tr>
<tr>
<td>RE 162 Real Estate Appraisal I</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>

**small business management/entrepreneurship**

**at least 3 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSAC 181 Applied Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 186 Financial Accounting</td>
<td>4</td>
</tr>
</tbody>
</table>
Certificate of achievement - Business Transfer

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 the 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**

<table>
<thead>
<tr>
<th>course</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSAC 186 Financial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUSAC 187 Managerial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>ECON 220 Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 221 Principles of Macroeconomics</td>
<td>3</td>
</tr>
</tbody>
</table>

*The above courses have specific prerequisites. See course description for details.*
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 seven years of the certificate date.

**Certificate of achievement - General business**

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

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

**Certificate of achievement - Management and leadership studies**

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.
The small business management/entrepreneurship certificate provides a foundation of business competencies and management strategies that will enable them 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 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 I</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 3 units from:**

<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>BUSAC 186</td>
<td>Principles of Accounting I</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>BUSMG 191</td>
<td>Small Business Management</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 192</td>
<td>Entrepreneurship and Venture Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 6 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 209</td>
<td>International Business</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 185</td>
<td>QuickBooks Accounting for Business I</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSIM 145</td>
<td>Business Spreadsheet Applications</td>
<td>2</td>
</tr>
<tr>
<td>BUSMG 121</td>
<td>Practices and Concepts of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 132</td>
<td>Human Resource Management</td>
<td>3</td>
</tr>
<tr>
<td>BUSMK 256</td>
<td>Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units**  24

### Certificate of accomplishment - Wealth management

This curriculum is designed to provide targeted financial knowledge concerning money management, insurance, wealth accumulation, income taxes, investments, and estate planning for the individual. This is a multi-disciplinary program involving accounting, finance, and law.

To earn the certificate of achievement in wealth management, 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 161</td>
<td>Personal Money Management</td>
<td>3</td>
</tr>
<tr>
<td>BUS 250</td>
<td>Business Communications I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 261</td>
<td>Investments</td>
<td>3</td>
</tr>
<tr>
<td>BUS 294</td>
<td>Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 285</td>
<td>Federal Income Taxes - Individuals</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 3 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 291</td>
<td>Wills, Trusts and Estate Planning</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSIM 145</td>
<td>Business Spreadsheet Applications</td>
<td>2</td>
</tr>
<tr>
<td>RE 164</td>
<td>Real Estate Finance</td>
<td>2</td>
</tr>
<tr>
<td>RE 165</td>
<td>Real Estate Economics</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units**  24

### Certificate of accomplishment - Business essentials

This certificate of accomplishment provides a core curriculum of business skills necessary for obtaining entry-level employment in a business or office environment. This certificate or its equivalent is required in order to complete the requirements for a certificate of achievement in the business or accounting areas.

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

**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>
<td>3</td>
</tr>
<tr>
<td>BUS 103</td>
<td>Applied Business Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>LS 121</td>
<td>Information Literacy and Research Skills</td>
<td>1</td>
</tr>
</tbody>
</table>

**total minimum required units**  7

**BUS-101 Business English**

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

A study of English language from a business perspective involving grammar, punctuation, spelling, business vocabulary, sentence structure, basic business document creation, and the ethics of writing clearly and correctly. CSU

**BUS-103 Applied Business Mathematics**

3 units  SC
- 54 hours lecture/18 hours laboratory per term
- **Recommended:** Eligibility for ENGL 122 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.

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-105  Business Etiquette  
1 unit  SC  
- 18 hours lecture per term  
- Recommended: ENGL 118 or equivalent  
A study of the principles of etiquette for the business professional. Students will engage in activities which will cover introductions, shaking hands, exchanging business cards, listening, conversational techniques, diplomacy, manners, proximity, telephone manners, office equipment and technology etiquette, professional appearance, grooming, gift giving, entertainment, handling social events, business travel, meeting protocol, dining, tipping, showing appreciation, etiquette, and intercultural business etiquette. CSU

BUS-107  Business Job Search Skills  
1.5 units  SC  
- 27 hours lecture per term  
- Recommended: Eligibility for ENGL 122 or equivalent  
This course will cover all employment-related aspects of succeeding in a professional job search in business. Students will explore sources of job listings in business; learn how to conduct a successful job search, including searching for positions using traditional and online methods, preparing employment documents (resume, cover letter, application form, follow-up messages), and interviewing skills; practice salary negotiation techniques; practice how to receive and respond effectively to constructive criticism during performance reviews; design strategies for advancing in the business environment; and plan methods for resigning from a position with tact. CSU

BUS-115  Business E-Mail, Social Media, and Digital Communication  
1 unit  SC  
- 18 hours lecture per term  
- Recommended: Eligibility for ENGL 122 or equivalent  
This is a course designed to help business workers with written and web-based communication skills used on the job. Topics include professional, high-quality e-mail messages and web-based communications for both internal and external audiences, digital research and communication, cultural and diversity communications, ethical and legal guidelines in communication, minimizing conflict, and developing positive communication skills. 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. CSU, UC

BUS-150  Topics in Business  
.3-4 units  SC  
- May be repeated three times  
- 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 Money Management  
3 units  SC  
- 54 hours lecture per term  
- Recommended: BUS 103 or equivalent; eligibility for ENGL 122 or equivalent  
An introductory course for planning and managing individual finances and for money management. Topics will 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  
An overview of the theories and practices of modern international businesses. This course examines the key functional areas related to global businesses, 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. Students will be able to get hands-on international business experience through developing a market entry strategy for a local business to enter a particular foreign country or region. CSU
BUS-240  Business Statistics
3 units  SC
- 54 hours lecture/18 hours laboratory per term
- Prerequisite: MATH 120 or equivalent

Business Statistics is an introduction to concepts, methods, and models employed in reasoning with numbers and in presenting cogent statistical arguments or solutions. The course introduces students to the organization, analysis and inference-making processes, using sample data to graphically and numerically describe samples. 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. Estimating simple and multiple regressions and making inference from such analysis is another major theme of this course. Using spreadsheet-based software (such as MS Excel) to compute statistics in large-data applications. CSU, UC (credit limits may apply to UC - see counselor)

BUS-250  Business Communications I
3 units  SC
- 54 hours lecture per term
- Recommended: BUS 101 or equivalent; eligibility for ENGL 122 or equivalent
- Note: Strongly recommended for all business administration, office professional, and management students

A course designed to help students develop the skills necessary to communicate effectively in a professional business environment. The focus will be on communicating clearly, concisely, considerately, and correctly, both orally and in writing. Students will learn to prepare basic business documents, including letters, memos, and short reports and proposals; to use technology to communicate, including email and discussion boards; and to prepare and deliver short oral presentations. The course will also contain an introduction to employment communication, including resumes, application letters, and interview skills. Emphasis throughout the course will be placed on intercultural communication and the ethics of communication. CSU

BUS-255  Business Communications II
3 units  SC
- 54 hours lecture per term
- Recommended: BUS 101 or equivalent; BUS 250 or equivalent; eligibility for ENGL 122 or equivalent

An advanced course designed to help students continue to develop and refine the skills necessary to communicate effectively in a professional business environment. The focus will be on communicating clearly, concisely, considerately, and correctly, both orally and in writing. Students will learn to prepare advanced business documents, including sales letters, proposals, and research reports; to use software technology to communicate, including mailing lists, virtual chat rooms, basic Web site development, and audio and video-conferencing equipment; and to prepare and deliver complex multimedia presentations. The course will also contain segments on documenting resources properly; conflict resolution; negotiation techniques; meeting management; and utilizing the Internet for job searching and networking. Emphasis throughout the course will be placed on intercultural communication and the ethics of communication. CSU

BUS-261  Investments
3 units  SC
- 54 hours lecture per term
- Recommended: BUS 109 or equivalent

A comprehensive course that: 1) provides an overview of financial markets and financial assets such as stocks, bonds and mutual funds; 2) develops a basic understanding of how to value different financial assets and select investment opportunities; and 3) improves research and analytical skills for better investment decision making. CSU

BUS-291  Wills, Trusts, and Estate Planning
1.5 units  SC
- 27 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent

This course will provide an introduction to the areas of business law concerned with wills, trusts, and estate planning. Students will learn about living trusts, probate avoidance, joint tenancy, estate taxes, asset control, wills, and durable power of attorney. In addition, students will learn how to analyze the applicability of various types of estate planning documents for personal use, how to make health-care decisions, and how to create durable powers of attorney. The course will also cover advanced topics such as planning for incapacity and the use of various types of irrevocable trusts. CSU

BUS-294  Business Law
3 units  SC
- 54 hours lecture per term
- Recommended: BUS 109 or equivalent, eligibility for ENGL 122 or equivalent

Provides a general overview of the specific areas of the legal environment that effect individuals and businesses. Major emphasis on contracts, including the Uniform Commercial Code, Article 2. Other subjects studied may include legal history, civil procedure, constitutional law, torts, intellectual property, cyber law, criminal law, international law, labor and employment law, and agency. CSU, UC
BUS-298 Independent Study
.5-3 units SC
- May be repeated three times
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office is required. Topics must extend study beyond courses offered.

An opportunity for advanced students to study special interests under the direction of the faculty. CSU

BUS-299 Student Instructional Assistant
.5-3 units SC
- May be repeated three times
- 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

Business Division
Rachel Westlake, Dean
Math Building 267
925-685-1230, ext. 2199

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

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in science degree - Accounting
This 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 this curriculum satisfies the accounting unit requirement to take the California CPA exam (For additional requirements please go to www.dca.ca.gov/cba), demonstrates commitment to the field of accounting, and provides comprehensive preparation for employment in accounting-related occupations. This degree is not intended for transfer students. DVC accounting students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions are met. Students who intend to transfer are also advised to select either General Education Option 2 (IGETC) or Option 3 (CSU G.E.). General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

To earn an associate degree with a major in accounting students must complete each course used to meet a major requirement with a “C” grade or higher; complete all graduation requirements; and complete at least 25 percent of all business-related course work at Diablo Valley College. Certain courses may satisfy both major and other graduation requirements; however, the units are only counted once.

major requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSAC 186 Financial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUSAC 187 Managerial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUSIM 145 Business Spreadsheet Applications</td>
<td>2</td>
</tr>
</tbody>
</table>

plus at least 3 units from:

<table>
<thead>
<tr>
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<tr>
<td>BUS 250 Business Communications I</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 182 Computer Income Tax Return Preparation - Individuals</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSAC 185 QuickBooks Accounting for Business I</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSAC 188 QuickBooks Accounting for Business II</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSAC 190 Payroll Accounting</td>
<td>1.5</td>
</tr>
<tr>
<td>COOP 170 Occupational Work Experience Education,...</td>
<td>1-4</td>
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plus at least 12 units from:

<table>
<thead>
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<th>Course</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 294 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 282 Intermediate Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 283 Auditing</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 284 Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 285 Federal Income Taxes – Individuals</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 286 Governmental and Not-For-Profit Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 290 Corporate Financial Reporting and Financial Statement Analysis</td>
<td>3</td>
</tr>
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</table>

plus at least 3 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>units</th>
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<tbody>
<tr>
<td>BUS 209 International Business</td>
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</tr>
<tr>
<td>BUS 240 Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BUS 250 Business Communications I</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 191 Small Business Management</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 192 Entrepreneurship and Venture Management</td>
<td>3</td>
</tr>
</tbody>
</table>

total minimum required units 28

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

Students are required to obtain a “C” grade or higher in all required courses. 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. Requests for course substitution are made to the business administration department chairperson.

<table>
<thead>
<tr>
<th>required courses</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSAC 186 Financial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUSAC 187 Managerial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUSIM 145 Business Spreadsheet Applications</td>
<td>2</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
</tr>
<tr>
<td>BUS 240 Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BUS 250 Business Communications I</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 182 Computer Income Tax Return Preparation - Individuals</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSAC 185 QuickBooks Accounting for Business I</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSAC 188 QuickBooks Accounting for Business II</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSAC 190 Payroll Accounting</td>
<td>1.5</td>
</tr>
<tr>
<td>COOP 170 Occupational Work Experience Education</td>
<td>1-4</td>
</tr>
</tbody>
</table>

| total minimum required units | 28 |

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

Students are required to obtain a “C” grade or higher in all required courses. 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. Requests for course substitution are made to the business administration department chairperson.

<table>
<thead>
<tr>
<th>required courses</th>
<th>units</th>
</tr>
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<tbody>
<tr>
<td>at least 3 units from:</td>
<td></td>
</tr>
<tr>
<td>BUS 250 Business Communications I</td>
<td>3</td>
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<tr>
<td>BUSAC 182 Computer Income Tax Return Preparation - Individuals</td>
<td>1.5</td>
</tr>
<tr>
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</tr>
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<td>1.5</td>
</tr>
<tr>
<td>BUSAC 190 Payroll Accounting</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSIM 145 Business Spreadsheet Applications</td>
<td>2</td>
</tr>
<tr>
<td>COOP 170 Occupational Work Experience Education</td>
<td>1-4</td>
</tr>
</tbody>
</table>

| total minimum required units | 12 |

Certificate of achievement - General accounting
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. Requests for course substitution are made to the business administration department chairperson.

<table>
<thead>
<tr>
<th>required courses</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>plus at least 12 units from:</td>
<td></td>
</tr>
<tr>
<td>BUS 294 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 282 Intermediate Accounting</td>
<td>3</td>
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<tr>
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</tr>
<tr>
<td>BUSAC 290 Corporate Financial Reporting and Financial Statement Analysis</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
</tr>
<tr>
<td>BUS 209 International Business</td>
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<tr>
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<td>3</td>
</tr>
</tbody>
</table>

| total minimum required units | 28 |

| total minimum required units | 13 |
BUSAC-150  Topics in Business Accounting  
.3-4 units  SC  
- May be repeated three times  
- 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 a recommended primer for the BUSAC 186 “business major” transfer course. Credit by examination option available. 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 beginning accounting course. Involves a practical approach emphasizing small business applications. Covers the accounting cycle for a service business and a merchandising business. Includes journals and ledgers; financial statements; adjusting, correcting, and closing entries; bank reconciliation; payroll; calculations for interest, discounts, sales, and payroll taxes. Also includes an introduction to the use of a computerized accounting software program. CSU  

BUSAC-182  Computer Income Tax Return Preparation - Individuals  
1.5 units  SC  
- May be repeated once  
- 18 hours lecture/27 hours laboratory per term  
- Recommended: BUSAC 285 and eligibility for ENGL 122 or equivalents  
- Note: Course may be repeated when software program or online filing system changes. 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 is a course that uses a popular tax software program or online filing system to prepare income tax returns for an individual. Topics will 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  
- May be repeated once  
- 18 hours lecture/27 hours laboratory per term  
- Recommended: First half of BUSAC 181 or BUSAC 186 and eligibility for ENGL 122 or equivalents  
- Note: Course may be repeated when software program changes. 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.  
An introductory course to computer accounting for business. Applies basic accounting knowledge and theory in QuickBooks. Includes 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 the Applied Accounting course, BUSAC 181  
A theory and procedures course required for many business administration and accounting majors. Introduction to fundamental financial accounting principles, theory, concepts and procedures as the basis of an information system. Includes the role of financial information in business decisions, basic financial statements and the processes used to prepare these financial statements. CSU, UC  

BUSAC-187  Managerial Accounting  
4 units  SC  
- 72 hours lecture per term  
- Prerequisite: BUSAC 186 or equivalent  
A second term theory and procedures course required for many business administration and accounting majors. Emphasis is on fundamental managerial accounting concepts that aid in decision making, performance evaluation, planning and cost control. CSU, UC
BUSAC-188 QuickBooks Accounting for Business II  
1.5 units SC  
- May be repeated once  
- 18 hours lecture/27 hours laboratory per term  
- Recommended: BUSAC 185 and eligibility for ENGL 122 or equivalents  
- Note: Course may be repeated when software program changes. 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 second level course in computer accounting for business using a recognized software program. Focus will be on developing skills for creating a set of records and applications for a merchandising business including sales and receivables, payables and purchases, and end of period procedures. Topics will also include payroll and 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 will cover one of the most important accounting functions: payroll. Students will learn how to calculate wages, determine required employer and employee tax deductions, process payroll, and file required reports. The course will also cover employment legislation and tax laws that affect payroll. CSU

BUSAC-282 Intermediate Accounting  
3 units SC  
- 54 hours lecture/18 hours laboratory per term  
- Prerequisite: BUSAC 186 or equivalent  
- Recommended: BUSAC 187 or equivalent  
- Note: The laboratory (lab) hours for this course may be offered as face to face lab or online lab. See schedule of classes for specific requirements.  

An advanced level financial accounting course that reviews and builds on the foundation material presented in Financial Accounting. Emphasizes financial accounting concepts and reporting issues in association with financial statement preparation and interpretation. 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 lab or online lab. See schedule of classes for specific requirements.  

This is an intermediate level course on the role and responsibility of Certified Public Accountants 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. Limited coverage is given to audits and attestations of private companies. Topics include auditing standards, professional ethics, legal liability, audit programs, sampling techniques, and audit reports. 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.  

Explores the accountant’s role in the decision making process. Emphasis on the determination, collection and analysis of cost information as it relates to planning and control. Job order costing, process costing, standard costing, other current costing methods, analysis of variances and analysis of cost information are included in this course. CSU

BUSAC-285 Federal Income Taxes-Individuals  
3 units SC  
- 54 hours lecture/18 hours laboratory per term  
- Recommended: BUSAC 186 and eligibility for ENGL 122 or equivalents  
- 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.  

An exploration of the framework of the federal tax system. Application and analysis of the Internal Revenue Code, regulations, rulings and court cases. This course concentrates on federal income tax law for individuals and includes problem solving, perspectives on tax saving, and tax planning techniques. Introduction to tax preparation software is provided. 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
• 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.

A study of accounting practices used in governmental units and not-for-profit organizations. Includes basic characteristics of fund accounting, functions of governmental accounting, budgetary process, financial reporting objectives and issues of reporting and disclosure. CSU

BUSAC-290 Corporate Financial Reporting and Financial Statement Analysis
3 units  SC
• 54 hours lecture/18 hours laboratory per term
• Prerequisite: BUSAC 282 or equivalent
• Recommended: Eligibility for ENGL 122 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 course develops sophisticated users of financial statements by providing an overview of the use of financial accounting information for evaluating past performance and predicting future performance of a company. The focus will be on understanding and analyzing the financial statements of a firm and supporting notes, rather than preparing them. The course also focuses on estimating the value of publicly-traded common stocks using models developed for this purpose. The course teaches the importance of the accounting methods used by the firm and develops a framework to examine the economic environment in which the firm operates to determine its sources of value and the financial and environmental risks that it faces. CSU

BUSAC-299 Student Instructional Assistant
.5-3 units  SC
• May be repeated three times
• 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 INFORMATION MANAGEMENT – BUSIM

Business Division
Rachel Westlake, Dean
Math Building 267
925-685-1230, ext. 2199

Possible career opportunities
The office assistant curriculum prepares students for employment as an office assistant, office supervisor, medical or legal secretary, event coordinator, word processor, desktop publishing specialist, account assistant, or support team coordinator.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Certificate of achievement
Office professional

Certificate of accomplishment
Office professional essentials

Certificate of achievement - Office professional
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.

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 only be completed by attending both day and evening classes. Course requirements must be completed within three years of entering the program. At least 25 percent of the units must be completed at DVC. Substitutions will be considered on an individual basis.

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.
BUS 101 Business English........................................ 3
BUS 103 Applied Business Mathematics............... 3
BUS 250 Business Communications I...................... 3
BUSAC 181 Applied Accounting.............................. 3
BUSIM 111 Keyboarding II: Intermediate Word Processing and Skill Development........ 3
BUSIM 140 Database Records and Information Management........................ 3
BUSIM 145 Business Spreadsheet Applications............... 2
BUSIM 211 Office Procedures and Technology............. 3

elective units determined in consultation with certificate advisor.......................... 6-9

total minimum required units 29

Certificate participants must also meet established keyboarding and ten-key skill levels.

Keyboarding speed: 50 wpm; 10-Key: 120 kspm

Certificate of accomplishment - Office professional essentials
This 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 the required courses with a “C” grade or higher. Certificate requirements may be completed by attending a combination of day and evening classes.

BUSIM-025 ESL Keyboarding
1 unit P/NP
• May be repeated once
• Non degree applicable
• 18 hours lecture/18 hours laboratory per term
• Note: CELSA recommendation for ESL 076 or higher class; for absolute keyboarding beginners

A beginning computer keyboarding/word processing course for students who are non-native speakers or who need additional instructional support in learning how to keyboard and to use word processing features. Students will learn how to operate the computer keyboard by touch and to use a word processing program for creating basic reports.

BUSIM-075 Topics in Business Information Management
3-4 unit SC
• May be repeated three times
• Non degree applicable
• Variable hours
• Recommended: Previous Windows experience

A supplemental course in business information management to provide a study of current concepts and problems in information management. Specific topics will be announced in the schedule of classes.

BUSIM-110 Keyboarding I: Beginning Keyboarding/Introduction to Word Processing
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Recommended: Eligibility for ENGL 116/118 or equivalent
• Note: See schedule of classes for current word processing software used.

A beginning course in keyboarding using the touch method. Personal use and prevocational emphasis on acquiring basic keyboarding skills and on producing documents (email, reports, letters, tables, memos) using word processing software. Preparation for learning office production skills. CSU

BUSIM-111 Keyboarding II: Intermediate Word Processing and Skill Development
3 units SC
• 54 hours lecture/54 hours laboratory per term
• Recommended: BUS 101 or equivalent and BUSIM 110 or equivalent
• Note: See schedule of classes for current word processing software used

This course is the second in the sequence of keyboarding/word processing courses offered. Preparation of common business documents using intermediate to advanced level word processing skills is emphasized. Skill building activities are also included to develop speed and accuracy to employability levels. CSU

BUSIM-140 Database Records and Information Management
3 units SC
• May be repeated once when software is changed or upgraded
• 54 hours lecture/36 hours laboratory by arrangement per term
• Recommended: Eligibility for ENGL 122; keyboarding by touch

Beginning course in database records and information management. Course provides basic records management principles applied to various records systems based on ARMA (Association of Records Manager and Administrators) International rules. Current database software will be used to introduce information management functions. CSU
BUSIM-145  Business Spreadsheet Applications
2 units  SC
- May be repeated once
- 27 hours lecture/27 hours laboratory per term
- Recommended: Eligibility for ENGL 122 or equivalent
- Note: See schedule of classes for software used. 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

BUSIM-155  Topics in Office Technology and Administration
.5-3 units  SC
- May be repeated three times
- Variable hours

A supplemental course in office administration designed to provide a study of current technology or techniques. Specific topics will be announced in the schedule of classes. CSU

BUSIM-211  Office Procedures and Technology
3 units  SC
- 54 hours lecture/18 hours laboratory by arrangement per term
- Recommended: BUS 101 or equivalent and BUSIM 111 or equivalent (may be taken concurrently); eligibility for ENGL 122 or equivalent

A comprehensive course covering the essentials that office professionals must know to succeed in a professional office environment. Students will study all aspects of administrative office work and complete projects that simulate common office situations using various software packages, office equipment, and the Internet. Students will learn how to communicate effectively, process financial information, greet customers, handle multiple phone lines, operate standard office equipment, manage files, process mail, make travel arrangements, plan meetings, and use the Internet for business research and communication. Special emphasis will be placed on professionalism, ethics, communication, and career management. CSU

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 is designed as an introduction to the skills and applications used in modern management practice. Topics may include foundation of management principles, planning, organizing, staffing, directing, controlling, legal, ethical, and social responsibilities of management. 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 will provide the student with a real world approach that shows students how management practices and concepts are carried out. Each of the management functions - planning, organizing, influencing, and controlling - will be explained from the standpoint of how each function interrelates to the management process. Student participation includes a variety of management exercises and case study discussions. CSU

BUSMG-131  Gender Issues in Management
3 units  LR
- 54 hours lecture per term
- Recommended: BUS 109 and eligibility for ENGL 122 or equivalents

An exploration of gender issues in management resulting from the expansion of women’s roles at work during the past decades and the growth of the multicultural workforce. Leadership styles, use of power, mentoring, networking, communicating, team work, discrimination, sexual harassment and family/work balance will be studied in the context of the current diverse workplace. CSU
BUSMG-132 Human Resource Management
3 units SC
• 54 hours lecture per term
• Recommended: BUS 109 or equivalent; eligibility for ENGL 122 or equivalent
A comprehensive study of human resource management in organizations, including human resource planning; employment legislation; recruitment and selection; training and development; compensation and benefits; performance appraisal and career management; managing labor relations; safety, health, and well-being; and motivation and enhancing performance. The course will explore topics including values, ethical issues, leadership and communication, conflict, work design, and organizational culture. CSU

BUSMG-150 Topics in Management Studies
.3-4 units SC
• May be repeated three times
• 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-191 Small Business Management
3 units SC
• 54 hours lecture per term
• Recommended: BUS 103, BUS 109; eligibility for ENGL 122 or equivalents
An introductory course intended for students who want to start a new small business, or are already involved in the ongoing management of an existing small business. Small business owners differ from entrepreneurs in that they often keep their businesses small and do not emphasize rapid growth. A small business is independently owned and operated, and is typically not dominant in its field. This course will cover relevant functional areas such as marketing, finance and human resources. It will also cover topics unique to small businesses, including managing a family-owned business, becoming a franchisee, and applying for a Small Business Administration (SBA) loan. Students will get hands-on small business management experience by designing their own small businesses and putting together a business plan. CSU

BUSMG-192 Entrepreneurship and Venture Management
3 units SC
• 54 hours lecture per term
• Recommended: BUS 103, 109 or equivalents; eligibility for ENGL 122 or equivalent
A course designed for students who want to become entrepreneurs and successfully launch new business ventures. Entrepreneurs’ principle objectives are profitability and growth. They differ from other business owners in that they take more risks, and focus on developing innovative strategic practices and products in high tech and other high growth sectors. 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 or equivalent; eligibility for ENGL 122 or equivalent
This course will provide theoretical foundations and practical experiences with group behavior and leadership, resulting in increased awareness of the self in groups. The course includes the examination of workforce diversity, motivation, decision-making, and organizational politics. CSU

BUSINESS MARKETING - BUSMK

Business Division
Rachel Westlake, Dean
Math Building 267
925-685-1230, ext. 2199

Certificate of achievement
Business Marketing - see BUS

BUSMK-158 Professional Selling
3 units SC
• 54 hours lecture per term
• Recommended: BUS 109 or equivalent; eligibility for ENGL 122 or equivalent
Theory and practice of personal selling with a focus on relationship marketing and a concentration on the selling process. Emphasis on sales strategies, techniques and settings. Skills development in product knowledge, customer analysis, prospecting, presenting, and closing the sale. Also addresses team sales presentations. CSU
BUSMK-255 Advertising
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
A study of the historical, social, ethical, economic, and regulatory aspects of advertising. The subject evaluates advertising, media, and creative strategies for traditional and electronic markets. Topics include effects of consumer behavior patterns, the client-agency relationship, and the development and evaluation of advertising campaigns. CSU

BUSMK-256 Marketing
3 units SC
• 54 hours lecture per term
• Recommended: BUS 109 or equivalent; eligibility for ENGL 122 or equivalent
Introduction to marketing functions involved in facilitating the exchange of goods and services. Focus on the analysis of markets: assessment of the marketing environment; formulation of marketing strategy; and development of the marketing mix variables of product, price, promotion, and distribution. Ethical issues considered. CSU

BUSMK-257 Applied Advertising and Promotion
3 units SC
• 54 hours lecture per term
• Recommended: BUSMK 255 and eligibility for ENGL 122 or equivalents
This course provides a comprehensive treatment of advertising and promotion from an integrated marketing communications (IMC) perspective. Students will work in teams to develop an integrated marketing communications plan for an actual product or service offered by a firm or organization. Attention is given to key subjects such as target marketing, market research, media planning, creative strategies, and ethical and legal concerns. Emphasis is placed on creating a cost-effective and measurable plan by blending various promotional tools. CSU

BUSMK-298 Independent Study
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office is required. Topics must extend study beyond courses offered.
An opportunity for advanced students to study special interests under the direction of the faculty. CSU

BUSINESS REAL ESTATE – RE

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 in real estate. 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
An introductory course of entry into the real estate profession, for investing in real estate or for a better understanding of transfers of real property. 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 the state educational requirements for brokers license examination
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

A basic course in real estate valuation with emphasis on residential property. Definitions and concepts; principles of valuation; the appraisal process; analysis of city, neighborhood and site data; architectural styles and utility; depreciation; valuation by market data, cost and income approaches; correlation of approaches and final estimate of value; the appraisal report; and the professional appraiser. 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

A comprehensive presentation of techniques of prospecting, listing, selling, financing, purchase agreements, escrow, exchange, and property management. Subjects are covered primarily on a practical basis and include working knowledge of the practices necessary to be effective in the real estate industry. CSU

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

A broad overview of real estate finance including conventional, FHA-VA and non-institutional loans as well as 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 RE license or equivalent
- Note: Serves to satisfy the license requirements for real estate sales and brokers and also the continuing education requirements of appraisers

Applying economic concepts and theories to enhance the understanding of 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 the state educational requirements for sales and brokers license examination

A study of the procedures required to complete a valid escrow in order to close a real estate transaction. Emphasis placed on technical skills, legal aspects, ethical restrictions, interfacing with financing and real estate agents. Students are introduced to the procedures and practices from the perspective of both the escrow/title insurance company and the real estate licensee. CSU

**RE-167 Real Estate Property Management**
3 units SC
- 54 hours lecture per term
- Recommended: RE 160 or equivalent; eligibility for ENGL 122 or equivalent

This course focuses primarily on managing residential and apartment properties. It also contains information on commercial and business properties. Relevant topics include: acquisition, financing, maintenance, taxes, insurance, furnishings, and tenant relations. CSU

**RE-201 Advanced Real Estate Studies**
.3-4 units SC
- May be repeated three times
- Variable hours

A supplemental course in real estate designed to provide a study of current real estate problems or activities. Specific topics to be announced. CSU
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-110 Career and Life Planning
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
• Formerly COUNS 110
In this course students will learn research strategies to make effective career and major choices, using a variety of techniques to find, retrieve, and evaluate career planning information. Utilizing career assessments, students will identify their preferred work values, interests, skills and personality traits. Research will then focus 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. This course will develop psychological “soft skills” in the domain of human relations: interpersonal communication, self-esteem and professional confidence, emotional intelligence, conflict resolution, and effective collaboration in team-building skills. CSU

CARER-120 Career Assessment
1 unit P/NP
• 18 hours lecture per term
• Note: Testing fee required. Not intended for students who have completed CARER 110
This course is designed to promote self-awareness through the administration of career assessments, discussion and interpretation of interests, aptitude, personality and values assessments. Various career assessment inventories will be used as a starting point in the career exploration process. Recommended for people changing careers and/or re-entering the workforce. CSU

CARER-130 Career and Major Exploration
1 unit P/NP
• 18 hours lecture per term
• Recommended: CARER 120 or equivalent
• Formerly CARER 160
This course is designed for students who are undecided about their career and/or educational goals. It includes an introduction to the basic career planning process and computerized information systems that aid in the research of occupational and college major options. CSU

CARER-140 Job Search Strategies
1 unit P/NP
• 18 hours lecture per term
This course prepares students for the employment search process including 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. Students will identify and discuss the employability skills most commonly sought by employers. CSU

CARER-150 Topics in Careers
.3-4 units SC
• May be repeated three times
• 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

CARER-170 Career Transitions
1 unit P/NP
• 18 hours lecture per term
This course provides a theoretical and practical basis for the student to define and plan individual career/life transitions. Lecture and discussions will analyze the processes involved in making informed career decisions as well as effective strategies for determining career transitions. Students will also identify and discuss the employability skills most commonly sought by employers. CSU
CHEMISTRY – CHEM

Physical Sciences and Engineering Division
Physical Sciences Building

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

CHEM-106  Chemistry for Non-Science Majors
4 units SC
• 72 hours lecture/36 hours laboratory per term
• Prerequisite: MATH 110 or one year of high school algebra or equivalent
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: This is not a preparatory course for other chemistry courses

This course is designed to develop scientific literacy for non-science majors and to meet the general education requirement for physical science with laboratory. The course places chemistry concepts in a practical context using qualitative and quantitative examples that are encountered in everyday life. Laboratory exercises include hands-on experiments related to concepts covered in lecture. CSU, UC (credit limits may apply to UC - see counselor)

CHEM-108  Introductory Chemistry
4 units SC
• 72 hours lecture/36 hours laboratory per term
• Prerequisite: MATH 110 or one year of high school algebra 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 that could be used to continue to general chemistry or to complete the sequence of chemistry courses designed for nursing and dental hygiene (with CHEM 109). This course is appropriate for those that have no high school chemistry experience. CSU, UC (credit limits may apply to UC - see counselor)

CHEM-109  Introduction to Organic and Biochemistry
4 units SC
• 72 hours lecture/36 hours laboratory per term
• Prerequisite: CHEM 108 or CHEM 120 or high school chemistry or equivalent

CHEM 109 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. The CHEM 108 and 109 sequence is designed to meet the needs of programs such as dental hygiene and nursing. CSU, UC (credit limits may apply to UC - see counselor)

CHEM-120  General College Chemistry I
5 units LR
• 90 hours lecture/72 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; MATH 120 or equivalent
• Recommended: Eligibility for ENGL 122 or equivalent

An introduction to the fundamentals of chemistry including the topics: atomic theory, chemical reactions, bonding, structure, stoichiometry, gases, solutions, redox, thermodynamics, equilibrium, and acid-base chemistry. C-ID CHEM 110, CHEM 120+121=C-ID CHEM 120S, CSU, UC

CHEM-121  General College Chemistry II
5 units LR
• 90 hours lecture/72 hours laboratory per term
• Prerequisite: CHEM 120 or equivalent

This course is a continuation of CHEM 120, General College Chemistry I. Subject matter includes: buffers, titration curves, solubility products, thermodynamics, electrochemistry, kinetics, molecular orbital theory, coordination complexes, nuclear chemistry, organic chemistry, spectroscopy, quantitative experiments, and qualitative analysis. CHEM 120+121=C-ID CHEM 120S, CSU, UC

CHEM-150  Topics in Chemistry
.3-4 units SC
• May be repeated three times
• 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
- 90 hours lecture/72 hours laboratory per term
- Prerequisite: CHEM 121 or equivalent
This course is the first term of a two term sequence (CHEM 226-227) 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, aromatics, alkyl halides, alcohols, and ethers). Basic organic laboratory techniques are introduced and used in syntheses or other projects. Chemical safety, information retrieval and good laboratory practices are emphasized. A variety of laboratory instrumentation skills are developed including operation and analysis using GC, IR and UV-Visible spectroscopy. CSU, UC

CHEM-227 Organic Chemistry II
5 units LR
- 90 hours lecture/72 hours laboratory per term
- Prerequisite: CHEM 226 or equivalent
A continuation of CHEM 226, this second term course covers spectroscopy, additional reaction mechanisms, the nomenclature, physical properties, and reactions of other basic classes of compounds (organometallics, aldehyes, 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 library research project using university-level chemical literature resources. CSU, UC

CHEM-298 Independent Study
.5-3 units SC
- May be repeated three times
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend beyond courses offered.
An opportunity for advanced students to study special interests under the direction of the faculty. CSU

CHEM-299 Student Instructional Assistant
.5-3 units SC
- May be repeated three times
- 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

Students with prior foreign language instruction should check with a language teacher regarding their proper placement in foreign language courses. The following system is generally used to determine the appropriate term of college work based on high school language: two years equal one college term; three years equal two college terms; four years equal three college terms.

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.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Certificate of achievement
Mandarin Chinese

Certificate of achievement - Mandarin Chinese
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. Each course used to meet a certificate requirement must be completed with a “C” grade or higher.
complete at least 15 units from the following list of courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>SC</th>
<th>Lecture/Laboratory</th>
<th>Term</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIN 120</td>
<td>First Term Mandarin Chinese</td>
<td>5</td>
<td>SC</td>
<td>90 hours lecture/18 hours laboratory by arrangement</td>
<td>per term</td>
<td>This beginning Chinese course emphasizes pronunciation drill, sentence pattern analysis and development of language skills in listening, speaking, reading, and writing. Character reading and writing are introduced. Cultural material and information are used extensively in this course. CSU, UC</td>
</tr>
<tr>
<td>CHIN 121</td>
<td>Second Term Mandarin Chinese</td>
<td>5</td>
<td>SC</td>
<td>90 hours lecture/18 hours laboratory by arrangement</td>
<td>per term</td>
<td>A continuation of CHIN 120 for verbal and written purposes. Use of original Chinese characters is introduced at the sentence and the paragraph level. Students will be familiarized with both simplified and original writing systems. Cultural topics may include education, family, and daily life. Writing skills will be emphasized. The proficiency level should develop to a basic survival level. CSU, UC</td>
</tr>
<tr>
<td>CHIN 220</td>
<td>Third Term Mandarin Chinese</td>
<td>5</td>
<td>SC</td>
<td>90 hours lecture/18 hours laboratory by arrangement</td>
<td>per term</td>
<td>This is a third term intermediate course, the continuation of CHIN 121, with a review of grammar. The student will develop fluency in understanding, speaking, reading and writing Chinese. The uses of the six basic functional components of the Chinese sentence are expanded and new vocabulary and idiomatic expressions are introduced. Selected readings about Chinese culture and literature will be explored. This course is taught entirely in original Chinese characters, and students may use either Chinese written system to develop their knowledge and ability. CSU, UC</td>
</tr>
<tr>
<td>CHIN 221</td>
<td>Fourth Term Mandarin Chinese</td>
<td>5</td>
<td>SC</td>
<td>90 hours lecture/18 hours laboratory by arrangement</td>
<td>per term</td>
<td>This course is the continuation of CHIN 220 to develop fluency in all aspects of the Chinese language with particular attention to literary forms as reflected in the contemporary Chinese world. This course reviews grammar and develops reading and writing skills in Chinese. Passages from Chinese literature and readings about Chinese culture will be studied. Computer skills in Chinese will be introduced. CSU, UC</td>
</tr>
<tr>
<td>CHIN 150</td>
<td>Topics in Chinese</td>
<td>.3 -.4</td>
<td>SC</td>
<td>Variable hours</td>
<td></td>
<td>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</td>
</tr>
<tr>
<td>CHIN 298</td>
<td>Independent Study</td>
<td>.5 -.3</td>
<td>SC</td>
<td>Variable hours</td>
<td></td>
<td>An opportunity for advanced students to study special interests under the direction of faculty. CSU</td>
</tr>
<tr>
<td>CHIN 299</td>
<td>Student Instruction Assistant</td>
<td>.5 -.3</td>
<td>SC</td>
<td>Variable hours</td>
<td></td>
<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>
</tr>
</tbody>
</table>
**COLLOQUIA – COLQY**

Social Sciences Division
Faculty Offices

**COLQY-120 Colloquia**
.5-3 units SC
• May be repeated three times
• Variable hours

A colloquium is a discussion group of students who meet with an instructor over the period of a term. The purpose is to stimulate serious thought of a particular topic through discussion and analysis. The schedule of classes and student transcript will indicate the general subject matter of each colloquium offered. CSU

**COMMUNICATION STUDIES**

See Speech - SPCH

**COMPUTER INFORMATION SYSTEMS – CIS**

San Ramon Campus
Kathleen Costa, Dean
925-866-1822, ext. 5103

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in science degree
Computer information systems
Specializations:
  Database management
  Project management
  Web technology
  Web graphics

Certificates of achievement
Computer information systems - Core
Computer information systems - Database management
Computer information systems - Project management
Computer information systems - Web graphics
Computer information systems - Web technology

Certificates of accomplishment
Computer information systems - Database management
Computer information systems - Project management
Computer information systems - Web graphics
Computer information systems - Web technology

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

In order to obtain an associate in science degree, students must complete the courses required for the core certificate of achievement and a minimum of one area of technical specialization, and complete all graduation requirements as listed in the Diablo Valley College catalog. To earn a degree, students must complete each course used to meet a major requirement with a "C" grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the major. Other electives and course substitutions not listed below are possible with department chairperson approval.

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

**major requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 115</td>
<td>Microsoft Word - Comprehensive</td>
</tr>
<tr>
<td>CIS 116</td>
<td>Microsoft Excel - Comprehensive</td>
</tr>
<tr>
<td>CIS 118</td>
<td>Microsoft PowerPoint - Comprehensive</td>
</tr>
</tbody>
</table>

**plus at least 2 units from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 100</td>
<td>Microsoft Windows - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 101</td>
<td>Apple Mac Operating System</td>
<td>2</td>
</tr>
</tbody>
</table>
### Certificate of achievement - Computer information systems - database management

**required courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 107</td>
<td>Web Database with Dreamweaver</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>
<tr>
<td>COMSC 138</td>
<td>Advanced Microsoft Office Using Visual Basic for Applications (VBA)</td>
<td>2</td>
</tr>
</tbody>
</table>

**project management - required courses**

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

**project management - recommended electives**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 185</td>
<td>Microsoft Project</td>
<td>2</td>
</tr>
<tr>
<td>CIS 186</td>
<td>Microsoft Visio</td>
<td>2</td>
</tr>
</tbody>
</table>

**web graphics - required courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 130</td>
<td>Adobe Photoshop Elements</td>
<td>2</td>
</tr>
<tr>
<td>CIS 131</td>
<td>Adobe Flash - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 132</td>
<td>Adobe Premiere Elements - Comprehensive</td>
<td>2</td>
</tr>
</tbody>
</table>

**web graphics - recommended electives**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 133</td>
<td>Using Camtasia</td>
<td>1</td>
</tr>
<tr>
<td>CIS 134</td>
<td>Using Apple iLife</td>
<td>2</td>
</tr>
<tr>
<td>CIS 135</td>
<td>Podcasting</td>
<td>1</td>
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</tbody>
</table>

**web technology - required courses**

<table>
<thead>
<tr>
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<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>Web Database with Dreamweaver</td>
<td>2</td>
</tr>
<tr>
<td>CIS 119</td>
<td>Microsoft Outlook - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 118</td>
<td>Microsoft PowerPoint - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 117</td>
<td>Microsoft Access - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 116</td>
<td>Microsoft Excel - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 115</td>
<td>Microsoft Word - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 114</td>
<td>MySQL</td>
<td>2</td>
</tr>
<tr>
<td>CIS 1</td>
<td>Introduction to MySQL</td>
<td>2</td>
</tr>
<tr>
<td>CIS 130</td>
<td>Advanced Microsoft Office Using Visual Basic for Applications (VBA)</td>
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</tr>
<tr>
<td>CIS 135</td>
<td>Podcasting</td>
<td>1</td>
</tr>
</tbody>
</table>

**total minimum required units** 18

### Certificate of achievement - Computer information systems - project management

**required course**

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>CIS 115</td>
<td>Microsoft Word - Comprehensive</td>
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<td>Microsoft Excel - Comprehensive</td>
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<tr>
<td>CIS 118</td>
<td>Microsoft PowerPoint - Comprehensive</td>
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</tr>
<tr>
<td>CIS 117</td>
<td>Microsoft Access - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 116</td>
<td>Microsoft Excel - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 115</td>
<td>Microsoft Word - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 114</td>
<td>MySQL</td>
<td>2</td>
</tr>
<tr>
<td>CIS 113</td>
<td>Introduction to MySQL</td>
<td>2</td>
</tr>
<tr>
<td>CIS 107</td>
<td>Web Database with Dreamweaver</td>
<td>2</td>
</tr>
</tbody>
</table>

**project management - recommended electives**

<table>
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<th>Course Code</th>
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<tbody>
<tr>
<td>CIS 185</td>
<td>Microsoft Project</td>
<td>2</td>
</tr>
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<td>CIS 186</td>
<td>Microsoft Visio</td>
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</tr>
</tbody>
</table>

**total minimum required units** 18

### Certificate of achievement - Computer information systems - core

**required courses**

<table>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>CIS 115</td>
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<td>CIS 118</td>
<td>Microsoft PowerPoint - Comprehensive</td>
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<td>Microsoft Access - Comprehensive</td>
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<td>MySQL</td>
<td>2</td>
</tr>
<tr>
<td>CIS 113</td>
<td>Introduction to MySQL</td>
<td>2</td>
</tr>
<tr>
<td>CIS 107</td>
<td>Web Database with Dreamweaver</td>
<td>2</td>
</tr>
</tbody>
</table>

**total minimum required units** 12

### Certificate of achievement - Computer information systems - database management

**required courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>CIS 107</td>
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<tr>
<td>CIS 116</td>
<td>Microsoft Excel - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 117</td>
<td>Microsoft Access - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 118</td>
<td>Microsoft PowerPoint - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 119</td>
<td>Microsoft Outlook - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 117</td>
<td>Microsoft Access - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 116</td>
<td>Microsoft Excel - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 115</td>
<td>Microsoft Word - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 107</td>
<td>Web Database with Dreamweaver</td>
<td>2</td>
</tr>
</tbody>
</table>

**total minimum required units** 12

---

**Choose one of the following four technical specialization areas:**

- **database management - required courses**
  - CIS 107 Web Database with Dreamweaver................. 2
  - CIS 117 Microsoft Access - Comprehensive............... 2
  - CIS 160 Introduction to MySQL................................ 2

- **project management - required courses**
  - CIS 180 Introduction to Project Management/ CAPM Prep....................................................... 3
  - CIS 181 Project Management Fundamentals/ PMI PMP Prep......................................................... 3

- **project management - recommended electives**
  - CIS 185 Microsoft Project........................................ 2
  - CIS 186 Microsoft Visio........................................ 2

- **web graphics - required courses**
  - CIS 130 Adobe Photoshop Elements......................... 2
  - CIS 131 Adobe Flash - Comprehensive....................... 2
  - CIS 132 Adobe Premiere Elements - Comprehensive........ 2

- **web graphics - recommended electives**
  - CIS 133 Using Camtasia....................................... 1
  - CIS 134 Using Apple iLife.................................... 2
  - CIS 135 Podcasting........................................... 1

- **web technology - required courses**
  - CIS 105 Introduction to Web Design...................... 2
  - CIS 106 Adobe Dreamweaver - Comprehensive.............. 2
  - CIS 107 Web Database with Dreamweaver.................. 2
  - CIS 119 Microsoft Outlook - Comprehensive.............. 2
  - CIS 118 Microsoft PowerPoint - Comprehensive.......... 2
  - CIS 117 Microsoft Access - Comprehensive.............. 2
  - CIS 116 Microsoft Excel - Comprehensive.............. 2
  - CIS 115 Microsoft Word - Comprehensive.............. 2
  - CIS 114 MySQL.................................................. 2
  - CIS 113 Introduction to MySQL.......................... 2
  - CIS 107 Web Database with Dreamweaver.................. 2

- **web technology - recommended electives**
  - CIS 117 Microsoft Access - Comprehensive............... 2
  - CIS 160 Introduction to MySQL................................ 2
  - COMSC 195 WWW Publishing with HTML..................... 1

**total minimum required units** 18

---

**plus at least 2 units from:**

- CIS 100 Microsoft Windows - Comprehensive.............. 2
- CIS 101 Apple Mac Operating System........................ 2

**total minimum required units** 18

---

**Certificate of achievement - Computer information systems - project management**

**required course**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>CIS 115</td>
<td>Microsoft Word - Comprehensive</td>
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<td>CIS 116</td>
<td>Microsoft Excel - Comprehensive</td>
<td>2</td>
</tr>
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<td>CIS 118</td>
<td>Microsoft PowerPoint - Comprehensive</td>
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<td>CIS 117</td>
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<td>CIS 115</td>
<td>Microsoft Word - Comprehensive</td>
<td>2</td>
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<tr>
<td>CIS 114</td>
<td>MySQL</td>
<td>2</td>
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<tr>
<td>CIS 113</td>
<td>Introduction to MySQL</td>
<td>2</td>
</tr>
<tr>
<td>CIS 107</td>
<td>Web Database with Dreamweaver</td>
<td>2</td>
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</table>

**total minimum required units** 18

---

**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
- COMSC 138 Advanced Microsoft Office Using Visual Basic for Applications (VBA)........ 2

**plus at least 4 units from:**

- CIS 117 Microsoft Access - Comprehensive............... 2
- CIS 119 Microsoft Outlook - Comprehensive............... 2
- COMSC 138 Advanced Microsoft Office Using Visual Basic for Applications (VBA)........ 2

**total minimum required units** 18

---

**project management - recommended electives**

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<thead>
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<tr>
<td>CIS 186</td>
<td>Microsoft Visio</td>
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### Certificate of achievement - Computer information systems - web technology

**required courses**  
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<th>Description</th>
<th>Units</th>
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<tbody>
<tr>
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<td>Introduction to Web Design</td>
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<tr>
<td>CIS 106</td>
<td>Adobe Dreamweaver - Comprehensive</td>
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<tr>
<td>CIS 107</td>
<td>Web Database with Dreamweaver</td>
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</tr>
<tr>
<td>CIS 115</td>
<td>Microsoft Word - Comprehensive</td>
<td>2</td>
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<tr>
<td>CIS 116</td>
<td>Microsoft Excel - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 118</td>
<td>Microsoft PowerPoint - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 130</td>
<td>Adobe Photoshop Elements</td>
<td>2</td>
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<tr>
<td>CIS 131</td>
<td>Adobe Flash - Comprehensive</td>
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</tr>
<tr>
<td>CIS 132</td>
<td>Adobe Premiere Elements - Comprehensive</td>
<td>2</td>
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</table>

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

**total minimum required units** 18

**web technology - recommended electives**  
- CIS 133 Using Camtasia 1
- CIS 134 Using Apple iLife 2
- CIS 135 Podcasting 1

### Certificate of achievement - Computer information systems - database management

**required courses**  
<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>CIS 107</td>
<td>Web Database with Dreamweaver</td>
<td>2</td>
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<tr>
<td>CIS 117</td>
<td>Microsoft Access - Comprehensive</td>
<td>2</td>
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<tr>
<td>CIS 160</td>
<td>Introduction to MySQL</td>
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</table>

**total minimum required units** 6

### Certificate of achievement - Computer information systems - project management

**required courses**  
<table>
<thead>
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<th>Course</th>
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<tr>
<td>CIS 180</td>
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<tr>
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<td>Project Management Fundamentals/PMI Prep</td>
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**total minimum required units** 6

### Certificate of accomplishment - Computer information systems - web graphics

**required courses**  
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<thead>
<tr>
<th>Course</th>
<th>Description</th>
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<tbody>
<tr>
<td>CIS 130</td>
<td>Adobe Photoshop Elements</td>
<td>2</td>
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<tr>
<td>CIS 131</td>
<td>Adobe Flash - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 132</td>
<td>Adobe Premiere Elements - Comprehensive</td>
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</table>

**total minimum required units** 6

**web graphics - recommended electives**  
- CIS 133 Using Camtasia 1
- CIS 134 Using Apple iLife 2
- CIS 135 Podcasting 1

### Certificate of accomplishment - Computer information systems - project management

**required courses**  
<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 180</td>
<td>Introduction to Project Management/PMI Prep</td>
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<td>CIS 181</td>
<td>Project Management Fundamentals/PMI Prep</td>
<td>3</td>
</tr>
</tbody>
</table>

**total minimum required units** 6

### Certificate of accomplishment - Computer information systems - web technology

**required courses**  
<table>
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<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 105</td>
<td>Introduction to Web Design</td>
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<tr>
<td>CIS 106</td>
<td>Adobe Dreamweaver - Comprehensive</td>
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<tr>
<td>CIS 107</td>
<td>Web Database with Dreamweaver</td>
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<tr>
<td>CIS 115</td>
<td>Microsoft Word - Comprehensive</td>
<td>2</td>
</tr>
<tr>
<td>CIS 116</td>
<td>Microsoft Excel - Comprehensive</td>
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<td>Microsoft PowerPoint - Comprehensive</td>
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<td>Adobe Flash - Comprehensive</td>
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<tr>
<td>CIS 132</td>
<td>Adobe Premiere Elements - Comprehensive</td>
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</tr>
</tbody>
</table>

**total minimum required units** 6

**web technology - recommended electives**  
- CIS 117 Microsoft Access - Comprehensive 2
- CIS 160 Introduction to MySQL 2
- COMSC 195 WWW Publishing with HTML 1

### Certificate of accomplishment - Computer information systems - web technology

**required courses**  
<table>
<thead>
<tr>
<th>Course</th>
<th>Description</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>
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<tr>
<td>CIS 107</td>
<td>Web Database with Dreamweaver</td>
<td>2</td>
</tr>
</tbody>
</table>

**total minimum required units** 6

**web technology - recommended electives**  
- CIS 117 Microsoft Access - Comprehensive 2
- CIS 160 Introduction to MySQL 2
- COMSC 195 WWW Publishing with HTML 1
CIS-100  Microsoft Windows - Comprehensive
2 units  SC
- May be repeated once
- 36 hours lecture/18 hours laboratory per term
- Note: Credit by examination option available. May be repeated once when software or hardware is changed.

This course teaches the functions of Microsoft Windows Operating System (OS). It prepares students to use the various local and network functions of the current Windows OS. No previous computer experience is required. CSU

CIS-101  Apple Mac Operating System
2 units  SC
- May be repeated once
- 36 hours lecture/18 hours laboratory per term
- Note: Credit by examination option available. May be repeated once when software or hardware is changed.

This course teaches the functions of the Apple Mac Operating System, 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
- May be repeated once
- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS 100 or CIS 101 or equivalent
- Note: Credit by examination option available. May be repeated once when software or hardware is changed.

This course introduces students to the web development cycle. This process is used to create, organize, and maintain web sites that are easy to use and understand. 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
- May be repeated once
- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS 100 or CIS 101 or equivalent
- Note: Credit by examination option available. May be repeated once when software or hardware is changed.

This course is for students who want to learn the comprehensive functions of Adobe Dreamweaver. This program, which is part of the Adobe Creative Suite, is a web authoring and web animation software that is used industry wide. This course is for students who want a deeper understanding of the program. No previous experience with this software is required. CSU

CIS-107  Web Database with Dreamweaver
2 units  SC
- May be repeated once
- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS 100 or CIS 101 or equivalent
- Note: Credit by examination option available. May be repeated once when software or hardware is changed.

This course will enable students to use Dreamweaver to develop database-driven web pages. Students will learn basic database concepts and use Dreamweaver’s server behaviors to connect to a database and display and manipulate database content over the web. CSU

CIS-115  Microsoft Word - Comprehensive
2 units  SC
- May be repeated once
- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS 100 or CIS 101 or equivalent
- Note: Credit by examination option available. May be repeated once when software or hardware is changed.

This course is for students who want to learn the comprehensive functions of Microsoft Word, a powerful word processing program which is part of the Microsoft Office Suite. This course prepares students for Microsoft certification testing but is also useful for students who want a deeper understanding of the program. No previous experience with this software is required. CSU

CIS-116  Microsoft Excel - Comprehensive
2 units  SC
- May be repeated once
- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS 100 or CIS 101 or equivalent
- Note: Credit by examination option available. May be repeated once when software or hardware is changed.

This course is for students who want to learn the comprehensive functions of Microsoft Excel, a powerful spreadsheet program which is part of the Microsoft Office Suite. This course prepares students for Microsoft certification testing but is also useful for students who want a deeper understanding of the program. No previous experience with this software is required. CSU

CIS-117  Microsoft Access - Comprehensive
2 units  SC
- May be repeated once
- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS 100 or CIS 101 or equivalent
- Note: Credit by examination option available. May be repeated once when software or hardware is changed.

This course is for students who want to learn the comprehensive functions of Microsoft Access, a powerful database program which is part of the Microsoft Office Suite. This course prepares students for Microsoft certification testing but is also useful for students who want a deeper understanding of the program. No previous experience with this software is required. CSU
CIS-118 Microsoft PowerPoint - Comprehensive
2 units SC
- May be repeated once
- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS 100 or CIS 101 or equivalent.
- Note: May be repeated once when software or hardware is changed.

This course is for students who want to learn the comprehensive functions of Microsoft PowerPoint, a powerful presentation program which is part of the Microsoft Office Suite. This course prepares students for Microsoft certification testing but is also useful for students who want a deeper understanding of the program. No previous experience with this software is required. CSU

CIS-119 Microsoft Outlook - Comprehensive
2 units SC
- May be repeated once
- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS 100 or CIS 101 or equivalent
- Note: Credit by examination option available. May be repeated once when software or hardware is changed.

This course is for students who want to learn the comprehensive functions of Microsoft Outlook, a powerful email and personal information manager program which is part of the Microsoft Office Suite. This course prepares students for Microsoft certification testing but is also useful for students who want a deeper understanding of the program. No previous experience with this software is required. CSU

CIS-130 Adobe Photoshop Elements
2 units SC
- May be repeated once
- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS 100 or CIS 101 or equivalent
- Note: Credit by examination option available. May be repeated once when software or hardware is changed.

This course helps students to develop proficiency in Adobe Photoshop Elements; it covers acquiring, organizing, fixing, enhancing and sharing images. CSU

CIS-131 Adobe Flash - Comprehensive
2 units SC
- May be repeated once
- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS 100 or CIS 101 or equivalent
- Note: Credit by examination option available. May be repeated once when software or hardware is changed.

This course is for students who want to learn the comprehensive functions and have a deeper understanding of Adobe Flash. This program, which is part of the Adobe Creative Suite, is a web authoring and web animation software that is used industry wide. No previous experience with this software is required. CSU

CIS-132 Adobe Premiere Elements - Comprehensive
2 units SC
- May be repeated once
- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS 100 or CIS 101 or equivalent
- Note: Credit by examination option available.

This course will allow students to gain proficiency in Adobe Premiere Elements, covering video acquisition, editing, titling, web and DVD authoring. CSU

CIS-133 Using Camtasia
1 unit SC
- May be repeated once
- 18 hours lecture/18 hours laboratory per term
- Recommended: CIS 100 or CIS 101 or equivalent
- Note: Credit by examination option available.

A course on using Camtasia Studio to create training presentations and demonstrations. Students will learn screen capturing, editing, and production of final video for online and other digital media. CSU

CIS-134 Using Apple iLife
2 units SC
- May be repeated once
- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS 100 or CIS 101 or equivalent
- Note: Credit by examination option available.

An introduction to Apple’s iLife to create, organize, view and publish digital content, such as pictures, movies, music, and web pages. The course will cover iPhoto, iMovie, iWeb, GarageBand, and iDVD. CSU

CIS-135 Podcasting
1 unit SC
- May be repeated once
- 18 hours lecture/18 hours laboratory per term
- Recommended: CIS 100 or CIS 101 or equivalent
- Note: Credit by examination option available.

A course on creating and syndicating digital media over the internet. It covers the tools to create digital media and the techniques to promote them on the internet. CSU

CIS-150 Topics in Computer Information Systems
.75-4 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
• May be repeated once
• 36 hours lecture/18 hours laboratory per term
• Recommended: CIS 100 or CIS 101 or equivalent
• Note: Credit by examination option available
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-180  Introduction to Project Management/ CAPM Prep
3 units  SC
• 54 hours lecture per term
• Note: Credit by examination option available
This course is an introductory course on formal professional project management. It will also prepare the student to take the internationally recognized Project Management Institute (PMI) Certified Associate in Project Management (CAPM) certification exam. Earning a CAPM certification demonstrates that an individual possesses the skills required to manage projects and deliver products. Students will gain a solid knowledge of the processes of project management. The CAPM certification is recognized by nearly every industry in over 120 countries around the world. This course requires no previous experience with project management. CSU

CIS-181  Project Management Fundamentals/ PMI PMP Prep
3 units  SC
• 54 hours lecture per term
• Recommended: CIS 180 or equivalent
• Note: Credit by examination option available
This course is an intermediate course on formal professional project management. This course prepares the student to take the internationally recognized Project Management Institute (PMI) Project Management Professional (PMP) certification exam. Earning a PMP certification demonstrates that the student has acquired the skills to manage projects, deliver products and has a solid knowledge of PMP fundamentals. CSU

CIS-185  Microsoft Project
2 units  SC
• May be repeated once
• 36 hours lecture/18 hours laboratory per term
• Recommended: CIS 100 or CIS 101 or equivalent
• Note: Credit by examination option available
This course introduces the basic features and tools of Microsoft Project, including the following: creating a task list, setting up and assigning resources, tracking progress on tasks, organizing and formatting project details, publishing project information, sharing project information with other programs, tracking project progress, and consolidating projects and resources. CSU

CIS-186  Microsoft Visio
2 units  SC
• May be repeated once
• 36 hours lecture/18 hours laboratory per term
• Recommended: CIS 100 or CIS 101 or equivalent
• Note: Credit by examination option available
Students will learn to use Microsoft Visio to create diagrams and flowcharts, including designing, creating, saving, and printing new Visio documents. CSU

COMPUTER NETWORK TECHNOLOGY – CNT
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.

Math and Computer Sciences Division
Rachel Westlake, Dean
Math Building 267
925-685-1230, ext. 2199

Possible career opportunities
The job titles of people employed in computer networking include: systems administrator, network administrator, network engineer, database administrator, LAN specialist and network designer.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in science degree
Microsoft Windows systems administration
Associate in Science Degree - Microsoft Windows Systems Administration

The associate degree in computer networking - Microsoft Windows systems administration prepares a student for a career in information technology while enabling the student to earn an associate in science degree. The degree offers students a broad general education while integrating an in-depth study of networking with Microsoft products. Students who intend to transfer to a four-year program should consult with a counselor regarding other course requirements. 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 for the major and complete all graduation requirements as listed in the catalog. Certain courses may satisfy both major and other graduation requirements; however, the units are only counted once.

Major Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
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<td>BUS 250</td>
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<td>CHEM 120</td>
<td>General College Chemistry</td>
<td>5</td>
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<tr>
<td>CNT 105</td>
<td>Computer Networking Hardware/Software</td>
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<td>CNT 114</td>
<td>Microsoft Windows Operating System Essentials/Administration</td>
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<td>CNT 117</td>
<td>Implementing Microsoft Windows Directory Services</td>
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<td>COMSC 100</td>
<td>Introduction to Computers and Information Systems</td>
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<td>COMTC 110</td>
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<td>PHYS 110</td>
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Plus at least 6 units from:

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<td>Voice, Video and Network Cabling</td>
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<td>CNT 116</td>
<td>Implementing Windows Server Enterprise</td>
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<td>CNT 118</td>
<td>Implementing a Microsoft Windows Network Infrastructure</td>
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<td>CNT 125</td>
<td>Introduction to Virtualization Technology</td>
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<td>CNT 138</td>
<td>Implementing and Managing Microsoft Exchange Server</td>
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<td>CNT 148</td>
<td>Network Security and Ethical Hacking</td>
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<tr>
<td>COMSC 121</td>
<td>Database Administration</td>
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Total Minimum Required Units: 34

CNT-105  Computer Networking Hardware/Software

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</table>

- May be repeated once
- 54 hours lecture per term
- Recommended: COMSC 100 or equivalent
- Note: May be repeated once when software and networking technologies are upgraded

This course is a foundation course that provides an overview of computer networking components. It provides the student with the concepts needed to work in a networking environment. This course explains and describes how computer networks are used, designed, installed, and the terminology associated with computer networks. This course begins to prepare students for the CompTIA Network+ exam and is the introduction course for the Microsoft and Computer Technical Support programs. CSU

CNT-114  Microsoft Windows Operating System Essentials/Administration

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</table>

- 45 hours lecture/27 hours laboratory per term
- Recommended: CNT 105 or equivalent; COMSC 100 or equivalent

This course provides students with the knowledge and skills necessary to perform administrative tasks in a single-domain Microsoft Windows network. The goal of this course is to provide individuals who are new to Microsoft Windows operating system with the knowledge necessary to understand and identify the tasks involved in supporting Windows networks. This is an introductory course designed to provide knowledge of user accounts, groups and group scopes, permissions, security, Active Directory terminology, optimizing IP address allocation, utilities, and Web Services. CSU

CNT-116  Implementing Windows Server Enterprise

<table>
<thead>
<tr>
<th>Units</th>
<th>LR</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

- 45 hours lecture/27 hours laboratory per term
- Recommended: CNT 114 or equivalent
- Note: May be repeated once when software and networking technologies are upgraded

Students will learn to install and configure Microsoft Windows Professional on stand-alone computers and on client computers that are part of a workgroup or a domain. In addition, this course provides the skills and knowledge necessary to install and configure Windows Server and to create file, print, and Terminal Servers. Students will administer an organizational unit within a single domain structure. CSU

CNT-103  Voice, Video and Network Cabling

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 unit</td>
<td>LR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>May be repeated once</td>
<td></td>
</tr>
<tr>
<td></td>
<td>18 hours lecture/36 hours laboratory per term</td>
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</tr>
</tbody>
</table>

This course is designed to provide students with the practical aspects of design, installation, testing, and troubleshooting cable carrying voice, data, and video signals. This course is designed to provide students with job entry skills to install and terminate voice video and networking cable to industry standards. Students will terminate and test copper and fiber-optic cable. After completion of this course, students are able to be FOA certified. 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: May be repeated once when software and networking technologies are upgraded

Students will learn to install, configure, and administer Microsoft Windows Active Directory directory services. The course also focuses on implementing Group Policy and understanding the Group Policy tasks required to centrally manage users and computers. 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 install and manage Windows Domains and Domain Controllers through Active Directory. CSU

CNT-118  Implementing a Microsoft Windows Network Infrastructure
3 units  LR
- 45 hours lecture/27 hours laboratory per term
- Recommended: CNT 116 or equivalent
- Note: May be repeated once when software and networking technologies are upgraded

This course will enable students to install, configure, manage and support a network infrastructure that uses the Microsoft Windows Server products. The course focuses heavily on TCP/IP and related services, including DHCP Server service, DNS Server service, WINS, network security protocols, Public Key Infrastructure (PKI), Internet Protocol Security (IPSec), and remote access. The course also enables the student to configure Windows as a network router, configure Internet access for a network, configure a Web server, and manage a Windows deployment using Remote Installation Services (RIS). CSU

CNT-125  Introduction to Virtualization Technology
3 units  LR
- May be repeated once
- 45 hours lecture/27 hours laboratory per term
- Recommended: CNT 118 or equivalent
- Note: May be repeated once when software and networking technologies are upgraded

The course provides students with the knowledge and skills necessary to install and configure both Microsoft and VMware Virtualization Technologies. Students will be introduced to storage systems, business continuity, storage security and management, virtualization technology and concepts. This course will cover deployment and administration of various operating systems, Hyper-V, Virtual machine networks. CSU

CNT-138  Implementing and Managing Microsoft Exchange Server
3 units  LR
- May be repeated once
- 45 hours lecture/27 hours laboratory per term
- Note: Refer to course schedule for specific Exchange Server version

This course provides students with in-depth product information on the following topics: planning deployment and installing Exchange Server, architecture of Exchange Server, supporting Exchange Server in a single site or multisite enterprise environment, establishing messaging connectivity over the Internet, and supporting Web access to Exchange Server computers through Microsoft Outlook Web Access. CSU

CNT-148  Network Security and Ethical Hacking
3 units  LR
- 45 hours lecture/27 hours laboratory per term
- Recommended: CNT 114 or equivalent

Students will learn to analyze computers and networks for vulnerabilities and to preserve for forensic investigation. Students will learn about laws pertaining to computer and network forensic investigation. Students will perform case studies on cyber attack investigations. This course contributes to the preparation for the following certifications: AccessData Certified Examiner™ credential, Certified Information Systems Security Professional (CISSP), Cisco Certified Security Professional (CCSP), Security+, and Microsoft Security Certification. CSU

CNT-150  Topics in Computer Networking
.3-4 units  SC
- May be repeated three times
- 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-161  Router Configuration and Implementation
2 units  SC
- May be repeated once
- 27 hours lecture/27 hours laboratory per term
- Recommended: CNT 105 or equivalent

This course is designed to introduce students to router configuration and implementation. Instruction includes safety, router commands, router bootup process, router IOS backup and restore process, TCP/IP addressing implementation, dynamic routing, and the administrator’s role and function. This course is part of the preparation for the Cisco Certified Networking Associate (CCNA) certification. CSU
The computer science department offers courses in three general areas, each targeted to serve students with specific needs:

a. General education students seeking a computer literacy course which 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 100, 100L, 195)

b. Computer science transfer students planning to major in computer science or computer engineering at a four-year school (COMSC 110, 210, 255, 260, 265, 266)

c. Information systems (programming) professionals who are seeking to update their skills, (COMSC 171, 255, 256, 257, 265, 266)

Math and Computer Science Division
Rachel Westlake, Dean
Math Building 267
925-685-1230, ext. 2199

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 may 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.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in science degree
Computer science

Certificates of achievement
- Computer science - Advanced C++ programming
- Computer science - Advanced Java programming
- Computer science - Computer architecture
- Computer science - Mobile and Enterprise Java programming
- Computer science - Program design
- Computer user support

Associate in science degree - Computer science
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. Students who intend to transfer to a four-year program in computer science should consult with a counselor regarding other mathematics and science requirements. To earn a degree, students must complete each course used to meet a major requirement with a “C” grade or higher, and complete all graduation requirements as listed in the catalog. Certain courses may satisfy both major and other graduation requirements; however the units are only counted once.

<table>
<thead>
<tr>
<th>major requirements</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>

in addition, the student must complete either

| COMSC 200 Object Oriented Programming C++                | 4     |
| COMSC 255 Programming with Java                          | 4     |
| COMSC 256 Advanced Programming with Java                 | 4     |

| total minimum required units | 20    |

Certificate of achievement - Computer science - Advanced C++ programming
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.

<table>
<thead>
<tr>
<th>required courses</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMSC 110 Introduction to Programming</td>
<td>4</td>
</tr>
<tr>
<td>COMSC 165 Advanced Programming with C and C++</td>
<td>4</td>
</tr>
<tr>
<td>COMSC 200 Object Oriented Programming C++</td>
<td>4</td>
</tr>
</tbody>
</table>

| total minimum required units | 12    |
Certificate of achievement - Computer science - Advanced Java programming
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 255  Programming with Java .......................... 4
COMSC 256  Advanced Java Programming .................... 4

total minimum required units  12

Certificate of achievement - Computer science - Computer architecture
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 260  Assembly Language Programming/Computer Organization ........................................ 4

total minimum required units  12

Certificate of achievement - Computer science - Mobile and enterprise Java programming
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 257  Mobile and Enterprise Java Programming ..... 4

total minimum required units  12

Certificate of achievement - Computer science - Program design
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 user support
This program gives students the skills in computer programming, personal productivity applications, and data communications that they will need to succeed as a software support specialist in a typical office environment where administrative and financial management are supported by personal computers. To be successful the individual must have an understanding of the capabilities and limitations of microcomputers, be able to recommend personal productivity solutions to management, purchase and install stand alone and networked microcomputers and software, write instructions for using applications, and provide training on new systems.

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

required courses      units
CNT 105  Computer Networking Hardware/Software ................. 3
COMSC 100  Introduction to Computers and Information Systems ........................................ 3
COMSC 100L  Introduction to Computer Software .............. 1
COMSC 138  Advanced Microsoft Office Using Visual Basic for Applications (VBA) .......... 2

plus at least 3 units from:
CNT 114  Microsoft Windows Operating System Essentials/Administration .................. 3
COMSC 110  Introduction to Programming .................... 4
COMSC 171  Introduction to UNIX and Linux ................ 2

total minimum required units  12

COMSC-100  Introduction to Computers and Information Systems
3 units  SC
• 54 hours lecture/18 hours laboratory per term
A beginning course designed to acquaint the student with the general concepts and basic vocabulary of computers and information systems. Includes introduction to the organization and functions of basic components of computers, and information processing systems. Instruction in programming procedures and programming logic is provided. Appropriate for the student with a general interest in this area as well as for the student desiring to pursue further training in computer science or information systems. CSU, UC (credit limits may apply to UC - see counselor)
COMSC-100L  Introduction to Computer Software
1 unit SC
• 54 hours laboratory per term
• Recommended: Concurrent enrollment in COMSC 100
The student will learn to use the Microsoft Windows operating system and Microsoft Office, including the Excel spreadsheet program, the Access database program, the PowerPoint presentation program and the Word word processing program. The hands-on computer work will augment the basic concepts covered in COMSC 100. CSU, UC (credit limits may apply to UC - see counselor)

COMSC-110  Introduction to Programming
4 units SC
• 54 hours lecture/54 hours laboratory per term
• Prerequisite: Placement through the assessment process or MATH 110 or MATH 110SP or equivalent.
• Recommended: COMSC 100 or equivalent
• Note: Credit by examination option available
Introduction to programming emphasizing modular design and development of programs, coding style, documentation, debugging, and testing. All control structures and data types of a commonly-used language are covered. CSU, UC

COMSC-110X  Extended Introduction to Programming
2 units P/NP
• 27 hours lecture/27 hours laboratory per term
• Prerequisite: COMSC 110 or equivalent
• Note: The four-unit COMSC 110 is offered in either C++ or Java. Students cannot repeat COMSC 110 for the purpose of taking it in a different language. COMSC 110X offers this opportunity, in a compare and contrast context, without repeating the programming concepts taught in COMSC 110.

An extension of COMSC 110, allowing students to take the programming language portion of COMSC 110 in another language (C++ or Java). CSU

COMSC-120  SQL Programming
4 units SC
• 54 hours lecture/54 hours laboratory per term
• Recommended: COMSC 110 or ENGIN 135 or equivalent
• Note: Same as CNT 135. Refer to class schedule for specific Oracle and SQLServer versions.
This course covers the creation and maintenance of databases and tables. It also covers the storage, retrieval and manipulation of data. Both Oracle and Microsoft SQLServer are covered, including SQL script that is common to both, and product-specific variations. CSU

COMSC-121  Database Administration
4 units SC
• 54 hours lecture/54 hours laboratory per term
• Note: Same as CNT 131. Refer to class schedule for specific Oracle and SQLServer versions.
This course is designed to give the database administrator (DBA) a foundation in basic administrative tasks and provide the necessary knowledge and skills to set up, maintain, and troubleshoot a database. Both Oracle and SQLServer are covered. CSU

COMSC-138  Advanced Microsoft Office Using Visual Basic for Applications (VBA)
2 units SC
• May be repeated once
• 27 hours lecture/27 hours laboratory per term
• Recommended: COMSC 100L or equivalent
• Note: May be repeated once when software is upgraded
This course teaches advanced features of Microsoft Office Suite, including Word, Excel, PowerPoint and Access. This course teaches customization and automation using Visual Basic for Applications (VBA). Topics include application integration, advanced functions, creating interactive forms, pivot tables, the tools, properties, objects, and language syntax of VBA and much more. CSU

COMSC-142  XML (eXtensible Markup Language)
2 units SC
• 27 hours lecture/27 hours laboratory per term
• Recommended: COMSC 195 or equivalent
This course introduces eXtensible Markup Language (XML) Documents. Students will learn the difference between HTML and XML and learn how to use XSL transformations. CSU

COMSC-150  Topics in Computer Science
.3-4 units SC
• May be repeated three times
• Variable hours
• Note: May be repeated twice when software is changed
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
• 54 hours lecture/54 hours laboratory per term
• Prerequisite: COMSC 110 or ENGIN 135 or equivalent
• Formerly COMSC 265
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. CSU, UC
COMSC-171  Introduction to UNIX and Linux  
2 units  SC  
• 27 hours lecture/27 hours laboratory per term  
A beginning course to acquaint the student with the UNIX and Linux operating systems. Topics include: terminals, shells, processes, permissions, utility programs, editors, using network services, shell and AWK scripting, and X Window graphics. CSU, UC

COMSC-172  UNIX and Linux Administration  
2.5 units  SC  
• 32 hours lecture/40 hours laboratory per term  
• Recommended: COMSC 171 or equivalent  
• Note: Course content will apply to all UNIX versions and Linux  
This course is designed to prepare the student to install, maintain, and administer a UNIX or Linux system. Topics include installation, booting, hardware configuration, kernel configuration, TCP/IP configuration, X Window configuration, user management, BOOTP/DHCP servers, routing, DNS servers, file servers, email, web servers, backup and security. CSU

COMSC-195  WWW Publishing with HTML  
1 unit  SC  
• 18 hours lecture/9 hours laboratory per term  
Formerly COMSC 095  
Learn to publish World Wide Web (WWW) pages using Hypertext Markup Language (HTML). Create your own web page and study how to create attractive and functional documents using text and graphics. CSU

COMSC-196  Advanced WWW Publishing  
1 unit  SC  
• 18 hours lecture/9 hours laboratory per term  
• Recommended: COMSC 195 or equivalent  
• Formerly COMSC 096  
This is an advanced WWW Publishing course which builds on the skills learned in COMSC 195 and provides further hands-on development of WWW documents and web programming fundamentals. CSU

COMSC-197  Advanced HTML - Style Sheets and DHTML  
1 unit  SC  
• 18 hours lecture/9 hours laboratory per term  
• Recommended: COMSC 195 or equivalent  
• Formerly COMSC 097  
This course will cover the use of “style sheets” to create formatting templates for a website and to precisely control the position and appearance of items on each web page. It will also cover DHTML techniques for creating animations. This class will open opportunities for students who want to be more involved in web page programming. CSU

COMSC-200  Object Oriented Programming C++  
4 units  SC  
• 54 hours lecture/54 hours laboratory per term  
• Prerequisite: COMSC 165 or equivalent  
• Formerly COMSC 266  
This course provides detailed coverage of the concepts and syntax of the C++ Language. Coverage includes inheritance, overloaded operators, overloaded default operators, virtual functions, memory management, files, streams, templates, and exceptions. 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  
Techniques relevant to program design and selection of data structures for larger programs. Topics covered 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 required. CSU, UC

COMSC-255  Programming with Java  
4 units  SC  
• 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, OOP principles, GUI interfaces, 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 will cover 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 and Enterprise Java Programming  
4 units  SC  
• 54 hours lecture/54 hours laboratory per term  
• Recommended: COMSC 255 or equivalent  
The course covers Mobile and Enterprise programming concepts using the Java programming language. The Mobile programming topics include activities, services, broadcast receivers, content providers, telephony, text messaging and location services. The Enterprise programming concepts include Enterprise Java Beans (EJBs), Session Beans, Entity Beans, Message Driven Beans, and Java Naming and Directory Services (JNDI). CSU
COMSC-260  Assembly Language Programming/Computer Organization
4 units  SC
• 54 hours lecture/54 hours laboratory per term
• Prerequisite: COMSC 165 or equivalent
A course covering 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 handling, virtual memory, cache memory, and dynamic address translation. CSU, UC

COMSC-266  Object Oriented Programming C++
4 units  SC
• 54 hours lecture/54 hours laboratory per term
• Prerequisite: COMSC 265 or equivalent
This course provides detailed coverage of the concepts and syntax of the C++ Language. Coverage includes inheritance, overloaded operators, overloaded default operators, virtual functions, memory management, files, streams, templates, and exceptions. CSU, UC

COMPUTER TECHNICAL SUPPORT – COMTC
Physical Sciences and Engineering Division
Physical Sciences Building

Possible career opportunities
The field of computer technical support includes jobs related to computer assembly, computer upgrading, computer servicing, and computer networking including wireless systems. In the industrial area job opportunities include computer controls and data acquisition. Job opportunities are good for individuals with skills in computer hardware, computer software and electronics.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Certificate of achievement - Computer technical support
This program is intended to prepare the student for jobs in business and government as computer support technicians. Principle areas of study are computer software applications, hardware, and basic network principles. Instruction will include the installation, support and repair of microcomputers, especially those attached to local area networks (LANs). To earn a certificate, 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 for the major, and complete all graduation requirements as listed in the catalog. Certain courses may satisfy both major and other graduation requirements; however, the units are only counted once.

Certificate requirements  units
BUS 250  Business Communications I ..................................3
CNT 103  Voice, Video and Network Cabling .............................1
CNT 105  Computer Networking Hardware/Software...........................3
CNT 114  Microsoft Windows Operating System Essentials/Administration ..........3
COMSC 100L  Introduction to Computer Software ..........................1
COMTC 110  Introduction to Computer Hardware/Software .........................4
COMTC 118  Introduction to Operating Systems ............................4
COMTC 120  Computer Systems Troubleshooting ..........................4

Total minimum required units  23

Associate in science degree - Computer technical support
This two-year associate in science degree program is intended to prepare the student for jobs in business and government as computer support technicians. Principle areas of study are computer software applications, hardware, and basic network principles. Instruction will include the installation, support and repair of microcomputers, especially those attached to local area networks (LANs). 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 for the major, and complete all graduation requirements as listed in the catalog. Certain courses may satisfy both major and other graduation requirements; however, the units are only counted once.

Certificate requirements  units
BUS 250  Business Communications I ..................................3
CNT 103  Voice, Video and Network Cabling .............................1
CNT 105  Computer Networking Hardware/Software...........................3
CNT 114  Microsoft Windows Operating System Essentials/Administration ..........3
COMSC 100L  Introduction to Computer Software ..........................1
COMTC 110  Introduction to Computer Hardware/Software .........................4
COMTC 118  Introduction to Operating Systems ............................4
COMTC 120  Computer Systems Troubleshooting ..........................4

Total minimum required units  23

Certificate of achievement - Computer technical support
This program is intended to prepare the student for jobs in business and government as computer support technicians. Principle areas of study are computer software applications, hardware, and basic network principles. Instruction will include the installation, support and repair of microcomputers, especially those attached to local area networks (LANs). To earn a certificate, 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. Certificate requirements are available in the evening, day and on weekends.
required courses  units
BUS 250  Business Communications I ............................3
CNT 103  Voice, Video and Network Cabling ..................1
CNT 105  Computer Networking Hardware/Software..........................3
CNT 114  Microsoft Windows Operating System Essentials/Administration ..........................3
COMSC 100L Introduction to Computer Software ..............1
COMTC 110  Introduction to Computer Hardware/Software..........................4
COMTC 118  Introduction to Operating Systems .................4
COMTC 120  Computer Systems Troubleshooting ..............4

Certificate of accomplishment - Computer technical support
This program prepares students for entry-level jobs as computer technicians. Typical jobs would be computer assembly, computer upgrading, and introductory computer repair with an overview of computer networking. The COMTC 110B and COMTC 118 courses help students prepare for the “A+ computer technician” exam. The “A+ computer technician” is intended for individuals with six months or more of computer technician work experience. The A+ exam is administered by Sylvan Prometric off campus and has a fee associated with the exam. The courses listed below change frequently because of new versions of software, so students are advised to consult with the faculty in the computer networking/computer technical support department.

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. Certificate requirements are available in the evening and some are offered in the day and on weekends.

required courses  units
COMTC 110  Introduction to Computer Hardware/Software ........................................4
COMTC 118  Introduction to Operating Systems ..........................4
CNT 105  Computer Networking Hardware/Software......3
CNT 114  Microsoft Windows Operating System Essentials/Administration ..........................3

COMTC-115  A+ Exam Preparation
2 units  SC
- 36 hours lecture/18 hours laboratory per term
- Recommended: COMTC 110 or equivalent
This course will cover the topics that are on the A+ computer technician exam. Students will learn the scope of the exam by taking practice exams and then study on the areas that they need to improve. CSU

COMTC-118  Introduction to Operating Systems
4 units  LR
- May be repeated once
- 54 hours lecture/54 hours laboratory per term
- Note: May be repeated once when software or hardware is changed
This course combines theory with hands-on experience in an introduction to central processing units (CPU), hard disk controllers, magnetic data storage, various file systems, and file maintenance tasks. This course will introduce students to the procedures involved in supporting various versions of Windows, DOS and LINUX operating systems. CSU

COMTC-120  Computer Systems Troubleshooting
4 units  LR
- May be repeated once
- 54 hours lecture/54 hours laboratory per term
- Prerequisite: COMTC 110 and COMTC 118 or equivalents
This advanced level course provides instruction in computer systems troubleshooting and configuration for both hardware and software. Students will learn problem-solving techniques and how to solve problems using diagnostic software and hardware. Troubleshooting techniques will be applied through laboratory exercises. CSU

COMTC-150  Topics in Computer Service
.3-4 units  SC
- May be repeated three times
- Variable hours
A supplemental course in computer service technology to provide a study of current concepts and practices in computer servicing and related subjects. Specific topics will be announced in the schedule of classes. CSU
CONSTRUCTION – CONST

Physical Sciences and Engineering Division
Physical Sciences Building

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.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in science degree
Construction
Specializations:
- Construction management
- Construction and building inspection
- Construction and supervision and superintendency

Certificates of achievement
- Construction and building inspection
- Construction management
- Construction and supervision and superintendency

Associate in science degree – Construction
Upon successful completion of one of the areas of 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 graduation 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, graduation 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 graduation 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 G.E.).

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.

<table>
<thead>
<tr>
<th>construction management specialization</th>
<th>required courses</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCHI 244 Architectural Practice and Working Drawings</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BUS 101 Business English</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>COMSC 100 Introduction to Computers and Information Systems</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>COMSC 100L Introduction to Computer Software</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CONST 135 Construction Processes (Residential)</td>
<td>4</td>
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<td>CONST 244 Estimating - Residential</td>
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<tr>
<td>CONST 273 Construction Management</td>
<td>3</td>
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<td>CONST 276 Legal Aspects of the Construction Industry</td>
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<tr>
<td>ENGIN 111 Mathematics for Technicians</td>
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<td>PHYS 110 Elementary Physics</td>
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<table>
<thead>
<tr>
<th>construction and building inspection specialization</th>
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<tbody>
<tr>
<td>CONST 114 Blueprint Reading</td>
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<td></td>
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<tr>
<td>CONST 124 Construction Details and Specifications</td>
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<td>CONST 170 Fundamentals of Building Inspection</td>
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<tr>
<td>CONST 181 Building Code Interpretation: Non-Structural</td>
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<td>CONST 182 Building Code Interpretation: Structural</td>
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<tr>
<td>CONST 183 Title 24: Energy Conservation Codes</td>
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<tr>
<td>CONST 191 Plumbing Code Interpretation</td>
<td>3</td>
<td></td>
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<tr>
<td>CONST 192 Mechanical Code Interpretation</td>
<td>3</td>
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<td>CONST 266 Electrical Codes: Articles 90-398</td>
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<td>CONST 267 Electrical Codes: Articles 400-830</td>
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<tr>
<td>total minimum required units</td>
<td>33</td>
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</tbody>
</table>
Certificate of achievement - Construction and building inspection

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>
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<tbody>
<tr>
<td>BUS 101</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 120</td>
<td>Introduction to Management Studies</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 121</td>
<td>Practices and Concepts of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>CONST 114</td>
<td>Blueprint Reading</td>
<td>3</td>
</tr>
<tr>
<td>CONST 116</td>
<td>Plane Surveying</td>
<td>3</td>
</tr>
<tr>
<td>CONST 124</td>
<td>Construction Details and Specifications</td>
<td>3</td>
</tr>
<tr>
<td>CONST 244</td>
<td>Estimating – Residential</td>
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<tr>
<td>CONST 245</td>
<td>Estimating – Commercial</td>
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<td>CONST 273</td>
<td>Construction Management</td>
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</tr>
<tr>
<td>CONST 276</td>
<td>Legal Aspects of the Construction Industry</td>
<td>3</td>
</tr>
</tbody>
</table>

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
- COOP 170 Occupational Work Experience Education | 1-4

total minimum required units: 36

Certificate of achievement - Construction and supervision and superintendency

This two-year program is designed to prepare students for positions in middle management or as technicians in the construction industry, working with a contractor, architect, engineer, or supplier and including such duties as material takeoff, estimating costs, purchasing, and timekeeping.

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

required courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BUSMG 120</td>
<td>Introduction to Management Studies</td>
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<tr>
<td>BUSMG 121</td>
<td>Practices and Concepts of Supervision</td>
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<tr>
<td>CONST 114</td>
<td>Blueprint Reading</td>
<td>3</td>
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<tr>
<td>CONST 116</td>
<td>Plane Surveying</td>
<td>3</td>
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<tr>
<td>CONST 124</td>
<td>Construction Details and Specifications</td>
<td>3</td>
</tr>
<tr>
<td>CONST 244</td>
<td>Estimating – Residential</td>
<td>3</td>
</tr>
<tr>
<td>CONST 245</td>
<td>Estimating – Commercial</td>
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<td>CONST 273</td>
<td>Construction Management</td>
<td>3</td>
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<tr>
<td>CONST 276</td>
<td>Legal Aspects-Construction Industry</td>
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<tr>
<td>ENGL 130</td>
<td>Introduction to Technical Writing</td>
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total minimum required units: 33

required courses

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<thead>
<tr>
<th>Course Code</th>
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<td>BUSMG 120</td>
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<td>BUSMG 121</td>
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<td>Blueprint Reading</td>
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<td>Construction Management</td>
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<tr>
<td>CONST 276</td>
<td>Legal Aspects-Construction Industry</td>
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</tr>
<tr>
<td>ENGL 130</td>
<td>Introduction to Technical Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

total minimum required units: 30
CONST-110  Occupational Safety  
2 units  SC  
- May be repeated once  
- 36 hours lecture per term  
- Note: May be repeated when regulatory or industry standards change  
- Formerly INTEC 110  

This course covers the principles of safety in an industrial environment. Topics include: safety legislation and programs, management/supervisory and employee responsibilities and attitudes, physical hazards associated with chemicals, equipment, fire, compressed gases and other topics including eye, stress, drugs, lifting, office and noise safety, OSHA and EPA regulations as applied to the industrial environment. CSU

CONST-114  Blueprint Reading  
3 units  SC  
- 54 hours lecture per term  

Blueprint reading for the building industry. CSU

CONST-116  Plane Surveying  
3 units  SC  
- 54 hours lecture/54 hours laboratory per term  
- Prerequisite: MATH 121 or equivalent  
- Note: Same as ENGIN 140  

Principles and practices of surveying including measurement of distances, directions and elevations; measuring standards; introduction to electronic measurements and metric units; calibration, systematic and random error analysis; traverse calculations; use and care of surveying instruments including tapes, transits and levels; GPS measurements; map reading; horizontal and vertical curves and mapping. CSU, UC

CONST-124  Construction Details and Specifications  
3 units  SC  
- 54 hours lecture per term  

Advanced study of construction detailing and specifications for building systems from foundations to roofs, including windows and doors, thermal and moisture protection, stairs and elevators and metal fabrications for wood frame, reinforced concrete, structural steel, and heavy timber buildings. Interpretation and sketching of details as well as an introduction to the general conditions for the construction contract. Techniques required to produce construction drawings and specifications conforming to current building codes and standards, including using manual drawing techniques and computer aided drafting. CSU

CONST-135  Construction Processes (Residential)  
4 units  SC  
- 54 hours lecture/54 hours laboratory per term  
- Note: This course will benefit anyone wishing to buy, build, maintain, or sell a house. Credit by examination option available.  

Introduction to the basic concepts of the construction industry. A study of the processes of light wood-frame construction, covering code requirements in construction. Areas of focus include quantity analysis, work activity sequencing and scheduling. This course lays the foundation for further study of other construction courses. CSU

CONST-136  Construction Processes (Commercial)  
4 units  SC  
- 54 hours lecture/54 hours laboratory per term  

A study of the processes of heavy construction including review of the working plans/drawings, construction sites, layout, substructures and superstructures made of concrete, steel, masonry and wood. CSU

CONST-144  Materials of Construction  
3 units  SC  
- 54 hours lecture per term  

A study of the performance characteristics of construction materials. Covers testing concepts and procedures. Includes basic properties of metals, concrete, timber, masonry, and roofing materials with emphasis on construction applications. CSU

CONST-150  Topics in Construction  
-3-4 units  SC  
- May be repeated three times  
- 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  

A study of basic construction inspection procedures, and the inspector’s legal responsibility. Covered topics include: inspecting structures, occupancy types, safety, and proper record keeping. CSU

CONST-180  Building Codes Use and Occupancy Types  
3 units  SC  
- May be repeated once  
- 54 hours lecture per term  

Acquaints the student with legal requirements associated with building classification. Development of checklists and knowledge of a nonstructural plan check review. CSU
CONST-181 Building Code Interpretation: Non-Structural
3 units SC
- 54 hours lecture per term
Acquaints the student with legal requirements associated with building inspection. Development of checklists and knowledge of a nonstructural plan check review. CSU

CONST-182 Building Code Interpretation: Structural
3 units SC
- May be repeated once
- 54 hours lecture per term
- Recommended: MATH 110 or equivalent
Acquaints the student with legal requirements associated with building inspection. Development of checklists and knowledge of a structural plan check review. CSU

CONST-183 Title 24: Energy Conservation Codes
3 units SC
- May be repeated once
- 54 hours lecture per term
This course is an overview of Title 24 energy conservation and energy compliance codes. Focus of the course is on building plan inspection and construction field inspection. Course includes energy projects, streamlining energy compliance forms review, case studies and reviewing plan checking and building inspection procedures. CSU

CONST-191 Plumbing Code Interpretation
3 units SC
- May be repeated once
- 54 hours lecture per term
- Note: May be repeated when code changes
Interpretation, understanding and application of codes and standards as they apply to construction of plumbing systems. CSU

CONST-192 Mechanical Code Interpretation
3 units SC
- 54 hours lecture per term
Acquaints the students with legal requirements associated with building inspection. Interpretation, understanding and application of codes and standards as they apply to construction of mechanical systems. CSU

CONST-244 Estimating - Residential
3 units SC
- 54 hours lecture per term
- Recommended: CONST 114 or CONST 135 or equivalent
A basic course in estimating cost of labor and materials for residential construction. CSU

CONST-245 Estimating - Commercial
3 units SC
- 54 hours lecture per term
- Recommended: CONST 114 and CONST 136 or equivalents
A course in estimating quantities of materials and costs of materials, labor, and miscellaneous items for commercial buildings. CSU

CONST-266 Electrical Codes: Articles 90-398
3 units SC
- May be repeated once
- 54 hours lecture per term
- Note: Same as ELECT 266. May be repeated when code changes.
Interpretation of the National Electrical Code for general requirements, wiring and protection, wiring methods and materials (articles 90-398). Safety installation practices will be applied.

CONST-267 Electrical Codes: Articles 400-830
3 units SC
- May be repeated once
- 54 hours lecture per term
- Note: Same as ELECT 267. May be repeated when code changes.
Interpretation of the National Electrical Code for equipment for general use, special occupancies and special equipment (articles 400-830). Safety installation practices will be applied.

CONST-273 Construction Management
3 units SC
- 54 hours lecture per term
Introduction to and application of administrative procedures, contracts, plans and specifications, schedules, diaries, inspections, report writing, and other forms of communication in the construction field. CSU

CONST-276 Legal Aspects of the Construction Industry
3 units SC
- 54 hours lecture per term
A summary of the legal implications of the duties and responsibilities of a construction supervisor, superintendent, or contractor. Attention will be given to contracts and their interpretations. Emphasis on the practical aspects of legal theories, codes, and cases applied to the construction industry. CSU
**CONST-298 Independent Study**

.5-3 units SC

- May be repeated three times
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.

An opportunity for advanced students to study special interests under the direction of the faculty. CSU

**CONST-299 Student Instructional Assistant**

.5-3 units SC

- May be repeated three times
- 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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**COOPERATIVE EDUCATION – COOP**

Students may earn units for learning on-the-job through Cooperative 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. The course is designed for students whose jobs relate to their college major or career goals and provides on-the-job training in business and industrial establishments under supervision of a college instructor and is facilitated by the use of learning objectives.

Counseling Division
Counseling Center

Theses 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: COOP 160: Students who are employed but have not declared a major or their jobs are unrelated to their major. COOP 170: Students who are employed and their jobs are related to their major. COOP 180: Students who are participating in internship or volunteer opportunities in jobs that are related to their major.

**COOP-160 General Work Experience Education**

1-3 units SC

- May be repeated three times
- Variable hours
- Note: In order to enroll in a COOP course, students must be employed, register for the course, complete an online Employment Form, participate in an orientation, and receive approval from Career and Employment Services. Students may earn 1 unit for 5 hours work per week or 75 hours work per term. Does not meet requirements for veterans’ benefits. Employment Form can be accessed at www.dvc.edu/coop. Incomplete grades are not awarded for COOP. Students may repeat to a maximum of 16 units; an appeal will be required after 3 repetitions.

COOP 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

**COOP-170 Occupational Work Experience Education**

1-4 units SC

- May be repeated three times
- Variable hours
- Note: In order to enroll in a COOP course, students must be employed, register for the course, complete an online Employment Form, participate in an orientation, and receive approval from Career and Employment Services. Students may earn 1 unit for 5 hours work per week or 75 hours work per term. Employment Form can be accessed at www.dvc.edu/coop. Incomplete grades are not awarded for COOP. Students may repeat to a maximum of 16 units; an appeal will be required after 3 repetitions.

COOP 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. CSU
COOP-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 COOP 180 course, students must be interning or volunteering, register for the course, complete an online Employment Form, participate in an orientation, and receive approval from Career and Employment Services. Students may earn 1 unit for 5 hours work per week or 75 hours work per term (paid work) or 1 unit for 4 hours work per week or 60 hours work per term (unpaid work). Employment Form can be accessed at www.dvc.edu/coop. Incomplete grades are not awarded for COOP. Students may repeat to a maximum of 16 units; an appeal will be required after 3 repetitions.
• Formerly COOP 170A

COOP 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.

COUNS-095 Orientation to College
.3-2 units P/NP
• Variable hours
• Note: Completion of English and math assessment four days prior to this course will facilitate appropriate course selection. Please bring a print-out of your assessment results to the COUNS 095 Orientation to College course. We also need you to view the DVC online catalog and schedule of classes before coming to class.
• Formerly COUNS 105

An introduction to college which is designed to provide students with a concrete plan for succeeding in college. Topics include: identification of educational and career goals, strategic use of student services, academic assessment (effective course selecting and scheduling), geographical orientation, counseling and advising.

COUNS-096 Orientation to College for Student-Athletes
.3-2 units P/NP
• Variable hours
• Note: Completion of English and math assessment four days prior to this course will facilitate appropriate course selection
• Formerly COUNS 106

An introduction to college for student-athletes, designed to provide students with a concrete plan for enrolling and succeeding in college. Topics include: overview of the higher education system in California, identification of educational and career goals, strategic use of student services, academic assessment, effective course selection and scheduling, geographical orientation, counseling and advising, NCAA, COA (Commission on Athletics) and DVC regulations as well as campus services for student-athletes will be emphasized.

COUNS-120 Student Success
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent

An intensive course designed to assist students to identify and develop critical thinking and problem-solving skills that will facilitate their adjustment to the college environment and the productive pursuit of their educational objectives. The goal is to develop effective behavior patterns through self-evaluation related to many relevant areas such as motivation and discipline, memory development, time management, resource utilization, effective student behavior, and handling social and personal issues that face many college students. CSU, UC
COUNS-130 Transfer Transitions  
1.5 units SC  
- 27 hours lecture per term  
- Recommended: Eligibility for ENGL 122 or equivalent  
Through this course students research, evaluate and develop a transfer plan that is well organized and specific to the individual’s life circumstance and educational goals. Students explore the world of transfer from academic, financial, and personal development perspectives. A key component of this course is learning research skills and strategies using a variety of techniques to find, retrieve and evaluate transfer planning information. CSU

COUNS-150 Topics in Counseling  
.3-4 units SC  
- May be repeated three times  
- 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 P/NP  
- May be repeated three times  
- Variable hours  
- Formerly COUNS 100  
An interpersonal experience designed to develop self-awareness and to increase understanding of and competence in interpersonal relationships. CSU

CULINARY ARTS – CULN

Business Division  
Rachel Westlake, Dean  
Math Building 267  
925-685-1230, ext. 2199

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 assis-tant, 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.

Program level student learning outcomes  
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in science degree  
Hospitality studies  
Specializations:  
- Baking and pastry  
- Culinary  
- Restaurant management  

Certificates of achievement  
- Baking and pastry  
- Culinary arts  
- Restaurant management  

Associate in science degree - Hospitality studies  
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 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:  
Baking and pastry:  
For over 30 years, DVC has been successfully preparing students for professional careers 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 curricu-
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 Requirements Options 2 or 3.

Restaurant management:
For over 30 years, DVC has been successfully preparing students for professional culinary careers. Accredited by the American Culinary Federation since 1990, 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.

Culinary arts:
For over 30 years, DVC has been successfully preparing students for professional culinary careers. Accredited by the American Culinary Federation since 1990, 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.

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>
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<tr>
<th>core courses</th>
<th>units</th>
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<tbody>
<tr>
<td>CULN 105 Introduction to the Kitchen</td>
<td>0.5</td>
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<tr>
<td>CULN 110 Orientation to Hospitality</td>
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<tr>
<td>CULN 115 Culinary Mathematics</td>
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<tr>
<td>CULN 120 Fundamentals of Cuisine</td>
<td>5</td>
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<tr>
<td>CULN 153 Safety and Sanitation</td>
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<tr>
<td>CULN 185 Nutritional Guidelines in Food Preparation</td>
<td>2</td>
</tr>
<tr>
<td>CULN 192 Purchasing Operations and Systems Laboratory</td>
<td>2.5</td>
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<tr>
<td>CULN 195 Supervisory Management in Food Service</td>
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<tr>
<td>CULN 224 Catering Business and Operations</td>
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plus at least 2 units from:

- COOP 170 Occupational Work Experience Education | 1-4 |
- COOP 180 Internship in Occupational Work Experience Education | 1-4 |
- CULN 298 Independent Study | 0.5-3 |
- CULN 299 Student Instructional Assistant | 0.5-3 |

plus at least 2.5 units from:

- CULN 225 Laboratory Topics in Catering and Special Events | 0.3-4 |

Choose one of the following three specialization areas:

baking and pastry

<table>
<thead>
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<th>required courses</th>
<th>units</th>
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<tbody>
<tr>
<td>CULN 180 Fundamentals of Baking</td>
<td>3.5</td>
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<tr>
<td>CULN 280 Advanced Pastry and Baking</td>
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</table>

plus at least 2 units from:

- CULN 150* Topics in Culinary Arts | 0.3-4 |
- CULN 213 Seasonal Spring Desserts | 1 |
- CULN 214 Seasonal Fall Desserts | 1 |
- CULN 215 Decorative Confectionary Showpieces | 1 |

culinary arts

<table>
<thead>
<tr>
<th>required courses</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CULN 127 Garde Manager</td>
<td>2</td>
</tr>
<tr>
<td>CULN 154 Menu Development and Planning</td>
<td>2</td>
</tr>
<tr>
<td>CULN 160 Fundamentals of Beverage, Wine and Spirits</td>
<td>3</td>
</tr>
<tr>
<td>CULN 167 Restaurant Operations in the Dining Room</td>
<td>3</td>
</tr>
<tr>
<td>CULN 175 Meat, Fish and Poultry Fabrication</td>
<td>2</td>
</tr>
<tr>
<td>CULN 180 Fundamentals of Baking</td>
<td>3.5</td>
</tr>
<tr>
<td>CULN 220 Advanced Cuisine</td>
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</tbody>
</table>

DIABLO VALLEY COLLEGE CATALOG 2012-2013 PROGRAM AND COURSE DESCRIPTIONS 139
restaurant management

required courses
CULN 154 Menu Development and Planning .................. 2
CULN 160 Fundamentals of Beverage, Wine and Spirits ........................................ 3
CULN 167 Restaurant Operations in the Dining Room .... 3
CULN 180 Fundamentals of Baking .......................... 3.5
CULN 201 Principles of Food, Beverage and Cost Controls ........................................ 3
CULN 216 Food and Wine Pairing ............................ 1.5
CULN 220 Advanced Cuisine ................................ 5

total minimum required units 36.5-47

*Note: Topics for CULN 150 vary. Contact the Culinary Department to verify if a CULN 150 course meets the specific requirement for the degree.

Certificate of achievement - Baking and pastry

This in-depth training program prepares students for many entry-level positions in small and large bakeries, specialty pastry shops, dessert catering, and dessert preparation in restaurants. Our graduates enter the baking and pastry field, and many have started their own businesses.

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

required courses
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 180 Fundamentals of Baking .......................... 3.5
CULN 185 Nutritional Guidelines in Food Preparation .... 2
CULN 192 Purchasing Operations and Systems Laboratory ........................................ 2.5
CULN 195 Supervisory Management in Food Service ........................................ 3
CULN 224 Catering Business and Operations ............ 2
CULN 280 Advanced Pastry and Baking .................... 5

plus at least 2 units from:
CULN 150* Topics in Culinary Arts ......................... 0.3-4
CULN 213 Seasonal Spring Desserts ........................ 1
CULN 214 Seasonal Fall Desserts ............................ 1
CULN 215 Decorative Confectionary Showpieces .......... 1

plus at least 2.5 units from:
CULN 225 Laboratory Topics in Catering and Special Events ........................................ 0.3-4

Certificate of achievement - Culinary arts

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 ........................................ 2
CULN 153 Safety and Sanitation ................................ 2
CULN 154 Menu Development and Planning ............ 2
CULN 160 Fundamentals of Beverage, Wine and Spirits ........................................ 3
CULN 167 Restaurant Operations in the Dining Room .... 3
CULN 175 Meat, Poultry and Fish Fabrication .......... 2
CULN 180 Fundamentals of Baking .......................... 3.5
CULN 185 Nutritional Guidelines in Food Preparation .... 2
CULN 192 Purchasing Operations and Systems Laboratory ........................................ 2.5
CULN 195 Supervisory Management in Food Service ........................................ 3
CULN 220 Advanced Cuisine ................................ 5
CULN 224 Catering Business and Operations ............ 2

plus at least 2.5 units from:
CULN 225 Laboratory Topics in Catering and Special Events ........................................ 0.3-4

plus at least 2 units from:
COOP 170 Occupational Work Experience Education .... 1-4
COOP 180 Internship in Occupational Work Experience Education .................................. 1-4
CULN 298 Independent Study ................................ 0.5-3
CULN 299 Student Instructional Assistant ................. 0.5-3

total minimum required units 46.5
Certificate of achievement - Restaurant management

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.

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Plus at least 2.5 units from:

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>CULN 225 Laboratory Topics in Catering and Special Events</td>
<td>0.3-4</td>
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</tbody>
</table>

Plus at least 2 units from:

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<td>COOP 180 Internship in Occupational Work</td>
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</tr>
<tr>
<td>CULN 298 Independent Study</td>
<td>0.5-3</td>
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<td>CULN 299 Student Instructional Assistant</td>
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</tr>
</tbody>
</table>

Total Minimum Required Units 47

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.

CULN-105 Introduction to the Kitchen

0.5 unit SC

- 27 hours laboratory per term
- Note: Culinary and food service students must have a current record of satisfactory tuberculosis (TB) screening on file with the culinary offices by the beginning of classes. Students are required to supply their own equipment and uniforms depending on the class. See instructor at the first class meeting.

This course prepares students to begin the culinary arts program. It is for students who do not have familiarity with kitchen knife handling and working in the kitchen. This course provides an introduction to basic skills and safety practices. CSU

CULN-110 Orientation to Hospitality

3 units SC

- 54 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 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. CSU

CULN-115 Culinary Mathematics

1.5 units LR

- 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 depending on the class. See instructor at the first class meeting.

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 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 builds on basic student skills in knife, tool and culinary equipment handling, introduces basic food preparation, and provides a working knowledge of laws and regulations relating to safety and sanitation in the kitchen. The emphasis is on quantity food service. 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 mousses. Emphasis on decorated platters, buffets, and food show competitions. CSU

CULN-150  Topics in Culinary Arts  
.3-4 units  SC  
- May be repeated three times  
- 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  
- 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.  

A course to develop a working knowledge of the basic principles of safety and sanitation and their application in food service operations. Effective hygiene habits and food handling practices are reinforced, for protection of consumers. This course must be taken before or concurrently with the first culinary laboratory course. 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 learners with an opportunity to plan and develop basic restaurant menus, displaying a diversity of techniques and flavors within 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  
- 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 extensive examination of beverage service operations and control, basic production and types of wines and spirits, merchandising, and regulations concerning service of alcoholic and non-alcoholic beverages, coffee and tea. 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 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.  

Principles and techniques of dining room service and management, including various table settings and methods of service. This course provides practical experience in the fundamentals of dining room service, including rules and methods of service, handling various forms of food service, and conducting 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 meat identification process, including cuts, buying and ordering procedures, nutrition data, food safety and storage, and USDA grading standards. CSU

CULN-180  Fundamentals of Baking
3.5 units  SC
• 18 hours lecture/135 hours laboratory per term
• Prerequisite: CULN 105 or equivalent (may be taken concurrently)
• Co-requisite: CULN 153 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.

An applied and theoretical study of basic principles of commercial baking as practiced in hotels, restaurants and retail bakeries. Students apply fundamentals of baking science to the preparation of a variety of products, learning to use and care for equipment normally found in the bakeshop or baking area. CSU

CULN-185  Nutritional Guidelines in Food Preparation
2 units  SC
• 36 hours lecture 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.

Introduction to food composition, dietary guidelines, recipe modification, food cooking and storage techniques for nutrient retention, and contemporary nutritional issues. CSU

CULN-192  Purchasing Operations and Systems Laboratory
2.5 units  SC
• 144 hours laboratory per term
• Co-requisite: CULN 153 (may be taken previously) or equivalent
• Recommended: CULN 115 or MATH 110 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.

An application of principles in inventory control management, storage, and receiving. Fundamentals of purchasing based on analysis of quality, yield, cost of food and merchandise used in food service, control of purchases, receiving, storing, and issuing procedures using current computer applications. CSU

CULN-195  Supervisory Management in Food Service
3 units  SC
• 54 hours lecture 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 focuses on application of supervisory management principles to specific business situations in food services. CSU

CULN-201  Principles of Food, Beverage, and Cost Controls
3 units  SC
• 54 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 prepares students to apply cost control measures in restaurant and beverage management. Key principles and concepts are presented, and cost controls are demonstrated for each phase of beverage and food service operations. CSU
CULN-213  Seasonal Spring Desserts
1 unit  SC
- 9 hours lecture/9 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 depending on the class. See instructor at the first class meeting.

This course is a study of basic pastries, basic pastry components, and desserts, including practical applications, specific to the spring season, as related to the hospitality and food service industry, restaurants, wholesale and retail bakeries/pastry shops. CSU

CULN-214  Seasonal Fall Desserts
1 unit  SC
- 9 hours lecture/9 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 depending on the class. See instructor at the first class meeting.

This course is a study of basic pastries, basic pastry components, and desserts, including practical applications, specific to the fall season, as related to the hospitality and food service industry, restaurants, wholesale and retail bakeries/pastry shops. CSU

CULN-215  Decorative Confectionary Showpieces
1 unit  SC
- 18 hours lecture per term
- Recommended: CULN 180 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 course in the methodology of sugar work and advanced confectionary arts. 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 depending on the class. See instructor at the first class meeting.

This course prepares students planning careers in restaurant management to present wines that complement menu offerings. 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 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 upon student skills honed in the fundamentals of cuisine course, 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. CSU

CULN-224  Catering Business and Operations
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.

An introduction to operating a catering business including effective client relations, event planning, pricing and cost controls, legal issues, equipment requirements and menu planning for a variety of events such as banquets, ethnic and a la carte affairs. CSU

CULN-225  Laboratory Topics in Catering and Special Events
.3-.4 units  SC
- May be repeated three times
- Variable hours
- Co-requisite: CULN 153 or equivalent
- Recommended: CULN 120 or equivalent; 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.

A catering applications course integrating catering fundamentals with specific events and themes. Events will vary by course section. Students will apply their food preparation and service skills to different needs of catering clients. Refer to the schedule of classes for the specific section offering. CSU
**CULN-226 California Cuisine**

2 units  LR
- 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 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.

California cuisine explores the current California trend of local, regional, and seasonal ingredients used today. Students will learn culinary methods and practically apply them to produce their own menus and demonstrate in class their finished product. 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.

Introduction to and presentation of cuisines from around the world in cultural, social and historical frameworks. Emphasis will be on cultural contrast that reflects the ethnic culinology of at least three non-European countries (e.g. Egypt, China, and India). This course will develop an understanding of ethnic cuisine in today’s multi-cultural society and its significance and influence on (North) American culture. CSU

**CULN-280 Advanced Pastry and Baking**

5 units  SC
- 27 hours lecture/189 hours laboratory per term
- Prerequisite: CULN 180 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.

Advanced theory and technique in pastry and baking, including fruit desserts, spoon desserts, tarts, pies, plated desserts, frozen desserts, modernist desserts, decorated cakes, and light and low-calorie desserts. CSU

**CULN-298 Independent Study**

.5-3 units  SC
- May be repeated three times
- 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; topics must extend study beyond courses offered. CSU

An opportunity for advanced students to study special interests under direction of the faculty.

**CULN-299 Student Instructional Assistant**

.5-3 units  SC
- May be repeated three times
- 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

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**DANCE – DANCE**

Physical Education, Athletics and Dance Division
Christine Worsley, Dean
Physical Education Office Building 105
925-685-1230, ext. 2736

**DANCE-133 Ballet I**

1 unit  SC
- 54 hours laboratory per term
- Recommended: PEDAN 130 or equivalent

This is an intermediate course in ballet dance. It will focus on intermediate ballet barre, center adagio, allegro work, and across the floor combinations. Students will also learn the history of classical ballet works and their influence on the ballet dancer and current ballet styles. CSU, UC
DANCE-134 Ballet II
1 unit SC
• 54 hours laboratory per term
• Prerequisite: DANCE 133 or equivalent
This is an advanced course in ballet dance. It will focus on advanced ballet barre, center adagio, allegro work, and across-the-floor combinations. Students will also learn basic choreographic principles as they relate to ballet. CSU, UC

DANCE-135 Pointe Technique
1 unit SC
• 54 hours laboratory per term
• Prerequisite: DANCE 133 or PEDAN 130 or equivalent
• Formerly PEDAN 134
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 it relates to pointe technique. The historical origins of the pointe shoe, pointe work, conceptual principles of pointe ballet as an art form, and the anatomical structure of the lower extremities are also presented. CSU, UC

DANCE-137 Jazz Dance I
1 unit SC
• 54 hours laboratory per term
• Recommended: PEDAN 136 or equivalent
This is an intermediate course in jazz dance. It will focus on Broadway, Lyrical, Hip-Hop and contemporary styles. The students will also learn the history of jazz dance on stage, movie, and videos and its influence on the dancer and current jazz dance styles. CSU, UC

DANCE-138 Jazz Dance II
1 unit SC
• 54 hours laboratory per term
• Prerequisite: DANCE 137 or equivalent
This is an advanced course in jazz dance. It will focus on advanced jazz dance from Broadway, Lyrical, Hip-Hop and contemporary styles. Students will also learn basic choreographic principles as they relate to jazz dance. CSU, UC

DANCE-139 Jazz Dance III
1 unit SC
• 54 hours laboratory per term
• Prerequisite: DANCE 138 or equivalent
This is an advanced/pre-professional course in jazz dance. It will focus on advanced jazz dance from Broadway, Lyrical, Hip-Hop and contemporary styles utilizing pre-professional dance performance skills. Students will also use choreographic principles as they relate to jazz dance to enhance their performance potential. CSU, UC

DANCE-144 Modern Dance I
1 unit SC
• 54 hours laboratory per term
• Recommended: PEDAN 142 or equivalent
This is an intermediate course in modern dance. It will focus on intermediate axial and locomotor movements, styles from early modern, post-modern, and contemporary modern innovators. The students will also learn the history of modern dance and its influence on the modern dancer and current modern dance styles. CSU, UC

DANCE-145 Modern Dance II
1 unit SC
• 54 hours laboratory per term
• Prerequisite: DANCE 144 or equivalent
This is an advanced course in modern dance. It will focus on advanced axial and locomotor movements, styles from early modern, post-modern, and contemporary modern innovators. Students will also learn choreographic principles as they relate to modern dance. CSU, UC

DANCE-146 Modern Dance III
1 unit SC
• 54 hours laboratory per term
• Prerequisite: DANCE 145 or equivalent
This is an advanced/pre-professional course in modern dance. It will focus on advanced performance level axial and locomotor movements, styles from early modern, post-modern, and contemporary modern innovators with an emphasis on pre-professional performance quality. Students will also use choreographic principles as they relate to modern dance to enhance their performance potential. CSU, UC

DANCE-165 Ballet III
1 unit SC
• 54 hours laboratory per term
• Prerequisite: DANCE 134 or equivalent
This is an advanced/pre-professional course in ballet dance. It will focus on advanced ballet barre, center adagio, allegro work, and across-the-floor combinations at the pre-professional level. Students will learn classical ballet variations and basic pas de deux techniques as they relate to classical ballet. CSU, UC

DANCE-201 Western Culture Dance History: 20th Century to Present
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This is a course that investigates 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
DANCE-205 Music Theory for Dancers
2 units SC
• May be repeated once
• 18 hours lecture/54 hours laboratory per term
• Note: Previous experience in any dance technique is suggested
• Formerly PEDAN 131
This is an introductory course in music and its relationship to dance and dancers. It explores the use of rhythm, meter, measure and other compositional elements of music. The objective is for the dancer to apply the compositional elements of music to the choreography and dance performance. CSU, UC

DANCE-240 Dance Choreography
2 units SC
• 18 hours lecture/54 hours laboratory per term
• Formerly PEDAN 140
This is a course that develops choreographic skills through dance movement phrasing, spatial design and relationships, rhythm, theme and development, concert, solo and group work. Students will learn to critically evaluate choreographic dance components through analysis and presentation in the classroom. CSU, UC

DANCE-244 Repertory Dance Production
2 units SC
• May be repeated three times
• 108 hours laboratory by arrangement per term
• Recommended: Previous dance experience or equivalent
This is a dance performance class with an emphasis on experiential learning from participation in the planning, staging, rehearsing and performing of a faculty-choreographed dance production. CSU, UC

DANCE-245 Dance Production
2 units SC
• May be repeated three times
• 72 hours laboratory/36 hours laboratory by arrangement per term
• Formerly PEDAN 145
This is a course that involves the creation and staging of original student dance compositions. It includes the study of theory and technique with emphasis on dance as a performing art and participation in the technical and business aspects of a student production. A final dance concert performed by the students will culminate the term’s work. CSU, UC

DANCE-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• 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
Biological and Health Sciences Division
Physical Sciences Building

Possible career opportunities
The dental assisting program provides an excellent path for those interested in a variety of professions in the dental field. The Diablo Valley College dental assisting program prepares students to work in a dental office as an essential member of the dental team. Employment opportunities for the graduates include, but are not limited to: chairside assistant or front office administrator for dental offices or clinics, x-ray technician for dental radiation laboratories, agent for dental insurance companies, laboratory technician for dental laboratories, product representative for dental product manufacturers or marketing agent for dental supply companies. The DVC dental assisting program is approved by the Dental Board of California and accredited by the American Dental Association (ADA). This qualifies the student upon graduation to take state as well as national board examinations to become a licensed Registered Dental Assistant in California (RDA) and a Certified Dental Assistant (CDA). Other options for continuing education and licensing allow Registered Dental Assistant to specialize and become a Registered Dental Assistant in Extended Functions (RDAEF). Other career options include study to become a Registered Dental Hygienist (RDH), or a dentist (DDS or DMD).

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.
DENTAL ASSISTING

Associate in science degree
Dental assisting

Certificate of achievement
Dental assisting

Associate in science degree - Dental assisting

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

The Diablo Valley College dental assisting program is approved by the Dental Board of California and accredited by the Commission on Dental Accreditation of the American Dental Association (ADA), and the United States Department of Education. Students completing the degree or certificate program in dental assisting are eligible to take the California State written and practical examination and obtain their Registered Dental Assisting (RDA) license and take their national Certified Dental Assistant examination to become a Certified Dental Assistant (CDA).

The 11 month program is scheduled to begin each fall term in August and the dental assisting courses will be completed by the middle of June. The two terms and two week summer session include classroom instruction as well as clinical experience in the DVC dental clinic, UOP Dental School 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 applying to take the state license and national examinations.

To be eligible for enrollment in the dental assisting program, students must complete the prerequisite course DENTL 120, which is offered in the first two weeks of June. Students in the program must complete a health care provider cardiopulmonary resuscitation with AED course and have a valid copy of their certification card on file in the dental assisting department by the first day of class in August.

Associate degree requirements generally can be completed in two years of full time study. Some courses may meet lower division requirements for a baccalaureate degree at selected campuses of CSU or the bachelor of arts degree in health administration at private universities. Interested students should consult with the dental instructors or with the college counselors for more information.

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 graduation requirements as listed in the catalog. Certain courses may satisfy both major and other graduation requirements; however, the units are only counted once.

Program prerequisite: units
DENTL 120 Orientation to the Registered Dental Assisting Program.................................0.3

Note: It is strongly recommended to complete one of the required general education or English courses prior to entering the registered dental assisting program in the fall term. Refer to general education courses below.

Major requirements units
DENTL 171 Oral Facial Structures and Body Systems........4
DENTL 172 Dental Radiography I..................................2.5
DENTL 173 Dental Operative Procedures I......................3
DENTL 174 Dental Materials and Laboratory Procedures........................................3
DENTL 175 Infection Control, Oral Documentation and Theories of Dental Assisting........3
DENTL 180 Office Management....................................3
DENTL 181 Dental Emergencies, Pharmacology and Oral Pathology..........................2
DENTL 182 Dental Radiography II..................................2.5
DENTL 183 Advanced Dental Operative Procedures..........4.5
DENTL 184 Clinical Experience.....................................7
DENTL 191 Pit and Fissure Sealants for the RDA..............1.5
ENGL 122* Freshman English: Composition and Reading..............................................3
PSYCH 122* Psychology in Modern Life........................3
SPCH 121* Persuasion and Critical Thinking..................3

Total minimum required units 45.3

*Students are expected to take one or two of these courses in the summer prior to entering the program.

Certificate of achievement - Dental assisting

Program prerequisite: units
DENTL 120 Orientation to the Registered Dental Assisting Program.................................0.3

Note: It is strongly recommended to complete one of the required general education or English courses prior to entering the Registered Dental Assisting Program in the fall term. Refer to general education courses below.

Required courses units
DENTL 171 Oral Facial Structures and Body Systems........4
DENTL 172 Dental Radiography I..................................2.5
DENTL 173 Dental Operative Procedures I......................3
DENTL 174 Dental Materials and Laboratory Procedures........................................3
DENTL 175 Infection Control, Oral Documentation and Theories of Dental Assisting........3
DENTL 180 Office Management....................................3
DENTL 181 Dental Emergencies, Pharmacology and Oral Pathology..........................2
DENTL 182 Dental Radiography II..................................2.5
DENTL 183 Advanced Dental Operative Procedures..........4.5
DENTL 184 Clinical Experience.....................................7
DENTL 191 Pit and Fissure Sealants for the RDA..............1.5

148 PROGRAM AND COURSE DESCRIPTIONS DIABLO VALLEY COLLEGE CATALOG 2012-2013
and the Occupational Safety and Health Administration (OSHA). 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. CSU

DENTL-150  Topics in Dental Assisting
.3-4 units SC
• May be repeated three times
• 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 Structures and Body Systems
4 units LR
• 54 hours lecture/36 hours laboratory per term
• Prerequisite: DENTL 120 and current American Heart Association or American Red Cross Basic Life Support with Defibrillator Certificate or equivalents
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: Current enrollment in the DVC Registered Dental Assisting program, current TB clearance, hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR Certificate (Basic Life Support for Healthcare Provider with AED) are required

An introduction to general anatomy, body systems, and monitoring patient sedation as related to respiratory and cardiovascular systems. Head and neck anatomy with emphasis on the teeth and their supporting structures. CSU

DENTL-172  Dental Radiography I
2.5 units LR
• 36 hours lecture/36 hours laboratory per term
• Prerequisite: DENTL 120 and current American Heart Association or American Red Cross Basic Life Support with Defibrillator Certificate or equivalents
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: Current enrollment in the DVC Registered Dental Assisting program, current TB clearance, hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR Certificate (Basic Life Support for Healthcare Provider with AED) are required

This course is designed for all students interested in enrolling into the registered dental assisting program. The orientation course will provide the student with detailed enrollment information and the health protocol standards for the registered dental assistant student. Emphasis will be placed on laboratory asepsis, infection control and disease transmission. Information will be given on the supplies and equipment needed for disease prevention in compliance with regularity agencies such as the Dental Board of California, Center for Disease Control and Prevention (CDC)
DENTL-173 Dental Operative Procedures I  
3 units LR  
- 36 hours lecture/54 hours laboratory per term  
- Prerequisite: DENTL 120 and current American Heart Association or American Red Cross Basic Life Support with Defibrillator Certificate or equivalents  
- Recommended: Eligibility for ENGL 122 or equivalent  
- Note: Current enrollment in the DVC Registered Dental Assisting program, current TB clearance, hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR Certificate (Basic Life Support for Healthcare Provider with AED) are required  

DENTL-174 Dental Materials and Laboratory Procedures  
3 units LR  
- 36 hours lecture/54 hours laboratory per term  
- Prerequisite: DENTL 120 and current American Heart Association or American Red Cross Basic Life Support with Defibrillator Certificate or equivalents  
- Recommended: Eligibility for ENGL 122 or equivalent  
- Note: Current enrollment in the DVC Registered Dental Assisting program, current TB clearance, hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR Certificate (Basic Life Support for Healthcare Provider with AED) are required  

DENTL-175 Infection Control, Oral Documentation and Theories of Dental Assisting  
3 units LR  
- 36 hours lecture/54 hours laboratory per term  
- Prerequisite: DENTL 120 and current American Heart Association or American Red Cross Basic Life Support with Defibrillator Certificate or equivalents  
- Recommended: Eligibility for ENGL 122 or equivalent  
- Note: Current enrollment in the DVC Registered Dental Assisting program, current TB clearance, hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR Certificate (Basic Life Support for Healthcare Provider with AED) are required  

Emphasis will be placed on clinical infection control procedures (disinfection, instrument processing and sterilization, waste disposal, types of diseases of particular concern to the dental team, prevention of disease transmission), related national and state regulatory and advisory agencies, and related legal and ethical concerns. Topics also include: documenting medical/dental health histories; taking and record-
DENTL-182 Dental Radiography II
2.5 units LR
- 27 hours lecture/54 hours laboratory per term
- Prerequisite: DENTL 172 and current American Heart Association or American Red Cross Basic Life Support with Defibrillator Certificate or equivalents
- Recommended: Eligibility for ENGL 122 or equivalent
- Note: Current CPR certificate (Basic Life Support for Healthcare Provider with AED)

Emphasizes patient management and radiation safety. Infection control procedures in accordance with OSHA and CDC guidelines and regulations from the Dental Board of California. Perform and evaluate various types of intraoral and extra-oral radiographs and interpretation thereof. Advanced principles and practices of dental radiography with emphasis on technique and diagnostic quality of dental x-rays. Continuation of various digital radiography techniques. The dental assistant's role in radiography and in exposing patients as it pertains to the Dental Practice Act (DPA), state of California. CSU

DENTL-183 Advanced Dental Operative Procedures
4.5 units LR
- 63 hours lecture/72 hours laboratory per term
- Prerequisite: DENTL 173 and current American Heart Association or American Red Cross Basic Life Support with Defibrillator Certificate or equivalents
- Recommended: Eligibility for ENGL 122 or equivalent
- Note: Current CPR certificate (Basic Life Support for Healthcare Provider with AED)

Advanced studies and manipulative skills in the specialties of dentistry. These specialties include: orthodontics, pediatrics, oral surgery, periodontics, endodontics, prosthodontics, and public health. Board approved coronal polish and community service dental health projects. CSU

DENTL-184 Clinical Experience
7 units LR
- 36 hours lecture/288 hours laboratory per term
- Prerequisite: DENTL 174 and current American Heart Association or American Red Cross Basic Life Support with Defibrillator Certificate or equivalents
- Recommended: Eligibility for ENGL 122 or equivalent
- Note: Current CPR certificate (Basic Life Support for Healthcare Provider with AED)

Dental assisting experience with emphasis on private dental practices to include: dental office evaluation, job expectations, interviewing skills, resume writing, employment evaluations and agreements. Written and practical mock exams will be conducted in preparation for State and National Board exams upon completion of the program. Two week pre-clinical review prior to internship rotation. CSU

DENTL-190 Ultra Sonic Scaling for Orthodontic Procedures for the RDA
1 unit LR
- 9 hours lecture/18 hours laboratory per term
- Prerequisite: DENTL 183 and current American Heart Association or American Red Cross Basic Life Support with Defibrillator Certificate or equivalents
- Note: Current enrollment in the DVC Registered Dental Assisting program, current TB clearance, hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR Certificate (Basic Life Support for Healthcare Provider with AED) are required.

Theory and utilization of an ultrasonic scaler for the removal of excess supragingival cement from the coronal surfaces of teeth undergoing orthodontic treatment as described by the Dental Board of California. Emphasis will be placed on following standard precautionary principles and infection control protocols before, during and after the procedure. CSU

DENTL-191 Pit and Fissure Sealants for the RDA
1.5 units SC
- 9 hours lecture by arrangement/54 hours laboratory by arrangement per term
- Prerequisite: DENTL 183 and current American Heart Association or American Red Cross Basic Life Support with Defibrillator Certificate or equivalents
- Note: Current enrollment in the DVC Registered Dental Assisting program, current TB clearance, hepatitis immunization and/or titer, tetanus vaccination, malpractice insurance, and current CPR Certificate (Basic Life Support for Healthcare Provider with AED) are required

This course presents the theory, utilization, preparation and application of dental pit and fissure sealants for Registered Dental Assistants as outlined by the Committee on Dental Auxiliaries (COMDA) and the Dental Board of California (DBC). Emphasis will be placed on following standard precautionary principles and infection control protocols before, during and after procedure. CSU

DENTL-299 Student Instructional Assistant
.5-3 units SC
- May be repeated three times
- 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

Biological and Health Sciences Division
Physical Sciences Building

Possible career opportunities
While most dental hygienists find employment in general dental practices, opportunities for employment also exist in specialty practices such as periodontics or pediatric dentistry. Hygienists may be employed to provide 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 a dental school or a dental hygiene education program. Research careers, office management, business administration and clinical practice careers, in school or public health programs, also generally require additional education.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in science degree
Dental hygiene

Certificate of achievement
Dental hygiene

Associate in science degree - Dental hygiene
This two-year program of classroom instruction and clinical experience prepares students to perform the educational, clinical (teeth cleaning), and laboratory responsibilities of a dental hygienist. Students are prepared to take the National Board Examination, California Registered Dental Hygiene State Board Examination as well as board examinations in other states. The program is accredited by Commission on Dental Accreditation of the American Dental Association and by the United States Department of Education and approved by the California State Board of Dental Examiners.

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 five years.

To earn a degree, student must complete the A.S. degree requirements (unless they already hold this or a higher degree) and achieve a “C” grade or higher in each of the required courses. Dental hygiene required program courses are only available in the day. However, required general education courses are available in the day or evening. Students who have the greatest success completing the dental hygiene program have taken the general education courses prior to application and have an overall GPA of 3.0 or higher. Certain courses may satisfy both prerequisite/major and graduation requirements; however, the units are only counted once.

Students in the dental hygiene program must present a current cardiopulmonary resuscitation card and results of a recent physical examination providing evidence of good health including tuberculosis clearance and immunization at the beginning of their first term. For dental hygiene program information and an application packet for enrollment contact the Dental Hygiene Department, Counseling Office or DVC website.

program prerequisites or equivalents

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC 120*</td>
<td>Introduction to Human Anatomy and Physiology</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>ENGL 122</td>
<td>Freshman English: Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>NUTRI 160*</td>
<td>Nutrition: Science and Applications</td>
<td>3</td>
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</tbody>
</table>

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

**Total minimum required units - prerequisite**

**23**

*These courses must have been completed within the past five years.

program requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DENHY 101</td>
<td>Dental Hygiene Orientation</td>
<td>0.3</td>
</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</td>
</tr>
<tr>
<td>DENHY 122</td>
<td>Clinical Dental Hygiene</td>
<td>5</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>Fundamentals of Radiology for the Dental Hygienist</td>
<td>2</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>
</tr>
<tr>
<td>DENHY 129</td>
<td>Contemporary Dental Materials for the Dental Hygienist</td>
<td>1.5</td>
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<tr>
<td>DENHY 130</td>
<td>Local Anesthesia</td>
<td>1</td>
</tr>
<tr>
<td>DENHY 131</td>
<td>Behavioral Foundation and Communication Skills</td>
<td>1</td>
</tr>
<tr>
<td>DENHY 134</td>
<td>Evaluation of Scientific Research</td>
<td>1</td>
</tr>
<tr>
<td>DENHY 135</td>
<td>Pharmacology for the Dental Hygienist</td>
<td>3</td>
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<tr>
<td>DENHY 136</td>
<td>Dental Hygiene Care for Clients with Special Needs</td>
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</tbody>
</table>

**Categories**
- Biology
- Chemistry
- English
- Mathematics
- Natural Science
- Physical Science
- Social Science
- Health Science
- Physical Education
- Visual and Performing Arts
Dental Hygiene

This two-year program of classroom instruction and clinical experience prepares students to perform the educational, clinical (teeth cleaning), and laboratory responsibilities of a dental hygienist. Students are prepared to take the National Board Examination, California Registered Dental Hygiene State Board Examination and many other state board examinations. The program is accredited by the Commission on Dental Accreditation of the American Dental Association and by the United States Department of Education and approved by the California State Board of Dental Examiners.

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 five years.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Dental hygiene required program courses are only available in the day. However, required general education courses are available in the day or evening. Students who have the greatest success completing the dental hygiene program have taken the general education courses prior to application and have an overall GPA of 3.0 or higher.

Students in the dental hygiene program must present a current cardiopulmonary resuscitation card and results of a recent physical examination providing evidence of good health including tuberculosis clearance and immunizations at the beginning of their first term. For dental hygiene program information and an application packet for enrollment contact the Dental Hygiene Department, Counseling Office or DVC website.

Certificate of achievement - Dental hygiene

Program prerequisites or equivalents

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<tr>
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<td>3</td>
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<tr>
<td>NUTRI 160* Nutrition: Science and Applications</td>
<td>3</td>
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Plus at least 4 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC 119* Fundamentals of Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC 148* Principles of Microbiology</td>
<td>5</td>
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</tbody>
</table>

Total minimum units prerequisite 23

These courses must have been completed within the past five years.

Required general education courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>PSYCH 122 Psychology in Modern Life</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO 120 Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 120 Public Speaking</td>
<td>3</td>
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</table>

Total units of general education 9

Required dental hygiene program courses

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>DENHY 101 Dental Hygiene Orientation</td>
<td>0.3</td>
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<tr>
<td>DENHY 120 Introduction to Dental Hygiene: Theory, Process of Care and Practice</td>
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</tr>
<tr>
<td>DENHY 121 Introduction to Comprehensive Clinical Dental Hygiene Care</td>
<td>5</td>
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<tr>
<td>DENHY 122 Clinical Dental Hygiene</td>
<td>5</td>
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<tr>
<td>DENHY 123 Oral Health Care Education</td>
<td>2</td>
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<tr>
<td>DENHY 124 Fundamentals of Radiology for the Dental Hygienist</td>
<td>2</td>
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<tr>
<td>DENHY 125 Head and Neck Anatomy, Histology, and Embryology</td>
<td>4</td>
</tr>
<tr>
<td>DENHY 126 Dental Morphology</td>
<td>2</td>
</tr>
<tr>
<td>DENHY 127 Infection Control: Theory, Practice and Communication</td>
<td>2</td>
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<tr>
<td>DENHY 128 Periodontics for the Dental Hygienist</td>
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<tr>
<td>DENHY 129 Contemporary Dental Materials for the Dental Hygienist</td>
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</tr>
<tr>
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<td>1</td>
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<tr>
<td>DENHY 133 Behavioral Foundation and Communication Skills</td>
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<tr>
<td>DENHY 134 Evaluation of Scientific Research</td>
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<tr>
<td>DENHY 135 Pharmacology for the Dental Hygienist</td>
<td>3</td>
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<tr>
<td>DENHY 136 Dental Hygiene Care for Clients with Special Needs</td>
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<tr>
<td>DENHY 219 Pathology</td>
<td>2</td>
</tr>
<tr>
<td>DENHY 223 Ethics, Jurisprudence, and Practice Management</td>
<td>2</td>
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<tr>
<td>DENHY 224 Integration of Dental Hygiene and Dentistry</td>
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<tr>
<td>DENHY 225 Community Oral Health</td>
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<td>DENHY 226 Community Oral Health Service Learning</td>
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<tr>
<td>DENHY 227 Advanced Periodontal Dental Hygiene Care</td>
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<td>DENHY 230 Advanced Clinical Dental Hygiene Care</td>
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<tr>
<td>DENHY 231 Advanced Clinical Dental Hygiene Care II</td>
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Total minimum required units program 56.8

Total minimum required units 88.8

Recommended courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>DENTL 110 Overview of the Dental Profession</td>
<td>1.5</td>
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<tr>
<td>DENHY 295 RDH Examination Preparation</td>
<td>0.5</td>
</tr>
</tbody>
</table>

DIABLO VALLEY COLLEGE CATALOG 2012-2013 PROGRAM AND COURSE DESCRIPTIONS 153
The following courses are open only to those accepted into the dental hygiene program.

**DENHY-101 Dental Hygiene Orientation**
0.3 unit  P/NP
- 6 hours lecture/12 hours laboratory per term
- Note: Only students who are accepted into the dental hygiene program (or accepted as an alternate) will be allowed to register for this course. See the catalog or website for program information

This course is an overview of dental hygiene curriculum, dental terminology, introduction to instrumentation skills and areas of planning and time management for the dental hygiene student. CSU

**DENHY-120 Introduction to Dental Hygiene: Theory, Process of Care and Practice**
1 unit  LR
- 18 hours lecture per term
- Prerequisite: BIOSC 146 and DENHY 101 or equivalent

An introduction to the evolving profession of dental hygiene, the conceptual framework for dental hygiene and the dental hygiene process for the promotion of oral health and wellness. The course will focus on the dental hygiene human needs conceptual model and its application to the dental hygiene process of care. While all eight human needs related to dental hygiene care will be addressed, special focus will be given to assessment of the human needs for integrity of the skin and mucous membrane and a biologically sound and functional dentition. In addition, dental hygiene diagnosis and identification of dental hygiene interventions will be included. CSU

**DENHY-121 Introduction to Comprehensive Clinical Dental Hygiene Care**
5 units  LR
- 54 hours lecture/108 hours laboratory per term
- Prerequisite: DENHY 101 or equivalent
- Note: TB clearance and medical exam

Introduction to the dental hygiene process, technical skills and procedures used in the clinical practice of dental hygiene. Clinical competency development will focus on client assessments, dental hygiene diagnosis, treatment planning, case presentation and implementation of instrumentation techniques for providing prevention-oriented and therapeutic dental hygiene care. Post treatment evaluation is also emphasized. CSU

**DENHY-122 Clinical Dental Hygiene**
5 units  LR
- 48 hours lecture/126 hours laboratory per term
- Prerequisite: DENHY 101 or equivalent
- Note: Current certificate in CPR required

Application of the dental hygiene process of care guided by the human needs conceptual model to promote oral health and wellness. The course includes laboratory and clinical experiences in client assessments, problem identification (dental hygiene diagnosis), dental hygiene care planning, case presentation and implementation of dental hygiene care (preventive and therapeutic procedures, oral health education). Evaluation of dental hygiene care/oral health goals attainment is also emphasized as an essential component of the dental hygiene process. This course has an emphasis on case study development in relationship to client care needs and treatment planning. CSU

**DENHY-123 Oral Health Care Education**
2 units  LR
- 36 hours lecture per term
- Prerequisite: DENHY 101 and NUTRI 160 or equivalents

This course is designed to introduce 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 actively involved in their dental/oral care. This course will also focus on gaining information and the application of information related to oral health care to help the student make informed decisions regarding oral health promotion and disease prevention. Personal mechanical removal of bacterial plaque through the use of toothbrushes and other oral physiotherapy aids is introduced. Case studies will be used to enhance the learning experience (i.e. critical thinking and problem solving skills). CSU

**DENHY-124 Fundamentals of Radiology for the Dental Hygienist**
2 units  LR
- 18 hours lecture/54 hours laboratory per term
- Prerequisite: DENHY 101 and CHEM 108 or equivalent

The study of radiology includes principles of radiation physics, biology, radiation safety, imaging theory, analysis of radiographs and quality assurance. The course focuses on application of the principles of radiology for assessment of the teeth and surrounding structures as an integral component of dental hygiene care and for use in collaborating with other dental professionals to ensure comprehensive oral health care. Contemporary alternative imaging modalities will also be discussed. The laboratory component includes development of values, attitudes and skills to produce radiographs of the highest technical quality with minimum client and operator exposure. CSU
DENHY-125 Head and Neck Anatomy, Histology, and Embryology
4 units LR
- 54 hours lecture/54 hours laboratory per term
- Prerequisite: DENHY 101 and BIOSC 120 or equivalents
A course concerned with the functions of the head and neck, with special attention being given to the oral cavity. Included is the general micro-anatomy of the tissue and the embryological development of the head and neck. CSU

DENHY-126 Dental Morphology
2 units LR
- 36 hours lecture per term
- Prerequisite: DENHY 101 or equivalent
The study of the structures and forms of the human dentition through combined lecture and laboratory experience. 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 or equivalent
Presents epidemiology and biomedical information regarding infectious diseases, such as hepatitis, herpes and human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) and prevention of disease transmission. This course will include infection control principles, protocols, CDC and OSHA recommendations/regulations and an introduction to effective communication techniques essential for 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
The study of the discipline of periodontics. This includes related biological, clinical and behavioral aspects of the disease. Specifically, content will include: etiology, histopathology, epidemiology of the periodontal diseases; anatomical and histological features of the healthy periodontium; dental hygiene diagnosis; the classification of the periodontal diseases; the principles of periodontal therapy including prevention, initial periodontal therapy (biologic basis and rationale); adjunctive therapy; periodontal maintenance; principles of resective regenerative surgery. 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
The study of dental materials science designed to achieve an understanding of the underlying principles of materials science as they apply to the selection and handling of those materials utilized as part of contemporary comprehensive dental hygiene care. Students will gain knowledge of the basic science and behavior of existing materials within a framework which will enable them to adapt to the rapidly evolving array of new dental materials and techniques in the professional arena. CSU

DENHY-131 Local Anesthesia
1 unit LR
- 9 hours lecture/27 hours laboratory per term
- Prerequisite: DENHY 101 and DENHY 127 or equivalents
- Note: Current certificate in CPR required
A course covering the techniques of pain control by the administration of local anesthetics. The course prepares the student for management of the more complex clinical client during advanced dental hygiene care procedures. CSU

DENHY-133 Behavioral Foundations and Communications Skills
1 unit LR
- 18 hours lecture per term
- Prerequisite: DENHY 101 or equivalent
Introduction to principles drawn from the behavioral sciences which provide the knowledge base to guide dental hygienist-client communication. The course will include 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. Work will focus on the modification of teaching, learning, and communication techniques appropriate for clients throughout the life span and development of abilities to interact with the many individuals and groups who make up our multicultural environment. CSU

DENHY-134 Evaluation of Scientific Research
1 unit LR
- 18 hours lecture per term
- Prerequisite: DENHY 101 and ENGL 122 or equivalents
This course is designed to familiarize the student with scientific research methodology and provide the tools necessary to critically review, evaluate and interpret scientific research results as presented in scientific and professional literature. Additionally, this course will provide insight into the review process for popular literature. CSU
DENHY-135  Pharmacology for the Dental Hygienist  
3 units  LR  
- 54 hours lecture per term  
- Prerequisite: DENHY 101 and CHEM 109 or equivalents  
The study of pharmaceuticals used in medicine and dentistry. Emphasis is placed on identifying and understanding drugs by category of therapeutic use (i.e. local anesthetics, antibiotics, anti hypertensives). The underlying physiologic basis for drug action is explored. Adverse reactions including side effects and allergic responses are addressed. The study of nitrous oxide as a dental sedative in preparation for the use of this drug clinically is a core component of the course. CSU

DENHY-136  Dental Hygiene Care for Clients with Special Needs  
1 unit  LR  
- 18 hours lecture per term  
- Prerequisite: DENHY 101 or equivalent  
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  
- May be repeated three times  
- Variable hours  
- Prerequisite: DENHY 101 or equivalent  
A supplemental course 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  
This course is designed to provide an introduction to clinical and diagnostic general and oral pathology. Emphasis will be placed upon the recognition of the presence of abnormality and the acquisition by the student of sufficient knowledge upon which to base a reasonable differential diagnosis of any lesion which is likely to be met in general dental practice. CSU

DENHY-224  Integration of Dental Hygiene and Dentistry  
1.5 units  LR  
- 27 hours lecture per term  
- Prerequisite: DENHY 120 or equivalent  
A course covering various phases of dentistry including restorative dentistry, esthetic dentistry, prosthodontics, endodontics, orthodontics, pediatric dentistry, geriatric dentistry, oral/maxillofacial surgery, and new technology in dentistry. Students are exposed to how these various areas of dentistry are implemented in the general dental practice, how they are related to the practice of dental hygiene, as well as how to make a referral to a dental specialist in the case of the complex patient. Integration of dental concepts and comprehensive patient care in preparation for future collaborative practice between the dental hygienist and other health care providers is emphasized for each topic area. Ethical considerations and the role of effective communication and teamwork in providing comprehensive client care is emphasized throughout the course. Career satisfaction and opportunities for employment in multiple settings are discussed. CSU

DENHY-225  Community Oral Health  
2 units  LR  
- 36 hours lecture per term  
- Prerequisite: DENHY 120 and ENGL 122 or equivalents  
- Formerly DENHY 132  
This course is the study of oral health and disease in culturally and economically diverse community and public health settings. Course emphasis is on oral health education in a variety of environments with numerous oral health needs. The process of community and public health program planning includes the assessment, development, implementation and evaluation of community based oral health programs. This course will focus on the planning of a community based oral health project to implement next semester through action research and evaluation. CSU

DENHY-226  Community Oral Health Service Learning  
1 unit  LR  
- 18 hours lecture/18 hours laboratory per term  
- Prerequisite: DENHY 120 and DENHY 225 or equivalents  
This course is the study of oral health and disease in culturally and economically diverse community and public health settings. Course emphasis is on oral health education in a variety of environments with numerous oral health needs. The process of community and public health program planning includes the assessment, development, implementation and evaluation of community-based oral health programs. This course will focus on the implementation and evaluation of a planned oral health project in the community through action research. CSU
DENHY-227 Advanced Periodontal Dental Hygiene Care
2 units LR
• 36 hours lecture per term
• Prerequisite: DENHY 120 or equivalent
Study of advanced principles of clinical dental hygiene care; including advanced instrumentation techniques, soft tissue (gingival) curettage, use of power driven scalers, dental hygiene diagnosis and dental hygiene care planning for clients with periodontal diseases. Current concepts about the adjunctive use of chemical agents in the prevention and treatment of inflammatory periodontal diseases will be explored in the context of dental hygiene care with case-based presentations. Additional supportive treatment procedures, which augment periodontal debridement and oral hygiene self-care, will be incorporated into an evidence-based approach to dental hygiene care. 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
• Note: Current CPR certificate required
This is a one semester clinical course designed to expand and develop dental hygiene skills in preventive therapy, oral prophylaxis, periodontal initial preparation, and periodontal maintenance therapy. Students will become competent in scaling and root debridement procedures, pain control and gingival curettage. Dental hygiene assessment (diagnostic) and dental hygiene care planning skills will continue to be developed. The student will also become competent in adjunct therapeutic skills. Techniques in the use and interpretation of radiographs, infection control and office procedures will be developed. Learning experiences will be conducted with a human needs framework. Care will be client centered. The course will consist of seminar and clinical experiences. Students will develop skills by working with clients in the college clinic and in outside clinical environments. The educational focus is on the refinement of periodontal process skills in scaling and debridement, the application of advanced instrumentation principles and early self assessment skills. 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
• Note: Current certificate in CPR
This course is a continuation of the advanced clinical dental hygiene care course designed to lead toward the achievement of clinical competence in preventive oral health care, oral prophylaxis, initial therapy and supportive periodontal therapy. Students will become proficient in scaling and debridement procedures, administration of local anesthetics and nitrous-oxide sedation, and gingival curettage. 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. The student will also become proficient in adjunct therapeutic skills such as the local placement of antimicrobial agents. CSU

DENHY-295 RDH Examination Preparation
.5 unit P/NP
• May be repeated three times
• 27 hours laboratory per term
• Prerequisite: DENHY 231 or equivalent
• Formerly DENHY 099
Advanced clinical dental hygiene experience with emphasis on preparation for the 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
• May be repeated three times
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.
An opportunity for advanced students to study special interests under the direction of the faculty. CSU

DENHY-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• 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 LABORATORY TECHNOLOGY – DENTE

Biological and Health Sciences Division
Physical Sciences Building

Possible career opportunities
Upon completion of the dental technology program, students are eligible for the National Comprehensive Examination, which leads to certification sponsored by the National Board of Certified Dental Laboratories. Most graduates find job placements as technicians in dental laboratories.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in science degree
Dental laboratory technology

Certificate of achievement
Dental laboratory technology

Associate in science degree - Dental laboratory technology
The associate in science program in dental technology prepares students to construct removable and fixed prosthetic appliances; construct and cast inlays, crowns, and bridges; and prepare ceramic jackets.

The program of classroom instruction and clinical experience, along with general education, leads to the associate degree in dental technology. To earn a degree, students must complete each of the courses required for the major with a “C” grade or higher and complete graduation requirements as listed in the catalog. Major requirements for dental technology courses are only available in the day. General education courses are available in the day or evening.

For an information sheet describing admission requirements, contact the Admissions and Records Office.

Certificate of achievement - Dental laboratory technology
This program prepares students to construct removable and fixed prosthetic appliances; construct and cast inlays, crowns, and bridges; and prepare ceramic jackets.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Most required courses are only available in the day. However, some recommended courses are available in the day or evening.

For an information sheet describing admission requirements contact the Admissions and Records Office.

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<th>units</th>
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<tbody>
<tr>
<td>DENTE 120 Ethics, Jurisprudence, and History of Dentistry</td>
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<td>DENTE 122 Introduction to Dental Materials</td>
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<tr>
<td>DENTE 124 Introduction to Dental Morphology</td>
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<tr>
<td>DENTE 236 Dental Anatomy and Morphology</td>
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<td>DENTE 237 Intermediate Crown and Bridge Techniques</td>
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<td>DENTE 238 Advanced Crown and Bridge Techniques</td>
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<tr>
<td>DENTE 240 Introduction to Dental Ceramics</td>
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<tr>
<td>DENTE 242 Dental Ceramics Substructure and Designs</td>
<td>4</td>
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<tr>
<td>DENTE 250 Practical Fixed and Removable Techniques</td>
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| total minimum required units | 20 |

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<td>BUSMG 191 Small Business Management</td>
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<tr>
<td>COOP 170 Occupational Work Experience Education</td>
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<tr>
<td>DENTL 110 Overview of the Dental Profession</td>
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<td>ENGL 122 Freshman English: Composition and Reading</td>
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<tr>
<td>PHYSC 112 Fundamentals of Physical Science</td>
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</table>

| total minimum required units | 20 |
The following courses are open only to those accepted into the dental laboratory technology program.

**DENTE-120** Ethics, Jurisprudence and History of Dentistry  
1 unit  LR  
- 18 hours lecture per term  
- **Note: This course to be taken in the first term**  
Principles of ethics in the dental profession. History and jurisprudence of dental laboratory technology. CSU

**DENTE-122** Introduction to Dental Materials  
1 unit  LR  
- 18 hours lecture/18 hours laboratory per term  
- **Note: This course to be taken in the first term**  
Introduction to the various metallic and nonmetallic materials used in dental laboratory practices. The development of the manipulative skill necessary for the proper use of the materials. CSU

**DENTE-124** Introduction to Dental Morphology  
2 units  LR  
- 18 hours lecture/54 hours laboratory per term  
- **Note: This course to be taken in the first term**  
Introduction to anatomy of the head and oral cavity with emphasis on the individual teeth. Reproduction of the individual teeth in wax. CSU

**DENTE-150** Topics in Dental Technology  
.3-4 units  LR  
- May be repeated three times  
- Variable hours  
A supplemental course in dental technology to provide a study of current concepts and problems in dental technology and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

**DENTE-236** Dental Anatomy and Morphology  
2 units  LR  
- 18 hours lecture/54 hours laboratory per term  
- **Note: This course to be taken in the first term**  
Instruction in dental anatomy and morphology; principles of occlusion and introduction to crown and bridge. CSU

**DENTAL LABORATORY TECHNOLOGY**

**DENTE-237** Intermediate Crown and Bridge Techniques  
2 units  LR  
- 18 hours lecture/54 hours laboratory per term  
- **Note: This course to be taken in the first term**  
The presentation of techniques necessary for the fabrication of fixed restorations including types of fixed restorations, prepared tooth forms, impressions, casts, dies, related occlusion, waxing of patterns, carving of patterns, investing of patterns, casting of patterns, and finishing of castings. CSU

**DENTE-238** Advanced Crown and Bridge Techniques  
4 units  LR  
- 36 hours lecture/108 hours laboratory per term  
- **Prerequisite: DENTE 122, DENTE 236, and DENTE 237, or equivalents**  
The presentation of techniques necessary for advanced fabrication of fixed and removable prosthetics including the development of single and multiple unit ceramic restorations in various combinations as well as the fabrication of restorations on natural cases. CSU

**DENTE-240** Introduction to Dental Ceramics  
2 units  LR  
- 18 hours lecture/54 hours laboratory per term  
- **Note: This course to be taken in the first term**  
The techniques of manipulation for single units of porcelain bonded to metal including opaquing, building, firing, grinding, glazing, and staining. CSU

**DENTE-242** Dental Ceramics Substructure and Designs  
4 units  LR  
- 36 hours lecture/108 hours laboratory per term  
- **Prerequisite: DENTE 240 or equivalent**  
Continued advanced techniques of dental ceramics, including the fabrication of porcelain margins and characterized staining of ceramic porcelain restorations. CSU

**DENTE-250** Practical Fixed and Removable Techniques  
2 units  LR  
- 18 hours lecture/54 hours laboratory per term  
- **Prerequisite: DENTE 124 or equivalent**  
This course is part of the total educational process that assists students in exploring and choosing a career, preparing for full-time employment and advancing in career specialty areas. The plan combines students skills applications, practical cases (real cases) prescriptions and case due dates, which are similar to those in commercial laboratories. This plan also prepares students for the transition from the community college setting into the commercial dental laboratory setting. CSU
DENTAL LABORATORY TECHNOLOGY

DENTE-299  Student Instructional Assistant
.5-3 units  SC

- May be repeated three times
- 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

Applied and Fine Arts Division
Michael Almaguer, Dean
Business and Foreign Language Building 204
925-685-1230, ext. 2312

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.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in arts degree - Technical theater

Certificate of achievement
Technical theater

The program in technical theater prepares students for an entry-level career in community and professional theater. Careers may include scene shop technician, property artisan, electrician, costume technician, makeup technician, scenic artist, or stage manager. The program also prepares students who wish to expand their careers to entry-level technical video and film positions, as well as entry into a four-year university or professional school.

While this program of study is not designed as a transfer program, selected courses in the program meet lower division requirements for the bachelor of arts degree at many California State University and University of California campuses. Consult with department faculty and a college counselor for more information.

Students must complete each course used to meet a major or certificate requirement with a “C” grade or higher, maintain an overall GPA of 2.5 or higher in the coursework required for the certificate and/or degree. Students who wish to apply for the associate degree must also complete graduation requirements as listed in the catalog.

The certificate program can also be used as the “major” that is required for the associate in arts degree in technical theatre at Diablo Valley College.

AssOciate in arts degree

DRAMA 111 Fundamentals of Stage Production - Lighting .................................................. 3
DRAMA 112 Stage Makeup .................................................. 2
DRAMA 200 Introduction to Technical Theater .................................................. 3
DRAMA 201 Technical Theater Laboratory .................................................. 1-2

plus at least 3 units from:
DRAMA 122 Basic Principles of Acting .................................................. 3
DRAMA 123 Intermediate Principles of Acting .................................................. 3
DRAMA 124 Advanced Principles of Acting .................................................. 6
DRAMA 127 Auditioning Techniques .................................................. 3

plus at least 3 units from:
DRAMA 139 Introduction to Theater .................................................. 3
DRAMA 140 History of the Theater: Pre-Greek to 17th Century .................................................. 3
DRAMA 141 History of the Theater: 17th Century to Present .................................................. 3
DRAMA 180 Literature of World Drama: Pre-Greek to 17th Century .................................................. 3
DRAMA 181 Literature of World Drama: 17th Century to Present .................................................. 3

plus at least 3 units from:
COOP 170 Occupational Work Experience Education .................................................. 1-4
COOP 180 Internship in Occupational Work Experience Education .................................................. 1-4

plus at least 9 units from:
ART 105 Introduction to Drawing, Color, and Two-Dimensional Design .................................................. 3
ART 106 Drawing and Composition .................................................. 3
ART 108 Figure Drawing II .................................................. 3
ARTDM 130 Introduction to Digital Audio .................................................. 1.5
ARTDM 149 Fundamentals of Digital Video .................................................. 3
ARTDM 160 3D Modeling and Animation I .................................................. 3
BCA 120 Introduction to TV Studio Production .................................................. 3

DIABLO VALLEY COLLEGE  CATALOG 2012-2013
**BCA 125** Introduction to Digital Film Style
Production ........................................ 3

**DRAMA 113** Introduction to Costume Design .................................. 2.5

**DRAMA 130** Principles of Directing .................................................. 3

**DRAMA 230** Directing Projects ......................................................... 1-2

**DRAMA 260** Acting in Student Directed Projects .................................. 1-2

**DRAMA 270** Major Production ......................................................... 1-2

**DRAMA 298** Independent Study ....................................................... 0.5-3

**ENGIN 119** Introduction to Technical Drawing .................................... 3

**ENGIN 126** Computer Aided Design and Drafting - AutoCAD .............. 4

**FILM 292** Fundamentals of Film Making - Beginning ......................... 3

**MUSIC 172** Introduction to Electronic Music and MIDI .......................... 3

**total minimum required units** 27

*Note: Students may only apply one of DRAMA 260 or 270 to major requirements

**Certificate of achievement - Technical theater**

**required courses**

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<td>Intermediate Principles of Acting</td>
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<td>DRAMA 124</td>
<td>Advanced Principles of Acting</td>
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<td>DRAMA 127</td>
<td>Auditioning Techniques</td>
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<tr>
<td>DRAMA 140</td>
<td>History of the Theater: Pre-Greek to 17th Century</td>
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<td>DRAMA 141</td>
<td>History of the Theater: 17th Century to Present</td>
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<tr>
<td>DRAMA 180</td>
<td>Literature of World Drama: Pre-Greek to 17th Century</td>
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<tr>
<td>COOP 180</td>
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**plus at least 9 units from:**

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<thead>
<tr>
<th>Course Code</th>
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<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCHI 130</td>
<td>Architectural Graphics I</td>
<td>3</td>
</tr>
<tr>
<td>ART 105</td>
<td>Introduction to Drawing, Color, and Two-Dimensional Design</td>
<td>3</td>
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<tr>
<td>ART 106</td>
<td>Drawing and Composition</td>
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<tr>
<td>ART 108</td>
<td>Figure Drawing II</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM 130</td>
<td>Introduction to Digital Audio</td>
<td>1.5</td>
</tr>
<tr>
<td>ARTDM 149</td>
<td>Fundamentals of Digital Video</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM 160</td>
<td>3D Modeling and Animation I</td>
<td>3</td>
</tr>
<tr>
<td>BCA 120</td>
<td>Introduction to TV Studio Production</td>
<td>3</td>
</tr>
<tr>
<td>BCA 125</td>
<td>Introduction to Digital Film Style Production</td>
<td>3</td>
</tr>
<tr>
<td>DRAMA 113</td>
<td>Introduction to Costume Design</td>
<td>2.5</td>
</tr>
<tr>
<td>DRAMA 130</td>
<td>Principles of Directing</td>
<td>3</td>
</tr>
</tbody>
</table>

**DRAMA 230** Directing Projects ........................................ 1-2

**DRAMA 260** Acting in Student Directed Projects ................................ 1-2

**DRAMA 270** Major Production .................................................. 1-2

**DRAMA 298** Independent Study .................................................. 0.5-3

**ENGIN 119** Introduction to Technical Drawing ................................ 3

**ENGIN 126** Computer Aided Design and Drafting - AutoCAD .................. 4

**FILM 292** Fundamentals of Film Making - Beginning .......................... 3

**MUSIC 172** Introduction to Electronic Music and MIDI ....................... 3

**total minimum required units** 27

*Note: Students may only apply one of DRAMA 260 or 270 to certificate requirements

**DRAMA-111** Fundamentals of Stage Production - Lighting

3 units SC

• 54 hours lecture per term

Theory and techniques of stage lighting including the function of lighting equipment, the operation of basic dimmer systems, and the creation of light designs for selected plays. CSU, UC

**DRAMA-112** Stage Makeup

2 units SC

• May be repeated once

• 18 hours lecture/36 hours laboratory/18 hours laboratory by arrangement per term

This course studies the aesthetics, materials and procedures of stage makeup involving: corrective and aging techniques, latex and derma wax for witches and fairies, character make-up for a variety of historical periods and genres, the creation of animals and monsters, and the construction of beards and moustaches. CSU, UC

**DRAMA-113** Introduction to Costume Design

2.5 units SC

• May be repeated once

• 18 hours lecture/36 hours laboratory/54 hours laboratory by arrangement per term

Theory and application of costume design and construction for the theater including fabric, basic patterns, wardrobe plotting, and historical styles. Working in crews on construction of costumes for theatrical productions. CSU, UC

**DRAMA-122** Basic Principles of Acting

3 units SC

• 54 hours lecture per term

This course focuses on beginning acting fundamentals with an emphasis on the heightening and focusing of physical and vocal energy, and the important elements necessary for scene study. Students will learn how to assess and rechannel their physical hypertension, and apply scene study techniques correctly on stage. CSU, UC
DRAMA-123 Intermediate Principles of Acting
3 units  SC
• 54 hours lecture per term
• Recommended: DRAMA 122 or equivalent
This course continues to develop the heightened physical and vocal energies needed for stage, and introduces more complex elements in scene study. Students continue their work in addressing instrumental hypertension, and learn specific ways to apply the use of the imagination to the preparation and performance of a scene on stage. CSU, UC

DRAMA-124 Advanced Principles of Acting
6 units  SC
• 108 hours lecture per term
• Prerequisite: DRAMA 122 and DRAMA 123 or equivalents; audition required
The study of acting with extensive participation in the performance of selected scenes from contemporary realism. Special emphasis is placed on script analysis, personalization, intensive listening and interaction modes with partners. The course covers an organic approach to acting training based on the principles of Constantin Stanislavski. CSU, UC

DRAMA-126 Acting on Camera
3 units  SC
• 36 hours lecture/54 hours laboratory per term
• Recommended: DRAMA 122 and 123 or equivalents
This course covers practical training and practice in acting on camera for the performer. Close attention will be paid to those techniques of acting that have special application to performing in television and film. CSU

DRAMA-127 Auditioning Techniques
3 units  SC
• 54 hours lecture per term
• Recommended: DRAMA 122 or equivalent
This course will cover the elements of auditioning techniques that include: monologue selection and styles, cold reading, actor’s preparation, research, resume development, and practical application of acting techniques for audition purposes. Students will learn to prepare for college, community and professional theater auditions as well as create a portfolio of audition material. CSU

DRAMA-130 Principles of Directing
3 units  SC
• 54 hours lecture per term
• Recommended: DRAMA 122 and 123 or equivalents; concurrent enrollment in DRAMA 230 or equivalent; eligibility for ENGL 122 or equivalent
Study and analysis of the stage director, his or her function, and the preparation of a play script from the first reading through casting, rehearsals, and performances. Emphasis will be placed on theory of directing as well as its practical application. CSU

DRAMA-139 Introduction to Theater
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
A comprehensive examination of the multiple disciplines of theater and the collaboration process within. This introductory course surveys the roles of actors, directors, playwrights and designers (set, costume, sound and lighting). It will also cover the origins of theater, history, dramatic structure, the audience and theater performance spaces. CSU, UC

DRAMA-140 History of the Theater: Pre-Greek to 17th Century
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course is an historical survey of dramatic art from the period of pre-Greek civilization to the Elizabethan Renaissance. Students will examine the various influences that led to the development and evolution of theater in various cultures and time periods. CSU, UC

DRAMA-141 History of the Theater: 17th Century to Present
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course is an historical survey of dramatic art from the period of the Elizabethan Renaissance to the present. Students will examine the various influences that led to the development and evolution of theater in various cultures and time periods. CSU, UC

DRAMA-142 Multicultural Perspectives in American Theater
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
Students will explore and evaluate contemporary dramatic literature (1965-present) of Native American, African American, Asian Pacific American, Asian American and Chicano/Latino cultures. They will also examine the historical as well as the cultural and social conditions in which these plays developed. CSU, UC

DRAMA-150 Children's Theater
3 units  SC
• May be repeated three times
• 54 hours lecture per term
This is a course in the theory and principles of children’s theater. It features the creation of a production using an adult cast, with emphasis upon performance for a young audience. The production will tour local schools. Each term new literature and productions are focused upon. CSU
DRAMA-155  Topics in Drama
.3-4 units  SC
• May be repeated three times
• Variable hours
• Formerly DRAMA 290
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
1-3 units  SC
• May be repeated three times
• 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
4 units  SC
• 72 hours lecture per term
• Recommended: MUSIC 170 or equivalent
This course develops audition and performance skills combining singing, dancing, and acting in the presentation of scenes, as well as the rehearsal and performance of dance routines from a variety of musicals. A survey of the history and development of musical theater is included. CSU, UC

DRAMA-180  Literature of World Drama: Pre-Greek to 17th Century
3 units  SC
• 54 hours lecture per term
This course examines great works of world dramatic literature from the periods of pre-Greek civilization to the Elizabethan Renaissance. Through reading, writing, scene work, and viewing stage and film productions, students will gain an understanding of how the transformation of great dramatic literature from text to performance had a profound influence on past civilizations, and how it continues to influence us today. CSU, UC

DRAMA-181  Literature of World Drama: 17th Century to Present
3 units  SC
• 54 hours lecture per term
This course examines works of great dramatic literature from the period of the Elizabethan Renaissance to the present day. Through reading, writing, scene work, and viewing stage and film productions, students will gain an understanding of how the transformation of great dramatic literature from text to performance had a profound influence on past civilizations, and how it continues to influence us today. CSU, UC

DRAMA-200  Introduction to Technical Theater
3 units  SC
• 54 hours lecture per term
• Co-requisite: DRAMA 201 or equivalent
Introduction to technical theater will provide students with a theoretical as well as a practical overview of the elements of technical theater. These would include the following: safety precautions, stage management, stage design, scenery, lighting, sound, acting, make-up, and costuming. Also included will be the discussion of job opportunities in theater. CSU, UC

DRAMA-201  Technical Theater Laboratory
1-2 units  SC
• May be repeated three times
• Variable hours
• Prerequisite: DRAMA 200 or equivalent (may be taken concurrently)
This course will provide students with the practical applications of various aspects of technical theater. Students will obtain hands-on experience working on main stage productions, arena productions, and student-directed projects. They will assist in the following areas: stage management, stage design, scenery construction, painting for the stage, properties, lighting, sound, make-up, and costuming. Students will also learn safety procedures for working in the shop and for working on staged performances. CSU, UC

DRAMA-230  Directing Projects
1-2 units  SC
• May be repeated once
• Variable hours
• Recommended: Concurrent enrollment in DRAMA 130 or equivalent; eligibility for ENGL 122 or equivalent
This course is a practical application of DRAMA 130; the preparation of 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. May include original (not previously published) material. CSU, UC

DRAMA-260  Acting in Student Directed Projects
1-2 units  SC
• May be repeated three times
• Variable hours
• Recommended: Audition or equivalent
This is an open entry open exit class, where students receive practical experience in rehearsing and performing in student-directed scenes or one act plays in various theater styles for public performance. CSU, UC
DRAMA-270  Major Production  
1-2 units  SC  
• May be repeated three times  
• Variable hours  
• Prerequisite: Audition and interview  
This is an open entry, open exit class, where students participate in a faculty-directed musical or nonmusical production, with emphasis on rehearsal and performance. Students may participate as either actors or technical crew. Involvement may include script analysis, coordination of voice, movement, costume, makeup, performance style, and technical theater. All projects culminate in public performance. CSU, UC  

DRAMA-298  Independent Study  
.5-3 units  SC  
• May be repeated three times  
• Variable hours  
• Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.  
An opportunity for advanced students to study special interests under the direction of the faculty. CSU  

DRAMA-299  Student Instructional Assistant  
.5-3 units  SC  
• May be repeated three times  
• 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  
Social Sciences Division  
Faculty Offices  

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.  

Program level student learning outcomes  
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.  

Associate in science degree  
Early childhood education  

Certificates of achievement  
Early childhood education - Basic  
Early childhood education - Master teacher  
Early childhood education - Site supervisor  
Early childhood education - Teacher  

Certificates of accomplishment  
Early childhood education - Associate teacher  
Early childhood education - Resource (foster) family specialist  

Associate in science degree - 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 graduation 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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<td>ECE 249</td>
<td>Observation and Assessment in the Classroom</td>
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<tr>
<td>ECE 250</td>
<td>Practicum in Early Childhood Education</td>
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</tr>
</tbody>
</table>

**total minimum required units** 29

**recommended degree electives:**


**Certificate of achievement - Early childhood education - Basic**

This certificate prepares students to meet the demands of today’s childcare centers, preschool programs, and nursery schools. The certificate meets the California State Department of Social Services, Community Care Licensing Title 22, and Division 12 requirements for a fully qualified teacher. The early childhood education basic certificate is an alternative certificate to the California State Matrix and to the child development certificate.

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

**required courses**

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**total minimum required units** 29

The following certificates meet the education requirements for the associate teacher, teacher, master teacher and site supervisor levels of the Child Development Permit Matrix issued by the State of California Commission on Teacher Credentialing. 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.

**Certificate of achievement - Early childhood education - Master teacher**

This childhood development 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, graduates are qualified to apply for a Child Development Permit, which is required to work in federal and state funded programs for children aged 0-5.

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

**required courses**

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<tr>
<td>ECE 253</td>
<td>Adult Supervision in Early Childhood Education</td>
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**total minimum required units** 29

**plus at least 6 units in any one of these areas of concentration:**

**creative expression**

- ECE 237* Current Topics in Early Childhood Education ........................................ 0.5-3
- ECE 242 Music for the Young Child ................................................................. 2
- ECE 243 Creative Art for the Young Child ....................................................... 1
- or one elective from ART 155, 160; or PEDAN 129, 130, 138, 142, or DRAMA 150; or MUSIC 101, 102, 112, 120, 150, 151, 171

**curriculum**

- ECE 140 Creative Activities for Young Children .................................. 3
- ECE 237* Current Topics in Early Childhood Education ........................................ 0.5-3
- ECE 240 Language, Literacy, and Literature for the Young Child .................... 3
- ECE 241 Science and Mathematics for Early Childhood Education ..................... 3
- ECE 242 Music for the Young Child ................................................................. 2
- ECE 243 Creative Art for the Young Child ....................................................... 1
- ECE 244 Circle Time Activities ......................................................................... 1
## EARLY CHILDHOOD EDUCATION

### Infants and toddlers
- **ECE 230** Infant and Toddler Care .................................................. 3
- **ECE 231** Infants and Toddlers: Issues and Applications.......................... 3

### Language and literature
- **ENGL 177** Children's Literature ....................................................... 3
- **ECE 237** Current Topics in Early Childhood Education .......................... 0.5-3
- **ECE 240** Language, Literacy, and Literature for the Young Child .......... 3
- **L 111** Storytelling ................................................................. 2

### Science and math
- **ECE 237** Current Topics in Early Childhood Education ..................... 0.5-3
- **ECE 241** Science and Mathematics for Early Childhood Education ........ 3

(Not: Two ECE 237 courses in this category are required)

### Sign language
- **SIGN 270** American Sign Language (ASL) I ....................................... 3
- **SIGN 281** American Sign Language (ASL) II .................................... 3
- **SIGN 282** American Sign Language (ASL) III ................................... 3
- **SIGN 283** American Sign Language (ASL) IV ___________________________ 3

### Special needs
- **ECE 129** Dealing with Difficult and Aggressive Young Children .............. 3
- **ECE 137** Issues of Separation and Loss with Children and Families ........... 3
- **ECE 263** The Special Needs Child - Speech, Language and Hearing Development ................................................................. 1
- **ECE 265** Working with Young Children with Special Needs .................... 2
- **ECE 269** Introduction to Special Needs in Young Children .................... 3

Or any sign language course:
- **SIGN 280, 281, 282 or 283** ........................................................................ 3

**plus at least 16 units from:**
- general education courses ..................................................................... 16
  (At least one course each from humanities, social science, science or math, and English)

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

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

### Required courses

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

**Plus at least 16 units from:**
- general education courses ..................................................................... 16
  (At least one course each from humanities, social science, science or math, and English)

**Total minimum required units** .......................................................... 45

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166 PROGRAM AND COURSE DESCRIPTIONS

DIABLO VALLEY COLLEGE  CATALOG 2012-2013
Certificate of accomplishment - Early childhood education - Associate teacher
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 accomplishment, 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 units
ECE 123 Introduction to Curriculum in Early Childhood Education ........................................ 3
ECE 124 Child Development and Psychology ................................................................. 3
ECE 125 Principles and Practices of Early Childhood Education ........................................ 3
ECE 130 Child, Family, and Community ................................................................. 3

total minimum required units 12

Certificate of accomplishment - Early childhood education - Resource (foster) family specialist
This certificate meets the educational requirements for caregivers of children in out-of-home placement in Contra Costa County, including all resource families who were previously categorized as foster care providers, foster-adopt families, relative caregivers, non-relative extended family members and group home staff.

To earn a certificate of accomplishment, students must complete each course with a “C” grade or higher. Certificate requirements can be completed by attending classes in the day, evening, or weekends.

required courses units
ECE 246 Introduction to Foster Parenting ................................................................. 1.5
ECE 248 Child, Family, and Foster/Kin Care Community .............................................. 1

plus at least 7 units from one of the 3 specialty areas listed below:

providing care for children aged 0-5 years
ECE 266 Meeting the Developmental Needs of Children at Risk 0-5 Years ................. 1
ECE 129* Dealing with Difficult and Aggressive Young Children ........................................... 3
ECE 137* Issues of Separation and Loss with Children and Families ................................. 3
ECE 150 Topics in Child Development ................................................................. 1-3

providing care for children aged 6-11 years
ECE 156 Topics for Caregivers of Children in Out-of-Home Placement 0-5 Years ......... 0.3-4
ECE 247 Issues of Foster Parenting ............................................................................ 1
ECE 265* The Special Needs Child: Speech, Language, and Hearing Development ........ 1
ECE 265* Working with Young Children with Special Needs ............................................. 2
ECE 269* Introduction to Special Needs in Young Children ................................................. 3

providing care for children aged 12-18 years
ECE 157 Topics for Caregivers of Children in Out-of-Home Placement I ..................... 0.3-4
ECE 220 Programs for the School Age Child .................................................................. 3
ECE 247 Issues of Foster Parenting ............................................................................ 1
ECE 265* The Special Needs Child: Speech, Language, and Hearing Development ........ 1
ECE 265* Working with Young Children with Special Needs ............................................. 2
ECE 267 Meeting the Developmental Needs of Children at Risk 6-11 Years ................. 1
ECE 269* Introduction to Special Needs in Young Children ................................................. 3

*Note: there may be no duplication of coursework in these two specialty areas.

providing care for youth aged 12-18 years
ECE 158 Topics for Caregivers of Children in Out-of-Home Placement II ................. 0.3-4
ECE 247 Issues of Foster Parenting ............................................................................ 1
ECE 268 Meeting the Developmental Needs of Youth at-Risk 12-18 Years .................... 1
PSYCH 115 Resiliency and Student Success ................................................................. 1

total minimum required units 9.5

ECE 123 Introduction to Curriculum in Early Childhood Education
3 units LR
• 54 hours lecture per term
• Prerequisite: ECE 124 or equivalent (may be taken concurrently)
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: Meets the Department of Social Services licensing for DSS III Program and Curriculum Development

This course presents an overview of knowledge and skills related to providing appropriate curriculum and environments for young children from birth to age 6. Students will examine a teacher’s role in supporting development and fostering the joy of learning for all young children using observation strategies emphasizing the essential role of play. An overview of content areas will include but not be limited to: language and literacy, social and emotional learning, sensory learning, art and creativity, math and science. CSU
### ECE-124 Child Development and Psychology
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 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 on the principal theories and research methodologies supporting the understanding of child development. 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

An examination of the principles of developmentally appropriate practices as applied to early childhood education settings. This course includes history and philosophy of early childhood education, the ethics of professional practices, and orientation to careers working with children. 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. 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

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 health, mental health and safety for both children and staff will be identified along with the importance of collaboration with families and health professionals. Focus on integrating the concepts into everyday planning and program development for all children 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: 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 will focus on new trends, approaches and techniques in early childhood education curriculum. It will acquaint students with various curriculum approaches and give them practice in applying such approaches in an ECE program. CSU

### ECE-129 Dealing with Difficult and Aggressive Young Children
3 units SC
- 54 hours lecture per term
- Co-requisite: ECE 124 or equivalent (may be taken previously)
- 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 is designed to examine the reasons for children’s difficult and aggressive behaviors. Strategies for prevention and intervention in the classroom and home will be studied. CSU

### ECE-130 Child, Family, and Community
3 units SC
- 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

An introduction to the issues involved in early childhood education related to the entire learning environment of a child with emphasis on the family and community. Examination of the impact of family systems and culture on children’s development will occur. Study of community and society as it impacts the family and the child with an introduction to community resources available to support contemporary family life. CSU
ECE-134  Topics in Family Communication and Interaction
.3-4 units SC
- May be repeated three times
- Variable hours
- Note: Meets the State Department of Social Services licensing requirement for DSS III Program and Curriculum Development, if taken for 3 units
A supplemental course in family communication and interaction to examine establishing a home and family, raising children in positive and effective ways and adjusting to parents’ role such as single parents, working parents, stepparents and foster child care parents. Specific topics will be announced in the schedule of classes. CSU

ECE-137  Issues of Separation and Loss with Children and Families
3 units SC
- 54 hours lecture per term
- Recommended: ECE 124 and eligibility for ENGL 122 or equivalents
Review of major theories related to separations, loss, and their implications in working with young children. Cultural customs are explored along with resources that are available for teaching children about separation and loss. CSU

ECE-140  Creative Activities for Young Children
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
- Note: Meets the Department of the Social Services licensing for DSS III Program and Curriculum Development
A hands-on broad scope curriculum course which covers many of the major components of quality programs for children. The focus is on “Developmentally Appropriate Practice” in various content areas such as art, science, literature, storytelling, dramatic play, puppetry, literacy, music, outdoor environments and circle time. CSU

ECE-144  Diversity in 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 requirements for DSS III, Program and Curriculum Development
This course examines biases regarding race, gender, culture, disability, class and age in order to prepare students to work within diverse classrooms and communities. Through this examination students gain knowledge of experiences and perspectives other than their own, therefore, increasing tolerance, respect for, and interaction among people from diverse populations. CSU

ECE-150  Topics in Child Development
1-3 units P/NP
- May be repeated three times
- Variable hours
- Note: TB clearance required for any laboratory work. Participation in Developmental Children’s Center Laboratory School or approved off-campus mentor site from 3 to 6 hours per week is required for 2 or 3 units.
One unit: lecture only. Two units: lecture plus three laboratory hours per week. Three units: lecture plus six laboratory hours per week. Required of parents whose children are enrolled in Developmental Children’s Center.
A supplemental course in child development to provide a study of current concepts and problems in child development related subdivisions. Specific topics will be announced in the schedule of classes. CSU

ECE-151  Topics in Cognitive Development
1-3 units P/NP
- May be repeated three times
- Variable hours
- Note: TB clearance required for any laboratory work. Participation in Developmental Children’s Center Laboratory School or approved off-campus mentor site from 3 to 6 hours per week is required for 2 or 3 units.
One unit: lecture only. Two units: lecture plus three laboratory hours per week. Three units: lecture plus six laboratory hours per week. Required of parents whose children are enrolled in Developmental Children’s Center.
A supplemental course in cognitive development to provide a study of current concepts and problems in cognitive development related subdivisions. Specific topics will be announced in the schedule of classes. CSU

ECE-152  Topics in Physical Development
1-3 units P/NP
- May be repeated three times
- Variable hours
- Note: TB clearance required for any laboratory work. Participation in Developmental Children’s Center Laboratory School or approved off-campus mentor site from 3 to 6 hours per week is required for 2 or 3 units.
One unit: lecture only. Two units: lecture plus three laboratory hours per week. Three units: lecture plus six laboratory hours per week. Required of parents whose children are enrolled in Developmental Children’s Center.
A supplemental course in physical development in the child through age six to provide a study of current concepts and problems in physical development and related subdivisions. Specific topics will be announced in the schedule of classes. CSU
ECE-153  Topics in the Role of Play in Development
1-3 units  P/NP
• May be repeated three times
• Variable hours
• Note: TB clearance required for any laboratory work.
  Participation in Developmental Children’s Center Laboratory School or approved off-campus mentor site from 3 to 6 hours per week is required for 2 or 3 units. One unit: lecture only. Two units: lecture plus three laboratory hours per week. Three units: lecture plus six laboratory hours per week. Required of parents whose children are enrolled in Developmental Children’s Center.
A supplemental course in the role of play in development to provide a study of current concepts and problems in play development related subdivisions. Specific topics will be announced in the schedule of classes. CSU

ECE-154  Topics in Personality Development
1-3 units  P/NP
• May be repeated three times
• Variable hours
• Note: TB clearance required for any laboratory work.
  Participation in Developmental Children’s Center Laboratory School or approved off-campus mentor site from 3 to 6 hours per week is required for 2 or 3 units. One unit: lecture only. Two units: lecture plus three laboratory hours per week. Three units: lecture plus six laboratory hours per week. Required of parents whose children are enrolled in Developmental Children’s Center.
A supplemental course in personality development to provide a study of current concepts and problems in personality development related subdivisions. Specific topics will be announced in the schedule of classes. CSU

ECE-155  Topics in Child Behavior
1-3 units  P/NP
• May be repeated three times
• Variable hours
• Note: TB clearance required for any laboratory work.
  Participation in Developmental Children’s Center Laboratory School or approved off-campus mentor site from 3 to 6 hours per week is required for 2 or 3 units. One unit: lecture only. Two units: lecture plus three laboratory hours per week. Three units: lecture plus six laboratory hours per week. Required of parents whose children are enrolled in Developmental Children’s Center.
A supplemental course in child behavior to provide a study of current concepts and problems in behavior related subdivisions. Specific topics will be announced in the schedule of classes. CSU

ECE-156  Topics for Caregivers of Children in Out-of-Home Placement 0-5 Years
.3-4 units  P/NP
• May be repeated three times
• Variable hours
A supplemental course in foster care education of children aged 0-5 to provide a study of current concepts and problems in foster care and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

ECE-157  Topics for Caregivers of Children in Out-of-Home Placement I
.3-4 units  P/NP
• May be repeated three times
• Variable hours
This supplemental course in foster care education of children aged 6-11 years to provide a study of current concepts and problems in foster care and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

ECE-158  Topics for Caregivers of Children in Out-of-Home Placement II
.3-4 units  P/NP
• May be repeated three times
• Variable hours
This supplemental course in foster care education of children aged 12-18 years to provide a study of current concepts and problems in foster care and related subdivisions. Specific topics will be announced in the schedule of classes. CSU

ECE-220  Programs for the School Age Child
3 units  SC
• 54 hours lecture per term
• Prerequisite: ECE 124 or equivalent
• Recommended: Eligibility for ENGL 122 or equivalent
An overview of the developmental tasks and needs of the child between the ages of six and twelve. Fundamentals of planning, implementing, and evaluating programs for the school-aged child. Special consideration will be given to working with schools, community, and parents. CSU

ECE-230  Infant and Toddler Care
3 units  SC
• 54 hours lecture per term
• Prerequisite: ECE 124 or equivalent
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: Meets the State Department of Social Services licensing requirement for DSS IV, Infant Care and Development
Review of the developmental issues of infants and toddlers. Study of the basic components of developmentally appropriate infant-toddler curriculum including development, care-giving environments, care-giver response and collaboration with families. Observations of infants and toddlers, learning environments, and care-giving strategies will be included. CSU
ECE-231 Infant and Toddlers: Issues and Application
3 units SC
- 54 hours lecture per term
- Prerequisite: ECE 230 or equivalent
- Recommended: Eligibility for ENGL 122 or equivalent
This course is designed to review current infant and toddler child development issues and to discuss current developmental topics that impact infant/toddler care. CSU

ECE-237 Current Topics in Early Childhood Education
.5-3 units SC
- May be repeated three times
- 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
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, Literacy and Literature for the Young Child
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
An introduction to young children's literature, emergent literacy and to 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
- Recommended: Eligibility for ENGL 122 or equivalent
- Note: Meets the State Department of Social Services licensing requirement for DSS III, Program and Curriculum Development
Survey of the materials in science, nature, and mathematics fields suitable for use in teaching young children (ages 0 - 8 years). Training in materials, techniques, demonstrations and experiments which enable the teacher to arrange a learning environment. Special focus on concept-based, inquiry-oriented approaches. CSU

ECE-242 Music for the Young Child
2 units SC
- 36 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
Exploration of media and techniques which enable the teacher to plan, conduct, and evaluate music and movement activities for the young child. Experiences in the integration of music, movement, and language as related to conceptual and sensory motor development. 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
A study of the developmental stages of children's artistic expression. Includes an exploration of creative art activities along with developing and implementing a creative arts curriculum for the young child. 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-245 Introduction to Family Child Care
1 unit P/NP
- 18 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
A course designed to expand child care providers general knowledge of child development, guidance, enriched early childhood activities, and signals which alert the provider to a child's special needs. CSU

ECE-246 Introduction to Foster Parenting
1.5 units P/NP
- 27 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
Designed primarily for new foster parents and adopting parents. Describes the role of the social service agency, the special needs of children in foster care, and the rights, roles and responsibilities of foster and adopting families. CSU
ECE-247  Issues of Foster Parenting
1 unit  P/NP
• 18 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
Designed for both new and experienced foster parents. Addresses in considerable depth some of the most basic issues faced by foster parents. Offers clarification of these issues and options for dealing with them. CSU

ECE-248  Child, Family and the Foster/Kin Care Community
1 unit  P/NP
• 18 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course is an introduction to the issues in early childhood education of the foster/kin care children. It relates to the entire learning environment of a child with an emphasis on the foster family, family of origin, and the community. An examination of the impact on a child by the variety of family systems including ethnic and subculture variations. A study of community and society as it impacts the family and the child with an introduction to community resources available to support contemporary family life. CSU

ECE-249  Observation and Assessment in the Classroom
4 units  SC
• 54 hours lecture/54 hours laboratory by arrangement per term
• Prerequisite: ECE 124 or equivalent
• Co-requisite: ECE 125 or equivalent (may be taken previously)
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: TB clearance required for students to participate in laboratory work at DVC Children’s Center or approved mentor site. Meets the State Department of Social Services licensing requirement for DSS III, Program and Curriculum Development.
This course focuses on the appropriate use of assessment and observation strategies to document development, growth, play and learning in early childhood education settings. Students will utilize practical classroom experiences to apply a variety of observation methodologies including, child portfolios, recording strategies, rating systems, and multiple assessment tools. Within the context of the DVC Children’s Center or an approved mentor site, students will explore the connections between developmental theory and practical usage of reflective observation. 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 and ECE 249 or equivalents
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: Required TB clearance for students participating in laboratory work. Meets the State department of Social Services licensing requirement for DSS III, Program and Curriculum Development.
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. Child centered, play-oriented approaches to teaching, learning, and assessment; and knowledge of curriculum content areas will be emphasized. Student teachers design, implement and evaluate learning activities and environments. Focus is on reflective teaching and developing in-depth curriculum projects based on ongoing observations of children. CSU

ECE-251  Administration and Supervision of Early Childhood Education Programs
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
Provides study and understanding of administrative procedures and principles of supervision, management, and evaluation used in early childhood programs, with focus on practical application of theory. CSU

ECE-252  Staff Development and Supervision for Early Childhood Programs
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 examines supervisory theory, organizational dynamics, and staff development as they relate to early childhood education. Focus is on the human relations aspects of successful administration, and on the development of supervisory styles and management techniques to promote staff motivation and teacher effectiveness. CSU
ECE-253  Adult Supervision 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, parents and volunteers in early childhood education/child development classrooms. Emphasis is on the role of classroom teachers who function as mentors to new teachers while simultaneously addressing the needs of children, parents, and other staff. CSU

ECE-263  The Special Needs Child: Speech, Language and Hearing Development
1 unit  SC
- 18 hours lecture per term
- Recommended: ECE 124; eligibility for ENGL 122 or equivalents

Study of speech and language development and its meaning for working with children with special needs. Introduction to speech and language remediation. Techniques for working with children who have speech and language problems. CSU

ECE-265  Working with Young Children with Special Needs
2 units  SC
- 36 hours lecture per term
- Recommended: ECE 124 and eligibility for ENGL 122 or equivalents

An in-depth exploration of the strategies of working and/or living with children with special needs. Focus will be on various types of disabling conditions encountered in early care and education settings, evaluating the physical environment of typical educational settings, strategies for inclusion, managing challenging behaviors, curriculum development, and working with parents and other agencies. CSU

ECE-266  Meeting the Developmental Needs of Children at Risk 0-5 Years
1 unit  P/NP
- 18 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent

A study of normal and abnormal human development and behavior from conception through 5 years of age. Focus on examples and principal theories basic to physiological, social, and psychological determinants of behavior. CSU

ECE-267  Meeting the Developmental Needs of Children at Risk 6-11 Years
1 unit  P/NP
- 18 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent

A study of normal and abnormal human development and behavior from age 6-11. Focus on examples and principal theories basic to physiological, social, and psychological determinants of behavior. CSU

ECE-268  Meeting the Developmental Needs of Youth At-Risk Ages 12-18
1 unit  P/NP
- 18 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent

A study of normal and abnormal human development and behavior of youth. Focus on examples and principal theories basic to physiological, social, and psychological determinants of behavior. CSU

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

An introduction to theory, methods and materials used to understand and work with young children with special needs. Examination of legal mandates, service delivery models, various disabilities and developmental delays. Resources for identification, assessment, and inclusion strategies will be addressed. CSU

ECE-298  Independent Study
.5-3 units  SC
- May be repeated three times
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.

An opportunity for advanced students to pursue special interests under direction of the early childhood education faculty. CSU
**ECE-299  Student Instructional Assistant**

.5-3 units  SC  
- May be repeated three times  
- 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

**ECON-101  Economics of Public Issues**

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

Examination of the economic aspects of selected current public issues such as price controls, crime, education, poverty, pollution, international trade, and taxes. Analyzes 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  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL 122 or equivalent  
- Note: Business and economics majors should take ECON 220 and ECON 221  

This course surveys the basic principles of economics, including both microeconomics and macroeconomics. Students are introduced to concepts such as market demand and supply, market structures, resource markets, business cycles, fiscal policy, the Federal Reserve System, and international trade. CSU, UC (credit limits may apply to UC - see counselor)

**ECON-220  Principles of Macroeconomics**

3 units  SC  
- 54 hours lecture per term  
- Prerequisite: MATH 120 or MATH 120SP or equivalent  
- Recommended: Eligibility for ENGL 122 or equivalent  

Students are introduced 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 finally, applies macroeconomic theories to current economic issues. CSU, UC (credit limits may apply to UC - see counselor)

**ECON-221  Principles of Microeconomics**

3 units  SC  
- Prerequisite: MATH 120 or MATH 120SP or equivalent  
- Recommended: Eligibility for ENGL 122 or equivalent  

Microeconomics focuses on the study of choices made by economic agents, namely, consumers, resource owners, firms, and government, and how these decisions affect the market for a particular good or service. Typical 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. CSU, UC (credit limits may apply to UC - see counselor)

**ECON-255  Topics in Economics**

.3-4 units  SC  
- May be repeated three times  
- 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  
- May be repeated three times  
- Variable hours  
- Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.  

An opportunity for students to study special interests under the direction of the faculty. CSU
ECON-299  Student Instructional Assistant
.5-3 units  SC
- May be repeated three times
- 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

EDUC-120  Teaching as a Profession
3 units   LR
- 45 hours lecture/27 hours laboratory by arrangement per term
- Note: Credit by examination option available

The course invites the student to explore teaching as a profession. Effective teaching, experiences and expectations of a teacher, foundations of teaching, critical issues in education, student diversity and job options are emphasized. Students are required to complete 27 hours of field observation and field work. This course is designed for students considering teaching as a profession, and for parents of children in the American school system who want to be informed of current issues and practices in education. CSU, UC

EDUC-122  Introduction to Reading Development and Interventions for K-3
3 units   LR
- 45 hours lecture/27 hours laboratory by arrangement per term

This course introduces students to the practice and theory of reading intervention in grades kindergarten to 3. Students will be exposed to the developmental stages of language acquisition and literacy. Students will acquire a working vocabulary of pertinent terms and strategies appropriate to enhance the literacy of primary-age students. Fieldwork in designated schools is a key component of this course. Students will be expected to research a topic related to reading and report findings to the class. CSU

EDUCATION – EDUC
Social Sciences Division
Faculty Offices

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 an advanced degree.

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.

ELECTRICAL/ELECTRONICS TECHNOLOGY
Physical Sciences and Engineering Division
Physical Sciences Building

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.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Certificate of achievement
Electrical/electronics technology
**Associate in science degree - Electrical/electronics technology**

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, 266, 267, 271, ELTRN 102B 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 graduation requirements as listed in the catalog. Certain courses may satisfy both major and other graduation requirements; however, the units are only counted once.

### major requirements

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<th>Course</th>
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<td>ELECT 120</td>
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<td>ELECT 121</td>
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<td>ELECT 130</td>
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<td>ELECT 266</td>
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<td>ELECT 271</td>
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<tr>
<td>ELTRN 102B</td>
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**total minimum required units** 26

### recommended courses

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<td>CNT 103</td>
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<td>CNT 105</td>
<td>3</td>
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<td>COMTC 110</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 and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate.

### required courses

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<td>ELTRN 102B</td>
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**total minimum required units** 26

### recommended courses

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<td>ELTRN 107</td>
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<td>ENSYS 130</td>
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</tbody>
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**ELECT-120 Direct Current Circuits**

- 4 units LR
- Basic direct current (DC) theory covering Ohm’s Law, series circuits, parallel circuits, series-parallel circuits, basic residential wiring and ladder logic. Also includes related laboratory experience. CSU

**ELECT-121 Alternating Current Circuits**

- 4 units LR
- An in-depth study of alternating current (AC) circuits involving capacitance and inductance. Topics include RL, RC, RLC, and resonant circuits. The course covers three phase circuits, and computer simulations of circuits. Also includes related laboratory experience. CSU

**ELECT-130 Motors and Motor Controllers**

- 4 units SC
- Students in this course will gain hands-on experience with the function, operation and characteristics of various types of direct current, single phase and three phase motors. The students will work with control devices and systems used for motor controls. CSU

**ELECT-150 Topics in Electricity**

- .3-4 units SC
- A supplemental course in electricity designed to provide a study of the current concepts and problems in electricity. Specific topics will be announced in the schedule of classes. CSU
ELECT-266  Electrical Codes: Articles 90-398
3 units  SC
• May be repeated once
• 54 hours lecture per term
• Recommended: CONST 170 or equivalent
• Note: Same as CONST 266. May be repeated when code changes.
Interpretation of the National Electrical Code for general requirements, wiring and protection, wiring methods and materials (articles 90-398). Safety installation practices will be applied.

ELECT-267  Electrical Codes: Article 400-830
3 units  SC
• May be repeated once
• 54 hours lecture per term
• Recommended: CONST 170 or equivalent
• Note: Same as CONST 267. May be repeated when code changes.
Interpretation of the National Electrical Code for equipment for general use, special occupancies and special equipment (articles 400-830). Safety installation practices will be applied.

ELECT-271  Programmable Logic Controllers
4 units  LR
• 54 hours lecture/54 hours laboratory per term
• Recommended: ELECT 120 or equivalent
• Formerly ELTRN 271
This course will cover programmable logic controller equipment, hardware, and programming. The topics include system descriptions, internal and input/output operations, installation and testing, troubleshooting and maintenance, ladder diagrams, programming of counters, timers, and inputs/outputs, and other programming commands. CSU

ELECT-299  Student Instructional Assistant
.5-3 units  SC
• May be repeated three times
• 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-102B  Linear Circuits
4 units  LR
• 54 hours lecture/54 hours laboratory per term
• Recommended: ELECT 121 or equivalent
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-107  Introduction to Robotics
1 unit  SC
• May be repeated once
• 27 hours lecture/27 hours laboratory per term
• Note: Can be repeated when hardware/software changes
The course will introduce to students programmable controllers which have input devices such as infrared, ultrasonic, pressure sensors and output devices such as motors, servos, stepping motors, lights, relays, solenoids, and switching circuits. Students will be introduced to the languages for programming the programmable controllers. Pneumatics and hydraulics circuits will also be included in the course. CSU

ELTRN-116  Introduction to Electronics
2-4 units  SC
• Variable hours
A survey of the general aspects of electronics, including a study of the basic principles, components, and techniques employed. Includes work with electronic test equipment. This course is intended for persons contemplating entering the field as well as those in related fields that use electronics as a tool. CSU

ELTRN-120  DC Circuits
4 units  LR
• 54 hours lecture/54 hours laboratory per term
Basic direct current (DC) theory covering OHM’s Law, series circuits, parallel circuits, series-parallel circuits, basic residential wiring and ladder logic. Also includes related laboratory experience, including use of software to simulate electrical circuits. CSU

ELTRN-121  AC Circuits
4 units  LR
• 54 hours lecture/54 hours laboratory per term
• Recommended: ELTRN 120 or equivalent
An in-depth study of alternating current (AC) circuits involving capacitance and inductance. Topics include RL, RC, RLC and resonant circuits. The course covers 3-phase circuits, computer-simulated circuits, and related laboratory experience. CSU
ELTRN-150  Topics in Electronics
.3-4 units SC
• May be repeated three times
• 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-299  Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• 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
Physical Sciences and Engineering Division
Physical Sciences Building

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.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in science degree
Energy systems
Specializations:
Photovoltaic
Solar thermal

Certificates of achievement
Energy systems - Photovoltaic
Energy Systems - Solar thermal

Associate in science degree - Energy systems
This program prepares students for jobs installing, designing, servicing and maintaining solar energy systems. Students can choose either of two areas of specialization.

Students who focus on photovoltaic systems will be able to work with residential, commercial and industrial size photovoltaic systems. Many of the skills learned in these courses relate to solar thermal systems as well. The following photovoltaic required courses are part of the Electricians Trainee Program and approved by the Division of Apprenticeship Standards: ELECT 120, 121, 266, 267.

Students who focus on solar thermal systems will be prepared for careers installing, designing, servicing, and maintaining solar thermal systems. Successful completers of this program will be able to work with residential, commercial, and industrial-size solar thermal systems. Solar thermal systems include domestic water heating, radiant floor heating, swimming pool, and spa heating systems. Solar air heating and cooling systems are currently under development, and will be included once established. Many of the skills learned in the solar thermal courses relate to photovoltaic systems as well. The following solar thermal required courses are part of the electricians’ trainee program and are approved by the Division of Apprenticeship Standards: ELECT 120 and 266.

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 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 graduation requirements as listed in the catalog.

Students are limited to one associate in science degree regardless of the number of specializations completed. Multiple certificates may be awarded.
Certificate of achievement - Energy systems - Solar thermal
This program prepares students for careers installing, designing, servicing, and maintaining solar thermal systems. Successful completers of this program will be able to work with residential, commercial, and industrial-size solar thermal systems. Solar thermal systems include domestic water heating, radiant floor heating, swimming pool, and spa heating systems. Solar air heating and cooling systems are currently under development, and will be included once established.

Many of the skills learned in these courses relate to solar photovoltaic systems as well. The following courses are part of the electricians’ trainee program and are approved by the Division of Apprenticeship Standards: ELECT 120 and 266.

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.

Certificate of achievement - Energy systems - Photovoltaic
This program prepares students for jobs installing, designing, servicing and maintenance of photovoltaic systems. Students from this program will be able to work with residential, commercial and industrial size photovoltaic systems. Many of the skills learned in these courses relate to solar thermal systems as well. The following courses are part of the Electricians Trainee Program and approved by the Division of Apprenticeship Standards: ELECT 120, 121, 266, 267.

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.
ENSYS-130 Photovoltaic Systems Design and Installation
2 units SC
• May be repeated once
• 36 hours lecture/18 hours laboratory per term
• Formerly AET 130

Students will learn how to do solar site evaluations, electrical load calculations, solar system size calculations, and installation techniques for grid-tie and off-the-grid photovoltaic systems. Students will learn how to design and install their own solar system and or obtain skills for employment. This course is approved by the North American Board of Certified Energy Practitioners (NABCEP) and the students can take the optional Photovoltaic Systems Entry Level certification exam as part of the course. CSU

ENSYS-140 Solar Thermal Systems
4 units LR
• 54 hours lecture/54 hours laboratory per term
• Note: The laboratory part of this course will include working with hand and power tools and metal soldering. This course is equivalent to ENSYS 141 and ENSYS 145 combined.
• Formerly AET 140

This course will cover the theory and application of solar thermal systems. This includes solar water heating for domestic use, radiant floor heating, swimming pools and spas. Additional topics include solar air heating and applications of power concentration. CSU

ENSYS-141 Introduction to Solar Thermal Systems
2 units SC
• 27 hours lecture/27 hours laboratory per term
• Note: Laboratory activities include working with hand and power tools and being on elevated structures

This course will cover the theory and applications of solar thermal systems including hot water heating, radiant floor heating, swimming pools and spas. Laboratory activities include building drain-back, drain-down and ICS solar systems. CSU

ENSYS-145 Advanced Solar Thermal Systems
2 units LR
• 27 hours lecture/27 hours laboratory per term
• Note: Laboratory activities include working with hand and power tools and being on elevated structures

This course will cover the design, installation and servicing of solar thermal systems for residential and commercial applications. CSU

ENSYS-150 Topics in Energy Systems
.3-4 units SC
• May be repeated three times
• Variable hours
• Formerly AET 150

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 LR
• May be repeated once
• 27 hours lecture/27 hours laboratory per term
• Recommended: ENSYS 130 or equivalent and ELECT 122 or equivalent
• Formerly AET 230

This course will cover the National Electrical Code (NEC) specifics concerning photovoltaic installations. The topics include code compliant wiring of modules, inverters, charge controllers, batteries, grounding techniques and related topics. Additional topics include the design and installation of large commercial photovoltaic systems. CSU

ENSYS-260 Solar Photovoltaic and Thermal Installation Techniques
2 units LR
• 27 hours lecture/27 hours laboratory per term
• Recommended: ENSYS 130 and ENSYS 140 or equivalents
• Note: This course will include activities working with high voltages and working on elevated surfaces. Class activities include climbing ladders, lifting up to 50 pounds and working in crawl spaces and tight areas.
• Formerly AET 260

This course will cover the techniques, tools, materials used in the installation of solar photovoltaic and solar thermal systems. This course will also cover the OSHA safety requirements for ladder, roof, fall-protection systems, scissor lifts and fork lifts. CSU

ENSYS-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.
• Formerly AET 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
ENGINEERING AND ENGINEERING TECHNOLOGY – ENGIN

Physical Sciences and Engineering Division
Physical Sciences Building

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.

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.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in science degrees
Civil design drafting technology
Mechanical design drafting technology - Inactive

Certificates of achievement
Civil design drafting technology
Civil drafting - CAD
Mechanical design drafting technology - Inactive
Mechanical drafting - CAD - Inactive

Certificate of accomplishment
Computer aided drafting and digital media for engineering and architecture

Associate in science degree - Civil design drafting technology
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 graduation requirements as listed in the catalog. Students who wish to transfer should consult with program faculty and college counselors to insure that the requirements for transfer to appropriate institutions are met. Certain courses may satisfy both major and other graduation requirements; however, the units are only counted once.

<table>
<thead>
<tr>
<th>major requirements</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONST 114 Blueprint Reading</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN 121 Engineering Drawing/Descriptive Geometry</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN 123 Principles of Civil Drafting</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 127 Introduction to Global Positioning Systems</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 110 Elementary Physics</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
</tr>
<tr>
<td>ARCHI 119 Introduction to Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN 119 Introduction to Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 4 units from:</td>
<td></td>
</tr>
<tr>
<td>ARCHI 126 Computer Aided Design and Drafting - AutoCAD</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN 126 Computer Aided Design and Drafting - AutoCAD</td>
<td>4</td>
</tr>
<tr>
<td>plus at least 4 units from:</td>
<td></td>
</tr>
<tr>
<td>ARCHI 226 Computer Aided Drafting Design, Advanced Concepts - AutoCAD</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN 226 Computer Aided Drafting Design, Advanced Concepts - AutoCAD</td>
<td>4</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
</tr>
<tr>
<td>CONST 116 Plane Surveying</td>
<td>3</td>
</tr>
<tr>
<td>ENGIN 140 Plane Surveying</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
</tr>
<tr>
<td>ENGIN 111 Mathematics for Technicians</td>
<td>4</td>
</tr>
<tr>
<td>MATH 121 Plane Trigonometry</td>
<td>3</td>
</tr>
</tbody>
</table>
plus at least 3 units from:
ARCHI 135 Digital Tools for Architecture I .................. 4
ARCHI 136 Digital Tools for Architecture II ............... 4
GEOG 125 Introduction to Geographic Information Systems (GIS) ..................................................... 3
GEOG 128 Advanced Global Positioning Systems .......... 3
GEOG 160 Introduction to Remote Sensing ............... 4
GEOG 162 Maps and Cartography .......................... 3

total minimum required units 35

Associate in science degree - Mechanical design drafting technology

The Engineering Department has placed this degree on INACTIVE status during the completion of necessary curriculum work. While the necessary curriculum evaluation and revision is underway, this degree has been removed from the catalog. The department anticipates that the curriculum revisions needed for a viable program will be completed within two years. Students should be advised that it may not currently be possible to complete the requirements for this degree, although coursework transferred from other schools may allow a student to complete the requirements for the degree or certificate. Additionally, students can request course substitutions from the program director and any student either in progress or starting this program should contact the engineering technology program director for advisement.

Certificate of achievement - Civil design drafting technology

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.

<table>
<thead>
<tr>
<th>required courses</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONST 114</td>
<td>Blueprint Reading .................. 3</td>
</tr>
<tr>
<td>ENGIN 121*</td>
<td>Engineering Drawing /Descriptive Geometry .................. 3</td>
</tr>
<tr>
<td>ENGIN 123</td>
<td>Principles of Civil Drafting .................. 3</td>
</tr>
<tr>
<td>GEOG 127</td>
<td>Introduction to Global Positioning Systems .......... 3</td>
</tr>
<tr>
<td>PHYS 110</td>
<td>Elementary Physics .......................... 3</td>
</tr>
</tbody>
</table>

plus at least 3 units from:
ARCHI 119 Introduction to Technical Drawing ............... 3
ENGIN 119 Introduction to Technical Drawing ............... 3

plus at least 4 units from:
ARCHI 126 Computer Aided Design and Drafting - AutoCAD ..................................................... 4
ENGIN 126 Computer Aided Design and Drafting - AutoCAD ..................................................... 4

plus at least 4 units from:
ARCHI 226 Computer Aided Drafting Design, Advanced Concepts - AutoCAD .................. 4
ENGIN 226 Computer Aided Drafting Design, Advanced Concepts - AutoCAD .................. 4

Certificate of achievement - Civil drafting, CAD

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.

<table>
<thead>
<tr>
<th>required courses</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMSC 100L</td>
<td>Introduction to Computer Software .................. 1</td>
</tr>
<tr>
<td>CONST 114</td>
<td>Blueprint Reading .................. 3</td>
</tr>
<tr>
<td>ENGIN 123</td>
<td>Principles of Civil Drafting .................. 3</td>
</tr>
<tr>
<td>GEOG 127</td>
<td>Introduction to Global Positioning Systems .................. 3</td>
</tr>
</tbody>
</table>

plus at least 3 units from:
ARCHI 119 Introduction to Technical Drawing ............... 3
ENGIN 119 Introduction to Technical Drawing ............... 3

plus at least 4 units from:
ARCHI 126 Computer Aided Design and Drafting - AutoCAD ..................................................... 4
ENGIN 126 Computer Aided Design and Drafting - AutoCAD ..................................................... 4

plus at least 3 units from:
ARCHI 126 Computer Aided Design and Drafting - AutoCAD ..................................................... 4

*Certain courses required for this certificate have recommended or prerequisite coursework that could add additional units.
Certificate of achievement - Mechanical design drafting technology
The Engineering Department has placed this certificate on INACTIVE status during the completion of necessary curriculum work. While the necessary curriculum evaluation and revision is underway, this degree has been removed from the catalog. The department anticipates that the curriculum revisions needed for a viable program will be completed within two years. Students should be advised that it may not currently be possible to complete the requirements for this degree, although coursework transferred from other schools may allow a student to complete the requirements for the degree or certificate. Additionally, students can request course substitutions from the program director and any student either in progress or starting this program should contact the engineering technology program director for advisement.

Certificate of achievement - Mechanical drafting, CAD
The Engineering Department has placed this certificate on INACTIVE status during the completion of necessary curriculum work. While the necessary curriculum evaluation and revision is underway, this degree has been removed from the catalog. The department anticipates that the curriculum revisions needed for a viable program will be completed within two years. Students should be advised that it may not currently be possible to complete the requirements for this degree, although coursework transferred from other schools may allow a student to complete the requirements for the degree or certificate. Additionally, students can request course substitutions from the program director and any student either in progress or starting this program should contact the engineering technology program director for advisement.

Certificate of accomplishment - Computer aided drafting and digital media for engineering and architecture
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, and photos and other sources which show the interplay of components and their relationships to one another, and to provide guidance for final assembly.

To earn a certificate of accomplishment, students must complete each of the required courses with a “C” grade or higher. Some courses are not offered every term. Consult with the program director for assistance in scheduling classes.

required courses

| complete 4 units from: |  
| ARCHI 126 Computer Aided Design and Drafting |  
| ENGIN 126 Computer Aided Design and Drafting |  
| plus at least 4 units from: |  
| ARCHI 226 Computer Aided Drafting Design, Advanced Concepts - AutoCAD |  
| ENGIN 226 Computer Aided Drafting Design, Advanced Concepts - AutoCAD |  
| plus at least 3 units from: |  
| ARCHI 119 Introduction to Technical Drawing |  
| ARCHI 120 Introduction to Architecture and Environmental Design |  
| CONST 114 Blueprint Reading |  
| ENGIN 119 Introduction to Technical Drawing |  
| plus at least 3 units from: |  
| ARCHI 135 Digital Tools for Architecture |  
| ARDM 160 3D Modeling and Animation |  
| ENGIN 129 Introduction to SolidWorks |  
| GEOG 125 Introduction to Geographic Information Systems (GIS) |  

**total minimum required units** 27

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

**ENGIN-110 Introduction to Engineering**
3 units  SC
  - 36 hours lecture/72 hours laboratory per term
  - Recommended: Eligibility for ENGL 122 or equivalent
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. CSU, UC
ENGIN-111 Mathematics for Technicians
4 units LR
• 90 hours lecture/36 hours laboratory per term
• Prerequisite: MATH 110 or equivalent
• Note: The hand-held calculator will be used extensively as an aid to problem solving
A study of algebraic operations, factoring, fractional equations, quadratic equations, systems of equations, and trigonometric functions, especially as they apply to technical areas. Practical application to real job problems. CSU

ENGIN-119 Introduction to Technical Drawing
3 units SC
• 36 hours lecture/108 hours laboratory per term
• Note: Same as ARCHI 119. For students with no previous drafting experience. Credit by examination option available. This course requires 108 hours of laboratory (lab). These hours may be offered as face to face lab, online lab, or lab hours by arrangement; see schedule of classes for specific requirements.
Introduction to the use of technical drawing tools, technical lettering and line work, geometric construction, sketching and shape description, orthographic projection, dimensioning, section views, auxiliary views and pictorials. Introduction to the use of computers to produce technical drawings. CSU

ENGIN-120 Engineering Drawing
3 units SC
• 36 hours lecture/108 hours laboratory per term
• Recommended: MATH 114 and ENGIN 119 or equivalents
• Note: This course requires 108 hours of laboratory (lab). These hours may be offered as face to face lab, online lab, or lab hours by arrangement; see schedule of classes for specific requirements.
Introduction to orthographic, oblique and perspective projections. Relationships of points, lines and planes. Auxiliary views, dimensioning, tolerancing, threads and fasteners. Introduction to solid modeling CAD system and use of the computer to produce engineering drawings. Introduction to conceptual design and graphics as a form of communication in the engineering field. CSU, UC

ENGIN-121 Engineering Drawing/Descriptive Geometry
3 units LR
• 36 hours lecture/108 hours laboratory per term
• Recommended: ENGIN 120 and MATH 121 or equivalents (may be taken concurrently)
• Note: This course requires 108 hours of laboratory (lab). These hours may be offered as face to face lab, online lab, or lab hours by arrangement; see schedule of classes for specific requirements.
Space relationships of points, lines, and surfaces; double auxiliaries, curved and warped surfaces; intersections, developments, vector analysis, introduction to three-dimensional CAD systems and solid modeling to solve descriptive geometry problems, engineering applications, graphical mathematics. CSU, UC

ENGIN-123 Principles of Civil Drafting
3 units LR
• 36 hours lecture/108 hours laboratory per term
• Recommended: ENGIN 111 (may be taken concurrently), ENGIN 119 and ENGIN 126 or equivalents
• Note: This course requires 108 hours of laboratory (lab). These hours may be offered as face to face lab, online lab, or lab hours by arrangement; see schedule of classes for specific requirements.
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

ENGIN-126 Computer Aided Design and Drafting - AutoCAD
4 units SC
• May be repeated once
• 54 hours lecture/90 hours laboratory per term
• Recommended: ARCHI 119 or ENGIN 119 or equivalent
• Note: Same as ARCHI 126. May be repeated once when software changes. Credit by examination option available.
Introductory course covering the computer application AutoCAD as it relates to the creation of technical drawings. Course covers two dimensional computer aided drafting of objects in orthographic projection. Hands-on training utilizing a comprehensive overview of the software package and its applications in architectural drafting is stressed. Students are recommended to have a basic knowledge of technical drawing. CSU, UC (credit limits may apply to UC - see counselor)

ENGIN-129 Introduction to SolidWorks
4 units SC
• May be repeated once
• 54 hours lecture/90 hours laboratory per term
• Recommended: ARCHI 119 or ENGIN 119 or equivalent
• Note: Can be repeated once when software version changes
Course will cover 2D and 3D computer aided drafting principles using feature manipulation tools, dimensioning, sections, swept and loft features, as well as assembly drawing. Previous knowledge of SolidWorks software is not required. CSU

ENGIN-130 Energy, Society, and the Environment
3 units SC
• 54 hours lecture/36 hours laboratory per term
• Recommended: Eligibility for ENGL 122 and MATH 110 or equivalents
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-135 Programming for Scientists and Engineers
4 units LR
- 54 hours lecture/72 hours laboratory per term
- Recommended: MATH 192 and eligibility for ENGL 122 or equivalents

An introduction to programming in C/C++ for engineers and scientists. Procedural and object-oriented programming applications encompassing data structures, use of computer software and programming techniques to solve various numerical problems are covered. CSU, UC

ENGIN-136 Computer Programming for Engineers Using MATLAB
4 units LR
- 54 hours lecture/72 hours laboratory per term
- Prerequisite: MATH 192 or equivalent
- Recommended: MATH 193 or equivalent (may be taken concurrently)
- Note: This course requires 72 hours of laboratory (lab). These hours may be offered as face to face lab, online lab, or lab hours by arrangement; see schedule of classes for specific section requirements.

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. CSU, UC

ENGIN-140 Plane Surveying
3 units SC
- 54 hours lecture/54 hours laboratory per term
- Prerequisite: MATH 121 or equivalent
- Note: Same as CONST 116

Principles and practices of surveying including measurement of distances, directions and elevations; measuring standards; introduction to electronic measurements and metric units; calibration, systematic and random-error analysis; traverse calculations; use and care of surveying instruments including tapes, transits, and levels; GPS measurements; map reading; horizontal and vertical curves and mapping. CSU, UC

ENGIN-150 Topics in Engineering
.3-4 units SC
- May be repeated three times
- Variable hours

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

ENGIN-160 Introduction to Manufacturing
3 units LR
- 54 hours lecture/54 hours laboratory per term
- Recommended: ENGIN 120 and ENGIN 121 or equivalents

This course will cover production and manufacturing techniques of metals, alloys and polymers. Students will learn techniques of casting, forming, forging, extrusion and sintering of materials. Blueprint reading, the use of measuring instruments and gauges, layout techniques and material removal using machine tools will also be covered. Instruction will include the set-up and operation of machine shop equipment. Principles of quality control and quality assurance with special emphasis on ANSI Y14 standards will be covered. CSU

ENGIN-165 Manufacturing Processes: Material Machining I
2 units LR
- 18 hours lecture/54 hours laboratory per term

This course will cover the practical and theoretical aspects of machine tool processes. Students are instructed in the correct and safe use of hand tools; grinders; measuring instruments, gauges, layout and inspection techniques and metals identification. Instruction will include the set-up and operation of the drill press, band saw, pedestal and horizontal grinder; lathes and milling machines. CSU

ENGIN-166 Manufacturing Processes: Material Machining II
2 units LR
- 18 hours lecture/54 hours laboratory per term

This course will include in-depth coverage of precision measuring and inspection practices. Topics include advanced lathe and vertical milling machine operations; surface grinder, thread cutting, boring on lathes and vertical milling machines. Techniques of machining ferrous and non-ferrous metals, plastics and ceramics will be covered. CSU

ENGIN-170 Introduction to Machine Technology
4 units LR
- 54 hours lecture/54 hours laboratory per term
- Formerly MATEC 120

This course will cover the practical and theoretical aspects of machine tool processes. Students are instructed in the correct and safe use of hand tools, deburring equipment, basic blueprint interpretation, measuring instruments and gauges, layout and inspection techniques, and metals identification. Instruction will include the set-up and operation of the drill press, band saw and pedestal grinder, and types of uses of abrasives. Students are introduced to simple lathe and milling machine operation and set-ups. CSU
**ENGIN-171  Machine Processes II**
3 units LR
- 36 hours lecture/72 hours laboratory per term
- Recommended: ENGIN 170 or equivalent
- Formerly MATEC 121

This course will include in-depth coverage of precision measuring and inspection practices, advanced lathe and vertical milling machine operations and surface grinder operation. Thread theory, thread nomenclature and thread forming methods, and boring on lathes and vertical milling machines will be covered. Selection of metals and introductory metallurgy will be presented. Basic principles of Computer Numerical Control (CNC) machining will be introduced. CSU

**ENGIN-172  Introduction to Computer Numerical Control**
3 units LR
- 18 hours lecture/90 hours laboratory per term
- Recommended: ENGIN 170 or equivalent
- Note: Recommended: 1) Experience in lathe and vertical milling machines and their use; 2) Experience in using precision measuring tools
- Formerly MATEC 222

This course introduces students to Computer Numerical Control (CNC) machining including Computer Aided Design (CAD), Computer Aided Machining (CAM), software and G-code machine languages. Students will learn the design processes, geometry creation and 3D modeling needed for part creation. Students will take CNC programs and learn how to set up and operate CNC machines to fabricate parts. CSU

**ENGIN-226  Computer Aided Drafting Design, Advanced Concepts - AutoCAD**
4 units SC
- 54 hours lecture/90 hours laboratory per term
- Recommended: ENGIN 126 or ARCHI 126 or equivalent
- Note: Same as ARCHI 226. May be repeated once when software changes.

Course is designed for students with previous knowledge and experience in using AutoCAD. Course covers (1) surface/wireframe and solid modeling features of AutoCAD for 3-dimensional modeling and photo realistic rendering, (2) customization and optimal application of AutoCAD and (3) utility options for presentation purposes and project management. CSU, UC (credit limits may apply to UC - see counselor)

**ENGIN-229  Advanced Concepts in SolidWorks**
4 units SC
- May be repeated once
- 54 hours lecture/90 hours laboratory per term
- Recommended: ENGIN 119 and ENGIN 129 or equivalents
- Note: Can only be repeated when software version changes

Course is designed for students with previous knowledge and experience in using SolidWorks. Students will continue to learn advanced techniques for capturing design intelligence. Some other aspects of mechanical design, such as assembly management techniques, creating models via surfacing and style features and working with skeletons will be introduced. Troubleshooting and managing existing models by tackling references and interdependencies is a driving consideration in the course. Upon completion of the course, students will exhibit a demonstrated competence in a comprehensive range of SolidWorks skills and techniques. CSU

**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. CSU, UC

**ENGIN-240  Properties of Engineering Materials**
4 units LR
- 54 hours lecture/54 hours laboratory/18 hours laboratory by arrangement per term
- Prerequisite: CHEM 120 and PHYS 130 or equivalents

The study of properties of engineering materials as related to their atomic, microscopic, and macroscopic structures. CSU, UC

**ENGIN-255  Statics**
3 units LR
- 54 hours lecture/18 hours laboratory per term
- Prerequisite: PHYS 130 or equivalent and MATH 193 or equivalent
- Recommended: ENGIN 135 or ENGIN 136 or equivalent and eligibility for ENGL 122 or equivalent

Study of the effects of concentrated and distributed forces on the equilibrium of rigid bodies, structures, beams, flexible cables and fluid statics. Applying the method of sections and free body diagrams to solve truss problems. The study of wedges, screws, bearings, brakes and other problems involving friction. Virtual work and potential energy methods in the determination of equilibrium conditions in machines and structures. CSU, UC
ENGIN-256 Dynamics
3 units LR
• 54 hours lecture/18 hours laboratory per term
• Prerequisite: ENGIN 255 or equivalent
• Recommended: MATH 294 or equivalent
This course introduces students to the principles of Newtonian Dynamics in one, two, and three dimensional motions. Students will study the kinematics and kinetics of a single particle, system of particles, and rigid bodies. This will include conservation laws, work, energy, impulse and impact. The student will also be presented with an introduction to free and forced vibrations. CSU, UC

ENGIN-257 Statics and Strength of Materials
3 units LR
• 54 hours lecture/18 hours laboratory per term
• Prerequisite: PHYS 130 or equivalent
• Co-requisite: MATH 294 or equivalent (may be taken previously)
• Recommended: MATH 194 or equivalent
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, bending and torsion in circular and hollow shafts. Deflection of beams, buckling of columns and energy methods are also discussed. CSU, UC

ENGIN-258 Introduction to Solid Mechanics
3 units LR
• 54 hours lecture/18 hours laboratory per term
• Prerequisite: ENGIN 255 or equivalent
• Co-requisite: MATH 294 or equivalent (may be taken previously)
This course covers the fundamentals of solid mechanics. Definitions of stress and strain and their relationship in two and three dimensional problems are presented. Stress and strain transformations are discussed. Equations for torsion and bending of bars are derived and deflection of beams and shafts are studied. Buckling of columns and energy methods are also covered. CSU, UC

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

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 G.E.). 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 all graduation requirements as listed in the catalog. Certain courses may satisfy both major and other graduation requirements; however, the units are only counted once.

<table>
<thead>
<tr>
<th>Major Requirements</th>
<th>Units</th>
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<tbody>
<tr>
<td>Group 1: Core reading and composition courses</td>
<td></td>
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<tr>
<td>complete at least 6 units from:</td>
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<tr>
<td>ENGL 122* Freshman English: Composition and Reading</td>
<td>3</td>
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<tr>
<td>ENGL 123* Critical Thinking: Composition and Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 126* Critical Thinking: The Shaping of Meaning in Language</td>
<td>3</td>
</tr>
<tr>
<td>Group 2: Core genre</td>
<td></td>
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<tr>
<td>complete at least 3 units from:</td>
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<tr>
<td>ENGL 150 Introduction to Literature</td>
<td>3</td>
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<tr>
<td>ENGL 151 The Short Story</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 153 Contemporary Poetry</td>
<td>3</td>
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<tr>
<td>ENGL 180** Literature of the Drama</td>
<td>3</td>
</tr>
</tbody>
</table>

**Group 3: Core survey complete at least 6 units from:**

- ENGL 154 Shakespeare and His World
- ENGL 252 Early English Literature
- ENGL 253 Survey of Late English Literature
- ENGL 262 Survey of American Literature I (First Contact-1865)
- ENGL 263 Survey of American Literature

**Group 4: electives - Specialized literature and writing complete at least 6 units from:**

- ENGL 152 The Short Film
- ENGL 162 Language, Literature and Culture
- ENGL 163 Asian American Literature
- ENGL 164 Native American Literatures
- ENGL 165 African American Literature
- ENGL 167 Latin American Literature
- ENGL 168 The Literatures of America
- ENGL 170 World Mythology
- ENGL 172 The Bible as Literature
- ENGL 173 Introduction to Gay and Lesbian Multicultural Voices in Literature
- ENGL 175 Science Fiction and Fantasy Literature
- ENGL 176 The Graphic Novel as Literature
- ENGL 177 Children’s Literature
- ENGL 190 Multicultural Literature by American Women
- ENGL 222* Creative Writing
- ENGL 223 Short Story Writing
- ENGL 224 Poetry Writing
- ENGL 225* Writing about Cultural Identity in America

**Total minimum required units 21**

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

**Students taking English 180 may need to take one more course from the above list as Literature of the Drama does not articulate with some university English programs. If so, 3 units earned from English 180 will apply to Group 4: Electives.

**ENGL-090 Introduction to College English**

2.5 units SC
- Non degree applicable
- 45 hours lecture per term
- Recommended: Eligibility for ENGL 098 or equivalent

This supplemental course is designed to provide instruction in grammar, syntax, usage, punctuation and the writing process at an introductory level. The course will also cover the reading strategies necessary to write well. Weekly writing assignments will enable students to practice using the skills learned in class. This beginning course is intended to prepare students to succeed in basic skills English courses.
ENGL-091  Special Studies in Reading and Writing
1 unit  P/NP
- May be repeated three times
- Non degree applicable
- 9 hours lecture/27 hours laboratory per term
- Note: Sections for ESL students available

A series of short-term, one-unit mini-courses which develop specific skills in reading and writing. Courses include reading comprehension, effective reading strategies, spelling/vocabulary, sentence structure, and punctuation.

ENGL-092  College Study Skills
2 units  P/NP
- Non degree applicable
- 36 hours lecture per term

This course is designed to improve the students' study skills: goal setting; time management; note taking; reading comprehension; reading strategies for textbooks; main idea recognition; underlining and other text marking; concentration and memory; effective writing; test taking strategies. Students also determine their preferred learning style and discover ways to use that style most efficiently. Practice exercises will include readings from a variety of college subjects.

ENGL-095  Studies in Writing
.5-6 units  SC
- May be repeated three times
- Non degree applicable
- Variable hours
- Recommended: ENGL 096 and ENGL 098 or equivalent recommendation from the assessment process
- Formerly ENGL 105

This course focuses on developing students’ ability to write at the college level. Depending on the topic, the course may cover such diverse areas as: the writing process, developing a sense of voice in writing, critical analysis of student writing, identifying the organizational structures of various essays, and close analysis of fiction and nonfiction.

ENGL-096  Introduction to College Reading and Study Skills
3 units  SC
- Non degree applicable
- 54 hours lecture/18 hours laboratory per term
- Recommended: Reading/writing assessment process or ESL 098A or equivalent
- Note: ESL students are strongly encouraged to follow the ESL assessment process. ESL 098A is recommended for ESL students

This course is designed for students who need work in basic reading and study skills required for college. Writing will be an essential component of this course. Students will learn to identify main ideas and supporting details and to determine methods of organization and relationship of ideas. A primary aim is to increase students’ enjoyment of reading as well as their ability to comprehend, interpret, and remember what they read. Students will practice using writing to respond to and demonstrate their understanding of what they read. The course will also emphasize effective study skills and vocabulary development.

ENGL-098  Introduction to College Writing
3 units  SC
- Non degree applicable
- 54 hours lecture/18 hours laboratory per term
- Recommended: Reading/writing assessment process or ESL 098A or equivalent
- Note: ESL students are strongly encouraged to follow the ESL assessment process. ESL 098A is recommended for ESL students.

This course is designed to help students express their ideas in writing, and gain confidence in writing essays. Students will compose essays for an academic audience and learn to write clear, complete and varied sentences and coherent paragraphs. Students will read and learn to analyze a variety of short texts in order to develop ideas for writing. Students will also become familiar with the steps of the writing process: drafting, revising, editing, and proofreading. An additional goal is for students to learn basic rules of grammar, and punctuation.

ENGL-099  English Grammar and Usage
3 units  SC
- Non degree applicable
- 54 hours lecture per term
- Formerly ENGL 110

This course provides intensive instruction on the rules of grammar, punctuation, spelling and their application in writing. Students will learn to recognize grammatical errors in their writing, to make informed judgments about the style and syntax of the sentences they write, to reduce the number of misspelled words, and to use a broader vocabulary in their writing. The course is intended to prepare students for more advanced English classes and to increase their knowledge of the fundamentals of English.

ENGL-116  College Reading Development
3 units  SC
- 54 hours lecture per term
- Recommended: ENGL 096 or reading/writing assessment process or equivalent
- Note: Students may apply either ENGL 116 or 118 to the associate degree, but not both courses

This course is designed to develop strategies for reading a variety of college-level materials. Students will learn ways to interact with what they read in order to increase appreciation as well as comprehension. The course will cover close analysis of reading, flexible approaches to reading, vocabulary development, and study skills. The central focus throughout the course will be on reading comprehension as an active process, with written response as the primary method for evaluating and analyzing readings.
ENGL-118 College Writing Development
3 units SC
- 54 hours lecture per term
- Recommended: ENGL 098 or reading/writing assessment process or equivalent
- Note: Students may apply either ENGL 116 or 118 to the associate degree, but not both courses
This course helps students to improve their expression of ideas in college-level expository essays. Through continual writing practice, students will improve their skills in observation, fluency, organization, and revision, as well as other parts of the writing process. Students will learn to analyze a variety of texts with an emphasis on nonfiction.

ENGL-122 Freshman English: Composition and Reading
3 units LR
- 54 hours lecture per term
- Prerequisite: Successful completion of ENGL 116 and ENGL 118 or equivalent recommendation from assessment process or English AP score of 3
This course engages students regularly in the writing and reading process, requiring a substantial amount of reading of significant literature. 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, students will use a variety of types of support including primary and secondary research. Students will understand and employ varied rhetorical strategies used by accomplished writers. CSU, UC

ENGL-123 Critical Thinking: Composition and Literature
3 units LR
- 54 hours lecture per term
- Prerequisite: ENGL 122 or equivalent
ENGL 123 is a continuation of ENGL 122 emphasizing the study of poetry, fiction, and drama. The course is designed to encourage continued improvement in essay composition through a focus on critical thinking about literary works. It will increase understanding of the creation of aesthetic meaning and the use of symbolic forms in language and thought; and introduce students to several literary genres in the context of culture. 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
- 54 hours lecture per term
- Prerequisite: ENGL 122 or equivalent
This course will focus on the development of logical reasoning, analysis of primarily 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. This course will concentrate on how expository texts make their arguments as demonstrated through higher levels of critical thinking such as analysis, synthesis and evaluation. CSU, UC

ENGL-130 Introduction to Technical Writing
3 units SC
- 54 hours lecture per term
- Recommended: ENGL 122 or equivalent
This course is an introduction to writing in the technical environments of science and industry, with an emphasis on selecting appropriate evidence, and on understanding and employing various levels of technical vocabulary and abstraction. Strategic use of visual support, technical metaphor, and application of communication principles to technical settings are also addressed. CSU

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 in 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
- 54 hours lecture per term
- Recommended: ENGL 122 or equivalent
This course will focus on representative works from the four major genres of literature (poetry, drama, the short story, and the novel). This course will teach students to recognize the distinguishing elements of each literary form and develop competency in the methods used to analyze all literature. The choice of texts will reflect the historical development of these genres in order to enhance students’ appreciation of the extent to which imaginative literature reflects its historical moment and is shaped by expressive and visual arts of the time. CSU, UC
ENGL-151 The Short Story
3 units SC
• 54 hours lecture per term
• Recommended: ENGL 122 or equivalent
This course is an introduction to the short story: themes, forms, history of the form, individual writer's techniques. Students read and discuss short stories and become more independent critics of them. In addition, as with the study of all literature, students can understand many aspects of life and themselves better as a result of the deep exposure to characters and cultures different from their own. CSU, UC

ENGL-152 The Short Film
3 units SC
• 54 hours lecture per term
• Recommended: ENGL 122 or equivalent
This survey course explores 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
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course focuses on the reading, critical study, critical analysis, and discussion of contemporary poetry. Postmodern American poetry is emphasized, although consideration will also be given to contemporary world poetry and other poetry written in English. Earlier traditions, such as modernism, will be briefly discussed. Historical, social, cultural, and psychological contexts will be provided. Consideration will be given to the forms, functions, and definitions of the poetry studied. Students should reach a heightened awareness and understanding of language and artistic excellence. CSU, UC

ENGL-154 Shakespeare and His World
3 units SC
• 54 hours lecture per term
• Recommended: ENGL 122 or equivalent
This course will focus on the language, structure, characterization, and philosophy of Shakespeare's plays. The historical, social, and artistic forces which helped to shape his works during the Elizabethan and Jacobean ages will be discussed. The relationship between Shakespeare's work as literature will be examined by close analysis, and as performing arts, experienced in theater, film, opera, or television. CSU, UC

ENGL-155 Studies in Literature
.5-3 units SC
• May be repeated three times
• Variable hours
• Recommended: ENGL 122 or equivalent
This course focuses on the reading, critical study, critical writing and discussion of a special literature. Consideration will be given to the literature's forms, functions, and definitions. Also of concern will be the literature's significance in terms of historical, social, cultural, and psychological contexts. CSU

ENGL-156 Language, Literature and Culture
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 116/118 or equivalent
This course examines language, literature and the arts from a multi-cultural context. Students will read stories, drama, poetry and essays that reflect a broad range of cultural view points; they will observe and analyze relevant print and visual media; and they will compare and consider such artistic forms as architecture, music, fashion and painting in the context of compared cultures. Attention will be devoted to understanding the linguistic or attitudinal challenges posed by cross-cultural communication. The course will be helpful to American-born students seeking a wider cultural perspective and to International students and other advanced ESL students in their acculturation and language development efforts. CSU, UC

ENGL-161 Asian American Literature
3 units SC
• 54 hours lecture per term
• Recommended: ENGL 122 or equivalent
This course introduces students to a variety of literary works from the Asian American culture, which are significant in illuminating the Asian American cultural experience. Readings are chosen for their literary, historical, cultural, philosophical and psychological importance. CSU, UC

ENGL-162 Native American Literature
3 units SC
• 54 hours lecture per term
• Recommended: ENGL 122 or equivalent
Students will focus on the literary traditions and cultures of Native Americans, and through the study of various oral and written literary works (such as ceremonies, songs, myths, folk tales, oratories, autobiographies, poetry and prose) will examine issues important to Native peoples, such as cultural identity, language, self-determination. CSU, UC
ENGL-166  African American Literature
3 units  SC
• 54 hours lecture per term
• Recommended: ENGL 122 or equivalent
This course is a study of the major works of fiction and poetry by black writers in Africa and America, spanning three hundred years. Students will gain an awareness of main themes, concepts, and characteristics of the literature. Emphasis is on the development of concepts and skills that will enable the student to study the literature, make comparisons, and draw conclusions about the nature of its development, its origin, and the influence of rhetoric, religion, philosophy, history, music, or other arts or literature. CSU, UC

ENGL-167  Latin American Literature
3 units  SC
• 54 hours lecture per term
• Recommended: ENGL 122 or equivalent
The course focuses on the literature of Latin American cultures. Through analysis of poetry, fiction, drama, music and film, students will explore political, social, historical, and psychological elements that comprise the voices of Latin Americans. CSU, UC

ENGL-168  The Literatures of America
3 units  SC
• 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
• 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 in terms of their appearance in folklore, ritual, literature and the arts, and 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
• 54 hours lecture per term
• Recommended: ENGL 122 or equivalent
Students read the Hebrew scriptures (Old Testament) and the New Testament as literature, studying 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 canon. Literary genres such as poetry, essays, letters, and epics in scripture are compared with those genres found in other world literatures. CSU, UC

ENGL-173  Introduction to Gay and Lesbian Multicultural Voices in Literature
3 units  SC
• 54 hours lecture per term
• Recommended: ENGL 122 or equivalent
This course presents literature and related arts by and about gay men and lesbians. The works studied represent a wide variety of racial, cultural and socio-economic groups. This course presents literature and related arts by and about gay men and lesbians from Hispanic/Latino, African American, European American, Asian American, Native American cultural, ethnic, and a variety of socio-economic groups. Novels, short stories, poems and plays are presented with a focus on literary elements as well as historical, social and psychological contexts. Through an understanding of the historical, social, and psychological forces shaping the literature and related arts, students will reach a heightened awareness of gay and lesbian culture. Through critical analysis of these works, students will also reach a greater understanding of artistic excellence in general. CSU, UC

ENGL-175  Science Fiction and Fantasy Literature
3 units  SC
• 54 hours lecture per term
• Recommended: ENGL 122 or equivalent
This course will offer reading, critical study, and discussion of science fiction as a literary form with consideration of major types, authors, historical development, the media in which science fiction has been presented, how it both mirrors and influences cultural trends, and how it functions as modern mythology. CSU, UC
ENGL-176  The Graphic Novel as Literature  
3 units  SC  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL 122 or equivalent  
This course focuses on the reading, critical analysis, and thoughtful discussion of graphic novels - or “art comics” - as a unique branch of literature. The course focuses on non-fiction (memoir and investigative reporting) and fiction (superhero, coming of age, experimental) texts, composed of image and word by significant creators in the field. Major consideration will be given to understanding the literary and artistic techniques used in composing “art comics,” the historical and cross-cultural origins of the form, and the current significance of its growth in contemporary literature and culture. CSU, UC

ENGL-177  Children’s Literature  
3 units  SC  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL 122 or equivalent  
This course examines literature written for children as literature, applying the methods of literary criticism to that literature. The course also places the literature in a historical context, tracing its development from its earliest oral origins to the present, considering the contributions and points of view of various underrepresented 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-180  Literature of the Drama  
3 units  SC  
• 54 hours lecture per term  
• Recommended: ENGL 122 or equivalent  
This course examines representative works in dramatic literature and explores how these works are transformed by the process of filming or staging the play. Through reading, performance, writing, scene work, discussion, and, in some instances, interacting with professionals in the field, students will reach greater appreciation for major elements of drama like plot, characterization, theme, setting, and language. Reflecting on age-old themes and complex characters will give students new insights into their own values, choices, role models, and cultural heritage. CSU, UC

ENGL-190  Multicultural Literature by American Women  
3 units  SC  
• 54 hours lecture per term  
• Recommended: ENGL 122 or equivalent  
This course presents literature and related arts by and about women from at least three of the following cultural, ethnic, and racial groups: Hispanic Latina American, African American, European American, Asian American, and Native American cultural, ethnic and racial groups. Under scrutiny will be women’s prescribed role in society as well as the language, ideology, substance and form of the artistic renderings. Through a study of the artist’s work and an understanding of the historical, social, and psychological forces shaping the work, students should reach a heightened awareness of women’s contributions and struggles in our society as well as in others. Through criticism of and writing about the art, the students should also reach a greater understanding of the genre. CSU, UC

ENGL-222  Creative Writing  
3 units  SC  
• May be repeated once  
• 54 hours lecture per term  
• Prerequisite: Eligibility for ENGL 122 or equivalent  
Students will analyze the varied creative writing techniques of selected authors and present original writing for discussion and criticism by the class and the instructor. CSU, UC (credit limits may apply to UC - see counselor)

ENGL-223  Short Story Writing  
3 units  SC  
• Prerequisite: Eligibility for ENGL 122 or equivalent  
• Note: The student is limited to a maximum of 12 units in any combination of ENGL 222, 223, and 224  
In-depth study of the elements of the short story. Students write original stories for discussion and criticism by both class and instructor. CSU, UC (credit limits may apply to UC - see counselor)

ENGL-224  Poetry Writing  
3 units  SC  
• May be repeated once  
• 54 hours lecture per term  
• Prerequisite: Eligibility for ENGL 122 or equivalent  
• Note: The student is limited to a maximum of 12 units in any combination of ENGL 222, 223, and 224  
In-depth study of the elements of poetry. Students write original poems for discussion and criticism by both class and instructor. CSU, UC (credit limits may apply to UC - see counselor)
ENGL-225  Writing About Cultural Identity in America
3 units  SC
• May be repeated once
• 54 hours lecture per term
• Prerequisite: Eligibility for ENGL 122 or equivalent
This workshop of expository writing provides an environment in which students will develop skills related to research techniques, interviewing, and specialties of nonfiction such as autobiography, biography, and creative nonfiction. Students will read works of American authors with particular attention paid to multicultural groups. Students will present original prose writing (approximately 6,000 words) for informal discussion and criticism. CSU, UC

ENGL-226  Literary Nonfiction
3 units  SC
• May be repeated once
• 54 hours lecture per term
• Prerequisite: Eligibility for ENGL 122 or equivalent
Students study classic and contemporary narrative nonfiction writing, specifically memoir, travel, nature and personal essays. Students write original, nonfiction essays that employ fictional and literary techniques. Students present their writing to other students and the instructor for feedback and revision. CSU, UC

ENGL-252  Early English Literature
3 units  SC
• 54 hours lecture per term
• Prerequisite: ENGL 122 or equivalent
Students read characteristic and significant British literature from its beginnings to Johnson; examine the evolution of style and manner in the written form of the language; appreciate the influence of the cultural heritage upon native art forms, ideas and institutions; and generally learn to read literature more skillfully. The course relates the literature to historical and cultural developments as expressions of periods and their styles and consciously relates that to at least one art - painting, music, or architecture. CSU, UC

ENGL-298  Independent Study
.5-3 units  SC
• May be repeated three times
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.
An opportunity for advanced students to study special interests under the direction of the faculty. CSU
ENGLISH AS A SECOND LANGUAGE – ESL

English Division
Faculty Offices

ESL-067  ESL: Introduction to College English Skills
2 units  P/NP
• Non degree applicable
• 18 hours lecture/54 hours laboratory per term
• Note: ESL assessment process before entering is recommended

This course is designed for students for whom English is a second language at the introductory level who need to improve their speaking, listening, reading and writing skills to prepare them for entry into more advanced courses in the ESL program. The goals of the course are to develop and improve English language skills and to introduce students to the college environment.

ESL-072  ESL: Pronunciation/Listening Skills
2 units  P/NP
• Non degree applicable
• 18 hours lecture/54 hours laboratory per term
• Recommended: ESL 086 and ESL 088 or equivalents

This course is designed for ESL or international students who need instruction in improving listening comprehension and oral communication skills. Students will learn to perceive a variety of speech patterns and listening cues and a variety of speech forms, including conversations, directions, and lectures. Students will practice the sounds and rhythms of American English and improve their fluency by speaking in a variety of situations.

ESL-076  ESL: Intermediate Reading and Comprehension Skills
3 units  SC
• Non degree applicable
• 54 hours lecture/18 hours laboratory per term
• Recommended: ESL 067 or equivalent
• Note: Each section has a weekly 1 hour scheduled study group. Students must check the schedule of classes and reserve the associated time.

This is an intermediate-level course designed for students for whom English is a second language who need instruction in reading comprehension and study skills to enhance their performance in future college courses. Students will continue to develop basic reading comprehension skills such as identifying main ideas in paragraphs, understanding paragraph organization, and using context clues to understand new vocabulary.

ESL-078  ESL: Intermediate Writing Skills
3 units  SC
• Non degree applicable
• 54 hours lecture/18 hours laboratory per term
• Recommended: ESL 067 or equivalent
• Note: Each section has a weekly 1 hour scheduled study group. Students must check the class schedule and reserve the associated time.

This course is designed for ESL students at the intermediate level who need to improve their ability to write correct sentences and who are ready to begin writing paragraphs and narratives. Course work will include work on grammar, usage, parts of speech, punctuation, and idioms. Writing assignments will include sentences, paragraphs and narratives.

ESL-081  ESL: Studies in Reading, Writing, and Listening/Speaking Skills
2 units  SC
• May be repeated three times
• Non degree applicable
• 36 hours lecture per term
• Recommended: Eligibility for ESL 086, ESL 088 or equivalents

This course is designed for students for whom English is a second language who need to improve their speaking, listening, reading and writing skills to prepare them for more advanced courses in the ESL and English programs. Topics for the course may include reading comprehension, spelling, vocabulary, sentence structure, punctuation, and conversation.

ESL-083  ESL: Language Laboratory
2 units  P/NP
• Non degree applicable
• 18 hours lecture/54 hours laboratory per term

This laboratory course is designed for ESL or international students who need to practice their reading, writing, listening and speaking skills. The course offers basic instruction on how to use word-processing, basic English language learning software, and the internet. The course offers individualized instruction to students at various skill levels, from intermediate to advanced. The course provides the setting and instructional assistance for students to practice communication skills, to get help with English class assignments, and to learn how to do basic computer research.
ESL-086  ESL: High Intermediate Reading Comprehension
3 units  SC
• Non degree applicable
• 54 hours lecture/18 hours laboratory per term
• Recommended: ESL 076 or equivalent
• Note: Each section has a weekly 1 hour scheduled study group. Students must check the schedule of classes and reserve the associated time.

This course is designed for ESL students at the high intermediate level who need preparation for college level reading and related study skills. Class activities include a close exploration of the reading process - especially of textbook materials; vocabulary development; listening practice and note-taking; use of library, dictionary and other reference resources; academic and cultural orientation.

ESL-088  ESL: High Intermediate Writing Skills
3 units  SC
• Non degree applicable
• 54 hours lecture/18 hours laboratory per term
• Recommended: ESL 078 or equivalent
• Note: Each section has a weekly 1 hour scheduled study group. Students must check the schedule of classes and reserve the associated time.

This course is designed for ESL students at the high intermediate level who need to improve their writing skills to prepare for college-level writing and who are ready to begin writing essays. Course work will include instruction in sentence, paragraph and essay structure; principles of grammar and mechanics; voice-audience awareness; revising and editing techniques. Writing assignments will include paragraphs and essays.

ESL-091  ESL: Topics in Vocational English Skills
.5-3 units  SC
• Non degree applicable
• Variable hours

ESL 091 is designed for advanced English as a second language students who may be concurrently enrolled in a course required for a certificate of achievement and accomplishment. This course will teach reading skills, vocabulary-building strategies, writing skills, listening and oral communication skills, and study skills to help students master the content and requirements in a course leading to a certificate of achievement and accomplishment. The focus of this course will change depending on the vocational area that it serves.

ESL-096A  Introduction to College Reading and Study Skills
3 units  SC
• Non degree applicable
• 54 hours lecture/18 hours laboratory per term
• Recommended: ESL 086 and ESL 088 or eligibility for ESL 096A based on the results from the ESL assessment process

This course is designed for advanced ESL students to develop the critical reading skills needed in college and the advanced writing skills needed to demonstrate their knowledge. Students will learn to identify themes and supporting details as well as to determine methods of organization and relationship of ideas in college-level materials. A primary aim is to increase students’ reading fluency and to develop their ability to comprehend, interpret and write about what they read, demonstrating relative control over conventions of written English. This course will also emphasize effective college study skills and vocabulary development.

ESL-098A  Introduction to College Writing
3 units  SC
• Non degree applicable
• 54 hours lecture/18 hours laboratory per term
• Recommended: ESL 086 and 088 or equivalents or eligibility for ESL 098A based on the result from the ESL assessment process

This course is designed for advanced ESL students to gain confidence and fluency in writing essays or themes for American colleges. In this context, students will learn to write clear, complete and varied sentences and coherent paragraphs. An additional goal is for students to learn basic rules of grammar, punctuation and spelling and to be able to identify and correct errors in their writing. Students will also become familiar with the steps of the writing process: drafting, revising, editing, proofreading.
ENVIRONMENTAL SCIENCE - ENVSC

Physical Sciences and Engineering Division
Physical Sciences Building

Program level student learning outcomes

Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in science degree

Environmental science

Associate in science degree - Environmental science

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.

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 G.E.). 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 all graduation 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 graduation requirements; however, the units are only counted once.

major requirements units
BIOSC 170 Environmental Science ......................... 3
ENGIN 130 Energy, Society, and the Environment .......... 3
GEOG 140 Introduction to Weather .......................... 3
OCEAN 101 Fundamentals of Oceanography .............. 3
PHYS 120 General College Physics I ....................... 4

plus at least 4 units from:
CHEM 108 Introductory Chemistry .......................... 4
CHEM 120 General College Chemistry I .................... 5

plus at least 9 units from:
ARCHI 120 Introduction to Architecture and Environmental Design ........................................ 3
BIOSC 126 Nature Study and Conservation .................. 4
COOP 170 Occupational Work Experience Education ... 1-4
ENSYS 120 Introduction to Alternate Energy Systems..... 2
GEOG 127 Introduction to Global Positioning Systems.... 3
GEOG 130 Cultural Geography ................................ 3
MATH 182 Calculus for Management, Life Science and Social Science I .............................. 3
MATH 192 Analytic Geometry and Calculus I ............. 4
PHYS 112 Fundamentals of Physical Science ............... 3

total minimum required units 29

FILM – FILM

Applied and Fine Arts Division
Michael Almaguer, Dean
Business and Foreign Language Building 204
925-685-1230, ext. 2312

Possible career opportunities

The study of film prepares students for careers in the entertainment industry, law, business, and education, or for further education at the graduate or professional level. Career options include: feature film editors, executives in video distribution companies, technicians for local news programs, and independent filmmakers. Other occupations include: cinematographer, movie and stage grip, technical writer, playwright, screenwriter, author, producer, editor, rigger, camera operator, and film laboratory technician. Some careers may require more than two years of study.

FILM-110 National Cinema
1 unit P/NP
• May be repeated three times
• 18 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent

Each term the class will focus on one specific country or geographic area looking for stylistic and thematic trends and conventions. This course will concentrate on major films and trends from specific countries or geographic areas such as China, India, Latin America, Asia, England, France, Italy, Germany, Russia, and Africa. CSU
FILM-120  Film Genre
1 unit  P/NP
• May be repeated three times
• 18 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course is a study of major genres including romantic comedy, film noir, the western, the musical, the war film, etc. Each class will focus on one specific genre. This course will emphasize how genres develop, common themes, and characters and how the language and syntax of film is used in this specific genre. The student will compare the same genre in literature. The course will also examine the relationship of genres to historical, social and cultural trends. CSU

FILM-130  Great Directors
1 unit  P/NP
• May be repeated three times
• 18 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course is a study of major film directors such as Chaplin, Hitchcock, Wilder, Spielberg, Fellini or Kurosawa. Each class will focus on one specific director, looking for stylistic and thematic trends and conventions, and acknowledge their influence on other film makers. The course will place the director in the flow of historical, social and cultural trends. CSU

FILM-140  American Cinema/American Culture
3 units  SC
• 54 hours lecture per term
This course is a history of cinema focusing on the development of American film making as part of a larger cultural context including literature, drama, various genres, vaudeville and related art forms. The course will investigate the interplay of economic, industrial, aesthetic, and cultural forces that shape the language of film - how film conveys meaning and functions as a work of art. Other themes to be explored include how Hollywood functions as a business, reflects societal values and concerns (such as the Great Depression and WWII), and responds to new technologies such as radio, television, and the coming of sound for film. CSU, UC

FILM-150  Topics in Film
3-4 units  SC
• May be repeated three times
• Variable hours
• Recommended: Eligibility for ENGL 122 or equivalent
A supplemental course in film to provide a study of current concepts and problems in film. Specific topics will be announced in the schedule of classes. CSU

FILM-160  American Ethnic Cultures in Film
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course will evaluate and explore various American cultures, African American, American Indian, Asian American, Hispanic, and European American as represented in feature film. It will analyze similarities and differences paying particular attention to social and cultural representations. In addition, the course will include issues specific to the world of cinema including how film language communicates ideas and stimulates emotional responses while Hollywood distribution and marketing practices amount to a form of censorship. CSU, UC

FILM-165  Digital Editing
3 units  SC
• 36 hours lecture/54 hours laboratory per term
• Note: Same as BCA 165 and ARTDM 145
An introduction to the techniques, concepts and aesthetics of digital non-linear, computerized editing for film, television and digital media. The student will become familiar with various professional software programs and develop an understanding of organization, timelines and story as well as editing for visual and audio effect. CSU

FILM-180  Comparative Film Studies
3 units  SC
• 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. This course will emphasize how plot, theme and character are developed in a visual medium and how the language and syntax of film conveys meaning as compared to literature and drama. The course will also examine the relationship of film to historical, social, and cultural trends. CSU, UC (credit limits may apply to UC - see counselor)

FILM-280  Introduction to Film: American Cinema 1900-1950
3 units  SC
• 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. The 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. In addition, this course will analyze how social, economic, and historical forces shape film art, as well as, the development of global media culture, and understanding how cinema communicates as an art form. CSU, UC
FILM-281 Introduction to Film: World Cinema 1900-1960
3 units SC
- 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. The 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. An analysis of how social, economic, and historical forces shape film art will be stressed, as well as, the development of global media culture, and understanding how film communicates as an art form. CSU, UC (credit limits may apply to UC - see counselor)

FILM-282 Introduction to Film: American Cinema 1950 to the Present
3 units SC
- 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 1950s to the present. The 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. An analysis of how social, economic, and historical forces shape film art will be stressed, as well as, the development of global media culture, and understanding how film communicates as an art form. CSU, UC

FILM-283 Introduction to Film - World Cinema 1960 to the Present
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
This course is 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. It will stress 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. CSU, UC

FILM-284 Introduction to Film - Women in Cinema
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
This course is a survey of the major influences of women on film history. The course includes lectures and the viewing of key films made by notable women directors, producers, screenwriters, editors and actors who have influenced the development of film arts around the world. An analysis of how social, economic, and historical forces have shaped women's role in the development of film will be stressed, as well as, growth of global media culture, and how film communicates as an art form. CSU, UC

FILM-289 Film and TV Scriptwriting - Beginning
3 units SC
- 54 hours lecture per term
- Prerequisite: FILM 290 or equivalent
- Recommended: Eligibility for ENGL 122 or equivalent
This is a beginning film writing class. The course will focus on the planning, outlining and structuring of an original feature-length fiction screenplay. The student will study film terms and formats, work with treatment, scenario and shooting scripts, analyze film and television clips, shorts, tapes, and full-length films with emphasis on understanding the writer's perspective. Numerous writing assignments and exercises will be assigned with the intent of developing a student's ability to write for a visual medium. CSU

FILM-290 Film and TV Scriptwriting - Intermediate
3 units SC
- 54 hours lecture per term
- Prerequisite: FILM 290 or equivalent
- Recommended: Eligibility for ENGL 122 or equivalent
This is an intermediate film writing class. The course will focus on developing dramatic conflict inside of a three-act structure. There will be numerous writing assignments including the writing of the first-act of a feature-length screenplay. The purpose of the class is to hone and increase the student's ability to write for a visual medium. CSU

FILM-291 Film and TV Scriptwriting - Beginning
3 units SC
- 54 hours lecture per term
- Prerequisite: FILM 290 or equivalent
- Recommended: Eligibility for ENGL 122 or equivalent
This course teaches the student to execute short, single-camera digital videos by applying the introductory elements of the class including: camera operation and lens selection, audio recording, script development and visual concepts, lighting setup, digital production, and basic digital editing. CSU, UC (credit limits may apply to UC - see counselor)
FILM-293  Fundamentals of Film Making - Intermediate
3 units SC
- 36 hours lecture/54 hours laboratory per term
- Prerequisite: FILM 292 or equivalent
- Recommended: Eligibility for ENGL 122 or equivalent
This course teaches the student to create 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 (credit limits may apply to UC - see counselor)

FILM-294  Film and TV Scriptwriting - Advanced
3 units SC
- 54 hours lecture per term
- Prerequisite: FILM 291 or equivalent
- Recommended: Eligibility for ENGL 122 or equivalent
The purpose of this class is for the advancing student to produce a feature length screenplay. Therefore, emphasis will be placed on developing and refining authentic characters, solid stories and dramatic structure. There will be numerous writing exercises and evaluations. CSU

FILM-298  Independent Study
.5-3 units SC
- May be repeated three times
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.
An opportunity for students to pursue special interests under direction of the faculty. CSU

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

FRENCH – FRNCH

Students with prior foreign language instruction should check with a language teacher regarding proper placement in foreign language courses. The following system is generally used to determine the appropriate term of college work based on high school language: two years equal one college term; three years equal two college terms; four years equal three college terms.

Applied and Fine Arts
Michael Almaguer, Dean
Business and Foreign Language Building 204
925-685-1230, ext. 2312

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.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Certificate of achievement
French

Certificate of achievement - French
This certificate of achievement was created to give students the opportunity to show potential employers in this country and in other countries that the student has completed a certain number of courses in French and prepares students with an intermediate to advanced knowledge of French and familiarizes them with the culture of the Francophone world.

This certificate of achievement provides students, prospective employers and others with documented evidence of persistence and academic accomplishment in the language. The certificate requires completion of at least 13 units from one of the following lists of courses which must be completed with a “C” grade or higher.
List A
FRNCH 120 First Term French .............................................. 5
FRNCH 121 Second Term French ........................................... 5
FRNCH 220 Third Term French ............................................ 3
FRNCH 221 Fourth Term French ........................................... 5
FRNCH 230 Fifth Term French .............................................. 3
FRNCH 231 Sixth Term French .............................................. 3

List B
FRNCH 121 Second Term French ........................................... 5
FRNCH 155 First Term Conversational French ............................ 3
FRNCH 156 Second Term Conversational French ........................ 3
FRNCH 157 Third Term Conversational French .......................... 3
FRNCH 220 Third Term French .............................................. 5
FRNCH 221 Fourth Term French ............................................ 5

total minimum required units 13

FRNCH-120 First Term French
5 units SC
• 90 hours lecture/18 hours laboratory per term
This is a basic course in understanding, speaking, reading, and writing French. There is extensive utilization of cultural material and information. CSU, UC

FRNCH-121 Second Term French
5 units SC
• 90 hours lecture/18 hours laboratory per term
• Recommended: FRNCH 120 or equivalent
A second-term basic course at a more advanced level in understanding, speaking, reading, and writing French. Cultural material and information will also be covered. CSU, UC

FRNCH-150 Topics in French
.3-4 units SC
• May be repeated three times
• 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/18 hours laboratory per term
• Note: This course does not satisfy the academic requirements of the FRNCH 120-121 series
Instruction in basic speaking, listening, and comprehensive skills. Introduction to simple grammatical structures and vocabulary to enable students to communicate in everyday situations. CSU

FRNCH-156 Second Term Conversational French
3 units SC
• 54 hours lecture/18 hours laboratory per term
• Recommended: FRNCH 155 or equivalent
• Note: This course does not satisfy the academic requirements of the FRNCH 120-121 series
Second term conversational course designed to improve speaking and oral comprehension skills. Building on previously acquired knowledge, it will include a more extensive grammar and vocabulary to expand beyond the self and on to conversation of a more general nature. Emphasis will be on oral use of the language. Comprehension will be reinforced through listening practice. CSU

FRNCH-157 Third Term Conversational French
3 units SC
• 54 hours lecture/18 hours laboratory per term
• Recommended: FRNCH 156 or equivalent
• Note: This course does not satisfy the academic requirements of the FRNCH 120-121 series
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. Students will be able to discuss topics of social, political, and cultural nature. Students will also have the opportunity to present a well-researched expose on various aspects of French culture. CSU

FRNCH-220 Third Term French
5 units SC
• 90 hours lecture/18 hours laboratory by arrangement per term
• Recommended: FRNCH 121 or equivalent
This course develops a functional fluency in understanding, speaking, reading and writing French, as well as providing an introduction to the study of French literature. This is a further study and interpretation of foreign culture. CSU, UC

FRNCH-221 Fourth Term French
5 units SC
• 90 hours lecture/18 hours laboratory by arrangement per term
• Recommended: FRNCH 220 or equivalent
Advanced grammar study and review. Study of francophone literature in French with emphasis on the short story and poetry. Cultural study integrated into class discussions. Class conducted in French. CSU, UC

FRNCH-230 Fifth Term French
3 units SC
• 54 hours lecture per term
• Recommended: FRNCH 221 or equivalent
This is a continuation of FRNCH 221 with intensive study of additional literary works. There is further development of language skills through student preparation and presentation of reports. This course is conducted entirely in French. CSU, UC
**FRNCH-231 Sixth Term French**
3 units SC
- 54 hours lecture per term
- Recommended: FRNCH 230 or equivalent

This is a continuation of FRNCH 230 with intensive study of additional literary works. There is further development of language skills through student preparation and presentation of reports. This course is conducted entirely in French. CSU, UC

**FRNCH-298 Independent Study**
.5-3 units SC
- May be repeated three times
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.

An opportunity for advanced students to study special interests under the direction of faculty. CSU

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

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

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**GEOGRAPHY – GEOG**

Physical Sciences and Engineering Division
Physical Sciences Building

**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.

**Program level student learning outcomes**
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

**Associate in arts degree**
Social/cultural geography

**Associate in science degrees**
Geographic information systems/Global positioning system
Meteorology
Physical geography

**Certificate of achievement**
Geographic information systems/Global positioning system

**Certificate of accomplishment**
Geographic information systems/Global positioning system
Associate in arts degree - Social/cultural geography

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 G.E.). 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 and maintain an overall GPA of 2.5 or higher in the coursework required for the major, and complete all graduation requirements as listed in the catalog. Certain courses may satisfy both major and other graduation requirements; however, the units are only counted once.

major requirements

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<td>ANTHR 130</td>
<td>Cultural Anthropology</td>
<td>3</td>
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<tr>
<td>GEOG 120</td>
<td>Physical Geography</td>
<td>3</td>
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<tr>
<td>GEOG 130</td>
<td>Cultural Geography</td>
<td>3</td>
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<tr>
<td>GEOG 135</td>
<td>World Regional Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 162</td>
<td>Maps and Cartography</td>
<td>3</td>
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<tr>
<td>SOCIO 131</td>
<td>The Urban Community</td>
<td>3</td>
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<td></td>
<td><strong>total minimum required units</strong></td>
<td><strong>18</strong></td>
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Associate in science degree - Geographic information systems/Global positioning system

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 graduation requirements as listed in the catalog. Certain courses may satisfy both major and other graduation requirements; however, the units are only counted once.

major requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
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<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>
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<tr>
<td>GEOG 127</td>
<td>Introduction to Global Positioning Systems</td>
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<tr>
<td>GEOG 128</td>
<td>Advanced Global Positioning Systems</td>
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<td>GEOG 160</td>
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plus at least 6 units from:

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<td>COMSC 100L</td>
<td>Introduction to Computer Software</td>
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<tr>
<td>COMSC 110</td>
<td>Introduction to Programming</td>
<td>4</td>
</tr>
<tr>
<td>COMSC 138</td>
<td>Advanced Microsoft Office Using Visual Basic for Applications (VBA)</td>
<td>2</td>
</tr>
<tr>
<td>COMSC 172</td>
<td>UNIX and Linux Administration</td>
<td>2</td>
</tr>
<tr>
<td>COMSC 255</td>
<td>Programming with Java</td>
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plus at least 6 units from:

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<th>Units</th>
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<tr>
<td>ANTHR 126</td>
<td>Introduction to Archeological Field Methods</td>
<td>3</td>
</tr>
<tr>
<td>BIOSC 126</td>
<td>Nature Study and Conservation</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC 170</td>
<td>Environmental Science</td>
<td>3</td>
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<tr>
<td>COOP 170</td>
<td>Occupational Work Experience Education...</td>
<td>1-4</td>
</tr>
<tr>
<td>ENGIN 126</td>
<td>Computer Aided Design and Drafting - AutoCAD</td>
<td>4</td>
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<tr>
<td>GEOG 120</td>
<td>Physical Geography</td>
<td>3</td>
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<tr>
<td>GEOL 120</td>
<td>Physical Geology</td>
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<tr>
<td></td>
<td><strong>total minimum required units</strong></td>
<td><strong>31</strong></td>
</tr>
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</table>
GEOGRAPHY

Associate in science degree - Meteorology

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 G.E.). 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 all graduation requirements as listed in the catalog. Certain courses may satisfy both major and other graduation requirements; however, the units are only counted once.

major requirements

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 Maps and Cartography ....................... 3

plus at least 4 units from:
BIOSC 126 Nature Study and Conservation ........... 4
GEOG 125 Introduction to Geographic Information Systems (GIS) ........................................... 3
GEOG 127 Introduction to Global Positioning Systems .... 3
GEOL 120 Physical Geology ............................. 3
GEOL 122 Physical Geology Laboratory ............... 1
GEOL 125 Geology of California ....................... 3

total minimum required units 18

Certificate of achievement - Geographic information systems/Global positioning system

The geographic information systems (GIS)/global positioning system (GPS) program is designed to prepare students for entry into careers that employ generalized or specialized applications of GIS. GIS is a versatile and powerful technology that allows data input, data management, analysis and display of result within a single setup. Most local, state, and federal government agencies use GIS, as do businesses, planners, architects, foresters, geologists and a host of other occupations. Students learn technical and analytical skills for research as well as practical skills necessary to enter the job market and obtain positions with such titles as GIS technician, GIS specialist, GIS analyst, GIS programmer, GIS coordinator, GIS supervisor and GIS manager.

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

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 G.E.). 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 and maintain an overall GPA of 2.5 or higher in the coursework required for the major, and complete all graduation requirements as listed in the catalog. Certain courses may satisfy both major and other graduation requirements; however, the units are only counted once.

major requirements

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 Maps and Cartography ..................... 3

plus at least 4 units from:
BIOSC 126 Nature Study and Conservation ......... 4
GEOG 125 Introduction to Geographic Information Systems (GIS) ........................................... 3
GEOG 127 Introduction to Global Positioning Systems .... 3
GEOL 120 Physical Geology ............................. 3
GEOL 122 Physical Geology Laboratory ............... 1
GEOL 125 Geology of California ....................... 3

total minimum required units 18

Associate in science degree - Physical geography

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 G.E.). 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 and maintain an overall GPA of 2.5 or higher in the coursework required for the major, and complete all graduation requirements as listed in the catalog. Certain courses may satisfy both major and other graduation requirements; however, the units are only counted once.

major requirements

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 Maps and Cartography ..................... 3

plus at least 4 units from:
BIOSC 126 Nature Study and Conservation ......... 4
GEOG 125 Introduction to Geographic Information Systems (GIS) ........................................... 3
GEOG 127 Introduction to Global Positioning Systems .... 3
GEOL 120 Physical Geology ............................. 3
GEOL 122 Physical Geology Laboratory ............... 1
GEOL 125 Geology of California ....................... 3

total minimum required units 18
required courses  
units 
GEOG 125 Introduction to Geographic Information Systems (GIS)................................. 3 
GEOG 126 Advanced Geographic Information Systems.................................................. 3 
GEOG 127 Introduction to Global Positioning Systems...................................................... 3 
GEOG 128 Advanced Global Positioning Systems........................................................... 3 
GEOG 160 Remote Sensing................................................................................................. 4 
GEOG 162 Maps and Cartography...................................................................................... 3 

plus at least 6 units from: 
COMSC 100 Introduction to Computer Software................................................................. 1 
COMSC 110 Introduction to Programming.......................................................................... 4 
COMSC 138 Advanced Microsoft Office Using Visual Basic for Applications (VBA)........... 2 
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 Nature Study and Conservation......................................................................... 4 
BIOSC 170 Environmental Science.................................................................................... 3 
COMSC 100L Introduction to Computer Software................................................................. 1 
COOP 170 Occupational Work Experience Education...................................................... 1-4 
ENGIN 126 Computer Aided Design and Drafting - AutoCAD......................................... 4 
GEOG 120 Physical Geography........................................................................................... 3 
GEOG 121 Physical Geography Laboratory........................................................................ 1 
GEOG 162 Maps and Cartography...................................................................................... 3 
GEOG 298 Independent Study............................................................................................ 1-3 
GEOL 120 Physical Geology............................................................................................... 3 
GEOL 122 Physical Geology Laboratory............................................................................. 1 
total minimum required units 31

Certificate of accomplishment - Geographic information systems/Global positioning system 
The geographic information systems (GIS)/global positioning system (GPS) program is designed to prepare students for entry into careers that employ generalized or specialized applications of GIS. GIS is a versatile and powerful technology that allows data input, data management, analysis and display of result within a single setup. Most local, state, and federal government agencies use GIS, as do businesses, planners, architects, foresters, geologists and a host of other occupations. Students learn technical and analytical skills for research as well as practical skills necessary to enter the job market and obtain positions with such titles as GIS technician, GIS specialist, GIS analyst, GIS programmer, GIS coordinator, GIS supervisor and GIS manager.

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

<table>
<thead>
<tr>
<th>required courses</th>
<th>units</th>
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<tbody>
<tr>
<td>GEOG 125 Introduction to Geographic Information Systems (GIS)</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 126 Advanced Geographic Information Systems</td>
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<tr>
<td>GEOG 127 Introduction to Global Positioning Systems</td>
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<tr>
<td>GEOG 128 Advanced Global Positioning Systems</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 120 Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 121 Physical Geography Laboratory</td>
<td>1</td>
</tr>
</tbody>
</table>

GEOG-120 Physical Geography
3 units SC
- 54 hours lecture per term
- Prerequisite: MATH 110 or one year of high school algebra or equivalent

A general course to introduce the fundamental principles of physical geography. This course is intended to provide 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. CSU, UC

GEOG-121 Physical Geography Laboratory
1 unit SC
- 54 hours laboratory per term
- Prerequisite: GEOG 120 or equivalent (may be taken concurrently)
- Note: Field trips may be included in the course

A laboratory course to supplement GEOG 120 (Physical Geography). Emphasis will be placed on using the skills and tools of modern physical geography and analyzing and interpreting geographic data. Maps, aerial photographs, satellite images, weather instruments and computer analysis are stressed. CSU, UC
GEOG-125 Introduction to Geographic Information Systems (GIS)  
3 units SC  
- 54 hours lecture/18 hours laboratory per term  
- Recommended: COMSC 100L or equivalent  
An introduction to Geographic Information Systems (GIS) as a tool for spatial analysis. The course will cover GIS concepts, techniques and methodologies. Laboratory activities will be used to reinforce lecture concepts. The course will prepare students for advanced university level courses in spatial analysis or for entry level positions in GIS-related fields. CSU

GEOG-126 Advanced Geographic Information Systems  
3 units SC  
- 54 hours lecture/18 hours laboratory per term  
- Prerequisite: GEOG 125 or equivalent  
Application of advanced analytical techniques of geographic information systems (GIS) to manipulate, analyze and predict spatial patterns. Students will work on individual projects to learn the issues involved in managing and representing spatial information. CSU

GEOG-127 Introduction to Global Positioning Systems  
3 units SC  
- 54 hours lecture per term  
An introduction to the Global Positioning System (GPS). Development of the GPS, operational characteristics, limitations, potential errors and applications will be covered. Activities with GPS receivers will be required. This course will prepare students for advanced course work in the GPS or for course work in Geographic Information Systems. CSU

GEOG-128 Advanced Global Positioning Systems  
3 units SC  
- 54 hours lecture per term  
- Prerequisite: GEOG 127 or equivalent  
An advanced course on the Global Positioning System (GPS). Advanced topics including data dictionaries, differential GPS and linking GPS to Geographic Information Systems will be covered. This course will prepare students for additional studies in specific applications of GPS or for course work in Geographic Information Systems. In addition, skills obtained in this course may allow students to seek employment in the spatial science field. CSU

GEOG-130 Cultural Geography  
3 units SC  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL 122 or equivalent  
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 exploitation, and technological innovation are examined in order to understand the interactive relationship between human beings and their environment. CSU, UC

GEOG-135 World Regional Geography  
3 units SC  
- 54 hours lecture per term  
A geographic perspective of physical, cultural, political and economic characteristics of countries and regions of the world. A general survey of world place locations, and influence of geographic factors on international cooperation and conflicts. Survey of the transformation of the cultural landscape of the United States. CSU. UC

GEOG-140 Introduction to Weather  
3 units SC  
- 54 hours lecture per term  
- Recommended: It is strongly recommended that students have successfully completed MATH 110 (or equivalent) prior to taking this course  
An introductory course in meteorology that 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. The course introduces climatology as a scientific study and will look at Earth's climatic history. The course will also look at current research in climate modeling and the possibility of global climate change. CSU, UC

GEOG-141 Introduction to Weather Laboratory  
1 unit SC  
- 54 hours laboratory per term  
- Co-requisite: GEOG 140 or equivalent (may be taken previously)  
- Recommended: MATH 110 or equivalent  
A laboratory course to supplement GEOG 140 (Introduction to Weather). Fundamental concepts in meteorology and measurement techniques including selected mathematical concepts used in developing an understanding of weather and climate. Analysis of real-time weather data will be stressed. CSU, UC
GEOG-150  Topics in Geography  
.3-4 units LR  
• May be repeated three times  
• Variable hours  
A supplemental course in geography to provide a study of current concepts and problems in geography. Specific topics will be announced in the schedule of classes. CSU

GEOG-160  Introduction to Remote Sensing  
4 units SC  
• 54 hours lecture/54 hours laboratory per term  
• Recommended: COMSC 100L or equivalent  
This course introduces the basic principles of remote sensing techniques including aerial photographs, satellite imageries and radar imageries. It explains how these techniques are used for collecting data about the earth and how such data can be interpreted and mapped with the help of image processing software and geographic information systems. CSU

GEOG-162  Maps and Cartography  
3 units SC  
• 36 hours lecture/54 hours laboratory per term  
• Recommended: MATH 110 or equivalent  
The course introduces basic principles of mapping and representation of spatial data using conventional and computerized cartographic techniques. Elements of map such as scale, distance, direction, and map projections as well as cartographic techniques of data analysis, processing, symbolization, and representation are examined in detail. This course is designed to develop a better understanding of maps and map-interpretation. CSU

GEOG-298  Independent Study  
.5-3 units SC  
• May be repeated three times  
• Variable hours  
• Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.  
An opportunity for advanced students to study special interests under the direction of the faculty. CSU

GEOG-299  Student Instructional Assistant  
.5-3 units SC  
• May be repeated three times  
• 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

Physical Sciences and Engineering Division
Physical Sciences Building

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.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in science degrees
Geology

Associate in science degree - Geology
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 36 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 Breadth). 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 a major and a DVC general education requirement; however, the units are only counted once.

Group 1: Core geology courses

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

Group 2: Core mathematics courses

complete at least the first two courses (at least 8 units)

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<td>MATH 192</td>
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</tr>
<tr>
<td>MATH 193</td>
<td>Analytic Geometry and Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 292</td>
<td>Analytic Geometry and Calculus III</td>
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Group 3: Core chemistry courses

complete 10 units from:

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<td>CHEM 120</td>
<td>General College Chemistry I</td>
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<tr>
<td>CHEM 121</td>
<td>General College Chemistry II</td>
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</table>

Group 4: Core physics courses

Complete a minimum of two terms from one sequence (at least 8 units)

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<tr>
<td>PHYS 230</td>
<td>Physics for Engineers and Scientists B: Heat and Electro-Magnetism</td>
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</tr>
<tr>
<td>PHYS 231</td>
<td>Physics for Engineers and Scientists C: Optics and Modern Physics</td>
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OR

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<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>
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</tr>
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</table>

Group 5: Electives

complete at least one course (2-4 units)

<table>
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<th>Course</th>
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</tr>
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<tbody>
<tr>
<td>GEOG 125</td>
<td>Introduction to Geographic Information Systems (GIS)</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 127</td>
<td>Introduction to Global Positioning Systems</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 160</td>
<td>Introduction to Remote Sensing</td>
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</tr>
<tr>
<td>GEOG 162</td>
<td>Maps and Cartography</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 125</td>
<td>Geology of California</td>
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</tr>
<tr>
<td>GEOL 135</td>
<td>Introduction to Field Geology</td>
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</tr>
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</table>

Total minimum required units 36

GEOL-120 Physical Geology

3 units LR
- 54 hours lecture per term
- Recommended: MATH 110 or one year of high school algebra and eligibility for ENGL 122 or equivalents

A general course in geologic science which attempts to encompass nearly all phases of geology. The course is designed to give the student a greater appreciation and deeper understanding of the fundamental processes which 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. Practice in quantitative reasoning and development of mathematical concepts is provided. CSU, UC

GEOL-121 Earth and Life Through Time

3 units LR
- 54 hours lecture per term
- Recommended: GEOL 120 or equivalent and GEOL 122 or equivalent

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 which have led to the features which are observed today. CSU, UC

GEOL-122 Physical Geology Laboratory

1 unit LR
- 54 hours laboratory per term
- Co-requisite: GEOL 120 or 121 or equivalent (may be taken previously)
- Recommended: MATH 110 or one year of high school algebra or equivalent
- Note: Field trips may be included in the course

A laboratory course to supplement for a course in general or physical geology. The materials of the Earth, internal structure and dynamic processes will be covered. CSU, UC

GEOL-124 Earth and Life Through Time Laboratory

1 unit LR
- 54 hours laboratory per term
- Prerequisite: GEOL 121 or equivalent (may be taken concurrently)

A laboratory course in the techniques of historical geological investigations. CSU, UC
GEOL-125  Geology of California  3 units  LR
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: A field trip may be required
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-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
• May be repeated three times
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.
An opportunity for advanced students to study special interests under direction of the faculty. CSU

GEOL-299  Student Instructional Assistant  .5-3 units  SC
• May be repeated three times
• 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

Students with prior foreign language instruction should check with a language teacher regarding proper placement in foreign language courses. The following system is generally used to determine the appropriate term of college work based on high school language: two years equal one college term; three years equal two college term; four years equal three college terms.

Applied and Fine Arts Division
Michael Almaguer, Dean
Humanities Building 112 and 113
925-685-1230, ext. 2312

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 level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Certificate of achievement
German

Certificate of achievement - German
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 one of the following lists of courses which must be completed with a “C” grade or higher.
List A

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRMAN 120</td>
<td>First Term German</td>
<td>5</td>
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<tr>
<td>GRMAN 121</td>
<td>Second Term German</td>
<td>5</td>
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<tr>
<td>GRMAN 220</td>
<td>Third Term German</td>
<td>5</td>
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<tr>
<td>GRMAN 221</td>
<td>Fourth Term German</td>
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<td>GRMAN 230</td>
<td>Fifth Term German</td>
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<td>GRMAN 231</td>
<td>Sixth Term German</td>
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List B

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
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<tbody>
<tr>
<td>GRMAN 121</td>
<td>Second Term German</td>
<td>5</td>
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</tr>
<tr>
<td>GRMAN 155</td>
<td>First Term Beginning Conversational German</td>
<td>3</td>
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<tr>
<td>GRMAN 156</td>
<td>Second Term Beginning Conversational German</td>
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<td></td>
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<tr>
<td>GRMAN 157</td>
<td>Third Term Beginning Conversational German</td>
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<td>GRMAN 220</td>
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<tr>
<td>GRMAN 221</td>
<td>Fourth Term German</td>
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**Total minimum required units**: 13

**GRMAN-120 First Term German**
5 units SC
- 90 hours lecture/18 hours laboratory per term
This is a basic course in communication skills, vocabulary, idioms, and grammatical structures. A new and exciting video program augments the course and provides cultural background for the German-speaking countries. Audio tapes further expose the student to everyday spoken German and provide an opportunity to practice the language. CSU, UC

**GRMAN-121 Second Term German**
5 units SC
- 90 hours lecture/18 hours laboratory per term
- Recommended: GRMAN 120 or equivalent
A second term course in German with emphasis on communicative skills including vocabulary expansion, idioms, writing, and completion of a basic grammar overview. Study of culture, history, and geography of the German-speaking countries through the Focus Deutsch video and audio program. CSU, UC

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

**GRMAN-155 First Term Beginning Conversational German**
3 units SC
- May be repeated once
- 54 hours lecture/18 hours laboratory by arrangement per term
This is the first term of the beginning German conversation series. It is a participatory class based on practical material with oral-aural practice. The present tense is emphasized, and covers basic vocabulary and cultural material. CSU

**GRMAN-156 Second Term Beginning Conversational German**
3 units SC
- 54 hours lecture/18 hours laboratory by arrangement per term
- Recommended: GRMAN 155 or equivalent
This is the second term of the beginning German conversation series. It is a participatory class based on practical material with oral-aural practice. The present perfect and simple past tenses are introduced and contrasted. New vocabulary and cultural material are presented. CSU

**GRMAN-157 Third Term Beginning Conversational German**
3 units SC
- 54 hours lecture/18 hours laboratory by arrangement per term
- Recommended: GRMAN 156 or equivalent
This is the third term of the beginning German conversation series. It is a participatory class based on practical material with oral-aural practice. The present perfect and simple past tenses are reviewed and practiced. Subjective, passive voice, and modals are introduced. New vocabulary and cultural material are presented. CSU

**GRMAN-220 Third Term German**
5 units SC
- 90 hours lecture/18 hours laboratory by arrangement per term
- Recommended: GRMAN 121 or equivalent
Intermediate German. Expand conversation skills, emphasizing speaking more fluently and with assurance. A grammar review and development of reading and writing skills. Short stories, video, and audio programs provide a rich basis for conversation, discussion, and cultural insights. CSU, UC
GRMAN-221 Fourth Term German
5 units SC
• 90 hours lecture/18 hours laboratory by arrangement per term
• Recommended: GRMAN 220 or equivalent
Intermediate German. This course is a continuation of GRMAN 220. Completion of a grammar review and exposure to the finer points of the language, such as particles and when and how to use indirect discourse. The video program exposes the student to many aspects of life in Austria, Germany, and Switzerland, including the various accents of the native speakers. CSU, UC

GRMAN-230 Fifth Term German
3 units SC
• 54 hours lecture per term
• Recommended: GRMAN 221 or equivalent
Advanced German. Students refine their knowledge of German and their insights into the culture of the German speaking countries through contemporary literature, popular writings, such as magazines, advertisements, videos, and film. Many group activities and projects, with an emphasis on communicative skills. CSU, UC

GRMAN-231 Sixth Term German
3 units SC
• 54 hours lecture per term
• Recommended: GRMAN 230 or equivalent
Intensive study of selected literary works (prose, poetry, drama) from the German speaking countries. Students deal critically with both the language and the content of the readings. Exploration of different writing styles and oral communication, such as debates, oratory, jokes, and storytelling. CSU, UC

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

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

HEALTH SCIENCE – HSCI

Diablo Valley College is approved by the California Board of Registered Nurses for continuing education credits (provider #CEP 7992) Health Science courses which can be used are HSCI 124, 140, 164 and 170

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.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in science degree
Health education

Associate in science degree - Health education
The associate in science (AS) 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 risk factors for disease and disability and be taught behavior-changing skills, 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 health profession.

Students may apply the knowledge to work in areas such as a workplace wellness, county health department, hospital/health insurance health education center, state or university health center, Planned Parenthood, or any health club that offers health education information. Students wishing to pursue a career in the field of public health education should consider this two year program as it provides preparation for baccalaureate degrees useful in the field of health education.
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 G.E.). General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

To earn an associate in science degree with a major in health education, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all graduation 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 other graduation requirements; however, the units are only counted once.

**major requirements**

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<thead>
<tr>
<th>Course</th>
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<th>Units</th>
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<tbody>
<tr>
<td>COOP 180</td>
<td>Internship in Occupational Work</td>
<td>1</td>
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<tr>
<td>HSCI 124</td>
<td>Health and Wellness</td>
<td>3</td>
</tr>
<tr>
<td>HSCI 140</td>
<td>Human Sexuality</td>
<td>3</td>
</tr>
<tr>
<td>HSCI 298</td>
<td>Health Science Independent Study</td>
<td>1</td>
</tr>
<tr>
<td>NUTRI 115</td>
<td>Nutrition and Health: Personal Applications</td>
<td>3</td>
</tr>
<tr>
<td>PTHE 261</td>
<td>Principles of Optimizing Human Performance</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 101</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO 120</td>
<td>Introduction to Sociology</td>
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**plus at least 3 units from:**

<table>
<thead>
<tr>
<th>Course</th>
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<th>Units</th>
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<tbody>
<tr>
<td>ADS 101</td>
<td>Introduction to Substance Abuse and Treatment</td>
<td>3</td>
</tr>
<tr>
<td>COUNS 120</td>
<td>Student Success</td>
<td>3</td>
</tr>
<tr>
<td>HSCI 126</td>
<td>Stress Management and Health</td>
<td>3</td>
</tr>
<tr>
<td>HSCI 127</td>
<td>Drugs, Health and Society</td>
<td>3</td>
</tr>
<tr>
<td>HSCI 164</td>
<td>Mind Body Healing</td>
<td>3</td>
</tr>
<tr>
<td>HSCI 170</td>
<td>Women's Health</td>
<td>3</td>
</tr>
<tr>
<td>HSCI 230</td>
<td>Advanced First Aid/CPR</td>
<td>3</td>
</tr>
<tr>
<td>LS 121</td>
<td>Information Literacy and Research Skills</td>
<td>1</td>
</tr>
<tr>
<td>NUTRI 120</td>
<td>Sports Nutrition: Fueling the Athlete</td>
<td>3</td>
</tr>
<tr>
<td>NUTRI 160</td>
<td>Nutrition: Science and Applications</td>
<td>3</td>
</tr>
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</table>

**total minimum required units** 24

### HSCI-124  Health and Wellness

3 units  SC

- 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.

An overview of all aspects of health and wellness, including physical, mental, spiritual, emotional, environmental and social dimensions. This course examines current scientific research on methods of improving health and wellness including, but not limited to, nutrition, fitness, mental health, drug abuse, sexuality and behavior change. CSU, UC (credit limits may apply to UC - see counselor)

### HSCI-125  Consumer Health

3 units  SC

- 54 hours lecture per term
- Recommended: Eligibility for ENGL 116/118 or equivalent

This course is designed to examine consumer aspects of health and medical care in contemporary society. Course study will include topics such as evaluating health care delivery systems, health care providers, and health insurance plans. Students will also learn how to critically assess health information and health-related services and products, as well as where to obtain health information, services and products. CSU

### HSCI-126  Stress Management and Health

3 units  SC

- 54 hours lecture per term
- Recommended: Eligibility for ENGL 116/118 or equivalent

This course will examine the theoretical frameworks of stress research and common stress management techniques. Topics of study will include defining stress, understanding physiological theories of stress, defining sources and causes of stress, and examining health consequences of chronic stress. Students will examine and analyze numerous strategies to manage and cope with stress such as: time management, relaxation techniques, communication skills, diet and exercise. CSU

### HSCI-127  Drugs, Health and Society

3 units  SC

- 54 hours lecture per term
- Recommended: Eligibility for ENGL 116/118 or equivalent

This course introduces concepts, theories, and perspectives associated with the bio-psycho-social effects of drug use in our society. The pharmacological classification of psychoactive substances and their effects will be explored as well as definitions and evidence concerning substance dependence, abuse, tolerance, and withdrawal. An analysis of health and social policy related to the legal and illegal use of psychoactive substances will also be examined. CSU, UC (credit limits may apply to UC - see counselor)

### HSCI-128  Medical Terminology

3 units  SC

- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
- Formerly BUSIM 231

This course will prepare students to work in the health care field. This course teaches construction, pronunciation, spelling, definition and common usage for all medical terms in anatomy, physiology, pathology and health care. This course includes an overview of body systems, pharmacology, diagnostic procedures and clinical test protocols. CSU
HSCI-131 Cardiopulmonary Resuscitation (CPR)  
.5 unit SC  
- May be repeated once  
- 9 hours lecture/3 hours laboratory per term  
- Recommended: ENGL 116/118 or equivalent  
This course is designed to teach lifesaving skills to be used in respiratory and cardiac emergencies and to recertify those with CPR already. CSU

HSCI-140 Human Sexuality  
3 units SC  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL 122 or equivalent  
This is an introductory course examining human sexuality from a biological and cross-cultural perspective. Historical and traditional influences, as well as current perspectives will be presented. This course will facilitate students’ knowledge of each other’s cultures and traditions as they relate to sexuality. Topics that will be examined include sexual anatomy and physiology, gender issues, sex research, relationships and intimacy, communication, sexual behaviors, sexual orientation, sexual minorities, contraception, abortion, sexually transmitted diseases, and enhancing sexual fulfillment. CSU, UC

HSCI-150 Topics in Health Science  
3-4 units SC  
- May be repeated three times  
- Variable hours  
- Recommended: Eligibility for ENGL 122 or equivalent  
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 Mind Body Healing: Cross-Cultural Perspectives  
3 units SC  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL 122 or equivalent  
- Note: Continuing Education Units (CEUs) for nurses  
This course will examine healing from the perspectives of different cultures and healing systems. Many healing therapies, systems and traditions will be explored in order to discover the connections between mind, body, spirit and emotions. Many healing approaches will be covered including traditional Chinese medicine, personality theory of disease, shamanic healing herbs and plant medicine, Ayurveda and the chakra system, music therapy, art therapy, and conventional Western medicine. CSU

HSCI-170 Women's Health  
3 units SC  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL 122 or equivalent  
An exploration of the biological, sociopolitical, and psychological aspects of women’s health and medical care in contemporary society. The course examines contemporary issues of women’s health with emphasis on the politicization of the social, physical, emotional, intellectual, and environmental components of health. CSU, UC (credit limits may apply to UC - see counselor)

HSCI-230 Advanced First Aid/CPR  
3 units SC  
- May be repeated three times  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL 122 or equivalent  
- Note: Continuing Education Units (CEUs) for nurses  
An advanced survey of emergency and non-emergency procedures and techniques used in the pre-hospital setting including basic life support CPR and first aid. This course is required training for medical professionals. CSU

HSCI-298 Independent Study  
.5-3 units SC  
- May be repeated three times  
- Variable hours  
- Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.  
An opportunity for advanced students to study special interests under the direction of faculty. CSU

HSCI-299 Student Instructional Assistant  
.5-3 units SC  
- May be repeated three times  
- 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**

The study of history contributes to cultural literacy and develops 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.

**HIST-120 History of the United States Before 1877**

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

A history of the United States before 1877. This course examines cultural, economic, political, and social factors and includes the experiences and contributions of Native American, African, Asian, Mexican/Latino and European men and women in the development of American society. The course will treat origins, nature, and impact of U.S. Constitution on American history before 1877 including the political philosophies of the framers, the operation of political institutions, and the rights and obligations of citizens. CSU, UC (credit limits may apply to UC - see counselor)

**HIST-121 History of the United States After 1877**

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

This course continues with the history of the United States from 1877 to the present. The course examines cultural, economic, social, and political factors, including the operation and continuing evolution of local, state and federal governments under the U.S. and California Constitutions, and deals with the experiences of men and women from diverse backgrounds, including European Americans, Asian Americans, African Americans, and Mexican American/Latinas/os. In addition, this course will examine the international role of the United States during the 20th century. CSU, UC (credit limits may apply to UC - see counselor)

**HIST-122 Critical Reasoning in History**

3 units SC
- 54 hours lecture per term
- Prerequisite: ENGL 122 or equivalent

Critical reasoning in history is a process of questioning, analyzing, and evaluating oral and written ideas, concepts, and interpretation of the past. This process will include an introduction to the principles of inductive and deductive reasoning. The goal is to learn how to identify historical viewpoints, gather and organize historical information, recognize historical relationships and patterns, and see the relevancy of historical insights as background for an understanding of current events and issues. To achieve this goal, critical reasoning in history involves an understanding and practice of certain definable skills. CSU, UC

**HIST-124 History of California**

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

The course is a survey of the history of California, including the culture of the native Indian people and the Hispanic and early American settlement of California. The course also covers the California constitution, the formation and growth of state and local government, the social, political, economic and cultural forces in the growth of modern California with special emphasis on the state's ethnic diversity. CSU, UC

**HIST-125 History of the United States: A Mexican American Perspective**

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

This course covers U.S. history from 1848 to the present with an emphasis on the role of Mexican-origin people, both immigrants and U.S. born. It examines the history from a social, political, economic, and cultural perspective. It emphasizes 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. The impact of U.S. attitudes and policies on Mexican-origin peoples is also addressed. CSU, UC

**HIST-126 The American West**

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

This course is a survey of the movement of the American people from the Atlantic seaboard across North America and into the Pacific. Focusing on the Westward Movement during the nineteenth century, it examines this historical experience from a social, political, economic, and cultural perspective up to the present. It emphasizes, too, the role of the diverse ethnic and racial communities of the West and their interaction with one another, as well as their contributions to the construction of the American national character. CSU, UC
HIST-127  African American Perspective History of the US to 1865
3 units  SC  • 54 hours lecture per term  •  Recommended: Eligibility for ENGL 122 or equivalent
This course is a survey of the United States from the perspective of African Americans, comparing the African experience with the experiences of Europeans, Native Americans, Asian Americans and Hispanics. Part of the course will be devoted to the U.S. government and the Constitution, the California government and Constitution, and other constitutional models for comparison and contrast. The course will examine the early African presence in America, the origins of the slave trade, and explore political, economic, demographic and cultural influences shaping African American life and culture prior to 1865. CSU, UC (credit limits may apply to UC - see counselor)

HIST-128  African American Perspective History of the US after 1865
3 units  SC  • 54 hours lecture per term  •  Recommended: Eligibility for ENGL 122 or equivalent
This course is a survey of the history of the United States from the perspective of African Americans comparing the African American experience with the experiences of Native peoples, Europeans, Asian Americans and Hispanics/Latinos after 1865. The course explores the history of African American economic, cultural, institutional, political, and protest traditions from the post-Civil War period to the present. It also includes African American interaction with national, California state and local governments, especially with respect to the California Constitution. CSU, UC (credit limits may apply to UC - see counselor)

HIST-129  History of Asians and Pacific Islanders in the United States
3 units  SC  • 54 hours lecture per term  •  Recommended: Eligibility for ENGL 122 or equivalent
An historical survey of the United States from 1840 to the present, with an emphasis on the Asian and Pacific Islander experience. The course focuses on the major periods of national development such as the Civil War, Reconstruction, Industrialization, Age of Reform, Great Depression, World Wars, Cold War and Vietnam, and Age of Conflict and Reform. Within this broad context, the course will also examine the perspective, developments, increasing diversity of ethnic groups, and contributions of Asians and Pacific Islanders in the United States with an emphasis on California. CSU, UC

HIST-130  History of the Peoples of North America Until the Late 19th Century
3 units  SC  • 54 hours lecture per term  •  Recommended: Eligibility for ENGL 122 or equivalent
A survey of the interaction of Native Americans, Europeans, and Africans in North America from the establishment of the first European colonies until the late 19th century. Emphasis will be placed on the diversity of Native American and West African cultures at the time of first contact with Europeans; the different motives and circumstances of Spanish, French, and English colonization in North America; the development of different patterns of interaction between North Americans, Europeans, and Africans in Mexico, Canada, and the United States; the development and evolution of Native American-European-African interaction in Colonial America and the new United States until 1890; and the legal-constitutional framework shaping this interaction, especially the Constitution of the U.S. and its 19th-century judicial interpretation. CSU, UC

HIST-134  California Travel Study: An Individualized Approach
1 unit  P/NP  • May be repeated three times provided topics differ  •  10 hours lecture/18 hours laboratory per term  •  Recommended: Eligibility for ENGL 122 or equivalent  •  Note: Each of the four sections of HIST 134 may be devoted to any one of the four available tours. Students may choose one of the following: The California Missions: Myth and Reality; In Pursuit of Jack London; Historic Sacramento; or WWII in the East Bay.
An in-depth investigation of selected topics in California history. Students will complete the course by following a set of printed course instructions, traveling to historic sites in the state, listening to prerecorded lectures about the sites, and completing a written evaluation of the sites. See schedule of classes for topics offered. CSU

HIST-135  History of Latin America - The Colonial Period
3 units  SC  • 54 hours lecture per term  •  Recommended: Eligibility for ENGL 122 or equivalent
Early Latin American history from pre-Columbian indigenous cultures through the early nineteenth century independence movements. The course examines 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. CSU, UC
HIST-136  History of Latin America - The National Period
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
The history of Latin America during the National period. Emphasis is on the development of constitutional government, cultural and racial conditions, economic and social changes, and external relations among these countries and with the larger world. The history of all Latin America is surveyed. CSU, UC

HIST-140  History of Western Civilization to the Renaissance
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
The growth of western civilization to the 17th century. Emphasis is upon developing an understanding of modern civilization by tracing political, economic, social, cultural, and intellectual developments and relationships of the past. CSU, UC

HIST-141  History of Western Civilization Since the Renaissance
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
The history of Western civilization from the 17th century to the present time. Emphasis is on understanding how the structures and outlook of modern civilization emerged by tracing political, economic, social, cultural, and intellectual developments from late medieval to contemporary times, with primary emphasis on developments of modern Europe. CSU, UC

HIST-150  History of East Asia (to 1600)
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
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
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
History of East Asia, with emphasis on China and Japan, from the 17th century to the present. The history of Korea and Vietnam will also be considered. CSU, UC

HIST-155  Topics in History
.3-.4 units  SC
• May be repeated three times
• 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-160  British Life and Culture
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course is designed to introduce the student to British life and culture through a combination of lectures, visits, and readings. HIST 160 will be taught at the London Study Center and will be required of all students in the London Program. CSU

HIST-170  History of Women in the United States (Pre-Colonial - 1877)
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course is a survey of United States history (pre-colonial 1877) emphasizing women's life experiences within the context of larger historical changes. The course will examine the commonalities of women's experience based on their gender and the differences among women based on their race, ethnicity, class, and region. The course will explore how women fostered and were affected by social, political, economic, and cultural transformations. The course will consider the impact of the U.S. and California Constitutions and the activities of federal, state, and local governments on the experience of women. CSU, UC (credit limits may apply to UC - see counselor)

HIST-171  History of Women in the United States (1877- Present)
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course is a survey of United States history (1877-present) emphasizing women's life experiences within the context of larger historical changes. The course will also examine the commonalities of women's experience based on their gender and the differences among women based on their race, ethnicity, class, and region. The course will explore how women fostered and were affected by the industrialization, secularization and urbanization of the United States, and the development of the United States as a world power. Women's abilities to mobilize and change the political institutions at the national, state and local levels will be a main theme. CSU, UC (credit limits may apply to UC - see counselor)
HIST-298  Independent Study
  .5-3 units SC
  • May be repeated three times
  • Variable hours
  • Note: Submission of acceptable educational contract to
    department and Instruction Office; topics must extend
    study beyond courses offered.

An opportunity for students to study special interests under
direction of the faculty. CSU

HIST-299  Student Instructional Assistant
  .5-3 units SC
  • May be repeated three times
  • 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

HORTICULTURE – HORT

Biological and Health Sciences Division
Physical Sciences Building

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, arbor-
ist/tree worker, landscape architect, landscape designer,
grounds manager/municipal, landscape contractor, land-
scape maintenance contractor, golf course manager, and pest
controller/advisor. Some career options may require more
than two year of college work.

Program level student learning outcomes
Program level student learning outcomes have been de-
veloped for each of the three options for General Education. A
complete list of current program level student learning out-
comes for each program is available on the DVC website at
www.dvc.edu/slo.

Certificates of achievement

Certificate of achievement - Arboriculture
  Arboriculture
  Horticulture foundations
  Landscape construction and management
  Landscape architecture and design I
  Landscape architecture and design II
  Nursery level I - Retail
  Nursery level II - Wholesale

Certificate of achievement - Horticulture foundations
This foundational program introduces students to the broad
field of horticulture, which encompasses the functional, aes-
thetic, and environmentally sound creation and care of our
landscapes. Green industry professionals work with urban
and natural spaces on a daily basis, improving our quality
of life and ensuring the sustainability of our environment.
The courses have been designed both for full-time students
planning to enter the horticulture field and for those people
working in one of the many interesting areas of horticulture
who wish to expand their horticultural knowledge. The
courses of the horticulture foundations certificate are incor-
porated into other horticulture certificates, and form the
introduction to those programs. Most classes are conducted
during convenient evening hours to allow working students
to study for a new career and those with jobs in the field.

required courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>COOP 180</td>
<td>1-4</td>
<td>Internship Work Experience Education</td>
</tr>
<tr>
<td>HORT 110</td>
<td>4</td>
<td>Introduction to Horticulture</td>
</tr>
<tr>
<td>HORT 120</td>
<td>3</td>
<td>Soil Science and Management</td>
</tr>
<tr>
<td>HORT 120L</td>
<td>1</td>
<td>Soil Science and Management Laboratory</td>
</tr>
<tr>
<td>HORT 134</td>
<td>3</td>
<td>Landscape Irrigation</td>
</tr>
<tr>
<td>HORT 137L</td>
<td>1</td>
<td>Pruning Laboratory</td>
</tr>
<tr>
<td>HORT 141</td>
<td>3</td>
<td>Tree Identification</td>
</tr>
<tr>
<td>HORT 141L</td>
<td>1</td>
<td>Tree Identification Laboratory</td>
</tr>
<tr>
<td>HORT 143</td>
<td>3</td>
<td>Shrub Identification</td>
</tr>
<tr>
<td>HORT 179</td>
<td>3</td>
<td>Arboriculture</td>
</tr>
<tr>
<td>HORT 179L</td>
<td>1</td>
<td>Arboriculture Laboratory</td>
</tr>
<tr>
<td>HORT 187</td>
<td>2.5</td>
<td>Sustainable Water Practices</td>
</tr>
</tbody>
</table>

total minimum required units  26.5-29.5
of ornamental horticulture 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. Required courses are available in the evening and on weekends.

required courses
HORT 110 Introduction to Horticulture ........................................... 4
HORT 120 Soil Science and Management ........................................... 3
HORT 134 Landscape Irrigation ......................................................... 3
HORT 137L Pruning Laboratory .......................................................... 1

plus at least 3 units from:
HORT 141 Tree Identification ............................................................. 3
HORT 143 Shrub Identification ............................................................ 3

plus at least 1 unit from:
HORT 132 Pest Management ............................................................ 1
HORT 125 Plants and Diseases ............................................................ 3

total minimum required units 15

Certificate of achievement - Landscape construction and management

People working in the landscape field derive job satisfaction from enhancing the function and beauty of the environment while being physically active outdoors or helping support that activity in allied sales and service occupations. Landscape work involves construction and planting projects, irrigation system design and water management, and specialty fields such as turf management and tree care. This program provides an introductory base of plant knowledge and landscape skills, allowing students the option of entering a variety of jobs with the preparation for rapid advancement within their chosen occupations. The program emphasizes hands-on learning and most courses incorporate laboratory activities that apply knowledge and skills in realistic settings. The program is actively supported by the local horticulture industry. This program prepares students to enter the landscape construction and management industry. Students are prepared to take the California C-27 Landscape Contracting examination. Elements of the program will also assist students to prepare for the California Landscape Contractors Association’s CLT examination and/or the California Association of Nurseryperson’s certification examination.

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 on weekends.

required courses
HORT 110 Introduction to Horticulture ........................................... 4
HORT 120 Soil Science and Management ........................................... 3
HORT 120L Soil Science and Management Laboratory ....................... 1
HORT 132 Pest Management ............................................................ 1
HORT 133 Landscape Construction ................................................... 3
HORT 134 Landscape Irrigation ........................................................ 3
HORT 135 Landscape Estimating and Contracting ............................... 3
HORT 137L Pruning Laboratory .......................................................... 1

plus at least 3 units from:
HORT 141 Tree Identification ............................................................. 3
HORT 143 Shrub Identification ............................................................ 3

plus at least 1.5 units from:
HORT 130 Turf Grass Management .................................................. 3
HORT 146 Ornamental Grasses .......................................................... 1.5

total minimum required units 24.5

Certificate of achievement - Landscape architecture and design I

This program prepares students for entry-level positions in landscape architecture and design. The program focuses primarily on design for residential landscape situations and small commercial sites. Projects may range from the design of small focal planting beds and perennial borders to complete garden layouts. Garden designers provide the planting design in addition to developing the landscape spatial composition. The advent of computer-assisted design (CAD) technology in the landscape industry adds a new dimension to skill and training requirements for landscapers and garden designers. Contra Costa County’s landscape industry is expanding, and demand for employees with landscape design skills including CAD contributes to the need for students to augment their design and drafting expertise with CAD skills. Elements of the program will assist students to prepare for the California Association of Nurseryperson’s certification examination. Students will develop portfolios that may be necessary for entrance into landscape design baccalaureate degree programs at University of California, Davis, California Polytechnic State University at San Luis Obispo, and Pomona.

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 on weekends.

required courses
HORT 180 Introduction to Landscape Architecture ............................. 3
HORT 181 Landscape Design I: Graphics ........................................... 3
HORT 182 Landscape Design II .......................................................... 3
HORT 184 Planting Design ................................................................. 3

COOP 180 Internship in Occupational Work Experience ............................... 1-4

Documents
Certificate of achievement - Landscape architecture and design II

This program prepares students for employment as landscape designers, groundskeepers, outside maintenance workers, grounds supervisors, landscape gardeners, and landscape technicians. It is designed to meet the needs of self-employed landscape contractors who wish to increase their landscape design skills. Elements of the program will assist students to prepare for the California Association of Nurseryperson's certification examination. Although this program is not designed as a transfer program to a baccalaureate-level landscape architecture program, this coursework will provide a solid foundation and acquaintance with the design tools used by the landscape architect. The program design includes classroom, laboratory, and cooperative work experience/internship.

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 on weekends.

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>COOP 180 Internship in Occupational Work Experience Education</td>
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</tr>
<tr>
<td>HORT 180 Introduction to Landscape Architecture</td>
<td>3</td>
</tr>
<tr>
<td>HORT 181 Landscape Design I: Graphics</td>
<td>3</td>
</tr>
<tr>
<td>HORT 182 Landscape Design II</td>
<td>3</td>
</tr>
<tr>
<td>HORT 184 Planting Design</td>
<td>2.5</td>
</tr>
<tr>
<td>HORT 185 Site Analysis</td>
<td>1.5</td>
</tr>
<tr>
<td>HORT 186 Grading and Drainage</td>
<td>1.5</td>
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</tbody>
</table>

Plus a minimum of 4 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCHI 126 Computer Aided Design and Drafting - AutoCAD</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN 126 Computer Aided Design and Drafting - AutoCAD</td>
<td>4</td>
</tr>
</tbody>
</table>

Plus a minimum of 6 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORT 141 Tree Identification</td>
<td>3</td>
</tr>
<tr>
<td>HORT 145 Groundcovers and Vines Identification</td>
<td>3</td>
</tr>
<tr>
<td>HORT 147 Annuals and Perennials Identification</td>
<td>3</td>
</tr>
<tr>
<td>HORT 148L California Native Plants Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>HORT 165 New Plant Introductions</td>
<td>3</td>
</tr>
</tbody>
</table>

Total minimum required units: 19

Certificate of achievement - Nursery level I - Retail

This program prepares students for employment in garden centers, landscape companies, greenhouses, florists, and retail nurseries. It will assist students preparing for the California Association of Nurseryperson's exam. The program design includes classroom, laboratory, and cooperative work experience/internship.

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 on weekends.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>COOP 180 Internship in Occupational Work Experience Education</td>
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</tr>
<tr>
<td>HORT 110 Introduction to Horticulture</td>
<td>4</td>
</tr>
<tr>
<td>HORT 120 Soil Science and Management</td>
<td>3</td>
</tr>
<tr>
<td>HORT 132 Pest Management</td>
<td>1</td>
</tr>
<tr>
<td>HORT 134 Landscape Irrigation</td>
<td>3</td>
</tr>
<tr>
<td>HORT 137L Pruning Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>HORT 141 Tree Identification</td>
<td>3</td>
</tr>
<tr>
<td>HORT 165 New Plant Introductions</td>
<td>3</td>
</tr>
<tr>
<td>HORT 183 Residential Garden Design</td>
<td>1</td>
</tr>
<tr>
<td>HORT 187 Sustainable Water Practices</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Plus at least 3 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORT 145 Groundcovers and Vines Identification</td>
<td>3</td>
</tr>
<tr>
<td>HORT 147 Annuals and Perennials Identification</td>
<td>3</td>
</tr>
</tbody>
</table>

Total minimum required units: 25.5

Certificate of achievement - Nursery level II - Wholesale

This program prepares students for employment in wholesale greenhouses, florists, nurseries, and growers. It will assist students preparing for the California Association of Nurseryperson's exam. The program design includes classroom, laboratory, and cooperative work experience/internship.

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 on weekends.

<table>
<thead>
<tr>
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<th>Units</th>
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<tbody>
<tr>
<td>COOP 180 Internship in Occupational Work Experience Education</td>
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</tr>
<tr>
<td>HORT 110 Introduction to Horticulture</td>
<td>4</td>
</tr>
<tr>
<td>HORT 120 Soil Science and Management</td>
<td>3</td>
</tr>
<tr>
<td>HORT 132 Pest Management</td>
<td>1</td>
</tr>
<tr>
<td>HORT 134 Landscape Irrigation</td>
<td>3</td>
</tr>
<tr>
<td>HORT 137L Pruning Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>HORT 141 Tree Identification</td>
<td>3</td>
</tr>
<tr>
<td>HORT 160 Plant Propagation</td>
<td>3</td>
</tr>
<tr>
<td>HORT 163 Nursery and Greenhouse Practices</td>
<td>3</td>
</tr>
<tr>
<td>HORT 165 New Plant Introductions</td>
<td>3</td>
</tr>
<tr>
<td>HORT 183 Residential Garden Design</td>
<td>1</td>
</tr>
<tr>
<td>HORT 187 Sustainable Water Practices</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Total minimum required units: 25.5
plus at least 3 units from:
HORT 145 Groundcovers and Vines Identification ............ 3
HORT 147 Annuals and Perennials Identification ............ 3

plus a minimum of 1 unit from:
HORT 166 Fall Plant Production.......................... 1
HORT 167 Spring Plant Production.......................... 1
total minimum required units 32.5

HORT-090NC Adaptive Horticulture - Basic Skills and Practices
0 unit
• Non degree applicable
• Variable hours
• Note: This is a non-credit open entry/open exit course
A horticultural and vocational training class adapted for students with special needs. Students will learn basic horticultural skills in a garden, nursery and landscape setting.

HORT-091NC Adaptive Horticulture - Nursery Skills and Practices
0 unit
• Non degree applicable
• Variable hours
• Note: This is a non-credit open entry/open exit course
A horticultural and vocational training class adapted for students with special needs. This class will focus on nursery and plant propagation skills. Students will work in the DVC garden and in the adaptive horticulture nursery where they will learn pre-vocational and vocational training skills associated with nursery production in the nursery and in the garden.

HORT-092NC Adaptive Horticulture - Landscape Skills and Practices
0 unit
• Non degree applicable
• Variable hours
• Note: This is a non-credit open entry/open exit course
A horticultural and vocational training class adapted for students with special needs. Students will learn landscape prevocational and vocational training skills for a garden, residential, and commercial setting.

HORT-110 Introduction to Horticulture
4 units SC
• 54 hours lecture/54 hours laboratory per term
• Recommended: Eligibility for ENGL 122 or equivalent
Introduction to horticulture explores the biology and economics of growing and care for plants. The course covers the breadth of basic horticulture practices and the biological and environmental principles on which they are based. The students are exposed to a variety of field studies that stress the practical applications of horticulture science: propagation, plant identification, pest/disease identification and control options, environmentally safe use of pesticides, and factors for favorable plant growth. There will be an overview to the different aspects of the horticulture industry. CSU, UC

HORT-120 Soil Science and Management
3 units SC
• 54 hours lecture per term
• Recommended: HORT 110 and eligibility for ENGL 122 or equivalents
• Formerly HORT 164
An introductory course on soil science and management of soils in landscapes. Soil biology, physics and chemistry are integrated with geological concepts in the applied scientific course. Landscape scale projects and solutions are evaluated in terms of their soils related elements. CSU, UC

HORT-120L Soil Science and Management Laboratory
1 unit SC
• 54 hours laboratory per term
• Prerequisite: HORT 120 or equivalent (may be taken concurrently)
• Recommended: HORT 110 and eligibility for ENGL 122 or equivalents
• Formerly HORT 164L
This is a laboratory unit supplementing the Soil Science and Management course HORT 120. Field trips, demonstrations and experiments will deepen the methodological knowledge of students in this field. CSU
HORT-125  Plant Pests and Diseases
3 units  SC
• 54 hours lecture per term
• Recommended: HORT 110 and eligibility for ENGL 122 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
• Formerly HORT 161

Survey of major plant pests and diseases in Northern California, including bacteria, fungi, insects and mites. This course includes an introduction to the identification and recognition of pests, beneficials and diseases associated with plants. Emphasis will be on the biology of pest and beneficial species, and the ecologies within which they occur. Pest management will be presented using Integrated Pest Management (IPM) and Plant Health Care (PHC) models. Lectures will focus on key concepts in applied ecology, along with pest, beneficial and disease identification. CSU

HORT-130  Turf Grass Management
1.5 units  SC
• 18 hours lecture/27 hours laboratory per term
An introduction to the field of turf grass management including production, installation and maintenance of various types of turf grass will be studied. Proper use of water, fertilizers and pest control will be examined. CSU

HORT-132  Pest Management
1 unit  SC
• May be repeated three times
• 9 hours lecture/27 hours laboratory per term
• Recommended: Eligibility for ENGL 122 or equivalent

Course offers students an opportunity to examine and try different methods and tools for managing pests in the urban environment with special emphasis on preparation and continuing education for the California Pest Control Operator’s License (PCO) and Pest Control Advisors License (POA). CSU

HORT-133  Landscape Construction
3 units  SC
• 36 hours lecture/54 hours laboratory per term
• Recommended: Eligibility for ENGL 122 or equivalent

Landscape Construction is intended to prepare the student with the skills and tools required to implement typical landscape hardscape features used in the landscape industry. The class will emphasize the practical application of these skills and tools. This course helps prepare for the C-27 landscape contracting license. CSU

HORT-134  Landscape Irrigation
3 units  SC
• 36 hours lecture/54 hours laboratory per term
• Recommended: Eligibility for ENGL 122 or equivalent

Course is designed for landscape professionals to successfully plan, assemble components and install a landscape irrigation system to provide adequate irrigation of a landscape site. The course helps prepare for the C-27 landscape contracting license. CSU

HORT-135  Landscape Estimating and Contract Documents
3 units  SC
• 54 hours lecture per term
• Recommended: HORT 133 or equivalent

This course is an introduction to professional landscape estimating, bidding and contract document preparation based on landscape plans. CSU

HORT-137L  Pruning Laboratory
1 unit  SC
• May be repeated once
• 54 hours laboratory per term
• Recommended: HORT 110 or equivalent

Field identification of trees, native and exotic. Cultural requirements, landscape design criteria and functional values. Field outings to local gardens and arboreta. Planting site analysis compared to tree candidate requirements are linked to standard arboricultural rating systems. CSU
HORT-143  Shrub Identification
3 units  SC
   • 54 hours lecture per term
   • Recommended: HORT 110 and HORT 140 and eligibility for ENGL 122 or equivalents
   • Note: 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

Taxonomy, identity, growth habits, landscape values and nativities of shrubs, native and exotic, used in the urban landscape. Emphasis on contemporary and historical landscape design with shrubs, from maritime to continental environments. CSU

HORT-143L  Shrub Identification Laboratory
1 unit  SC
   • May be repeated once
   • 54 hours laboratory per term
   • Recommended: HORT 110 or equivalent
   • Note: This course satisfies California Association of Nurserymen’s continuing education requirements for members

Field identification of shrubs, native and exotic. Cultural care requirements, landscape design criteria, and functional values. Field outings to local gardens and arboreta and parks. Introduction and identification of shrubs species less commonly seen in Mediterranean climate setting. CSU

HORT-145  Groundcovers and Vines Identification
3 units  SC
   • 54 hours lecture per term
   • Recommended: HORT 110 and eligibility for ENGL 122 or equivalents
   • Note: This course meets the plant certification requirements for California Association of Nurserymen and current guidelines for State of California Landscape Contractors Association

Taxonomy identity, habits of growth, cultural preferences and geographical origin of groundcovers and vines, native and exotic, used in the urban landscape. Analysis and evaluation of local landscape settings that appropriately support groundcover species. Aerial and edaphic requirements of 180 species introduced and discussed. CSU

HORT-146  Ornamental Grass Identification
1.5 units  SC
   • 27 hours lecture per term
   • Note: Field trips will be required for this course

This course will acquaint students with ornamental grasses and grass-like plants available for use in developing landscapes. Discussion will include native and non-native species suitable for a wide variety of environments. CSU

HORT-147  Annuals and Perennials Identification
3 units  SC
   • 54 hours lecture per term
   • Recommended: HORT 110 and eligibility for ENGL 122 or equivalents
   • Note: This course meets the plant certification requirements for California Association of Nurserymen and current guidelines for the state of California licensing for landscape contractors

Taxonomic identity, habits of growth, liabilities, cultural preferences and geographical origin of annual and perennials, native and exotic, used in the urban landscape. CSU

HORT-147L  Annuals and Perennials Identification Laboratory
1 unit  SC
   • May be repeated once
   • 54 hours laboratory per term
   • Recommended: HORT 110 or equivalent

Field identification of annuals and perennials, native and exotic. Cultural requirements, landscape design criteria, and the functional values. Field outings to local gardens and arboreta. CSU

HORT-148L  California Native Plants Laboratory
1 unit  SC
   • May be repeated three times
   • 54 hours laboratory per term
   • Note: Trip location varies for each course offering. Multiple day field trips to select California vegetation environments are taken to record relevant plant and habitat data.
   • Formerly HORT 148

This is a field identification course of California native plants intended for landscape professionals involving the study of California plant communities and the environments that shape them. This course is designed to acquaint the landscape design student with the dominant and typical plant constituents of each vegetation unit in California focusing primarily on those native species currently used in the nursery industry. Habitat, soil, and climatic factors are discussed in relationship with the plant species established in their natural and horticultural environment. The focus of this offering is the assimilation of more than 200 native species into the design portfolio of horticulture students for implementation in local landscapes. CSU

HORT-150  Selected Topics in Horticulture
.3-4 units  SC
   • May be repeated three times
   • 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-160  Plant Propagation  
1.5 units  SC  
- 18 hours lecture/36 hours laboratory per term  
- Recommended: HORT 110 and eligibility for ENGL 122 or equivalents  
This course will teach the principles and practices of plant propagation by growing plants from seed and cuttings into marketable nursery stock. It will teach the student to understand the physiological process that a plant part goes through in becoming a living plant. CSU

HORT-163  Nursery and Greenhouse Practices  
3 units  SC  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL 122 or equivalent  
This course is designed to introduce the student to the nursery industry and explore the science of greenhouse management. Topics cover all aspects: from greenhouse design and structure, manufacturing and operation, to the business structure and management of a nursery. CSU

HORT-165  New Plant Introductions  
3 units  SC  
- 54 hours lecture per term  
- Recommended: HORT 110 and eligibility for ENGL 122 or equivalents  
This course will help students learn the multitude of new plants becoming available in the nursery industry. It will help instruct the student in the selecting, testing and marketing process. It will cover the taxonomic identity of new plant introductions, habits of growth, liabilities, and geographical origin of plant materials used in the urban landscape. CSU

HORT-166  Fall Plant Production  
1 unit  SC  
- May be repeated once  
- 54 hours laboratory per term  
- Recommended: HORT 160 and eligibility for ENGL 122 or equivalents  
A continuing course on the principles and practices of container production. This course is designed to help students learn greenhouse management, the scheduling of fall and winter plant production and the marketing of fall and winter grown containerized nursery stock. CSU

HORT-167  Spring Plant Production  
1 unit  SC  
- May be repeated once  
- 54 hours laboratory per term  
- Recommended: HORT 160 and eligibility for ENGL 122 or equivalents  
A course on the principles and practices of container production. This course is designed to help student learn greenhouse management, the scheduling of spring and summer plant production and the marketing of spring and summer grown containerized nursery stock. CSU

HORT-167L  Arboriculture Laboratory  
1 unit  SC  
- 54 hours laboratory per term  
- Recommended: HORT 141, HORT 179 (should be taken concurrently) and eligibility for ENGL 122 or equivalents  
Designed for new horticulture students and professionals alike, this course introduces the concepts and features required to prune woody species for aesthetics and health. Topics include but are not limited to: tree anatomy and structure, positioning and timing of limb removal, crown reduction and rejuvenation techniques, as well as fruit stimulation of orchard species. This course will prepare career-oriented students for employment and eventual testing for the International Society of Arboriculture (ISA) Certified Arborist, or Certified Tree Worker Program(s); HORT 179L will follow study guides prepared by the ISA, and include exposure to climbing techniques, knots safety, chainsaw operation, and equipment maintenance. CSU

HORT-179  Arboriculture  
3 units  SC  
- 54 hours lecture per term  
- Recommended: HORT 110 and HORT 141 and eligibility for ENGL 122 or equivalents  
- Note: This course satisfies the continuing education requirement for the International Society of Arboriculture and the California Association of Nurserymen  
Introduction to arboriculture, applied tree biology and forest ecology. How to care for and maintain trees in urban, rural and wildland settings. This course is a survey of current knowledge of trees as applied to tree care, landscape maintenance and landscape design fields. CSU

HORT-180  Introduction to Landscape Architecture  
3 units  SC  
- 54 hours lecture per term  
- Recommended: HORT 110 and ENGL 122 or equivalents  
This course is an introduction to the basic principles and concepts in the field of landscape architecture and landscape design. It will explore the history of human impact on natural environments and methods to mitigate those impacts. Design standards and practices governing landscape architecture and design like site analysis, planning and construction design will be covered. CSU, UC
HORT-181  Landscape Design I: Graphics  
3 units  SC  
- 36 hours lecture/54 hours laboratory per term  
- Recommended: HORT 110 and eligibility for ENGL 122 or equivalents  
- Formerly HORT 170  
This is the first out of two courses in landscape design techniques and concepts. It will cover the basics of the landscape design process; site analysis, methods of graphic representation of vegetation, topography, and other landscape elements. Students will explore different landscape design documents. CSU, UC  

HORT-182  Landscape Design II  
3 units  SC  
- 36 hours lecture/54 hours laboratory per term  
- Recommended: HORT 181, ARCHI 130 or equivalents, and eligibility for ENGL 122 or equivalent  
- Formerly HORT 174  
This is the second of two courses in landscape design techniques and concepts. It will continue to cover and broaden the landscape design process including analysis, evaluation and application of various landscape principles based upon historical and ecological values. CSU  

HORT-183  Residential Garden Design  
1 unit  SC  
- 18 hours lecture per term  
This course is intended for students in the nursery industry and landscape construction as well as interested laypersons. Principles and techniques will be addressed as they apply to established residential landscapes. Students will be required to develop a conceptual plan for a residential garden. CSU  

HORT-184  Planting Design  
2.5 units  SC  
- 36 hours lecture/18 hours laboratory per term  
- Recommended: HORT 181 and HORT 182 or equivalents  
This course will acquaint the student with the principles of design as they specifically apply to landscape plant material. Design principles will address various plant and hardscape palettes to develop an aesthetically pleasing, water-wise and environmentally sensitive landscape planting 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 is an introduction to the field of landscape design and the profession of landscape architecture. Landscape fundamentals are introduced, with an emphasis on the understanding of space and form in the landscape, and how a sustainable landscape design can convey meaning while fulfilling functional requirements. CSU  

HORT-186  Grading and Drainage  
1.5 units  SC  
- 18 hours lecture/27 hours laboratory per term  
- Recommended: HORT 182 or equivalent  
In this course students will evaluate a landscape site and create and modify topography plans for proper grading and drainage of the site. CSU  

HORT-187  Sustainable Water Practices  
2.5 units  SC  
- 36 hours lecture/18 hours laboratory per term  
This course in landscape irrigation and sustainable water practices is designed for landscape professionals. It includes an overview of state and local water delivery systems and important water use and supply issues in California. It examines relationships among plants, soils, and water. Water audits, proper irrigation design and monitoring techniques that aid in the efficient use of local water resources will be addressed. CSU  

HORT-298  Independent Study  
.5-3 units  SC  
- May be repeated three times  
- Variable hours  
- Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.  
An opportunity for advanced students to study special interests under the direction of the faculty. CSU  

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

Applied and Fine Arts
Michael Almaguer, Dean
Business and Foreign Language Building 204
925-685-1230, ext. 2312

Possible career opportunities
The study of humanities can open up career opportunities in such diverse fields as advertising, banking, foreign service, journalism, law, public administration, publishing, and teaching.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in arts in letters and science degree
Area of emphasis - Humanities

Associate in arts in letters and science degree - area of emphasis - Humanities
This degree program is designed for students who wish to study a broad range of college courses and complete additional coursework in an “area of emphasis”. Programs with an area of emphasis are designed to allow students to engage in an interdisciplinary study of a subject that is not limited to a single discipline. Many areas of emphasis programs provide preparation for study at four-year institutions.

The humanities area of emphasis is comprised of courses that integrate the different arts: music, dance, visual arts, architecture, literature, drama, philosophy and history. The area of emphasis provides a well rounded and rich background in the creative and intellectual expression of major world civilizations, intellectual and cultural movements, and individual works of creative expression. Humanities students develop skills in artistic analysis, aesthetic judgments, and other modes of critical thinking. Students develop the ability to view cultural material from multiple perspectives, appreciate and evaluate diverse forms of cultural expression, and understand the criticism and theory regarding major artistic works, styles, forms and movements.

DVC Humanities students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select either General Education Option 2 (IGETC) or Option 3 (CSU G.E.). 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 an area of emphasis in humanities, students must complete each required course with a “C” grade or higher, and complete all graduation 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 an area of emphasis and other graduation requirements, however, the units are only counted once.

area of emphasis requirements

complete 6 units from:

HUMAN 105 Introduction to Humanities: Arts and Ideas........ 3
HUMAN 108 The Roots of Hell............................................. 3
HUMAN 110 Introduction to Humanities: Ancient Civilizations (to 500 A.D.) ........................................ 3
HUMAN 111 Introduction to Humanities: Middle Ages and Renaissance (500 A.D. – 1700 A.D.) .......... 3
HUMAN 112 Introduction to Humanities: The Modern World (1700-present)................................. 3
HUMAN 115 Introduction to Humanities: The American Multicultural Experience ........................................... 3
HUMAN 116 The Arts and Culture of Asia............................................. 3
HUMAN 118 Film, Fiction, and Criticism ............................................. 3
HUMAN 123 American Popular Culture............................................. 3

complete at least 3 units from:

PHILO 120 Introduction to Philosophy ............................................. 3
PHILO 122 Introduction to Ethics............................................. 3
PHILO 130 Critical Thinking: Reasoning in Everyday Life ....................... 3
PHILO 140 Introduction to Judeo-Christian Tradition ............. 3
PHILO 141 Introduction to the Philosophy of Religion ............. 3
PHILO 150 Topics in Philosophy ............................................. 3
PHILO 220 Comparative Religion............................................. 3
PHILO 221 Contemporary Religious Movements ............. 3
PHILO 224 History of Western Philosophy: Pre-Socrates to Medieval Period ................................. 3
PHILO 225 History of Western Philosophy: Descartes to Present ............................................. 3

complete at least 9 units from:

ARCHI 155 History of Architecture: Europe and the World................................. 3
ARTHS 190 Topics in Art History............................................. 3
ARTHS 193 History of Asian Art............................................. 3
ARTHS 195 History of Prehistoric and Ancient Art ............. 3
ARTHS 196 History of Medieval and Renaissance Art ............. 3
ARTHS 197 History of Baroque to Early 20th Century Art............................................. 3
HUMAN-110  Introduction to Humanities:  
Ancient Civilizations (to 500 A.D.)

3 units  SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
This is an introductory course that integrates the visual arts, music, literature, drama, architecture, philosophy and history. Students will study selections from original texts of literature and philosophy from ancient Egypt and Mesopotamia through the late Roman period (A.D. 500). CSU, UC

HUMAN-111  The Middle Ages and Renaissance  
(500 A.D.-1700 A.D.)

3 units  SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
This is an introductory course that integrates the visual arts, music, literature, drama, architecture, philosophy, religion, science and technology, and history. Students will study selections from original texts of literature and philosophy from the end of the Roman period to the end of the Renaissance. CSU, UC

HUMAN-112  Introduction to Humanities:  
The Modern World (1700-Present)

3 units  SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
This is an introductory course that integrates the visual arts, music, literature, drama, architecture, philosophy, and history. Students will study selections from original texts of literature and philosophy from the end of the Renaissance to the present. CSU, UC

HUMAN-115  Introduction to Humanities:  
The American Multicultural Experience

3 units  SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
This class will explore 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. Study will focus on at least three of the following cultural groups: African-American, Native Indian, Asian-American, and Latino-American. This course will examine contemporary creative works in relation to their historical roots, as well as the contemporary cultural context in which they have been created. CSU, UC
HUMAN-116  The Arts and Culture of Asia
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This is an introductory course that studies selected visual arts, architecture, literature, philosophy, religion, music, theater, and cinema of Asian cultures, in a framework that includes both history and the modern world. The cultures studied will be selected from the following: East Asia, Southeast Asia, South Central Asia, Central Asia, the Middle East, and North Asia/Transcaucasia. CSU, UC

HUMAN-118  Film, Fiction, and Criticism
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
Students will examine the aesthetic makeup of masterworks of literature chosen from the novel, the short story and the play, and will learn to draw intelligent conclusions about the structure and meaning of these literary works. Students will be introduced to the hands-on integration of three areas of the humanities - literature, cinema/video, and the branch of philosophy called aesthetic criticism. CSU, UC

HUMAN-123  American Popular Culture
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This is an introductory humanities course studying American popular culture: arts, entertainment, myths, the heroic tradition, and symbols. CSU, UC (credit limits may apply to UC - see counselor)

HUMAN-298  Independent Study
.5-3 units  SC
• May be repeated three times
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.
An opportunity for students to pursue special interests under direction of the humanities faculty. CSU

HUMAN-299  Student Instructional Assistant
.5-3 units  SC
• May be repeated three times
• 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

ITALIAN – ITAL

Students with prior foreign language instruction should check with a language teacher regarding proper placement in foreign language courses. The following system is generally used to determine the appropriate term of college work based on high school language: two years equal one college term; three years equal two college terms; four years equal three college terms.

Applied and Fine Arts
Michael Almaguer, Dean
Business and Foreign Language Building 204
925-685-1230, ext. 2312

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.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Certificate of achievement
Italian

Certificate of achievement - Italian
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 lists of courses which must be completed with a “C” grade or higher.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>SC</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITAL-120</td>
<td>First Term Italian</td>
<td>5</td>
<td></td>
<td>90 hours lecture/18 hours laboratory per term</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>This is a basic course in understanding, speaking, reading, and writing Italian. There is an extensive utilization of cultural material and information. CSU, UC</td>
</tr>
<tr>
<td>ITAL-121</td>
<td>Second Term Italian</td>
<td>5</td>
<td></td>
<td>90 hours lecture/18 hours laboratory per term</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Recommended: ITAL 120 or equivalent</td>
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<td></td>
<td>This is a sequential course in Italian, including the understanding, speaking, reading, and writing of the language; a continuation of basic communicative structures and functions as well as a continued examination of the culture of Italy. CSU, UC</td>
</tr>
<tr>
<td>ITAL-150</td>
<td>Topics in Italian</td>
<td>3-4</td>
<td></td>
<td>May be repeated three times</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Variable hours</td>
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<td>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</td>
</tr>
<tr>
<td>ITAL-155</td>
<td>First Term Conversational Italian</td>
<td>3</td>
<td></td>
<td>54 hours lecture/18 hours laboratory per term</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Note: Course does not satisfy the academic requirements of the ITAL 120-121 series</td>
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<tr>
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<td></td>
<td>This course provides instruction in basic Italian conversation utilizing practical material with oral-aural practice based on this material. CSU</td>
</tr>
<tr>
<td>ITAL-156</td>
<td>Second Term Conversational Italian</td>
<td>3</td>
<td></td>
<td>54 hours lecture/18 hours laboratory per term</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Recommended: ITAL 155 or equivalent</td>
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<td>Note: Course does not satisfy the academic requirements of the ITAL 120-121 series</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>This course improves conversational skills through a study and utilization of idiomatic and slang expressions current in contemporary Italian. Some study in dialect expressions is undertaken. CSU</td>
</tr>
<tr>
<td>ITAL-220</td>
<td>Third Term Italian</td>
<td>5</td>
<td></td>
<td>90 hours lecture/18 hours laboratory by arrangement per term</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Recommended: ITAL 121 or equivalent</td>
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<tr>
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<td></td>
<td>This is an intermediate level course that develops functional fluency in understanding, speaking, reading, and writing Italian. Students are introduced to the study of Italian culture. There is further study and interpretation of Italian cultural. CSU, UC</td>
</tr>
<tr>
<td>ITAL-221</td>
<td>Fourth Term Italian</td>
<td>5</td>
<td></td>
<td>90 hours lecture/18 hours laboratory by arrangement per term</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Recommended: ITAL 220 or equivalent</td>
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<td>This is an intermediate 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 subjective are covered. CSU, UC</td>
</tr>
<tr>
<td>ITAL-230</td>
<td>Fifth Term Italian</td>
<td>3</td>
<td></td>
<td>54 hours lecture per term</td>
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<td></td>
<td></td>
<td></td>
<td>Recommended: ITAL 221 or equivalent</td>
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<tr>
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<td>This course is a study of representative, Italian literary works. Students participate actively through discussion, oral reports, and written analysis in Italian. CSU, UC</td>
</tr>
<tr>
<td>ITAL-231</td>
<td>Sixth Term Italian</td>
<td>3</td>
<td></td>
<td>54 hours lecture per term</td>
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<td></td>
<td></td>
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<td>Recommended: ITAL 230 or equivalent</td>
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<tr>
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<td></td>
<td>This is a continuation of ITAL 230 with intensive additional study of representative literary works. Students read some literature in various dialects to study similarities and differences of expression. Students participate actively through discussion, oral reports and written analysis in Italian. CSU, UC</td>
</tr>
</tbody>
</table>
ITAL-299  Student Instructional Assistant  
.5-3 units SC  
- *May be repeated three times*  
- *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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**JAPANESE – JAPAN**

Students with prior foreign language instruction should check with a language teacher regarding proper placement in foreign language courses. The following system is generally used to determine the appropriate term of college work based on high school language: two years equal one college term; three years equal two college terms; four years equal three college terms.

Applied and Fine Arts  
Michael Almaguer, Dean  
Business and Foreign Language Building 204  
925-685-1230, ext. 2312

**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 level student learning outcomes**

Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at [www.dvc.edu/slo](http://www.dvc.edu/slo).

**Certificate of achievement - Japanese**

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 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 at least 13 units from one of the following lists of courses which must be completed with a "C" grade or higher.

**List A**

- JAPAN 120  First Term Japanese........................................ 5  
- JAPAN 121  Second Term Japanese.................................. 5  
- JAPAN 220  Third Term Japanese................................. 5  
- JAPAN 221  Fourth Term Japanese................................. 5

**List B**

- JAPAN 120  First Term Japanese........................................ 5  
- JAPAN 130  First Term Kanji................................. 3  
- JAPAN 131  Second Term Kanji................................. 3  
- JAPAN 132  Third Term Kanji................................. 3  

**total minimum required units**  13

**JAPAN-120  First Term Japanese**  
5 units SC  
*• 90 hours lecture/18 hours laboratory per term*  
This course is an introduction to the Japanese language. Using realistic situations, students will learn proper pronunciation, vocabulary, basic grammar, sentence structure, two types of Japanese characters (Hiragana and Katakana) and realistic aspects of Japanese culture. Basic Kanji characters will be introduced. CSU, UC (credit limits may apply to UC - see counselor)

**JAPAN-121  Second Term Japanese**  
5 units SC  
*• 90 hours lecture/18 hours laboratory per term*  
*Recommended: JAPAN 120 or equivalent*  
This course is designed for those who have taken Japanese 120 or who have the equivalent knowledge and skills. Students will further develop their ability to speak, read and write Japanese. They will deepen their knowledge of Japanese culture and society and improve their communication skills. An increasing number of Kanji characters will be introduced. CSU, UC (credit limits may apply to UC - see counselor)
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 a variety of advertisements. The course will cover up to 169 characters. CSU

JAPAN-131  Second Term Kanji
3 units  SC
• 54 hours lecture per term
• Recommended: JAPAN 130 or equivalent
This course is designed for those who have taken JAPAN 130 or who have the equivalent knowledge and skills. Students will further develop their competence in reading and writing Japanese. Examples include reading more complicated essays and letters, and understanding maps, road signs, and TV programs. The course will cover up to 345 characters. CSU

JAPAN-132  Third Term Kanji
3 units  SC
• 54 hours lecture per term
• Recommended: JAPAN 131 or equivalent
This course is designed for those who have taken JAPAN 131 or who have the equivalent knowledge and skills. Students will improve their advanced competence in reading and writing Japanese. Examples include reading and comprehending intermediate-level essays and understanding the pamphlets for travel, train timetables, and newspaper headlines. The course will cover up to 500 characters. CSU

JAPAN-150  Topics in Japanese
.3-.4 units  SC
• May be repeated three times
• 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
• 90 hours lecture/18 hours laboratory by arrangement per term
• Recommended: JAPAN 121 or equivalent
This course develops fluency in speaking, listening, reading, and writing skills in Japanese. Students will learn both formal and informal speech styles, expand conversational skills, and build up vocabulary with 150 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
• 90 hours lecture/18 hours laboratory per term
• Recommended: JAPAN 220 or equivalent
The 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. Further study of contemporary and traditional Japanese cultural elements will be carried out. CSU, UC

JAPAN-245  Fourth Trimester Japanese
3 units  SC
• 54 hours lecture per term
• Recommended: JAPAN 147 or equivalent
This course continues to develop the fluency to use the language appropriately in various conversational contexts. Additional emphases are placed on communication skills, and reading and writing. An increased number of Kanji characters are introduced with more detailed information about character components and word formation. Contemporary and traditional Japanese cultural elements will be explored. CSU, UC

JAPAN-298  Independent Study
.5-.3 units  SC
• May be repeated three times
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.
An opportunity for advanced students to study special interests under the direction of faculty. CSU

JAPAN-299  Student Instructional Assistant
.5-.3 units  SC
• May be repeated three times
• 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

English Division
Faculty Offices

Possible career opportunities
The journalism program prepares students in the writing, reporting, and critical thinking skills required for jobs in the news media or for transfer to a journalism program at a four-year institution. Career options include copy editor, script writer, broadcast journalist, newspaper reporter, magazine writer, columnist, public information officer, online writer, speech writer, freelance writer, advertising copy writer, editor, and photojournalist. Some career options may require more than two years of college study. Visit the Inquirer at www.theinquireronline.com

JRNAL-110 Mass Media of Communication
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course introduces students to the major mass media and their impact on American life. Students explore their history, how they are structured, who controls them and how they influence individual and social values. 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. The course emphasizes critical thinking and analysis of the images and sounds that so powerfully shape the public mind. CSU, UC

JRNAL-120 Newswriting Techniques
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 detail, exercising news judgment and crafting professional-style blogs. 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. On occasion, their work will be published in the college’s student newspaper, The Inquirer, or its online news site. CSU

JRNAL-126 Newspaper Production Laboratory
1-3 units SC
• May be repeated three times
• Variable hours
• Recommended: ENGL 118 or equivalent
• Note: This is an open entry/open exit course
This laboratory class serves as the production class for the print and web editions of the college’s student newspaper, The Inquirer. The student-run newspaper is a frequent winner of general excellence awards from the Journalism Association of Community Colleges, with its editors and staff members transferring to four-year schools and later working as media professionals. The class introduces students to all aspects of print and online production, including assigning, researching and writing stories; taking photographs and video; cartooning; creating podcasts, slide shows and graphics; designing print and web pages; and working with a local printer. Staff writers learn basic and advanced reporting techniques, as well as how to write strong leads, organize their stories and write and revise on deadline for print and the web. Photographers and graphic artists learn to prepare their work on a networked server for both platforms. Editors and staff members must exercise news judgment, adhere to the highest ethical principles and be vigilant about accuracy. They also exercise their First Amendment responsibilities by allowing The Inquirer to be a First Amendment forum for the diverse views of the DVC community. This is an open-entry, open-exit course. CSU

JRNAL-160 Writing the Feature Story
3 units SC
• 54 hours lecture per term
• Recommended: ENGL 118 or equivalent
• Formerly JRNAL 150
This course equips students to research, write and market feature stories in the changing writing market. Students learn the differences in writing for newspapers, magazines and the growing Internet market. The first seven weeks focus on basic skills necessary in all feature writing, including choosing and focusing a subject, interviewing and leads. Students learn to evaluate the trustworthiness of websites and use Internet sources. Other lectures discuss media law, including libel and copyright, especially as related to the Internet, how to locate a market and how to write a query letter. Students choose and develop two major features and market to appropriate venues. CSU

JRNAL-298 Independent Study
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.
An opportunity for advanced students to study special interests under the direction of the faculty. CSU
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 graduation requirements as listed in the catalog. Certain courses may satisfy both major and other graduation requirements; however, the units are only counted once. With department chairperson approval, other course substitutions are possible for use in completing the program.

major requirements units
L 100 Introduction to a Career in Library Technology.................................................. 1
L 103 Access to Library Resources and Services......................................................... 2
L 104 Cataloging for Paraprofessionals........................................................... 3
L 105 Reference and Research Services: Tools and Techniques........................................... 3
L 108 Acquisition of Library Resources.............................................................. 1
LS 121 Information Literacy and Research Skills................................................1

plus at least 2 units from:
COOP 170 Occupational Work Experience Education .............................................. 1-4
COOP 180 Internship in Occupational Work Experience Education......................... 1-4

plus at least 3 units from:
ENGL 177 Children’s Literature.................................................................................. 3
L 109 Delivering Library Services: Issues, Theory and Techniques.................................. 2
L 110 Job Search Skills for Library Careers........................................................... 1
L 111 Storytelling ........................................................................................................ 2
L 112 Internet Skills for Library Personnel............................................................. 1
L 150 Topics in Library Technology........................................................................ 0.3-4
LS 130 Internet and Online Research........................................................................ 3
LS 150 Topics in Library Studies............................................................................. 0.3-4

plus at least 3 units from:
ARTDM 110 Digital Imaging Process and Technique I .................................. 1.5
ARTDM 171 Introduction to Web Design................................................................. 3
BUSMG 121 Practices and Concepts of Supervision.................................................. 3
CIS 100 Microsoft Windows – Comprehensive..................................................... 2
COMSC 100 Introduction to Computers and Information Systems............................. 3
COMSC 195 WWW Publishing with HTML..................................................... 1
COMSC 196 Advanced WWW Publishing..................................................... 1
COMTC 110 Introduction to Computer Hardware/Software........................................... 4
COOP 170 Occupational Work Experience Education .............................................. 1-4
COOP 180 Internship Occupational Work Experience Education................................. 1-4
ENGL 177 Children’s Literature.................................................................................. 3
L 109 Delivering Library Services: Issues, Theory and Techniques.................................. 2
L 110 Job Search Skills for Library Careers........................................................... 1
L 111 Storytelling ........................................................................................................ 2
Certificate of achievement - Library technology

This certificate program prepares students for employment in the dynamic field of library and information services. The skills learned in this program may be used in public, school, academic, and 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 approval, other course substitutions are possible for use in completing the program.

<table>
<thead>
<tr>
<th>required courses</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>L 100 Introduction to a Career in Library Technology</td>
<td>1</td>
</tr>
<tr>
<td>L 103 Access to Library Resources and Services</td>
<td>2</td>
</tr>
<tr>
<td>L 104 Cataloging for Paraprofessionals</td>
<td>3</td>
</tr>
<tr>
<td>L 105 Reference and Research Services: Tools and Techniques</td>
<td>3</td>
</tr>
<tr>
<td>L 108 Acquisition of Library Resources</td>
<td>1</td>
</tr>
<tr>
<td>LS 121 Information Literacy and Research Skills</td>
<td>1</td>
</tr>
</tbody>
</table>

plus at least 2 units from:

| COOP 170 Occupational Work Experience Education | 1-4 |
| COOP 180 Internship in Occupational Work Experience Education | 1-4 |

plus at least 3 units from:

| ENGL 177 Children's Literature | 3     |
| L 109 Delivering Library Services: Issues, Theory and Techniques | 2     |
| L 110 Job Search Skills for Library Careers | 1     |
| L 111 Storytelling | 2     |
| L 112 Internet Skills for Library Personnel | 1     |
| L 150 Topics in Library Technology | 0.3-4 |
| LS 130 Internet and Online Research | 1     |
| LS 150 Topics in Library Studies | 0.3-4 |

plus at least 3 units from:

| ARTDM 110 Digital Imaging Process and Technique I | 1.5   |
| ARTDM 171 Introduction to Web Design | 3     |
| BUSMG 121 Practices and Concepts of Supervision | 3     |
| CIS 100 Microsoft Windows - Comprehensive | 2     |
| COMSC 100 Introduction to Computers and Information Systems | 3     |
| COMSC 195 WWW Publishing with HTML | 1     |
| COMSC 196 Advanced WWW Publishing | 1     |
| COMTC 110 Introduction to Computer Hardware/Software | 4     |
| COOP 170 Occupational Work Experience Education | 1-4  |
| COOP 180 Internship in Occupational Work Experience Education | 1-4  |
| ENGL 177 Children's Literature | 3     |
| L 109 Delivering Library Services: Issues, Theory and Techniques | 2     |
| L 110 Job Search Skills for Library Careers | 1     |
| L 111 Storytelling | 2     |
| L 112 Internet Skills for Library Personnel | 1     |
| L 150 Topics in Library Technology | 0.3-4 |
| LS 130 Internet and Online Research | 1     |
| LS 150 Topics in Library Studies | 0.3-4 |

Note: The maximum number of units applicable to the program requirements in COOP 170 or COOP 180 is four.

There may be no duplication of course units between groups of restricted electives.

L-100 Introduction to a Career in Library Technology

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

An introduction to the dynamic field of library and information technology for paraprofessionals. This course explores various types of libraries and information centers, and the competencies needed for a successful career in the field as well as job opportunities in libraries and information centers. CSU

L-103 Access to Library Resources and Services

2 units LR
• 36 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent

This course introduces students to the full array of access services in a variety of library settings. Special skills and competencies for paraprofessionals will be covered as they relate to providing quality services. The course will also explore the philosophy of access services from a historical and contemporary perspective. CSU
L-104  Cataloging for Paraprofessionals  
3 units  SC  
  • 54 hours lecture per term  
  • Recommended: Eligibility for ENGL 122 or equivalent  
An introductory course for library paraprofessionals on the basic theories, principles, concepts and procedures of bibliographic control, including descriptive cataloging, classification, subject analysis, physical processing, and bibliographic maintenance. Emphasis will be placed on print monographs, current Anglo-American Cataloging Rules, MARC 21 format, Library of Congress and Dewey classification and LC Subject Heading. CSU

L-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

L-108  Acquisition of Library Resources  
1 unit  LR  
  • 18 hours lecture per term  
  • Recommended: Eligibility for ENGL 122 or equivalent  
This course teaches concepts and practices in the selection, ordering and receiving of materials from the decision to purchase resources to their receipt, processing and distribution. Students will learn to use online systems and other technology applications in the practice of selecting and deselecting resources. CSU

L-109  Delivering Library Services: Issues, Theory, and Techniques  
2 units  SC  
  • 36 hours lecture per term  
  • Recommended: Eligibility for ENGL 122 or equivalent  
This course teaches oral and written communication skills and strategies essential to successful performance as a library paraprofessional. Communication within the organization, marketing, customer and community relations, and evaluation of services are covered. CSU

L-110  Job Search Skills for Library Careers  
1 unit  SC  
  • 18 hours lecture per term  
  • Recommended: Eligibility for ENGL 122 or equivalent  
This course will prepare students for a successful job search in a library field. Utilizing traditional and electronic methods, students will explore the range of positions and work environments available; use sources of information for job market research; identify key workplace skills, learn best practices for writing applications, resumes, and cover letters; and practice interviewing techniques. CSU

L-111  Storytelling  
2 units  SC  
  • 36 hours lecture per term  
  • Recommended: Eligibility for ENGL 122 or equivalent  
An introduction to storytelling designed to develop skills as storytellers in the library, classroom, home and other settings. The class will survey various types and formats of storytelling and provide practical experience in presenting and evaluating stories. CSU

L-112  Internet Skills for Library Personnel  
1 unit  SC  
  • 18 hours lecture per term  
  • Recommended: L 103 or equivalent; eligibility for ENGL 122 or equivalent  
This course teaches the use of the Internet in providing library and information services. The class is designed for library personnel whose responsibilities include using the Internet and other automated systems for work-related tasks such as reference, cataloging, acquisitions and other information management activities. Exploration of advanced searching techniques, user training and evaluation of online resources are included. CSU

L-150  Topics in Library Technology  
.3-.4 units  SC  
  • May be repeated three times  
  • Variable hours  
  • Recommended: Eligibility for ENGL 122 or equivalent  
A supplemental course in Library to provide a study of current concepts and problems in library technology. Specific topics will be announced in the schedule of classes. CSU

LS-099  Introduction to Library and Research Skills  
.5 unit  P/NP  
  • 9 hours lecture per term  
  • Formerly LS 100  
This short-term basic library and research skills course introduces students to information resources in an academic library, including online catalogs, electronic databases and the Internet. Emphasis will be placed on the organization, retrieval, and evaluation of information. The research skills learned are intended to be useful in college course work.
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 teaches the research strategies and skills for successfully finding, retrieving, evaluating and using information in various formats. It combines library skills, research methods, and information technology literacy. Coursework includes the ethical and legal aspects of information use and the critical thinking skills necessary for effective college research. CSU, UC

LS-130  Internet and Online Research
1 unit  P/NP
- 18 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
Learn how to use the internet and other online resources to locate and retrieve information for research and writing. Through demonstrations and hands-on activities, a range of internet services will be introduced including advanced search tools on the open and closed web, resource sharing via social networking, and subscription journal databases. Evaluating information and choosing appropriate resources are practiced throughout the course. CSU

LS-150  Topics in Library Studies
.3-4 units  SC
- May be repeated three times
- 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

MATHEMATICS – MATH

Effective Spring 2006, the “or equivalent” used in the prerequisite and recommended statements in the math courses equates to appropriate placement through the assessment process or an equivalent college course. A mathematics laboratory is open daily in the Learning Center where mathematics advisors are available to aid students.

Math and Computer Science Division
Rachel Westlake, Dean
Math Building 267
925-685-1230, ext. 2199

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 level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in arts degree
Mathematics

Associate in science degree for transfer
Mathematics

Associate in arts degree - Mathematics
The associate degree in mathematics is a transfer degree for students who wish to transfer to a four-year institution with a major in mathematics, applied mathematics, or mathematics for secondary school teachers. The degree offers students a broad general education, while also preparing students for upper division work in mathematics. In addition, it prepares students mathematically for upper division work in related fields such as physics, chemistry, engineering, computer science, and economics.
Major 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 the course requirements for that program. Major requirements may only be taken for a “for grade” basis. To earn a degree, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all graduation requirements as listed in the catalog. Certain courses may satisfy both major and graduation requirements; however, the units are only counted once.

<table>
<thead>
<tr>
<th>major requirements</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 192 Analytic Geometry and Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 193 Analytic Geometry and Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 194 Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 292 Analytic Geometry and Calculus III</td>
<td>4</td>
</tr>
</tbody>
</table>

plus at least 4 units from:

| MATH 195 Discrete Mathematics | 4 |
| MATH 294 Differential Equations | 4 |

**total minimum required units** 19

A mathematics laboratory is open daily in the Learning Center where mathematics advisors are available to aid students.

**Associate in science in mathematics for transfer**

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. This program fulfills typical lower division requirements at the CSUs. Some variations may exist at other four year colleges or universities and therefore it is essential that the student intending on majoring in mathematics refer to the catalog of the prospective transfer institution, consult a program advisor and consult a counselor.

To earn an associate in science degree in mathematics for transfer, students must complete all required courses with a “C” grade or higher, and complete all graduation requirements listed in the catalog for the transfer degree. 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. Courses in mathematics may satisfy both major requirements and other graduation requirements; however, the units are only counted once.

To receive the Diablo Valley College associate in science degree in mathematics for transfer, students must complete 19 or 20 units of the required courses as outlined for the mathematics major, fulfill the minimum units of the requirements of the CSU general education pattern or the IGETC general education pattern, complete 60 college transfer level units, and obtain a minimum grade point average of 2.0. Students must complete each course used to meet the mathematics major requirement with a “C” grade or higher.

<table>
<thead>
<tr>
<th>major requirements</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 192 Analytic Geometry and Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 193 Analytic Geometry and Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 292 Analytic Geometry and Calculus III</td>
<td>4</td>
</tr>
</tbody>
</table>

plus at least 4 units from:

| MATH 194 Linear Algebra | 3 |
| MATH 294 Differential Equations | 4 |

**total minimum required units** 19

*Note: There may be no duplication of course units between lists of restricted electives.

**MATH-050 Alternate Credit for Prealgebra with Arithmetic Review**

<table>
<thead>
<tr>
<th>4 units</th>
<th>P/NP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non degree applicable</td>
<td></td>
</tr>
<tr>
<td>54 hours lecture/72 hours laboratory per term</td>
<td></td>
</tr>
</tbody>
</table>

*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 Alternate Credit Elementary Algebra**

<table>
<thead>
<tr>
<th>4 units</th>
<th>P/NP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non degree applicable</td>
<td></td>
</tr>
<tr>
<td>54 hours lecture/72 hours laboratory per term</td>
<td></td>
</tr>
<tr>
<td>Recommended: MATH 075 or equivalent</td>
<td></td>
</tr>
</tbody>
</table>

*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 110SP to receive credit for mastery of some but not all of the outcomes in MATH 110SP. In order to receive credit for MATH 051, students must enroll in MATH 110SP and make reasonable progress through the content.
MATH-052 Alternate Credit Intermediate Algebra
4 units  P/NP
- Non degree applicable
- 54 hours lecture/72 hours laboratory per term
- Recommended: MATH 110 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 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 Alternate Credit College Algebra
3 units  P/NP
- Non degree applicable
- 54 hours lecture/72 hours laboratory per term
- Recommended: MATH 120 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-075 Prealgebra with Arithmetic Review
4 units  SC
- Non degree applicable
- 72 hours lecture/36 hours laboratory per term
- Note: This course has a laboratory requirement. The laboratories will be assigned by your instructor and will be a significant portion of your course grade. The laboratories will be delivered online and will require computer and internet access, but may be completed in any location with such access, on or off campus.

Students will learn pre algebra, review arithmetic, and learn how to use them in their daily lives. 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
- 54 hours lecture/72 hours laboratory per term
- Note: In this computer-assisted self-paced class, students study from the textbook, online, during weekly face-to-face meetings, and take a combination of online and in-class exams. 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 self-paced class equivalent to MATH 075. Students will learn prealgebra, review arithmetic, and learn how to use both in their daily lives. 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-080 Topics in Basic Skills Math
3-4 units  SC
- May be repeated three times
- 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-110 Elementary Algebra
4 units  SC
- 90 hours lecture/36 hours laboratory per term
- Prerequisite: Placement through the assessment process or MATH 075 or MATH 075SP or equivalent
- Note: This course has a laboratory requirement. The laboratories will be assigned by your instructor and will be a significant portion of your course grade. The laboratories will be delivered online and will require computer and internet access, but may be completed in any location with such access, on or off campus.

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-110SP  Elementary Algebra - Self Paced
4 units  SC
- 54 hours lecture/72 hours laboratory per term
- Prerequisite: Placement through the assessment process or MATH 075 or MATH 075SP or equivalent
- Note: In this computer-assisted self-paced class, students study from the textbook, online, during weekly face-to-face meetings, and take a combination of online and in-class exams. 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 110SP in one semester, or take up to 2 semesters. MATH 110SP is equivalent to MATH 110; students who have completed MATH 110 will not receive credit for MATH 110SP.

This course is a computer-assisted self-paced equivalent to MATH 110. 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-111  Study Skills Support for Elementary Algebra
1 unit  SC
- 18 hours lecture per term
- Co-requisite: MATH 110 or MATH 110SP or equivalent
- Note: MATH 111 is designed for students currently enrolled in MATH 110 who want extra support and assistance with study skills. It is especially recommended for students who have previously attempted MATH 110 without success.

This course is an optional support course intended to supplement MATH 110: Elementary Algebra. Students will learn and implement study skills designed to help improve their performance in their Elementary Algebra course. Topics will include time management, note taking, memory techniques, studying for tests, test anxiety and math anxiety.

MATH-114  Geometry
3 units  SC
- 54 hours lecture/36 hours laboratory per term
- Prerequisite: Placement through the assessment process or MATH 110 or MATH 110SP or equivalent
- Recommended: Eligibility for ENGL 116/118 or equivalent
- Note: This course has a laboratory requirement. The laboratories will be assigned by your instructor and will be a significant portion of your course grade. The laboratories will be delivered online and will require computer and internet access, but may be completed in any location with such access, on or off campus.

Students will use geometric definitions, axioms, and constructions and both inductive and deductive reasoning techniques to investigate the properties of lines, polygons, and circles. Students will prove geometric theorems, and derive and apply formulas for perimeter, area, and volume for a variety of plane and solid geometric objects.

MATH-120  Intermediate Algebra
4 units  SC
- 90 hours lecture/36 hours laboratory per term
- Prerequisite: Placement through the assessment process or MATH 110 or MATH 110SP or equivalent
- Note: This course has a laboratory requirement. The laboratories will be assigned by your instructor and will be a significant portion of your course grade. The laboratories will be delivered online and will require computer and internet access, but may be completed in any location with such access, on or off campus.

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 a second year high school algebra course.

MATH-120SP  Intermediate Algebra - Self Paced
4 units  SC
- 54 hours lecture/72 hours laboratory per term
- Prerequisite: Placement through the assessment process or MATH 110 or MATH 110SP or equivalent
- Note: In this computer-assisted self-paced class, students study from the textbook, online, during weekly face-to-face meetings, and take a combination of online and in-class exams. 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 is a computer-assisted self-paced class equivalent to MATH 120. The topics 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 a second year high school algebra course.

MATH-121  Plane Trigonometry
3 units  SC
- 54 hours lecture/36 hours laboratory per term
- Prerequisite: Placement through the assessment process or MATH 120 or equivalent
- Recommended: MATH 114 or equivalent
- Note: This course has a laboratory requirement. The laboratories will be assigned by your instructor and will be a significant portion of your course grade. The laboratories will be delivered online and will require computer and internet access, but may be completed in any location with such access, on or off campus.

This course focuses on the theory and applications of trigonometry, including right triangle trigonometry, general angle trigonometry, and trigonometry on the unit circle, as well as trigonometric functions of real numbers. Applications include solutions of right and oblique triangles in problems in surveying, physics, engineering and navigation. CSU
### MATH-124 Mathematics for Liberal Arts
3 units | LR
--- | ---
- 54 hours lecture/36 hours laboratory per term
- Prerequisite: Placement through the assessment process or MATH 120 or 120SP or equivalent
- Note: This course has a technology requirement. The computer and internet access is required. CSU, UC

### MATH-135 College Algebra
3 units | LR
--- | ---
- 72 hours lecture/36 hours laboratory per term
- Prerequisite: Placement through the assessment process or MATH 120 or 120SP or equivalent
- Note: This course has a laboratory requirement. The laboratories will be assigned by your instructor and will be a significant portion of your course grade. The laboratories will be delivered online and will require computer and internet access, but may be completed in any location with such access, on or off campus.

A study of functions and their graphs, including polynomial, rational, exponential, and logarithmic functions. Inequalities, nonlinear systems, conic sections. CSU, UC (credit limits may apply to UC - see counselor)

### MATH-135SP College Algebra - Self Paced
3 units | LR
--- | ---
- 54 hours lecture/72 hours laboratory per term
- Prerequisite: Placement through the assessment process or MATH 120 or 120SP or equivalent
- Note: In this computer-assisted self-paced class, students study from the textbook, online, during weekly face-to-face meetings, and take a combination of online and in-class exams. 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 self-paced class, equivalent to MATH 135. The topics include a study of functions and their graphs, including polynomial, rational, exponential, and logarithmic functions. Inequalities, nonlinear systems, conic sections. CSU, UC (credit limits may apply to UC - see counselor)

### MATH-140 Tutor Training
1 unit | LR
--- | ---
- 18 hours lecture per term
- Prerequisite: Placement through the assessment process or MATH 142 or MATH 182 or MATH 191 or equivalent

Basic principles and methods of tutoring, including the tutoring sequence, leading and probing questions, communication skills, and learning theory. Application of tutoring techniques to specific areas of mathematics including algebra, trigonometry, and pre-calculus. Students will receive instruction in helping tutees with special needs. CSU

### MATH-142 Elementary Statistics with Probability
4 units | LR
--- | ---
- 72 hours lecture per term
- Prerequisite: Placement through the assessment process or MATH 120 or 120SP or equivalent
- 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. CSU, UC (credit limits may apply to UC - see counselor)

### MATH-150 Topics in Mathematics
3-4 units | SC
--- | ---
- May be repeated three times
- Variable hours
- Formerly MATH 170

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
--- | ---
- 54 hours lecture per term
- Prerequisite: Placement through the assessment process or MATH 120 or 120SP or equivalent
- Note: This course has a technology requirement. See individual instructor for further information.

Application of intermediate algebra and critical thinking to solving 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, Markov chains, game theory, and finance. Use of a graphing calculator or computer software to manipulate matrices. CSU, UC
MATH-182  Calculus for Management, Life Science and Social Science I  
3 units  LR  
• 72 hours lecture per term  
• Prerequisite: Placement through the assessment process or MATH 135 or MATH 135SP or MATH 191 or equivalent  
• Note: Not open to students who received credit for MATH 192 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. CSU, UC (credit limits may apply to UC - see counselor)  

MATH-183  Calculus for Management, Life Science and Social Science II  
3 units  LR  
• 72 hours lecture per term  
• Prerequisite: MATH 182 or equivalent  
• Recommended: MATH 121 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  
4 units  LR  
• 90 hours lecture per term  
• Prerequisite: Placement through the assessment process OR MATH 120 or equivalent and MATH 121 or equivalent  
• Note: This course has a technology requirement. See individual instructor for further information.  

A thorough treatment of 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. CSU, UC (credit limits may apply to UC - see counselor)  

MATH-192  Analytic Geometry and Calculus I  
4 units  LR  
• 90 hours lecture per term  
• Prerequisite: Placement through the assessment process or MATH 191 or equivalent  
• Recommended: Eligibility for ENGL 122 or equivalent  

Students will learn 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. CSU, UC (credit limits may apply to UC - see counselor)  

MATH-193  Analytic Geometry and Calculus II  
4 units  LR  
• 90 hours lecture per term  
• Prerequisite: MATH 192 or equivalent  
• Recommended: Eligibility for ENGL 122 or equivalent  

Continuation of MATH 192. Further techniques and applications of integration in geometry, science and engineering. Continued work with algebraic and transcendental functions. Numerical methods in evaluation of the integral. Infinite series, solving differential equations, and applications of differential equations. Polar coordinates, parametric equations and conic sections. CSU, UC (credit limits may apply to UC - see counselor)  

MATH-194  Linear Algebra  
3 units  LR  
• 54 hours lecture per term  
• Prerequisite: MATH 193 or equivalent  
• Recommended: Eligibility for ENGL 122 or equivalent  

Introduction to linear algebra including vector spaces, matrices, determinants, bases, and linear transformations. Techniques for solving systems of equations using matrices, and applications of linear transformations. CSU, UC  

MATH-195  Discrete Mathematics  
4 units  LR  
• 72 hours lecture per term  
• Prerequisite: MATH 193 or equivalent  
• Recommended: Eligibility for ENGL 122 or equivalent  
• Note: MATH 193 or equivalent may be taken either as a prerequisite or concurrently  

This course provides an introduction to propositional logic, induction, set theory, relations, and functions, counting and combinatorics, introduction to trees, graph theory, algorithms, and algebraic structures. The emphasis is on topics of interest to computer science students. CSU, UC  

MATH-292  Analytic Geometry and Calculus III  
4 units  LR  
• 90 hours lecture per term  
• Prerequisite: MATH 193 or equivalent  

This class covers the further study of limits, parametric equations, vector-valued functions, analytic geometry of three dimensions, partial derivatives, multiple integrals, and Green’s, Stokes’ and the Divergence theorems. CSU, UC  

MATH-294  Differential Equations  
4 units  LR  
• 90 hours lecture per term  
• Prerequisite: MATH 292 or equivalent  
• Recommended: MATH 194 or equivalent (may be taken concurrently)  

Solutions to ordinary differential equations and introduction to partial differential equations, both the theory and the applications. CSU, UC
MATH-298  Independent Study
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.

An opportunity for advanced students or students with special interests to study selected topics under the direction of the faculty. CSU

MATH-299  Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• 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

MEDICAL LABORATORY TECHNOLOGY – MLT

Biological and Health Sciences Division
Physical Sciences Building

Possible career opportunities
MLT responsibilities will vary according to the size of the institution in which they are employed and the extent of the services it offers. Job projections predict that the need for clinical laboratory professionals will increase due to increased demand for testing a replacement of retirees. Students build a career as a medical lab technician while others use their entry jobs as a stepping-stone to accomplish other goals, such as four-year degree for a Clinical Lab Scientist (CLS). MLTs can work in hospital laboratories, physician office laboratories, commercial laboratories, biotechnology, research laboratories, pharmaceutical companies, technical service and sales, and veterinary laboratories.

Program Level Student Learning Outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in science degree
Medical laboratory technology

Certificate of achievement
Medical laboratory technology

Associate in science degree - Medical laboratory technology
This program prepares the student for a position in the health care industry as a medical laboratory technician (MLT). A medical laboratory technician performs routine clinical laboratory testing procedures to provide scientific information needed in diagnosis, prognosis, and treatment of disease. Technicians use sophisticated instrumentation for these evaluations which encompass quantitative and qualitative chemical and biological analyses of body specimens. Technicians function under the supervision of a qualified practitioner.

Through completing the program prerequisites, the student will receive a foundation in biology, chemistry, microbiology, and phlebotomy. The core medical laboratory technology courses provide specific theoretical and laboratory testing procedures, and gain practical exposure to laboratory operations.

Emphasis is placed on the clinical practice in the context of laboratory medicine. Students are prepared to take a nationally recognized certification examination and become licensed MLTs.

To be eligible for enrollment in the medical laboratory technology program applicants must complete the specified prerequisite courses prior to submitting an application to be accepted to the program. Students must see a counselor or program advisor to apply for this program.

DVC’s associate degree in medical laboratory technology is designed 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 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 2 (CSU G.E.). To earn the degree, students must complete each of the required courses used to meet a major requirement with a “C” grade (75 percent) or higher, maintain an overall GPA of 2.5 or higher in the coursework required for the major, and complete graduation requirements as listed in the catalog. Certain courses may satisfy both major and other graduation requirements; however the units are only counted once.
major requirements  

program prerequisites or equivalents
CHEM 108 Introductory Chemistry ................................. 4
CHEM 109 Introduction to Organic and Biochemistry ....... 4
MLT 100 Phlebotomy ............................................... 5
MLT 101 Phlebotomy Practicum .................................... 2
plus either
BIOSC 120 Introduction to Human Anatomy and Physiology .................................................. 5
or
BIOSC 139 Human Anatomy ....................................... 5
and
BIOSC 140 Human Physiology .................................... 5

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

total minimum required units - prerequisites  24

program core requirements
MLT 105 Introduction to Clinical Laboratory Profession ........................................ 1
MLT 110 Clinical Hematology with Laboratory ............... 4
MLT 115 Clinical Chemistry I with Laboratory ............... 4
MLT 120 Clinical Coagulation with Laboratory ............. 1.5
MLT 125 Clinical Urinalysis and Body Fluids with Laboratory .................................................. 1.5
MLT 130 Clinical Chemistry II with Laboratory .......... 4
MLT 135 Clinical Microbiology with Laboratory .......... 4
MLT 140 Clinical Immunology and Immunohematology with Laboratory ........................................ 4
MLT 160 Clinical Hematology, Coagulation, UA and Body Fluids Practicum .................................... 4
MLT 165 Clinical Chemistry Practicum .......................... 4
MLT 170 Clinical Microbiology Practicum .................... 4
MLT 175 Clinical Immunology and Immunohematology Practicum ................................................. 3

total minimum required units - program core  39

Certificate of achievement - Medical laboratory technology
This program prepares the student for a position in the health care industry as a medical laboratory technician (MLT). A medical laboratory technician performs routine clinical laboratory testing procedures to provide scientific information needed in diagnosis, prognosis, and treatment of disease. Technicians use sophisticated instrumentation for these evaluations which encompass quantitative and qualitative chemical and biological analyses of body specimens. Technicians function under the supervision of a qualified practitioner.

Through completing the program prerequisites, the student will receive a foundation in biology, chemistry, microbiology, and phlebotomy. The core medical laboratory technology courses provide specific theoretical and laboratory testing procedures, and gain practical exposure to laboratory operations.

Emphasis is placed on the clinical practice in the context of laboratory medicine. Students are prepared to take a nationally recognized certification examination and become licensed MLTs.

To be eligible for enrollment in the medical laboratory technology program applicants must complete the specified prerequisite courses prior to submitting an application to be accepted to the program. Students must see a counselor or program advisor to apply for this program. To earn a certificate of achievement, students must complete each of the required courses with a “C” grade (75 percent) or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate.

program prerequisites or equivalents
CHEM 108 Introductory Chemistry ................................. 4
CHEM 109 Introduction to Organic and Biochemistry ....... 4
MLT 100 Phlebotomy ............................................... 5
MLT 101 Phlebotomy Practicum .................................... 2
plus either
BIOSC 120 Introduction to Human Anatomy and Physiology .................................................. 5
or
BIOSC 139 Human Anatomy ....................................... 5
and
BIOSC 140 Human Physiology .................................... 5

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

total minimum required units – prerequisites  24

required courses
MLT 105 Introduction to Clinical Laboratory Profession ........................................ 1
MLT 110 Clinical Hematology with Laboratory ............... 4
MLT 115 Clinical Chemistry I with Laboratory ............... 4
MLT 120 Clinical Coagulation with Laboratory ............. 1.5
MLT 125 Clinical Urinalysis and Body Fluids with Laboratory .................................................. 1.5
MLT 130 Clinical Chemistry II with Laboratory .......... 4
MLT 135 Clinical Microbiology with Laboratory .......... 4
MLT 140 Clinical Immunology and Immunohematology with Laboratory ........................................ 4
MLT 160 Clinical Hematology, Coagulation, UA and Body Fluids Practicum .................................... 4
MLT 165 Clinical Chemistry Practicum .......................... 4
MLT 170 Clinical Microbiology Practicum .................... 4
MLT 175 Clinical Immunology and Immunohematology Practicum ................................................. 3

total minimum required units – core program  39

total minimum required units  63
MLT-100 Phlebotomy

5 units LR

- 54 hours lecture/108 hours laboratory per term
- Note: Only students who are accepted into the medical laboratory technology program (or accepted as an alternate) will be allowed to register for this course.

This competency-based course prepares students for entry-level positions in the laboratory. This program will provide the theory and training necessary to qualify graduates to perform job entry level tasks as laboratory assistants, including phlebotomy, by providing training of skill, knowledge and judgment in safety and standard precautions, infection control, patient care and other basic procedures in the clinical laboratory. CSU

MLT-101 Phlebotomy Practicum

2 units LR

- 108 hours laboratory per term
- Prerequisite: MLT 100 or equivalent
- Note: Only students who are accepted into the medical laboratory technology program (or accepted as an alternate) will be allowed to register for this course.

Upon successfully completing MLT 100, students enroll in this course in order to be placed in an externship (practicum) which allows them to complete the number of hours of practice required as preparation for the phlebotomy certification exam. Externship site placement is arranged by Diablo Valley College in partnership with its clinical affiliates. Students will perform a minimum of 50 venipunctures and 10 capillaries on patients of various ages. CSU

MLT-105 Introduction to Clinical Laboratory Profession

1 unit LR

- 18 hours lecture per term
- Prerequisite: MLT 100 or equivalent (may be taken concurrently)
- Note: Only students who are accepted into the medical laboratory technology program (or accepted as an alternate) will be allowed to register for this course.

Introduces the student to the functions and duties of a medical laboratory technician (MLT) and compares and contrasts these duties to the clinical laboratory scientist (CLS). The student will be introduced to clinical laboratory safety issues, regulatory agencies, infection control policies, and professional responsibilities relative to other departments of health care. The student will study medical terminology, patient’s bill of rights, and professional standards of the medical laboratory technician. The student will study specimen processing and computer skills to data management systems within the clinical laboratory. CSU

MLT-110 Clinical Hematology with Laboratory

4 units LR

- 54 hours lecture/54 hours laboratory per term
- Prerequisite: BIOSC 120 or BIOSC 140 and MLT 100 or equivalents
- Note: Only students who are accepted into the medical laboratory technology program (or accepted as an alternate) will be allowed to register for this course.

This course presents the origin of the various types of blood cells with emphasis on the red and white blood cells. The student will learn about human hematological disorders and classify these based on clinical laboratory findings. A laboratory component is included that introduces the various techniques and safety procedures used in clinical hematology. The laboratory emphasizes the morphology and identification of common human blood cells. Admission to MLT program is necessary prior to registration. Successful completion of this course is required to enroll in MLT 160 Clinical Hematology, Coagulation, Urinalysis and Body Fluids Practicum. CSU

MLT-115 Clinical Chemistry I with Laboratory

4 units LR

- 54 hours lecture/54 hours laboratory per term
- Prerequisite: CHEM 109 and MLT 100 or equivalents
- Note: Only students who are accepted into the medical laboratory technology program (or accepted as an alternate) will be allowed to register for this course.

Provides theoretical, fundamental, basic instrumentation methodologies, and includes practical concepts associated with testing procedures used in the clinical chemistry laboratory. Includes important characteristics and relevance of electrolytes and trace metals including their relationship to acid base balance. Introduces general laboratory principles and specific basic instrumentation methodologies used in clinical chemistry analysis. Review of laboratory math, and a reintro-duction to quality control and quality assurance. Emphasizes variables of the preanalytical phase, characteristics important to quality laboratory technique, and safety. CSU

MLT-120 Clinical Coagulation with Laboratory

1.5 units LR

- 18 hours lecture/27 hours laboratory per term
- Prerequisite: BIOSC 120 or BIOSC 140 and MLT 100 or equivalents
- Note: Only students who are accepted into the medical laboratory technology program (or accepted as an alternate) will be allowed to register for this course.

Provides an overview of the hemostatic process, diseases, and laboratory evaluations associated with the process. Introduces the various techniques and safety procedures used in the clinical coagulation laboratory. Emphasizes platelet function tests, and intrinsic and extrinsic clotting pathway testing. CSU
### MLT-125 Clinical Urinalysis and Body Fluids with Laboratory

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- 18 hours lecture/27 hours laboratory per term
- Prerequisite: BIOSC 120 or BIOSC 140 and MLT 100 or equivalents
- Note: Only students who are accepted into the medical laboratory technology program (or accepted as an alternate) will be allowed to register for this course.

Introduces various properties and constituents of urine and body fluids via “hands on” learning. Emphasizes interpretation and handling of urine and body fluid specimens. Includes examination of urine and body fluids physically, chemically and microscopically, and compares these clinical values to health and disease. CSU

### MLT-130 Clinical Chemistry II with Laboratory

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- 54 hours lecture/54 hours laboratory per term
- Prerequisite: MLT 100 and MLT 115 or equivalents
- Note: Only students who are accepted into the medical laboratory technology program (or accepted as an alternate) will be allowed to register for this course.

Introduces the relationships between the endocrine system and specimens assayed in the clinical laboratory, including tumor markers, therapeutic drugs, and toxicology. Emphasizes liver, kidney, pancreatic function and vitamins assayed with test results, and comparison with states of health and disease. Includes function and laboratory analysis of various body fluids. Introduces the endocrine system, therapeutic drug assays and compounds, and other clinical chemistry tests. Emphasizes the automated instrumentation which will include quality control review, maintenance, and clinical operation. CSU

### MLT-135 Clinical Microbiology with Laboratory

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- 54 hours lecture/54 hours laboratory per term
- Prerequisite: BIOSC 119 or BIOSC 146 and MLT 100 or equivalents
- Note: Only students who are accepted into the medical laboratory technology program (or accepted as an alternate) will be allowed to register for this course.

Introduces microorganisms of medical microbiology with emphasis on the characteristics of clinically significant microorganisms and their biochemical profile, media for isolation, and identification methods for selected pathogens. Emphasizes identification methods, theories, and techniques used in basic bacteriology, parasitology, virology, and mycology. The laboratory introduces various techniques and safety procedures in clinical microbiology. Emphasizes morphology and identification of common pathogenic organisms. CSU

### MLT-140 Clinical Immunology and Immunohematology with Laboratory

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- 54 hours lecture/54 hours laboratory per term
- Prerequisite: BIOSC 120 or BIOSC 140 and MLT 100 or equivalents
- Note: Only students who are accepted into the medical laboratory technology program (or accepted as an alternate) will be allowed to register for this course.

Introduces basic principles of antigen and antibody reactions included in blood grouping and typing, compatibility testing and serological procedures. Emphasizes serological and immunohematology procedures and techniques to measure analytes qualitatively and quantitatively. CSU

### MLT-140 Clinical Hematology, Coag, UA and Body Fluids Practicum

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- 220 hours laboratory per term
- Prerequisite: MLT 110, MLT 120, and MLT 125 or equivalents
- Note: Only students who are accepted into the medical laboratory technology program (or accepted as an alternate) will be allowed to register for this course.

Introduces entry-level clinical laboratory practice and experience in the department of hematology, urinalysis, coagulation and body fluids. Emphasizes technique, theory and application of knowledge. Different instrumentation methods will be introduced and studied as well as bench/manual methods. Competence will be evaluated based on final clinical evaluations. This practicum will be conducted at a clinical affiliate site that will be assigned by the MLT (medical laboratory technology) Program Coordinator. CSU

### MLT-165 Clinical Chemistry Practicum

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- 220 hours laboratory per term
- Prerequisite: MLT 130 or equivalent
- Note: Only students who are accepted into the medical laboratory technology program (or accepted as an alternate) will be allowed to register for this course.

Introduces entry-level clinical laboratory practice and experience in the department of chemistry and special chemistry. Emphasizes technique, accuracy, and precision. Different instrumentation methods will be introduced and studied as well as bench/manual methods. Competence will be evaluated based on final clinical evaluations. This practicum will be conducted at a clinical affiliate site that will be assigned by the MLT (medical laboratory technology) Program Coordinator. CSU
MLT-170 Clinical Microbiology Practicum
4 units LR
- 220 hours laboratory per term
- Prerequisite: MLT 135 or equivalent
- Note: Only students who are accepted into the medical laboratory technology program (or accepted as an alternate) will be allowed to register for this course.

Introduces entry-level clinical laboratory practice and experience in the department of microbiology, mycology, parasitology and virology. Emphasizes identification methods, theory and technique. Different instrumentation methods will be introduced and studied as well as bench/manual methods. Competence will be evaluated based on final clinical evaluations. This practicum will be conducted at a clinical affiliate site that will be assigned by the MLT (medical laboratory technology) Program Coordinator. CSU

MLT-175 Clinical Immunology and Immunohematology Practicum
3 units LR
- 180 hours laboratory per term
- Prerequisite: MLT 140 or equivalent
- Note: Only students who are accepted into the medical laboratory technician program (or accepted as an alternate) will be allowed to register for this course.

This course provides entry-level clinical laboratory practice/experience in the department of serology and blood banking. Emphasis is placed on technique, accuracy, and precision. Different instrumentation methods will be introduced as well as bench/manual methods. Competence will be evaluated based on final clinical evaluations. CSU

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in arts degree
Music
Certificate of achievement
Music industry studies

Associate in arts degree - Music
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 large ensemble. The choice of large 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 G.E.). 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 a major and other DVC graduation requirements; however, the units are only counted once.

major requirements units
applied music
a minimum of 2 times for a total of 3 units
MUSIC 100 Applied Music..................................................1.5
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

MUSIC – MUSIC
Applied and Fine Arts Division
Michael Almaguer, Dean
Business and Foreign Language Building 204
925-685-1230, ext. 2312

Possible career opportunities
Music prepares students for careers as performers, teachers, composers, historians, arts administrators, and more. Career options include: conductor, arranger, film scorer/composer, music business/manager, music editor, music supervisor/director, songwriter, transcriber, editor (print music publishing), choir director, midi engineering, recording engineer, studio director or manager, sound designer, music therapist, instrumental soloist, sound technician, and tour coordinator. Many careers require more than two years of study.
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 140 Wind Ensemble .................................................. 1
MUSIC 162 Concert Choir .................................................. 1
MUSIC 166 Chamber Singers ................................................ 1
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 required units 25

*Credit by examination available

recommended courses

music literature
MUSIC 110 Introduction to Music Literature ......................... 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

Certificate of achievement - Music industry studies
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
MUSIC 172 Introduction to Electronic Music and MIDI .......... 3
MUSIC 173 Advanced Electronic Music ............................... 3
MUSIC 174 Introduction to Pro Tools .................................... 3
MUSIC 175 Advanced Pro Tools .......................................... 3
MUSIC 181 Introduction to the Music Industry ...................... 3

MUSIC 100 Applied Music
1.5 units LR
- May be repeated three times
- 27 hours lecture/6 hours lecture by arrangement/72 hours laboratory by arrangement per term
- Prerequisite: Audition required
- Note: In order to meet music major transfer requirements, students should be concurrently enrolled in a major performance ensemble (choir, band, orchestra, jazz ensembles, piano ensemble) and in a theory and musicianship class (MUSIC 122, 123, 222, 223). Students are encouraged to meet with a counselor for further advisement.

This course provides individualized instruction for musical instruments or voice. Students receive six hours of lessons from an instructor scheduled throughout the semester. Students are required to practice at least six hours per week during scheduled supervised practice hours in the department practice rooms, meet weekly for general lecture and discussion, and to evaluate each others performances. Each student is required to perform four times in class, and once for a jury at the end of the semester. CSU, UC

MUSIC-101 Beginning Guitar
1 unit SC
- May be repeated once
- 54 hours lecture per term
- Note: Students must provide an acoustic six-string guitar for use in the course

This course provides beginning six-string guitar instruction for general students as well as music students seeking to learn a second instrument. The course includes 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 taught. No previous musical experience is necessary. CSU, UC
MUSIC-102 Intermediate Guitar
1 unit  SC
- May be repeated once
- 54 hours lecture per term
- Recommended: MUSIC 101 or equivalent
- Note: Students must provide an acoustic six-string guitar for use in the course

This course provides intermediate six-string guitar instruction for students who have satisfactorily completed MUSIC 101 or the equivalent. 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 taught. CSU, UC

MUSIC-103 Guitar Ensemble
1 unit  SC
- May be repeated once
- 54 hours lecture 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. Each member of the group will become a better musician through 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 once
- 54 hours lecture 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. Each member of the group will become a better musician through individual practice, listening, performance, and being an active part of the ensemble experience. CSU, UC

MUSIC-105 Blues, Rock, and R&B Performance
1 unit  SC
- May be repeated three times
- 54 hours lecture per term

This is a course in the theory and performance of Blues, Rock & Roll and Rhythm & Blues. Instrumentalists (guitar, bass, drums, horns and piano) and vocalists form small ensembles to examine, rehearse, and perform music from these contemporary American musical styles. Clinics by guest artists and industry experts will be included. New music is performed each term. CSU, UC

MUSIC-106 Country, Funk, and Soul Performance
1 unit  SC
- May be repeated three times
- 54 hours lecture per term

This is a course in the theory and performance of Country, Funk, and Soul. Advanced instrumentalists (guitar, bass, drums, horns and piano) and vocalists form small ensembles to examine, rehearse, and perform music from these contemporary American music styles. Clinics by guest artists and industry experts will be included. New music is studied each term. CSU, UC

MUSIC-107 Live Popular Concert Performance and Production
1 unit  SC
- May be repeated three times
- 54 hours lecture per term
- Formerly MUSPF 107

This course is a practical performance class in a professional venue environment. The focus of the course will be the fundamentals of integration an American roots performance ensemble (rock, soul, funk, blues, R & B, and country), booking an act, sound systems, and business concerns into the live performance experience. CSU

MUSIC-110 Introduction to Music Literature
3 units  SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
- Formerly MUSLT 110

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. Some comparison of Western musical traditions with those of other cultures will be included. CSU, UC

MUSIC-112 America's Music- A Multicultural Perspective
3 units  SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
- Formerly MUSLT 112

This course is based upon the idea that music is culture. Students will explore, evaluate, compare, and contrast the diverse music and traditions of America. This includes the cultural contributions and influences of major ethnic groups. The course will serve as an introduction to the field of ethnomusicology. Students will examine the historical, religious, political, and social contexts for music development and experience. Students will study the relation of music to cultural continuity and/or change within both mainstream and marginalized populations. CSU, UC
MUSIC-114 World Music
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
• Formerly MUSLT 114
This course provides a survey of world music. Students will explore, evaluate, compare and contrast the diverse musics and traditions, focusing on the cultural contributions and influences in the Americas, Asia, the Middle East, Africa, Oceania, and Europe. 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 will be explored through three primary lenses - sound, concept, and behavior. This course serves as an introduction to the field of ethnomusicology. CSU, UC

MUSIC-115 Music of the Middle East, North Africa, and South Asia
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
• Formerly MUSLT 115
This course is a survey of Middle Eastern, North African, South Asian and Diaspora music cultures. Students will study popular and sacred musical traditions in both rural and urban contexts, and learn how music making relates to: religion, political, ethnic and national identity, popular culture, gender, and globalization. Historical, cultural, and social conditions for music will be explained, and current global issues and events will be demonstrated through evaluating the ways in which hybrid musical forms emerge when Middle Eastern, Western and other musical and cultural elements blend or conflict. CSU, UC

MUSIC-116 Native American Music
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
• Formerly MUSLT 116
This course provides a survey of the numerous musical traditions, contributions and influences of the Native peoples in the Americas, including the Caribbean and Hawaii. Numerous traditions involving music will be presented that are affected by historical and current social and political conditions. Global issues and events will be explained through analyzing the ways in which new or hybrid musical forms emerge when Native, Western and other musical and cultural elements blend or come into conflict. Music will be explained as a symbol of identification and a tool of resistance in the process of cultural continuity and change. Perspectives will be drawn from ethnomusicology, the social sciences, multimedia, and Internet sources. CSU, UC

MUSIC-117 History of Rock and R&B
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
• Formerly MUSLT 117
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, R and B, and folk music. CSU, UC

MUSIC-118 History of Jazz
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
• Formerly MUSLT 118
This course is for the study of the history of jazz music from traditional, ragtime, boogie-woogie, stride, swing, bebop, and cool, to various contemporary jazz, and fusion art forms. It includes a study of the 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-120 Introduction to Music Skills
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course is for the study of the fundamentals of music. Discussions, assignments and activities will focus on music reading, ear training, sight singing, keyboard knowledge, key and time signatures, intervals, scales and chords using standard Western notation, with historical, social and aesthetic contexts. This course is designed for the general student. CSU, UC (credit limits may apply to UC - see counselor)

MUSIC-122 Theory and Musicianship I
4 units SC
• 108 hours lecture per term
• Note: Credit by examination option available
This course is a study of the fundamentals of Western music applicable to both classical and popular styles. The study addresses notation; fundamental theoretical concepts; musicianship skills including sight signing, rhythmic training, ear training, dictation, and keyboard realization; and basic compositional skills. CSU, UC
MUSIC-123 Theory and Musicianship II
4 units SC
• 108 hours lecture per term
• Recommended: MUSIC 122 or equivalent
• Note: Credit by examination option available
This course is a study of harmony in the Western Common Practice. It addresses diatonic functionality, four-part voice leading, simple musical structures, harmonic and formal analysis, and musicianship skills including sight singing, rhythmic training, ear training, dictation, and keyboard realization. CSU, UC

MUSIC-124 Introduction to Music Production and Multi-Track Recording
3 units SC
• 54 hours lecture per term
This course is designed to give the music student a working knowledge of the principles and techniques of multi-track recording. This course will explore, analyze and evaluate contemporary music production techniques and apply these techniques to real production and recording situations. Emphasis will be on student involvement with various interrelated roles, including that of studio musician, writer/arranger, producer and sound engineer. CSU

MUSIC-125 Advanced Music Production and Multi-Track Recording
3 units SC
• 54 hours lecture per term
• Recommended: MUSIC 124 or equivalent
This course extends basic practical music production and multi-track recording skills to include more complex projects, integration of acoustic and recording elements, and use of current computer software in the mixing process. CSU

MUSIC-127 Jazz Theory and Improvisation
.5-1 unit SC
• May be repeated three times
• Variable hours
• Recommended: MUSIC 120 or equivalent
This is the study of jazz theory and performance of jazz music with emphasis on improvisation and writing for the small jazz ensemble. Students will perform in class. CSU, UC

MUSIC-130 Jazz Workshop
1 unit SC
• May be repeated three times
• 54 hours lecture per term
• Prerequisite: Audition
• Formerly MUSPF 130
This course is for the development of skills needed to play jazz. Skills addressed include intonation, rhythmic accuracy, tone, dynamic control, style specific articulation, phrasing, and expression, sight-reading, improvisation and practicing. Skills are developed in an ensemble setting. A variety of styles will be studied, including Medium Swing, Latin and Fusion. Public performance is included. New literature will be studied each term. CSU, UC

MUSIC-134 Musical Theater Workshop
1 unit SC
• May be repeated three times
• 54 hours lecture per term
• Prerequisite: Audition
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
• 54 hours lecture per term
• Prerequisite: Audition
• Formerly MUSPF 135
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. CSU, UC

MUSIC-136 Jazz Ensemble
1 unit SC
• May be repeated three times
• 54 hours lecture per term
• Prerequisite: Audition
• Formerly MUSPF 136
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, and expression, and improvisation. A variety of styles will be studied including Ballad, Shuffle and Funk. Public performance is included. New literature will be studied each semester. CSU, UC

MUSIC-137 Jazz Combos
1 unit SC
• May be repeated once
• 54 hours lecture per term
• Prerequisite: Audition
• Formerly MUSPF 137
This is a course made up of small jazz combos that rehearse and perform a variety of jazz styles. The course develops the ability to improvise, sight read, and perform in a variety of small group settings. The combos will perform at various concerts and festivals. This course is for students with intermediate to advanced ability on an instrument or voice with improvisational experience. CSU, UC
MUSIC-139 Marching Band Techniques  
1 unit LR  
- May be repeated three times  
- 54 hours lecture per term  
This is a performance organization whose goals include the sight-reading, rehearsal and performance of a variety of marching band literature. Each member of the group will become a better musician through individual practice and performance, listening and being an active part of the marching band experience. New literature will be performed each term. CSU, UC (credit limits may apply to UC - see counselor)

MUSIC-140 Wind Ensemble  
1 unit LR  
- May be repeated three times  
- 54 hours lecture per term  
- Prerequisite: Audition  
- Formerly MUSPF 140  
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. CSU, UC

MUSIC-142 Woodwind Ensemble  
1 unit SC  
- May be repeated three times  
- 54 hours lecture per term  
- Prerequisite: Audition  
- Formerly MUSPF 142  
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  
- 54 hours lecture per term  
- Prerequisite: Audition  
- Formerly MUSPF 144  
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  
- May be repeated three times  
- 54 hours lecture per term  
- Note: Student is limited to a maximum of 4 units in any combination of MUSIC 150 and 151  
This course provides group instruction in piano for students with no prior keyboard experience. Students will learn ensemble and solo works, acquire basic rhythm, and develop fundamental keyboard and music theory skills based on major and minor five-note patterns. This course is designed for both music majors planning to transfer, as well as for students who are studying primarily for personal enjoyment. Attention is given to the student’s individual needs, goals, and abilities. CSU, UC

MUSIC-151 Beginning Piano II  
1 unit SC  
- May be repeated three times  
- 54 hours lecture per term  
- Recommended: MUSIC 150 or equivalent  
- Note: Student is limited to a maximum of 4 units in any combination of MUSIC 150 and 151  
Group instruction in piano for the student who has had Beginning Piano I or its equivalent. Students will learn to play ensemble and solo works beyond the five-finger position. Classical and popular music will be emphasized. The course is designed for both music majors planning to transfer as well as those studying primarily for personal enjoyment. CSU, UC

MUSIC-152 Jazz Piano  
1 unit SC  
- May be repeated three times  
- 54 hours lecture per term  
- Recommended: MUSIC 151 or equivalent  
This course is for the study of the theory and practice of jazz piano through learning chords, voicings, improvisational techniques, and various idiomatic styles. CSU, UC

MUSIC-154 Beginning Woodwind Instruments  
1 unit SC  
- May be repeated three times  
- 54 hours lecture per term  
- Note: Course may be repeated when learning a different woodwind instrument  
This course provides beginning flute, clarinet, oboe, saxophone and bassoon instruction for general students as well as music students seeking to learn a second instrument. The course includes fundamentals of tone production, articulation, and basic instrumental technique. CSU, UC
MUSIC-155  Beginning Brass Instruments  
1 unit  SC  
• May be repeated three times  
• 54 hours lecture per term  
• Note: Course may be repeated when learning a different brass instrument  
This course provides beginning trumpet, horn, trombone, euphonium (baritone) and tuba instruction for general students as well as music students seeking to learn a second instrument. The course includes fundamentals of tone production, articulation and basic instrumental technique. CSU, UC  

MUSIC-156  Beginning String Instruments  
1 unit  SC  
• May be repeated three times  
• 54 hours lecture per term  
• Note: Course may be repeated when learning a different string instrument  
This course provides beginning violin, viola, cello, and double bass instruction for general students as well as music students seeking to learn a second instrument. The course includes fundamentals of bowing, ear training and basic instrumental technique. CSU, UC  

MUSIC-157  Beginning Percussion Instruments  
1 unit  SC  
• May be repeated two times  
• 54 hours lecture per term  
• Note: Course may be repeated when learning a different percussion instrument  
This course provides beginning snare drum, keyboard mallet and timpani instruction for general students as well as music students seeking to learn a second instrument. The course includes fundamentals of drum rudiments, ear training and basic instrumental technique. CSU, UC  

MUSIC-162  Concert Choir  
1 unit  SC  
• May be repeated three times  
• 54 hours lecture per term  
• Prerequisite: Audition  
• Formerly MUSPF 162  
This course is the study, rehearsal and public performance of standard choral literature for mixed voices. New literature will be studied each term. CSU, UC  

MUSIC-166  Chamber Singers  
1 unit  SC  
• May be repeated three times  
• 54 hours lecture per term  
• Prerequisite: Audition  
• Formerly MUSPF 168  
This course is for the study and public performance of ancient through contemporary chamber choir literature including music influenced by non-Western cultures. New literature is studied each term. CSU, UC  

MUSIC-168  Percussion Ensemble  
1 unit  SC  
• May be repeated three times  
• 54 hours lecture per term  
• Prerequisite: Audition  
• Formerly MUSPF 168  
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  
• May be repeated three times  
• 54 hours lecture per term  
This course is a study of the fundamentals of vocal tone production, breathing, vocal placement, and song interpretation as it applies to standard vocal repertoire. CSU, UC  

MUSIC-171  Jazz and Popular Solo Voice  
1 unit  SC  
• May be repeated three times  
• 54 hours lecture 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-172  Introduction to Electronic Music and MIDI  
3 units  SC  
• May be repeated once  
• 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term  
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. CSU  

MUSIC-173  Advanced Electronic Music  
3 units  SC  
• May be repeated once  
• 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term  
• Recommended: MUSIC 172 or equivalent  
This advanced course builds upon the knowledge and technical skills developed in MUSIC 172: Introduction to Electronic Music and MIDI. Students will learn to integrate the MIDI and digital audio recording environments and also develop the 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
MUSIC-174  Introduction to Pro Tools
3 units  SC
- May be repeated once
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term
- Note: May be repeated once if different software is used
This is an introductory course that will provide the foundational skills to learn and function within the Pro Tools audio production environment. Pro Tools represents a new generation of digital audio workstations that uses the power of personal computers and digital signal processing to record multi-track digital audio directly to hard disk. Topics will include digital multi-track recording, effects processing and digital audio mixing techniques. CSU

MUSIC-175  Advanced Pro Tools
3 units  SC
- May be repeated once
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term
- Recommended: MUSIC 174 or equivalent
- Note: May be repeated once if different software is used
This advanced course is 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 terms. 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

MUSIC-176  String Ensemble
1 unit  LR
- May be repeated three times
- 54 hours lecture per term
- Prerequisite: Audition
- Formerly MUSPF 176
This performance ensemble focuses on the sight-reading, rehearsal and performance of string 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-177  Introduction to Reason
3 units  SC
- May be repeated once
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term
- Note: May be repeated once if different software is used
This course will provide the foundational skills needed to learn and function within the music production environment of Reason. This software application represents a new generation of the stand-alone virtual recording studio. Topics will include music sequencing, digital audio recording, software synthesis and sampling, virtual effects, automation, signal flow, and drum machines. CSU

MUSIC-178  Sound for Picture
3 units  SC
- May be repeated once
- 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term
- Note: May be repeated once when software is upgraded
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

MUSIC-180  Diablo Valley Masterworks Chorale
1 unit  SC
- May be repeated three times
- 54 hours lecture per term
- Prerequisite: Audition
- Formerly MUSPF 180
This course is the study and performance of major works of the choral literature, along with practical experience in the operation of a community chorus. New literature is studied each term. CSU, UC

MUSIC-181  Introduction to the Music Industry
3 units  SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
An introduction to the music industry, including its evolution, corporate structure, and legal practices such as contracts, copyrights, licenses, management teams, and royalties. Other topics include record production; music publishing; marketing; use of music in film, television, and advertising; touring; development and implementation of business plans; and career strategies. CSU

MUSIC-182  Songwriting
3 units  SC
- 54 hours lecture per term
This course is an introduction to modern song writing techniques. Students will learn to create their own musical compositions. Approaches to contemporary issues in songwriting including development of melodic, lyrical, and rhythmic ideas will be studied. In addition, students will learn strategies for promoting their songs in the contemporary music marketplace as well as basic concepts of intellectual property right protection. CSU

MUSIC-190  Topics in Music
.3-4 units  SC
- May be repeated three times
- 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-222 Theory and Musicianship III**
4 units SC
- 108 hours lecture per term
- Recommended: MUSIC 123 or equivalent

This course is a study of harmony in the Western Common Practice. It addresses 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. CSU, UC

**MUSIC-223 Theory and Musicianship IV**
4 units SC
- 108 hours lecture per term
- Recommended: MUSIC 222 or equivalent

This course is a study of advanced chromatic harmony, 20th century harmonic practices, large musical structures, style composition, harmonic, structural, and stylistic analysis, and musicianship skills including sight singing, rhythmic training, ear training, dictation, and keyboard realization. CSU, UC

**MUSIC-236 Night Jazz Band**
1 unit SC
- 54 hours lecture per term
- Prerequisite: Audition
- Formerly MUSPF 236

This course is for the study of playing big band jazz in festival, club, and tour settings. A variety of styles will be studied, including Hip-Hop, odd-meter, and Fast Swing. The course includes working with a major guest artist. Public performance is included. New literature will be studied each term. CSU, UC

**MUSIC-240 Symphonic Band**
1 unit LR
- May be repeated three times
- 54 hours lecture per term
- Prerequisite: Audition
- Formerly MUSPF 240

This is a performance organization whose goals include the sight-reading, rehearsal and performance of a variety of symphonic band 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 studied each term. CSU, UC

**MUSIC-250 Piano Technique and Interpretation**
1 unit SC
- May be repeated three times
- 54 hours lecture per term
- Recommended: MUSIC 151 or equivalent

This course provides group and one-on-one instruction in playing the piano with an emphasis on developing technical and interpretive skills essential for proper playing of music from classical and popular repertoire. Methods of preparation based on an understanding of period/composer-specific performance practice is essential. The course addresses posture, freedom of motion, and tonal production through physical and anatomical awareness. Essential for the serious musician and those wishing to refine technical and interpretive understanding. CSU, UC

**MUSIC-252 Piano Ensemble**
1 unit SC
- May be repeated three times
- 54 hours lecture per term
- Prerequisite: Audition

This course is for the study and performance of piano music for multiple pianists and works for voice/instrument(s) and piano from the Western classical tradition. This course is held in a master class format and fulfills the ensemble recommendation for MUSIC 100. Solo instrumentalists and vocalists are encouraged to audition. CSU, UC

**MUSIC-255 Piano Repertoire and Performance**
1 unit SC
- May be repeated three times
- 54 hours lecture per term
- Prerequisite: Audition

This course is for the study and performance of Baroque, Classical, Romantic, and Contemporary keyboard works in a master class format. New literature will be studied each term. CSU, UC

**MUSIC-256 Pedagogy for Studio Music Teachers**
1 unit SC
- May be repeated three times
- 54 hours lecture per term

This class is a practical study of pedagogy, or the science and art of teaching. This course is designed for current and aspiring studio music teachers of keyboard and instrumental students. Through performance, discussion, research, and lecture/demonstration, 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 population through utilizing an interdisciplinary approach. CSU
MUSIC-270 **Applied Projects in Music Industry Studies**
3 units SC
• 36 hours lecture/18 hours laboratory/36 hours laboratory by arrangement per term
• Recommended: MUSIC 124, 172, 174, 181 or equivalents
This course is designed for students who are preparing for a career in the music industry and will emphasize the entrepreneurial skill-set needed for professional music production, marketing and distribution. Students will work on special production-oriented projects utilizing the college’s Internet radio station and record label as a laboratory. Working independently and in teams, students will practice and apply the music production tools and business skills they have developed in prior terms of the music industry studies program. Projects will vary from term to term. CSU

MUSIC-290 **DVC Philharmonic Orchestra**
1 unit SC
• May be repeated three times
• 54 hours lecture per term
• Prerequisite: Audition
• Note: The number of players per instrumental section is determined by instrumentation of the literature being studied and/or by standard orchestral proportions. Students not admitted to the orchestra will be directed to other music performance classes.
• Formerly MUSPF 290
This course is for the study, rehearsal, and public performance of 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. CSU, UC

MUSIC-298 **Independent Study**
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.
This course is for special studies in music under the guidance of the music faculty. CSU

MUSIC-299 **Student Instructional Assistant**
.5-3 units SC
• May be repeated three times
• 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

**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 which can be used are NUTRI 115 and 160.

Biological and Health Sciences Division
Physical Sciences Building

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.

**NUTRI-115** **Nutrition and Health: Personal Applications**
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course is an introduction to nutrition designed for a variety of majors. The focus of this course is 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, but is not limited to, personal nutrition assessments and diet planning. CSU, UC (credit limits may apply to UC - see counselor)
NUTRI-120  Sports Nutrition: Fueling the Athlete
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course includes the integration of the principles of nutrition and physical exercise in order to optimize physical fitness and athletic performance. Topics will include nutritional needs of the athlete like diet planning to optimize physical performance; diet analysis; energy systems and metabolism; efficiency of nutritional ergogenics; dietary supplements; sports drinks; the role of protein, carbohydrates, fats, vitamins, minerals and water in physical performance; body composition; weight gain; weight loss and weight maintenance; eating disorders, and the specific nutritional needs for different types of athletes and sports events. The course introduces students to the concepts and skills of locating, evaluating, synthesizing, and communicating information in various formats. CSU

NUTRI-150  Topics in Nutrition
.3-4 units  SC
• May be repeated three times
• Variable hours
This course will supplement topics in the nutritional sciences, dietetics, food service and food technology. Specific topics will be announced. CSU

NUTRI-160  Nutrition: Science and Applications
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course covers the basic principles of the science of nutrition including a survey of the nutrients in food and their actions in health promotion and disease prevention. Diet planning principles and guidelines, nutrient recommendations and assessment throughout the human life cycle are covered. Course content is appropriate for majors in dental hygiene, nursing and allied health. CSU, UC (credit limits may apply to UC - see counselor)

OCEANOGRAPHY – OCEAN

OCEANOGRAPHY – OCEAN

Biological and Health Sciences Division
Physical Sciences Building

Possible career opportunities
The diverse range of subjects examined and the multi-disciplinary approach taken within the oceanography program prepares students for a variety of career paths. Courses focus on biological, physical, geological and chemical aspects of oceanography. Many oceanographers are employed as researchers and/or educators by public and private research institutions, universities, and colleges. Students graduating with degrees in oceanography or aquatic science fields may work as laboratory or field technicians; water monitoring specialists; for environmental protection, consulting and nonprofit firms; as observers aboard fishing vessels; or in the natural resource management fields. Limited numbers are employed to work with marine animals at aquariums, theme parks, or research facilities. Most career options are likely to require more than two years of college study.

OCEAN-101  Fundamentals of Oceanography
3 units  SC
• 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 (formerly OCEAN 110).
• Formerly OCEAN 109
This course is an introduction to the geological, chemical, physical and biological aspects of the worlds oceans and the interactions among these different aspects. Lecture 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, aqua cultural techniques and practices, and preservation of marine environments; and the deep sea; properties, animals and adaptations. The subject is multi-disciplinary both in regard to the variety of aspects studied and the methods of study utilized. CSU, UC
**OCEAN-102  Fundamentals of Oceanography with Laboratory**

4 units  SC

- 72 hours lecture/36 hours laboratory per term
- Recommended: Eligibility for ENGL 122 or equivalent
- Note: Students who have taken Fundamentals of Oceanography OCEAN 101 (formerly OCEAN 109) will not receive credit for Fundamentals of Oceanography OCEAN 102
- Formerly OCEAN 110

This course is an introduction to the geographical, chemical, physical and biological aspects of the world's oceans and the interactions among these different aspects. Lecture topics will include: The history of oceanography; historic and modern oceanographic sampling and analysis methods; the scientific method and its utilization in the ocean sciences; plate tectonics and marine geology; the marine-land interface; ecological problems of the local bay, estuary, delta and statewide water resources; oceans’ roles as a dominant influence on the earth and its climate; ocean resource management and preservation of the marine environment; the deep sea; properties, animal diversity and evolutionary adaptations; and evolution by means of natural selection. Students will experience the role of oceanographer as they prepare for, participate in, and analyze data collected on a research expedition in local bay waters. CSU, UC

**OCEAN-150  Topics in Oceanography**

.3-4 units  SC

- May be repeated three times
- Variable hours
- Formerly OCEAN 120

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

- May be repeated three times
- 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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**PERSIAN – PERSN**

Students with prior foreign language instruction should check with a language teacher regarding their proper placement in foreign language courses. The following system is generally used to determine the appropriate term of college work based on high school language: two years equal one college term; three years equal two college terms; four years equal three college terms.

**PERSN-120  First Term Persian**

5 units  SC

- 90 hours lecture/18 hours laboratory by arrangement per term

This is a basic beginning course in understanding, speaking, reading, and writing Persian. 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, history and geography of the Persian-speaking world. CSU, UC

**PERSN-121  Second Term Persian**

5 units  SC

- 90 hours lecture/18 hours laboratory by arrangement per term
- Recommended: PERSN 120 or equivalent

This is a second term sequential course in Persian which includes the understanding, speaking, reading, and writing of the language. A continuation of basic communicative structures and functions are presented, as well as a continued examination of the culture of the Persian-speaking world. The present and past perfect tenses will be introduced and vocabulary and cultural information will be expanded. CSU, UC

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**Persian – PERSN**

Students with prior foreign language instruction should check with a language teacher regarding their proper placement in foreign language courses. The following system is generally used to determine the appropriate term of college work based on high school language: two years equal one college term; three years equal two college terms; four years equal three college terms.

**PERSN-120  First Term Persian**

5 units  SC

- 90 hours lecture/18 hours laboratory by arrangement per term

This is a basic beginning course in understanding, speaking, reading, and writing Persian. 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, history and geography of the Persian-speaking world. CSU, UC

**PERSN-121  Second Term Persian**

5 units  SC

- 90 hours lecture/18 hours laboratory by arrangement per term
- Recommended: PERSN 120 or equivalent

This is a second term sequential course in Persian which includes the understanding, speaking, reading, and writing of the language. A continuation of basic communicative structures and functions are presented, as well as a continued examination of the culture of the Persian-speaking world. The present and past perfect tenses will be introduced and vocabulary and cultural information will be expanded. CSU, UC
PERSN-150  Topics in Persian  
3-4 units SC  
- May be repeated three times  
- 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-155  First Term Conversational Persian  
3 units SC  
- May be repeated once  
- 54 hours lecture/18 hours laboratory by arrangement per term  

This is an introductory course in basic Persian conversation utilizing practical material with oral-aural practice based on this material. Calligraphy is included in the course. CSU

PERSN-156  Second Term Conversational Persian  
3 units SC  
- 54 hours lecture/18 hours laboratory by arrangement per term  
- Recommended: PERSN 155 or equivalent  

This course is a continuation of PERSN 155. Basic skills are expanded to include more complex conversational skills. Study of calligraphy is expanded. CSU

PERSN-157  Third Term Conversational Persian  
3 units SC  
- 54 hours lecture/18 hours laboratory by arrangement per term  
- Recommended: PERSN 156 or equivalent  

This course is a continuation of PERSN 156. Complex conversational skills are perfected, along with basic grammatical principles. Calligraphy is practiced as an art form beyond its usage as a form of writing. CSU

PERSN-299  Student Instructional Assistant  
.5-3 units SC  
- May be repeated three times  
- 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

PHILO-120  Introduction to Philosophy  
3 units SC  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL 122 or equivalent  

This course carefully and critically examines the most basic of human beliefs. Logic, epistemology, metaphysics, value theory (ethics and aesthetics), and philosophy of religion are explored at an introductory level. The vocabulary of philosophy and techniques of inquiry are included. CSU, UC

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

This course is a systematic examination of major ethical theories, the nature of moral reasoning, as well as the evaluation of contemporary moral issues such as abortion, euthanasia and capital punishment. CSU, UC

PHILO-130  Critical Thinking: Reasoning in Everyday Life  
3 units SC  
- 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 course examines the uses of language, formal and informal fallacies, syllogistic argument forms and scientific method. This course also develops the ability to integrate the principles of critical thinking with the techniques of effective written argument. CSU, UC
PHILO-140  Introduction to Judeo-Christian Tradition  
3 units  SC  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL 122 or equivalent  
This course is 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  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL 122 or equivalent  
This course is a general introduction to the nature of religion. Students will analyze 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-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-220  Comparative Religion  
3 units  SC  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL 122 or equivalent  
The religious thought, experience, and ethical teachings of living religions of the world are examined, discussed and compared. Religions, which may be discussed, include Hinduism, Buddhism, Jainism, Sikhism, Zoroastrianism, Judaism, Christianity, and Islam. CSU, UC

PHILO-221  Contemporary Religious Movements  
3 units  SC  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL 122 or equivalent  
This course is an examination and study of thriving contemporary religious movements through background study, speakers from various movements, and visitations of services of these religious groups. CSU

PHILO-224  History of Western Philosophy: Pre-Socrates to Medieval Period  
3 units  SC  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL 122 or equivalent  
This course examines the philosophy of the pre-Socratics, Plato, and Aristotle, and of the Hellenistic and Medieval periods. CSU, UC

PHILO-225  History of Western Philosophy: Descartes to Present  
3 units  SC  
• 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. CSU, UC

PHILO-298  Independent Study  
.5-3 units  SC  
• May be repeated three times  
• Variable hours  
• Recommended: Eligibility for ENGL 122 or equivalent  
• Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.  
This course provides an opportunity for students to study special interests under direction of philosophy faculty. CSU

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

PHOTOGRAPHY

See Art-ART

PHOTOGRAPHY

Possible career opportunities
A photography career offers exciting job prospects as a photojournalist, archivist, photo engraver, photographic crafts-person, photographic laboratory technician, illustrator, and commercial photographer (weddings, portraits, industrial, fashion, and architecture.)
PHYSICAL EDUCATION – PE

Physical Education, Athletics and Dance Division
Christine Worsley, Dean
Physical Education Office Building 105
925-685-1230, ext. 2736

Activity courses - 0.25-3 units each, 13.5-162 hours of activity per term each, SC
Note: These courses may be repeated three times. Beginning, intermediate, or advanced classes of the same activity may only be repeated a maximum of three times altogether. In the following activity courses, recreational and physical education skills are developed and attention is given to appropriate rules and techniques.

PE-100 Aquatic Fitness
.5-2 units SC
• May be repeated three times
• Variable hours
• Recommended: PE 106 or equivalent
This is an activity course designed to enable students to develop a high level of cardiovascular fitness through a swimming workout. Competitive strokes will be performed and utilized within both aerobic (long distance) and anaerobic (sprint distance) style fitness programs. Students will improve cardiovascular conditioning, upper body muscular strength and core strength. Students will also gain knowledge in fitness training principles such as periodization, overload, and recovery. CSU, UC (credit limits may apply to UC - see counselor)

PE-105 Water Aerobics
.5-2 units SC
• May be repeated three times
• Variable hours
This is an activity course designed to improve muscular strength, flexibility and cardiovascular fitness, while reducing stress on the body by performing exercises in the water. Exercises will involve variations in movement and tempo to achieve fitness improvements. CSU, UC (credit limits may apply to UC - see counselor)

PE-106 Swimming
.5-2 units SC
• May be repeated three times
• Variable hours
This is an activity course designed to teach the fundamental skills of swimming. Emphasis will be on proper swimming techniques for the four competitive swimming strokes. 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)

PE-107 Stretch and Yoga for Sports
.5-2 units SC
• May be repeated three times
• Variable hours
A course introducing principles of stretch technique, yoga asanas and imagery/relaxation techniques with relationship to a particular sport or activity. Emphasis on general warm-up, flexibility and strengthening exercises and injury prevention. Preliminary flexibility and alignment measurement techniques are also examined. CSU, UC (credit limits may apply to UC - see counselor)

PE-108 Beginning Hatha Yoga
.5-2 units SC
• May be repeated once
• Variable hours
• Formerly PE 114
This is an 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)

PE-109 Intermediate/Advanced Hatha Yoga
.5-2 units SC
• May be repeated once
• Variable hours
• Recommended: PE 108 or equivalent
This is an 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 strenuous yoga experience. Proper posture, relaxation and meditation techniques, as well ad principles of healthy living, will be demonstrated and discussed throughout the course. The yoga experience is non-competitive. CSU, UC (credit limits may apply to UC - see counselor)

PE-110 Water Polo
.5-2 units SC
• May be repeated three times
• Variable hours
• Recommended: Intermediate or above swimming ability
This is an activity course covering all aspects of the sport of water polo. The rules, equipment, techniques and strategies, etc., will be applied to in-class water polo competition. CSU, UC (credit limits may apply to UC - see counselor)
PE-115  **Body Sculpt**
  0.5-2 units SC
  - May be repeated three times
  - Variable hours
This is an activity course in guided strength training exercises performed to a specific music cadence and designed for improvement in muscular strength, muscular endurance and flexibility. Fitness assessments are performed and nutritional/wellness topics are discussed. CSU, UC (credit limits may apply to UC - see counselor)

PE-116  **Step Aerobics**
  0.5-2 units SC
  - May be repeated three times
  - Variable hours
This is an activity course designed to improve aerobic cardiorespiratory fitness utilizing a variety of choreographed and non-choreographed movement patterns. Proper stepping techniques, coinciding and non-coinciding arm and leg patterns, floor exercises and mat work, light hand weights, stretching, abdominals, and lecture will be incorporated. CSU, UC (credit limits may apply to UC - see counselor)

PE-117  **Fitness Jogging**
  0.5-2 units SC
  - May be repeated three times
  - Variable hours
This is an activity course in which students will develop physical fitness through jogging. Students will learn how to improve jogging technique, assess and measure cardiovascular fitness, as well as develop an individualized jogging program for overall fitness and health. In addition, topics such as equipment, safety, nutrition, shoes (form and function), and injury prevention will be addressed. CSU, UC (credit limits may apply to UC - see counselor)

PE-118  **Introduction to Triathlon Training**
  0.5-2 units SC
  - May be repeated three times
  - Variable hours
  - Note: Students must provide bicycle and helmet.
This is an introductory activity course in triathlon training which offers students the opportunity to cross-train in triathlon skills (swimming, biking, and running) and learn introductory training methods to accomplish an increased level of fitness through training. The history, rules, equipment, and safety concerns of triathlon will be discussed, as well as, training methods and race strategies. No previous experience is needed. CSU, UC (credit limits may apply to UC - see counselor)

PE-119  **Fitness Walking**
  0.5-2 units SC
  - May be repeated three times
  - Variable hours
This is an activity course intended for students of all fitness levels who would like to utilize walking as a fitness enhancing activity. 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, volksporting and more. CSU, UC (credit limits may apply to UC - see counselor)

PE-120  **Physical Fitness**
  0.5-2 units SC
  - May be repeated three times
  - 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 may also be considered. The benefits of physical fitness as an aspect of overall well-being will be discussed. CSU, UC (credit limits may apply to UC - see counselor)

PE-121  **Aerobics**
  0.5-2 units SC
  - May be repeated three times
  - Variable hours
This is an activity course designed to improve cardiovascular fitness, muscular flexibility and endurance, and agility. A series of continuous movement exercises, with an emphasis on routines, will be carried-out to high energy music. CSU, UC (credit limits may apply to UC - see counselor)

PE-122  **Theory and Practice of Strength Training and Fitness**
  0.5-2 units SC
  - May be repeated three times
  - Variable hours
This is an activity course designed to increase muscular strength, muscular endurance, and fitness utilizing plate-loaded apparatus, free weights, selectorized weight machines, treadmills, stationary bikes, elipticals, and stairmasters. Students will be required to attend one mandatory meeting that will be designated in the schedule of classes. CSU, UC (credit limits may apply to UC - see counselor)
PE-125 Power Lifting
.5-2 units SC
- May be repeated three times
- 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 and nutritional information as it relates to power lifting, will also be discussed. CSU, UC (credit limits may apply to UC - see counselor)

PE-126 Super Circuit
.5-2 units SC
- May be repeated three times
- Variable hours

This is an activity course that combines aerobic and resistance training exercises to promote cardiovascular fitness and improve muscular strength, endurance, and flexibility. Individual health and fitness assessments will be conducted during the term. Nutrition and other wellness topics will also be included. CSU, UC (credit limits may apply to UC - see counselor)

PE-127 Hips, Thighs and Abs
.5-2 units SC
- May be repeated three times
- Variable hours

This is an activity course emphasizing toning and strengthening of the hip, thigh, and ab (abdominal) areas. Range of motion at all joints will increase as a result of flexibility movements. General muscle tone and knowledge of anatomy will be included. Various aerobic techniques and props will be utilized including, but not limited to, therabands, xerocuffs, mat work, and movements that Joe Pilates originated. CSU, UC (credit limits may apply to UC - see counselor)

PE-128 Cardio Kickboxing
.5-2 units SC
- May be repeated three times
- Variable hours
- Recommended: Ability to participate in vigorous activity

This course will combine skills and techniques 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)

PE-129 Stationary Cycling
.5-2 units SC
- May be repeated three times
- Variable hours

This is an activity course using group stationary cycling training to develop cardiovascular fitness. Students will also utilize various strength and flexibility modalities, mental imagery, visualization, nutrition concepts, as well as assessment 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)

PE-130 Hiking
.5-2 units SC
- May be repeated three times
- Variable hours
- Note: First class session will be held in the classroom

This is an activity course enabling students to learn about hiking and safety skills while enjoying the beautiful parks and open spaces of the Bay Area. Students will learn hike preparation, map reading and trail marking skills. Hiking sites vary; routes are from 4-10 miles long, and are often on hilly terrain and are all one day hikes. CSU, UC (credit limits may apply to UC - see counselor)

PE-131 Fitness After Fifty
.5-2 units SC
- May be repeated three times
- Variable hours
- Note: Students are encouraged to seek permission from their doctor before beginning the course

This is an activity course designed for students over fifty of all fitness levels. Topics will include conditioning principles, goal-setting, fitness assessments and nutrition guidelines. This course is open to all students. CSU, UC (credit limits may apply to UC - see counselor)

PE-150 Physical Education Activities
.3-4 units SC
- May be repeated three times
- Variable hours

A supplemental course in physical education 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

PE-154 Badminton
.5-2 units SC
- May be repeated three times
- Variable hours

This is an activity course involving fundamental badminton techniques and strategies. Students will gain an understanding of the history, equipment, current rules, and scoring of badminton. In addition, students will develop stroke techniques, footwork skills, and knowledge of singles and doubles strategies. CSU, UC (credit limits may apply to UC - see counselor)
PE-158 Bowling
.5-2 units SC
  • Variable hours
This is an activity course that focuses on the basic delivery technique, targeting, spare shooting 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)

PE-162 Beginning Golf
.5-2 units SC
  • 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)

PE-163 Intermediate/Advanced Golf
.5-2 units SC
  • May be repeated two times
  • Variable hours
  • Recommended: PE 162 or equivalent
This is an activity course focusing on intermediate/advanced level golf skills. Primary participation is through playing nine holes of golf. CSU, UC (credit limits may apply to UC - see counselor)

PE-172 Beginning Tennis
.5-2 units SC
  • May be repeated once
  • Variable hours
This is an activity course intended to introduce students to the game of tennis. The course will involve 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)

PE-173 Distance Track Training
.5-2 units SC
  • May be repeated three times
  • Variable hours
This is an activity course in distance running, interval and track training methods. Warm-up, stretching, interval training, cool down and recovery will be covered, as well as, information on types of racing, race strategies and techniques. Other topics to be explored include history, equipment, safety, assessing cardiovascular effects, running and race techniques, and values of distance running and interval training. CSU, UC (credit limits may apply to UC - see counselor)

PE-174 Pre-Season Track and Field Training
.5-2 units SC
  • May be repeated three times
  • Variable hours
This is an activity course for pre-season track and field conditioning. The student will have the opportunity to analyze techniques, develop training programs, and acquire a thorough working knowledge of the rules and conditioning concerning their events. CSU, UC (credit limits may apply to UC - see counselor)

PE-178 Advanced Tennis
.5-2 units SC
  • May be repeated once
  • Variable hours
  • Recommended: PE 172 or equivalent
  • Note: Prior tennis knowledge and competitive experience recommended
This is an activity course that offers advanced tennis students opportunities to observe, learn and practice complex stroke techniques. In addition, students will utilize advanced singles and doubles tactics and strategy, as well as, high level conditioning exercises. CSU, UC (credit limits may apply to UC - see counselor)

PE-180 Baseball
.5-2 units SC
  • May be repeated three times
  • Variable hours
  • Recommended: Tryout audition
This is an activity course designed for students with previous baseball experience, who have aspirations of playing intercollegiate baseball. The history, rules, intermediate techniques and strategies, as well as conditioning for baseball will be addressed. CSU, UC (credit limits may apply to UC - see counselor)

PE-182 Basketball
.5-2 units SC
  • May be repeated three times
  • Variable hours
  • Note: Students should be physically capable of performing vigorous exercise
This is an activity course in basketball with an emphasis on cardiovascular conditioning, techniques, rules and strategies of the full court game. CSU, UC (credit limits may apply to UC - see counselor)
PE-185  Competitive Football Skills  
.5-2 units  SC  
- May be repeated three times  
- Variable hours  
- Recommended: Competitive high school football experience or equivalent  

This course will provide on-the-field instruction of competitive football skills. Emphasis is placed on techniques and skills specific to the various positions on a football team. Team play and strategies will be practiced. CSU, UC (credit limits may apply to UC - see counselor)

PE-186  Flag Football  
.5-2 units  SC  
- May be repeated three times  
- Variable hours  

This is an activity course introducing students to the fundamentals of flag football. Rules of the game, safety, offensive and defensive skills, game strategy, and methods of scoring will also be addressed. CSU, UC (credit limits may apply to UC - see counselor)

PE-187  Indoor Soccer  
.5-2 units  SC  
- May be repeated three times  
- Variable hours  

This is an activity course emphasizing the skills and strategies of indoor soccer. Indoor soccer is a scaled-down version of soccer, involving 5-6 players per team and small goals with no goalkeepers. Students will learn and implement the rules, etiquette and safety concerns of indoor soccer, as well as practice the skills and strategies of the game. CSU

PE-188  Soccer  
.5-2 units  SC  
- May be repeated three times  
- Variable hours  

This is an activity course emphasizing the fundamental skills and strategies of soccer. This course focuses on rules, etiquette, safety, and soccer skills, such as dribbling, passing, shooting and defending. Offensive and defensive positions and basic team strategies are also addressed. No previous soccer experience is necessary. CSU, UC (credit limits may apply to UC - see counselor)

PE-189  Men’s Lacrosse  
.5-2 units  SC  
- May be repeated three times  
- Variable hours  
- Note: Students must supply their own protective equipment and lacrosse stick  

This is an activity course emphasizing the fundamental skills and strategies of men’s lacrosse. This course focuses on rules, etiquette, safety, and lacrosse skills, such as catching, passing, cradling, shooting, and defending. 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)

PE-190  Softball  
.5-2 units  SC  
- May be repeated three times  
- Variable hours  

This is an activity class in individual and team skills in slow-pitch softball. The class will include proper hitting, catching and throwing, as well as game strategies. Rules of the game, equipment and safety considerations will also be addressed. CSU, UC (credit limits may apply to UC - see counselor)

PE-192  Beginning Volleyball  
.5-2 units  SC  
- May be repeated once  
- Variable hours  

This is an activity course designed to teach the student the beginning skills of volleyball and to incorporate them into successful non competitive team play. CSU, UC (credit limits may apply to UC - see counselor)

PE-193  Intermediate/Advanced Volleyball  
.5-2 units  SC  
- May be repeated once  
- Variable hours  
- Recommended: PE 192 or equivalent  

This is an activity course focused on intermediate/advanced volleyball knowledge and skills. The course will develop a higher level of performance and the utilization of multi-optional volleyball strategies. CSU, UC (credit limits may apply to UC - see counselor)

PE-195  Plyometrics and Agility Training for Female Athletes  
.25-1 unit  SC  
- May be repeated three times  
- Variable hours  

This is an activity course focusing on out-of-season physical training for the female athlete and is designed to help improve performance and minimize the potential for injury. Training will include progressive plyometric techniques, agility drills, flexibility exercises and core strengthening techniques. Health and nutritional issues specific to the female athlete will also be addressed. CSU, UC (credit limits may apply to UC - see counselor)
PE-199  Sport-Specific Athletic Conditioning
.5-2 units  SC
• May be repeated three times
• Variable hours
This is an activity course designed for students to increase their off-season physical conditioning, skill/technique level, and knowledge of a specific intercollegiate sport. See current class schedule for sport offerings. CSU, UC (credit limits may apply to UC - see counselor)

PE-298  Independent Study
.5-3 units  SC
• May be repeated three times
• Variable hours
• Note: Submission of acceptable educational contract to department and instruction office; topics must extend study beyond courses offered
An opportunity for advanced students to study special interests under the direction of the faculty. CSU

PE-299  Student Instructional Assistant
.5-3 units  SC
• May be repeated three times
• 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

PEADP-146  Adapted Individualized Exercise
.5-2 units  SC
• May be repeated three times
• Variable hours
• Note: Medical release form must be completed by a physician. Register with DSS counselor.
This is an activity course designed to provide reasonable accommodations, in maintaining and/or increasing physical abilities, to students with disabilities. Exercises promoting balance, flexibility, muscular strength and endurance, aerobic conditioning, and coordination will be performed. Additional topics will include safety considerations, training principles and the importance of regular exercise for overall wellness. CSU, UC (credit limits may apply to UC - see counselor)

PEADP-148  Adapted Resistance Training
.5-2 units  SC
• May be repeated three times
• Variable hours
• Note: Medical release form must be completed by a physician. Register with DSS counselor.
This is an activity course designed to provide reasonable accommodations in resistance training, to students with disabilities. Exercises emphasize muscular strength, muscular endurance, and flexibility. Additional topics will include safety considerations, resistance training principles, and the role of exercise in overall wellness. CSU, UC (credit limits may apply to UC - see counselor)
PEADP-149 Adapted Swimming
.5-2 units SC
- May be repeated three times
- Variable hours
- Note: Medical release form must be completed by a physician. Register with DSS counselor. Students must demonstrate the ability to swim 25 yards (1 lap) of freestyle with rhythmic breathing in any depth of water.

This is an activity course designed to provide reasonable accommodations in swimming, to students with disabilities. Students will utilize adapted/fundamental swimming skills for the purpose of improving aerobic conditioning. Additional topics will include aquatic safety methods, conditioning principles, and use of aquatic equipment. CSU, UC (credit limits may apply to UC - see counselor)

PEADP-151 Adapted Aquatic Exercise
.5-2 units SC
- May be repeated three times
- Variable hours
- Note: Medical release form must be completed by a physician. Register with DSS counselor.

This is an activity course designed to provide reasonable accommodations in aquatic exercise, to students with disabilities. Students will perform exercises in the water in order to maintain or improve muscular strength and endurance, aerobic conditioning, and flexibility. Students will also learn conditioning principles and develop a personalized program to continue after completing the course. CSU, UC (credit limits may apply to UC - see counselor)

PECMB-110 Jujitsu
.5-2 units SC
- May be repeated three times
- Variable hours

This is an activity course involving 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. Students will learn jujitsu techniques, as well as increase cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC - see counselor)

PECMB-111 Tae Kwon Do
.5-2 units SC
- May be repeated three times
- Variable hours

This is an activity course in history, philosophy, techniques and safety aspects of tae kwon do. This is an ancient Korean martial art where students will learn “the way of the fist and foot,” as well as increase cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC - see counselor)

PECMB-112 Self-Defense
.5-2 units SC
- May be repeated three times
- Variable hours

This is an activity course that combines 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)

PECMB-113 Tai Chi Chuan
.5-2 units SC
- May be repeated once
- Variable hours

This is an activity course involving the history, philosophy, techniques and safety aspects of tai chi chuan. Tai chi chuan is a slow moving Chinese martial art used as exercise and self-development. Students will learn fundamental forms, as well as increase muscular strength and endurance, flexibility and balance. CSU, UC (credit limits may apply to UC - see counselor)

PECMB-114 Aikido
.5-2 units SC
- May be repeated once
- Variable hours

This is an activity course involving the history, philosophy, techniques and safety aspects of aikido. This is a Japanese warrior art involving a noncompetitive, non-fighting discipline, that is comprised purely of defensive techniques and principles of movement. Students will learn fundamental aikido techniques, as well as increase cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC - see counselor)
PECMB-116 Aikido Weapons - Jo and Bokken
.5-2 units SC
- May be repeated three times
- Variable hours
This is an activity course using Aikido weapons Jo (wooden staff) and Bokken (wooden sword.) The historical, philosophical, and safety aspects of Aikido weapons Jo and Bokken will also be explored. CSU, UC (credit limits may apply to UC - see counselor)

PECMB-118 Judo
.5-2 units SC
- May be repeated three times
- Variable hours
This is an activity course involving the history, philosophy, techniques and safety aspects of judo. Judo emphasizes throws and pins, self-discipline, punctuality, courtesy, and respect. Students will learn judo techniques, as well as increase cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC - see counselor)

PECMB-119 Karate
.5-2 units SC
- May be repeated three times
- Variable hours
This is an activity course involving the history, philosophy, techniques and safety aspects of Kajukembo Karate. This martial art form teaches the way of the “empty hand” using legs, arms and fists, as well as Kai (expression of inner energy), which accompanies each action. Students will learn karate techniques, as well as increase cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC - see counselor)

PECMB-123 Intermediate Tai Chi Chuan
.5-2 units SC
- May be repeated once
- Variable hours
- Recommended: PECMB 113 or equivalent
This is an activity course focusing on an intermediate level of tai chi chuan practice. Students will master more complex forms and continue to develop concentration, and cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC - see counselor)

PECMB-124 Intermediate Aikido
.5-2 units SC
- May be repeated once
- Variable hours
- Recommended: PECMB 114 or equivalent
This is an activity course focusing on an intermediate level of aikido practice. Students will explore more complex skills and techniques with an emphasis on increased pace, as well as continue to develop concentration, and cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC - see counselor)

PECMB-150 Topics in Martial Arts and Combatives
.3-4 units SC
- May be repeated three times
- 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

PECMB-128 Pilates Mat Work
.5-2 units SC
- May be repeated three times
- 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, core strength development, with emphasis placed on back and abdominal strengthening. CSU, UC (credit limits may apply to UC - see counselor)
PEDAN-129 Introduction to Dance
   .5-2 units SC
   • May be repeated three times
   • Variable hours
This is an introductory course focusing on the development of coordination, rhythm, strength, flexibility, alignment and basic dance movement combinations in a variety of genres. Secondary focus is on basic musculoskeletal alignment, movement safety, and dance appreciation skills. CSU, UC

PEDAN-130 Ballet Fundamentals
   .5-2 units SC
   • May be repeated three times
   • Variable hours
This is an introductory course in ballet technique. This class will focus on ballet barre, center adagio, allegro work, and across-the-floor combinations. It will also include an introduction to the history of the genre and principles of ballet as an art form. CSU, UC

PEDAN-136 Jazz Dance Fundamentals
   .5-2 units SC
   • May be repeated three times
   • Variable hours
This is an introductory course in jazz dance technique. This class will focus on proper jazz dance alignment, center work and movement across the floor. It will also include an introduction to the history of jazz dance. CSU, UC

PEDAN-138 Beginning Tap Dance
   .5-2 units SC
   • May be repeated once
   • Variable hours
This is a course in beginning tap dance technique and covers a wide range of tap dance styles. The cultural and historical aspects of this genre will also be studied. CSU, UC

PEDAN-141 Intermediate Tap Dance
   .5-2 units SC
   • May be repeated once
   • Variable hours
   • Prerequisite: PEDAN 138 or equivalent
This is an intermediate level class in tap dance technique and will introduce more advanced tap dance steps and combinations. The contribution of tap dance to American art and culture will also be studied. CSU, UC

PEDAN-142 Modern Dance Fundamentals
   .5-2 units SC
   • May be repeated three times
   • Variable hours
This is an introductory course in modern dance technique. This class will focus on proper modern dance alignment, center work, and movement across the floor. It will also include an introduction of modern dance history. CSU, UC

PEDAN-150 Topics in Dance Arts
   .3-4 units SC
   • May be repeated three times
   • 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

PEDAN-155 World Dance Topics
   .3-4 units SC
   • May be repeated three times
   • Variable hours
A supplemental course in world dance to provide a study of selected cultural traditions. Specific topics such as Japanese, Hawaiian or Mexican dance will be announced in the schedule of classes. CSU

PEDAN-160 Beginning Ballroom/Social Dance
   .5-2 units SC
   • May be repeated three times
   • Variable hours
This is an activity course in basic ballroom/social dance. This course will focus on the techniques, history, terminology, principles and other elements, including style and rhythm of ballroom/social dance. A partner is not necessary as this course will incorporate an understanding of dance footwork specific to leaders and followers. A variety of dance styles will be covered, and may include American style fox-trot, American style waltz, American style tango, night club two-step, hustle, polka, quickstep and Viennese waltz. CSU, UC

PEDAN-161 Swing Dance
   .5-2 units SC
   • May be repeated three times
   • 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
PEDAN-162 Beginning Salsa and Latin Dance
.5-2 units SC
- May be repeated three times
- 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

PEDAN-163 Intermediate Salsa and Latin Dance
.5-2 units SC
- May be repeated once
- Recommended: PEDAN 162 or equivalent
This is an intermediate level course in Salsa and Latin dance for students interested in improving their skills in these dances and partnering techniques. Increasingly complex techniques, patterns, terminology, rhythms, music history and development of a variety of Latin dances will be explored. CSU, UC

PEDAN-165 Broadway Dance
.5-2 units SC
- May be repeated three times
- 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

PEIC-098 Intercollegiate Pre-Participation Orientation
.3 unit P/NP
- Non degree applicable
- 5 hours lecture per term
This is a course preparing new students, intending to try-out/compete for an intercollegiate athletic team, for the upcoming academic term and season of competition. Students will complete the California Community College Athletic Association's (CCCAA) athletic eligibility requirements, complete medical forms and waivers, register for the NCAA Clearinghouse, and fulfill other requirements for community college athletic competition.

PEIC-110 Student-Athlete Success I
2 units SC
- 27 hours lecture/36 hours laboratory per term
This course is designed to prepare the first year student-athlete for intercollegiate competition and academic achievement. Topics for this class will include, but are not limited to, eligibility, college academic resources, personal responsibility issues, and opportunities after DVC. CSU

PEIC-111 Student-Athlete Success II
2 units SC
- 27 hours lecture/36 hours laboratory per term
This course is designed to further assist student-athletes toward degree completion, transfer, and/or professional employment while competing in intercollegiate athletics. Topics for this class will include, but are not limited to, transfer and athletic eligibility requirements for four year schools, the recruiting process, completing the application and/or professional employment process, scholarships and financial aid, leadership training, and personal responsibility for life success. CSU

PEIC-200 Intercollegiate Baseball, Men
3 units SC
- May be repeated three times
- 175 hours activity per term
- Recommended: Competitive high school baseball experience or equivalent
Instruction and intercollegiate competition is offered in this sport to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)

PEIC-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
Instruction and intercollegiate competition is offered in this sport to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)
### PEIC-202B Intercollegiate Basketball-B, Men
1 unit  SC
- May be repeated once
- 60 hours activity per term
- Prerequisite: PEIC 202A or tryout audition
- Note: Spring term only

Instruction and intercollegiate competition is offered in this sport to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)

### PEIC-203A Intercollegiate Basketball-A, Women
2 units  SC
- May be repeated once
- 115 hours activity by arrangement per term
- Recommended: Competitive high school basketball experience or equivalent
- Note: Fall term only

Instruction and intercollegiate competition is offered in this sport to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)

### PEIC-203B Intercollegiate Basketball-B, Women
1 unit  SC
- May be repeated once
- 60 hours activity by arrangement per term
- Prerequisite: PEIC 203A or tryout audition
- Note: Spring term only

Instruction and intercollegiate competition is offered in this sport to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)

### PEIC-204 Intercollegiate Cross Country, Men
3 units  SC
- May be repeated three times
- 175 hours activity per term
- Recommended: Competitive high school cross country experience or equivalent

Instruction and intercollegiate competition is offered in this sport to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)

### PEIC-205 Intercollegiate Cross Country, Women
3 units  SC
- May be repeated three times
- 175 hours activity per term
- Recommended: Competitive high school cross country experience or equivalent

Instruction and intercollegiate competition is offered in this sport to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)

### PEIC-206 Intercollegiate Football, Men
3 units  SC
- May be repeated three times
- 175 hours activity per term
- Recommended: Competitive high school football experience or equivalent

Instruction and intercollegiate competition is offered in this sport to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)

### PEIC-207 Intercollegiate Football, Women
3 units  SC
- May be repeated three times
- 175 hours activity per term
- Recommended: Competitive high school football experience or equivalent

Instruction and intercollegiate competition is offered in this sport to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)

### PEIC-210 Intercollegiate Soccer, Women
3 units  SC
- May be repeated three times
- 175 hours activity per term
- Recommended: Competitive high school soccer experience or equivalent

Instruction and intercollegiate competition is offered in this sport to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)

### PEIC-215 Intercollegiate Softball, Women
3 units  SC
- May be repeated three times
- 175 hours activity per term
- Recommended: Competitive high school softball experience or equivalent

Instruction and intercollegiate competition is offered in this sport to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)

### PEIC-216 Intercollegiate Swimming and Diving, Men
3 units  SC
- May be repeated three times
- 175 hours activity by arrangement per term
- Recommended: Competitive high school swimming/diving experience or equivalent

Instruction and intercollegiate competition is offered in swimming and diving to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)

### PEIC-217 Intercollegiate Swimming and Diving, Women
3 units  SC
- May be repeated three times
- 175 hours activity by arrangement per term
- Recommended: Competitive high school swimming/diving experience or equivalent

Instruction and intercollegiate competition is offered in swimming to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)
PEIC-218  Intercollegiate Tennis, Men
3 units  SC
• May be repeated three times
• 175 hours activity per term
• Recommended: Competitive high school tennis experience or equivalent

Instruction and intercollegiate competition is offered in this sport to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)

PEIC-219  Intercollegiate Tennis, Women
3 units  SC
• May be repeated three times
• 175 hours activity per term
• Recommended: Competitive high school tennis experience or equivalent

Instruction and intercollegiate competition is offered in this sport to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)

PEIC-220  Intercollegiate Track and Field, Men
3 units  SC
• May be repeated three times
• 175 hours activity per term
• Recommended: Competitive high school track and field experience or equivalent

Instruction and intercollegiate competition is offered in this sport to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)

PEIC-221  Intercollegiate Track and Field, Women
3 units  SC
• May be repeated three times
• 175 hours activity per term
• Recommended: Competitive high school track and field experience or equivalent

Instruction and intercollegiate competition is offered in track and field to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)

PEIC-223  Intercollegiate Volleyball, Women
3 units  SC
• May be repeated three times
• 175 hours activity per term
• Recommended: Competitive high school volleyball experience or equivalent

Instruction and intercollegiate competition is offered in this sport to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)

PEIC-224  Intercollegiate Water Polo, Men
3 units  SC
• May be repeated three times
• 175 hours activity by arrangement per term
• Recommended: Competitive high school water polo experience or equivalent

Instruction and intercollegiate competition is offered in this sport to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)

PEIC-225  Intercollegiate Water Polo, Women
3 units  SC
• May be repeated three times
• 175 hours activity by arrangement per term
• Recommended: Competitive high school water polo experience or equivalent

Instruction and intercollegiate competition is offered in this sport to those students who are selected, based on tryouts, prior to the start of the sport season. CSU, UC (credit limits may apply to UC - see counselor)

PHYSICAL EDUCATION THEORY – PETHE

Physical Education, Athletics and Dance Division
Christine Worsley, Dean
Physical Education Office Building 105
925-685-1230, ext. 2736

Possible career opportunities
The general field of kinesiology and the physical education theory programs provide students with a number of varied career opportunities. The sports medicine/athletic training program prepares students for transfer into professional programs leading to careers in athletic training, physical therapy, physician assisting, medicine, etc. Other degree and certificate programs available in physical education can lead to a career as a coach, personal trainer, group exercise instructor, or strength and conditioning coach.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in science degrees
Fitness instruction
Kinesiology: coaching
Sports medicine/athletic training
Certificates of achievement

Coaching
Group exercise instruction
Personal training

Associate in science degree - Fitness instruction

The associate in science degree in fitness instruction is a two-year course of study designed for students who are interested in a career in the fitness industry and/or wish to transfer to a four-year institution in kinesiology or related major. It will expose students to many facets of the fitness industry and is appropriate for those students who wish to become a personal trainer and/or group exercise instructor. Completion of the degree will also prepare students to sit for one of the national personal training or group exercise instructor certification examinations. Students who intend to transfer to a four-year institution must consult with program faculty and college counselors to ensure that the requirements for transfer to appropriate institutions are met. Possible programs of study at the baccalaureate level include exercise science, strength and conditioning, preparation for a teaching credential or other specialty area under the kinesiology umbrella.

To earn a degree, students must complete each course used to meet a major requirement with a "C" grade or higher and complete all graduation requirements as listed in the catalog. Certain courses may satisfy both major and other graduation requirements; however, the units are only counted once.

<table>
<thead>
<tr>
<th>major requirements</th>
<th>units</th>
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</thead>
<tbody>
<tr>
<td>HSCI 230 Advanced First Aid/CPR</td>
<td>3</td>
</tr>
<tr>
<td>PETHE 259 Sport and Exercise Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PETHE 281 Principles of Optimizing Human Performance</td>
<td>3</td>
</tr>
<tr>
<td>PETHE 282 Exercise Techniques and Physical Fitness Testing</td>
<td>1</td>
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<tr>
<td>PETHE 284 Introduction to Sports Medicine and Athletic Training</td>
<td>3</td>
</tr>
<tr>
<td>PETHE 291 Professional Aspects of Personal Training</td>
<td>3</td>
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<tr>
<td>PETHE 293 Professional Aspects of Group Fitness Training</td>
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<tr>
<td>PETHE 294 Practical Experience in Personal Training and Fitness Instruction I</td>
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<tr>
<td>PETHE 295 Practical Experience in Personal Training and Fitness Instruction II</td>
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<table>
<thead>
<tr>
<th>plus at least 3 units from:</th>
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</thead>
<tbody>
<tr>
<td>BIOSC 101 Fundamentals of Biological Science</td>
</tr>
<tr>
<td>BIOSC 102 Fundamentals of Biological Science with Laboratory</td>
</tr>
<tr>
<td>BIOSC 116 Human Biology</td>
</tr>
<tr>
<td>BIOSC 117 Human Biology with Laboratory</td>
</tr>
<tr>
<td>BIOSC 120 Introduction to Human Anatomy and Physiology</td>
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<tr>
<td>BIOSC 139 Human Anatomy</td>
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<td>BIOSC 140 Human Physiology</td>
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<tbody>
<tr>
<td>HSCI 124 Health and Wellness</td>
</tr>
<tr>
<td>HSCI 170 Women's Health</td>
</tr>
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<tbody>
<tr>
<td>NUTRI 120 Sports Nutrition: Fueling the Athlete</td>
</tr>
<tr>
<td>NUTRI 160 Nutrition: Science and Applications</td>
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<tr>
<th>plus at least 2 units from:</th>
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<tbody>
<tr>
<td>PE 122 Theory and Practice of Strength Training and Fitness</td>
</tr>
<tr>
<td>PE 125 Power Lifting</td>
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<thead>
<tr>
<th>plus at least 2 units from a minimum of 2 different courses from:</th>
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<tbody>
<tr>
<td>PE 107 Stretch and Yoga for Sports</td>
</tr>
<tr>
<td>PE 108 Beginning Hatha Yoga</td>
</tr>
<tr>
<td>PE 109 Intermediate/Advanced Hatha Yoga</td>
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<tr>
<td>PE 115 Body Sculpt</td>
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<td>PE 116 Step Aerobics</td>
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<td>PE 120 Physical Fitness</td>
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<td>PE 121 Aerobics</td>
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<tr>
<td>PE 126 Super Circuit</td>
</tr>
<tr>
<td>PE 127 Hips, Thighs and Abs</td>
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<tr>
<td>PE 128 Cardio Kickboxing</td>
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<tr>
<td>PE 129 Stationary Cycling</td>
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<tr>
<td>PE 195 Plyometric and Agility Training for Female Athletes</td>
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<tr>
<td>PEDAN 128 Pilates Mat Work</td>
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</table>

**total minimum required units**: 34.5

**recommended degree electives**

| BUSMG 191 Small Business Management | 3 |
| PETHE 210 Introduction to Kinesiology | 3 |
| PETHE 279 Overview of Sports Medicine and Fitness Professions | 2 |
| PETHE 283 Introduction to Sports Massage | 1.5 |
| PETHE 285 Advanced Sports Medicine and Athletic Training | 3 |
| PETHE 292 Personal Training National Examination Preparation | 2 |

Associate in science degree - Kinesiology-coaching

The associate in science degree in kinesiology is a two-year course of study designed for students who are interested in obtaining a job as an athletic coach, be prepared for an entry level job in sports or recreation administration and/or wishing to transfer to a four-year institution in kinesiology or related major. It is appropriate for those students who wish to become a youth or secondary school coach and a variety of sport options are available. 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 appropriate institutions are met. Possible programs of study at the baccalaureate level teaching credential to become a secondary school teacher/coach, exercise science, sports management or other specialty area under the kinesiology umbrella.
To earn this degree, students must complete the core major requirements as indicated and choose an area of emphasis. Each course used to meet a major requirement must be passed with a “C” grade or higher and all general education and graduation requirements, as listed in the catalog, must be met. Certain courses may satisfy both major and other graduation/general education requirements; however, the units are only counted once.

### Major Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>HSCI 230</td>
<td>Advanced First Aid/CPR</td>
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</tr>
<tr>
<td>PETHE 210</td>
<td>Introduction to Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>PETHE 259</td>
<td>Sport and Exercise Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PETHE 281</td>
<td>Principles of Optimizing Human Performance</td>
<td>3</td>
</tr>
<tr>
<td>PETHE 282</td>
<td>Exercise Techniques and Physical Fitness Testing</td>
<td>3</td>
</tr>
<tr>
<td>PETHE 284</td>
<td>Introduction to Sports Medicine and Athletic Training</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 101</td>
<td>Introduction to Psychology</td>
<td>3</td>
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**plus at least 3 units from:**

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<td>NUTRI 120</td>
<td>Sports Nutrition: Fueling the Athlete</td>
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</tr>
<tr>
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<td>Nutrition: Science and Applications</td>
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<tr>
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<tbody>
<tr>
<td>BUS 240</td>
<td>Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 135</td>
<td>College Algebra</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:**

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<tr>
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<tbody>
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<td>Fundamentals of Biological Science</td>
<td>3</td>
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<tr>
<td>BIOSC 102</td>
<td>Fundamentals of Biological Science with Laboratory</td>
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</tr>
<tr>
<td>BIOSC 116</td>
<td>Human Biology</td>
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<tr>
<td>BIOSC 139</td>
<td>Human Anatomy</td>
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<td>BIOSC 140</td>
<td>Human Physiology</td>
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**Coaching Emphasis**

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<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>PETHE 260</td>
<td>Theory of Coaching Individual Sports</td>
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<tr>
<td>PETHE 261</td>
<td>Theory of Coaching Team Sports</td>
<td>3</td>
</tr>
<tr>
<td>PETHE 264</td>
<td>Theory of Coaching Football</td>
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**plus at least 2 units from:**

- PE 106, PE 110, PE 154, PE 162, PE 163, PE 172, PE 173, PE 174, PE 180, PE 182, PE 185, PE 188, PE 189, PE 190, PE 192, PE 193, PE 199

or

- PEIC 200, PEIC 202A and B, PEIC 203A and B, PEIC 206, PEIC 210, PEIC 215, PEIC 216, PEIC 217, PEIC 223, PEIC 224, PEIC 225

*Activity course or intercollegiate athletic participation must be selected in area of coaching emphasis*

**Total Minimum Required Units**: 33

### Recommended Degree Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>PETHE 279</td>
<td>Overview of Sports Medicine and Fitness Professionals</td>
<td>2</td>
</tr>
<tr>
<td>PETHE 285</td>
<td>Advanced Sports Medicine and Athletic Training</td>
<td>3</td>
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</table>

### Associate in Science Degree - Sports Medicine/Athletic Training

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’s 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 G.E.). 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 and maintain an overall GPA of 2.75 or higher and complete all graduation requirements as listed in the catalog. Certain courses may satisfy both major and other graduation 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>HSCI 124</td>
<td>Health and Wellness</td>
<td>3</td>
</tr>
<tr>
<td>PETHE 279</td>
<td>Overview of Sports Medicine and Fitness Professionals</td>
<td>2</td>
</tr>
<tr>
<td>PETHE 281</td>
<td>Principles of Optimizing Human Performance</td>
<td>3</td>
</tr>
<tr>
<td>PETHE 282</td>
<td>Exercise Techniques and Physical Fitness Testing</td>
<td>1</td>
</tr>
<tr>
<td>PETHE 283</td>
<td>Introduction to Sports Massage</td>
<td>1.5</td>
</tr>
<tr>
<td>PETHE 284</td>
<td>Introduction to Sports Medicine and Athletic Training</td>
<td>3</td>
</tr>
<tr>
<td>PETHE 285</td>
<td>Advanced Sports Medicine and Athletic Training</td>
<td>3</td>
</tr>
<tr>
<td>PETHE 286</td>
<td>Clinical Experiences in Sports Medicine and Athletic Training</td>
<td>3</td>
</tr>
<tr>
<td>PETHE 287</td>
<td>Clinical Experiences in Sports Medicine and Athletic Training II</td>
<td>2</td>
</tr>
<tr>
<td>PETHE 288</td>
<td>Clinical Experiences in Sports Medicine and Athletic Training III</td>
<td>2</td>
</tr>
<tr>
<td>PSYCH 101</td>
<td>Introduction to Psychology</td>
<td>3</td>
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</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>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>PHYS 110</td>
<td>Elementary Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 120</td>
<td>General College Physics I</td>
<td>4</td>
</tr>
</tbody>
</table>

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**Catalog 2012-2013**

272 PROGRAM AND COURSE DESCRIPTIONS
Certificate of achievement - Coaching
The coaching certificate of achievement is a one-year course of study that prepares students to be an effective recreational, youth or secondary school coach. Specific sport options offered include baseball, basketball, cross-country, football, soccer, softball, swimming, tennis, track and field, volleyball and water polo. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

required courses
- HSCI 230 Advanced First Aid/CPR ........................................... 3
- PETH 259 Sport and Exercise Psychology ........................................... 3
- PETH 281 Principles of Optimizing Human Performance ........................................... 3
- PETH 282 Exercise Techniques and Physical Fitness Testing ........................................... 1
- PETH 284 Introduction to Sports Medicine and Athletic Training ........................................... 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:
- PETH 260 Theory of Coaching Individual Sports ........................................... 3
- PETH 261 Theory of Coaching Team Sports ........................................... 3
- PETH 264 Theory of Coaching Football ........................................... 3

plus at least 2 units from:
- PE 107 Stretch and Yoga for Sport 0.5-2
- PE 108 Beginning Hatha Yoga 0.5-2
- PE 109 Intermediate/Advanced Hatha Yoga 0.5-2
- PE 115 Body Sculpt 0.5-2
- PE 116 Step Aerobics 0.5-2
- PE 120 Physical Fitness 0.5-2
- PE 121 Aerobics 0.5-2
- PE 126 Super Circuit 0.5-2
- PE 127 Hip, Thighs and Abs 0.5-2
- PE 128 Cardio Kickboxing 0.5-2
- PE 129 Stationary Cycling 0.5-2
- PE 195 Plyometrics and Agility Training for Female Athletes 0.25-1
- PEDAN 128 Pilates Mat Work 0.5-2

total minimum required units 38.5

Certificate of achievement - Personal training
The personal training certificate program is a one-year course of study that will expose students to many facets of the fitness industry and prepares them to obtain entry-level employment as a personal trainer. Completion of the certificate requirements will also prepare students to sit for national personal training examinations.

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

required courses
- HSCI 230 Advanced First Aid/CPR ........................................... 3
- PETH 259 Sport and Exercise Psychology ........................................... 3
- PETH 281 Principles of Optimizing Human Performance ........................................... 3
- PETH 282 Exercise Techniques and Physical Fitness Testing ........................................... 1
- PETH 284 Introduction to Sports Medicine and Athletic Training ........................................... 3
- PETH 293 Professional Aspects of Group Exercise Instruction ........................................... 1.5

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

plus at least 2 units from a minimum of two courses from:
- PE 107 Stretch and Yoga for Sport 0.5-2
- PE 108 Beginning Hatha Yoga 0.5-2
- PE 109 Intermediate/Advanced Hatha Yoga 0.5-2
- PE 115 Body Sculpt 0.5-2
- PE 116 Step Aerobics 0.5-2
- PE 120 Physical Fitness 0.5-2
- PE 121 Aerobics 0.5-2
- PE 126 Super Circuit 0.5-2
- PE 127 Hip, Thighs and Abs 0.5-2
- PE 128 Cardio Kickboxing 0.5-2
- PE 129 Stationary Cycling 0.5-2
- PE 195 Plyometrics and Agility Training for Female Athletes 0.25-1
- PEDAN 128 Pilates Mat Work 0.5-2

total minimum required units 19.5

Certificate of achievement – Group exercise instruction
The group exercise certificate program is a one-year course of study that will expose students to many facets of the fitness industry and prepares them to obtain entry-level employment as a group exercise instructor. Completion of the certificate requirements will also prepare students to sit for national group exercise instructor examinations.

For national group exercise instructor examinations.

The certificate requirements will also prepare students to sit for employment as a group exercise instructor. Completion of the certificate requirement with a “C” grade or higher. Courses are available in the day and evening.

required courses
- HSCI 230 Advanced First Aid/CPR ........................................... 3
- PETH 259 Sport and Exercise Psychology ........................................... 3
- PETH 281 Principles of Optimizing Human Performance ........................................... 3
- PETH 282 Exercise Techniques and Physical Fitness Testing ........................................... 1
- PETH 284 Introduction to Sports Medicine and Athletic Training ........................................... 3
- PETH 293 Professional Aspects of Group Exercise Instruction ........................................... 1.5

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

plus at least 2 units from a minimum of two courses from:
- PE 107 Stretch and Yoga for Sport 0.5-2
- PE 108 Beginning Hatha Yoga 0.5-2
- PE 109 Intermediate/Advanced Hatha Yoga 0.5-2
- PE 115 Body Sculpt 0.5-2
- PE 116 Step Aerobics 0.5-2
- PE 120 Physical Fitness 0.5-2
- PE 121 Aerobics 0.5-2
- PE 126 Super Circuit 0.5-2
- PE 127 Hip, Thighs and Abs 0.5-2
- PE 128 Cardio Kickboxing 0.5-2
- PE 129 Stationary Cycling 0.5-2
- PE 195 Plyometrics and Agility Training for Female Athletes 0.25-1
- PEDAN 128 Pilates Mat Work 0.5-2

total minimum required units 19.5

Certificate of achievement - Coaching
The coaching certificate of achievement is a one-year course of study that prepares students to be an effective recreational, youth or secondary school coach. Specific sport options offered include baseball, basketball, cross-country, football, soccer, softball, swimming, tennis, track and field, volleyball and water polo. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.

Required courses:
- HSCI 230 Advanced First Aid/CPR ........................................... 3
- PETH 259 Sport and Exercise Psychology ........................................... 3
- PETH 281 Principles of Optimizing Human Performance ........................................... 3
- PETH 282 Exercise Techniques and Physical Fitness Testing ........................................... 1
- PETH 284 Introduction to Sports Medicine and Athletic Training ........................................... 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:
- PETH 260 Theory of Coaching Individual Sports ........................................... 3
- PETH 261 Theory of Coaching Team Sports ........................................... 3
- PETH 264 Theory of Coaching Football ........................................... 3

Plus at least 2 units from:
- PE 107 Stretch and Yoga for Sport 0.5-2
- PE 108 Beginning Hatha Yoga 0.5-2
- PE 109 Intermediate/Advanced Hatha Yoga 0.5-2
- PE 115 Body Sculpt 0.5-2
- PE 116 Step Aerobics 0.5-2
- PE 120 Physical Fitness 0.5-2
- PE 121 Aerobics 0.5-2
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- PE 127 Hip, Thighs and Abs 0.5-2
- PE 128 Cardio Kickboxing 0.5-2
- PE 129 Stationary Cycling 0.5-2
- PE 195 Plyometrics and Agility Training for Female Athletes 0.25-1
- PEDAN 128 Pilates Mat Work 0.5-2

Total minimum required units 38.5

Certificate of achievement - Personal training
The personal training certificate program is a one-year course of study that will expose students to many facets of the fitness industry and prepares them to obtain entry-level employment as a personal trainer. Completion of the certificate requirements will also prepare students to sit for national personal training examinations.

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

Required courses:
- HSCI 230 Advanced First Aid/CPR ........................................... 3
- PETH 259 Sport and Exercise Psychology ........................................... 3
- PETH 281 Principles of Optimizing Human Performance ........................................... 3
- PETH 282 Exercise Techniques and Physical Fitness Testing ........................................... 1
- PETH 284 Introduction to Sports Medicine and Athletic Training ........................................... 3
- PETH 293 Professional Aspects of Group Exercise Instruction ........................................... 1.5

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

Plus at least 2 units from a minimum of two courses from:
- PE 107 Stretch and Yoga for Sport 0.5-2
- PE 108 Beginning Hatha Yoga 0.5-2
- PE 109 Intermediate/Advanced Hatha Yoga 0.5-2
- PE 115 Body Sculpt 0.5-2
- PE 116 Step Aerobics 0.5-2
- PE 120 Physical Fitness 0.5-2
- PE 121 Aerobics 0.5-2
- PE 126 Super Circuit 0.5-2
- PE 127 Hip, Thighs and Abs 0.5-2
- PE 128 Cardio Kickboxing 0.5-2
- PE 129 Stationary Cycling 0.5-2
- PE 195 Plyometrics and Agility Training for Female Athletes 0.25-1
- PEDAN 128 Pilates Mat Work 0.5-2

Total minimum required units 19.5

Certificate of achievement – Group exercise instruction
The group exercise certificate program is a one-year course of study that will expose students to many facets of the fitness industry and prepares them to obtain entry-level employment as a group exercise instructor. Completion of the certificate requirements will also prepare students to sit for national group exercise instructor examinations.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Notes</th>
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</thead>
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<tr>
<td>HSCI 230</td>
<td>Advanced First Aid/CPR</td>
<td>3</td>
<td></td>
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<tr>
<td>PETHE 259</td>
<td>Sport and Exercise Psychology</td>
<td>3</td>
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<tr>
<td>PETHE 281</td>
<td>Principles of Optimizing Human Performance</td>
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<td></td>
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<tr>
<td>PETHE 282</td>
<td>Exercise Techniques and Physical Fitness Testing</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>PETHE 284</td>
<td>Introduction to Sports Medicine and Athletic Training</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PETHE 291</td>
<td>Professional Aspects of Personal Training</td>
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<tr>
<td>PETHE 294</td>
<td>Practical Experience in Personal Training I</td>
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<tr>
<td>PETHE 295</td>
<td>Practical Experience in Personal Training II</td>
<td>2</td>
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<tr>
<td>NUTRI 115</td>
<td>Nutrition and Health: Personal Applications</td>
<td>3</td>
<td></td>
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<tr>
<td>NUTRI 120</td>
<td>Sports Nutrition: Fueling the Athlete</td>
<td>3</td>
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<tr>
<td>NUTRI 160</td>
<td>Nutrition: Science and Applications</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PE 122</td>
<td>Theory and Practice of Strength Training and Fitness</td>
<td>0.5-2</td>
<td></td>
</tr>
<tr>
<td>PE 125</td>
<td>Power Lifting</td>
<td>0.5-2</td>
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<tr>
<td></td>
<td><strong>Total minimum required units</strong></td>
<td><strong>24</strong></td>
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</tr>
</tbody>
</table>

**PETHE-150 Topics in Physical Education Theory**

- **.3-.4 units SC**
- May be repeated three times
- 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

**PETHE-187 Analysis of the Multiple Aspects of Modern Day Football**

- **.5-.2 units SC**
- May be repeated three times
- 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. Implement and install weekly game plans on offense, defense, and special teams (kicking game). CSU, UC (credit limits may apply to UC - see counselor)

**PETHE-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)

**PETHE-215 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

**PETHE-216 Practical Experience in Sport and Recreation Management I**

- **2 units SC**
- 36 hours lecture/108 hours laboratory by arrangement per term
- Prerequisite: PETHE 215 or equivalent (may be taken concurrently)

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 Physical Education and Athletics Departments on a variety of projects including marketing, game management, website management, sports information, fundraising, and/or scheduling. CSU

**PETHE-217 Practical Experience in Sport and Recreation Management II**

- **2 units SC**
- 36 hours lecture/108 hours laboratory by arrangement per term
- Prerequisite: PETHE 216 or equivalent

This is an internship course that continues to enhance student’s 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 Physical Education and Athletics Departments. Topics for projects include, but are not limited to, marketing, game management, website management, sports information, fundraising, and/or scheduling. CSU
PETHE-259 Sport and Exercise Psychology
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course addresses the scientific approach to the psychological component of sport and exercise performance. Topics such as personality, motivation, group dynamics, leadership, etc., will be covered. Specific psychological skills training methods for enhancing performance will be discussed. In addition, the connection between sport and exercise participation to health, wellness and psychological development will be addressed. CSU

PETHE-260 Theory of Coaching Individual Sports
3 units SC
• 54 hours lecture per term
This course is designed to provide students with an understanding of all facets of coaching individual sports. Topics will 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 their knowledge of the sport. No previous coaching experience is necessary. CSU, UC (credit limits may apply to UC - see counselor)

PETHE-261 Theory of Coaching Team Sports
3 units SC
• 54 hours lecture per term
This course is designed to provide students with an understanding of all facets of coaching team sports. Topics will 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 their knowledge of the sport. No previous coaching experience is necessary. CSU, UC (credit limits may apply to UC - see counselor)

PETHE-264 Theory of Coaching Football
3 units SC
• 54 hours lecture per term
This course is designed to provide students with an understanding of all facets of coaching football. The history, terminology, rules, strategies, skills, methods of instruction, conditioning mental preparation, and program building will be covered. This course is appropriate for those looking for a career in coaching, current youth coaches and the athlete wanting to increase their knowledge of the sport. No previous coaching experience is necessary. CSU, UC (credit limits may apply to UC - see counselor)

PETHE-279 Overview of Sports Medicine and Fitness Professions
2 units SC
• 36 hours lecture per term
This course will acquaint students with various sports medicine, fitness and health care professions. Information to be presented includes job descriptions, educational and certification requirements, work environment and potential salary range. CSU

PETHE-281 Principles of Optimizing Human Performance
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
This course explores the body’s adaptations to exercise and teaches students how to develop fitness programs to maximize these strength and conditioning adaptations. The information presented is valuable for students interested in professions such as personal training, physical therapy, athletic training/sports medicine, teaching and coaching, as well as for people who just want to improve their own fitness level or athletic performance. This knowledge will also prepare students intending to sit for national personal training exams. CSU, UC (credit limits may apply to UC - see counselor)

PETHE-282 Exercise Techniques and Physical Fitness Testing
1 unit SC
• 54 hours laboratory per term
• Recommended: PETHE 281 or equivalent (may be taken concurrently)
This course is a companion lab course to PETHE 281. It will teach students how to instruct others in the proper techniques of strength training and conditioning exercises. It will also teach students how to assemble and conduct testing programs to determine fitness levels and evaluate progress in exercise programs. This knowledge will assist students who plan to sit for a national personal training examination. CSU, UC (credit limits may apply to UC - see counselor)

PETHE-283 Introduction to Sports Massage
1.5 units SC
• 18 hours lecture/27 hours laboratory per term
This course will present the theory of massage and its role in treating and preventing athletic injuries as well as preparing athletes for competition. Students will experience the application of a variety of massage, stretching and relaxation techniques. CSU
PETHE-284 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)

PETHE-285 Advanced Sports Medicine and Athletic Training
3 units SC
• 36 hours lecture/54 hours laboratory per term
• Prerequisite: PETHE 284 or equivalent
This course builds on concepts from PETHE 284. 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

PETHE-286 Clinical Experiences in Sports Medicine and Athletic Training I
2 units SC
• 108 hours laboratory by arrangement per term
• Prerequisite: PETHE 284 or equivalent (may be taken concurrently)
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

PETHE-287 Clinical Experiences in Sports Medicine and Athletic Training II
2 units SC
• 108 hours laboratory by arrangement per term
• Prerequisite: PETHE 285 (may be taken concurrently) and PETHE 286 or equivalents
This course will expose students to injury evaluation and career exploration. The student will observe and assist athletic trainers in evaluating and treating DVC athletes. This may be augmented by off-campus observations of physicians and/or therapists. CSU

PETHE-288 Clinical Experiences in Sports Medicine and Athletic Training III
2 units SC
• May be repeated once
• 108 hours laboratory by arrangement per term
• Prerequisite: PETHE 287 or equivalent
This course will expose the student to advanced athletic injury evaluation and rehabilitation. The emphasis in this course will be problem solving and professional development. The student will observe and assist athletic trainers in evaluating and rehabilitating DVC athletes. This will be augmented by off-campus observations of surgery. CSU

PETHE-291 Professional Aspects of Personal Training
3 units SC
• 54 hours lecture per term
• Recommended: PETHE 281 or equivalent
• Formerly PETHE 280
This course is for students who are, or aspire to be, personal trainers. It will provide practical information on how to become certified as a personal trainer, effectively work with clients, including those within special populations, as well as start and manage a personal training business. CSU

PETHE-292 Personal Training National Exam Preparation
2 units SC
• 36 hours lecture per term
• Recommended: PETHE 291 or equivalent
This course is designed to provide students with the information necessary to sit for a National Personal Training Exam. The course will expand upon information presented in other personal training courses within the program to emphasize knowledge required for passing these exams. CSU

PETHE-293 Professional Aspects of Group Fitness Training
1.5 units SC
• 18 hours lecture/27 hours laboratory per term
• Recommended: PETHE 281 or equivalent
This course prepares the potential personal trainer and group exercise instructor for the practical aspects of training and managing clients in a group fitness setting. Principles and management of appropriate progression, regression and modification for the group setting will be emphasized. Program design, exercise sequencing, training variables, use of strength equipment and practical teaching skills needed to design and instruct creative, effective and well-balanced group fitness training sessions/classes will be included. CSU
PETHE-294 Practical Experience in Personal Training and Fitness Instruction I
2 units SC
• 36 hours lecture/108 hours laboratory by arrangement per term
• Prerequisite: PETHE 281 (may be taken concurrently) and PETHE 291 (may be taken concurrently) or equivalents

This is an internship course that will expose students to the practical application and responsibilities of personal training through the observation and assistance of a fitness professional. Students will observe and assist with assessments on clients for fitness programs, and in the preparation and execution of fitness programs. Also included will be the observation of the adaptation/adjustment of fitness program specifics to meet the changing needs of the clients fitness level and risk factor management and development of long and short term fitness goals. CSU

PETHE-295 Practical Experience in Personal Training and Fitness Instruction II
2 units SC
• 36 hours lecture/108 hours laboratory by arrangement per term
• Prerequisite: PETHE 281 (may be taken concurrently) and PETHE 291 (may be taken concurrently) or equivalents

This is an internship course that will expose students to the practical application and responsibilities of personal training. Students will perform assessments on individuals for fitness programs, prepare and execute fitness programs, adapt and adjust fitness program specifics to meet the changing needs of the client’s fitness level and risk factor management, as well as assist in the development of long and short term fitness goals. CSU

PETHE-298 Independent Study
.5-3 units SC
• May be repeated three times
• Variable hours
• Prerequisite: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered

An opportunity for advanced students to study special interests under the direction of the faculty. CSU

PETHE-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• 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

Physical Sciences and Engineering Division
Physical Sciences Building

Possible career opportunities
Physical science focuses on concepts, processes and the interrelationship of physical phenomena as studied in any combination of the physical science disciplines, such as astronomy, earth science and physics. There are several career options in academics - research and teaching, as well as applied science and industry. Many of the career options require advanced and specialized training in one or a combination of the sub-disciplines of physical science.

PHYSC-112 Fundamentals of Physical Science
3 units SC
• 54 hours lecture per term
• Prerequisite: MATH 110 (may be taken concurrently) or equivalent
• Recommended: Eligibility for ENGL 122 or equivalent

An overview of the physical sciences of astronomy, physics, chemistry and earth science. The principles developed will be used to explain our present day knowledge of the universe and our physical environment. The principles developed will be used to explain our present day knowledge of the universe and our physical environment. CSU, UC (credit limits may apply to UC - see counselor)

PHYSC-150 Topics in Physical Science
.3-4 units SC
• May be repeated three times
• Variable hours

A supplemental course in physical science to provide a study of current concepts and problems in physical science. Specific topics will be announced in the schedule of classes. CSU
**PHYSC-298 Independent Study**

.5-3 units SC
- May be repeated three times
- Variable hours
- Note: Submission of acceptable educational contract to department and instruction office; topics must extend study beyond courses offered.

An opportunity for advanced students to study special interests under the direction of faculty. CSU

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**PHYSICS – PHYS**

Physical Sciences and Engineering Division
Physical Sciences Building

**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.

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**PHYS-110 Elementary Physics**

3 units LR
- 54 hours lecture per term
- Prerequisite: MATH 110 and 114 or equivalents
- Recommended: Concurrent enrollment in PHYS 111 and eligibility for ENGL 122 or equivalents

A study of forces, motion, heat, electricity and magnetism, optics and matter, with discussions, experimental illustration, and problem solving. This course emphasizes topics in classical physics. Students specifically interested in focusing on modern physics should take PHYS 113. CSU, UC (credit limits may apply to UC - see counselor)

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**PHYS-111 Physics Laboratory**

2 units LR
- 18 hours lecture/36 hours laboratory per week
- Prerequisite: PHYS 110 or equivalent (may be taken concurrently)
- Recommended: Eligibility for ENGL 122 or equivalent

The laboratory experience will include measurement and analysis of mechanical, thermal, electrical and optical phenomena. CSU, UC (credit limits may apply to UC - see counselor)

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**PHYS-113 Elementary Modern Physics: From Atoms to the Big Bang**

3 units SC
- 54 hours lecture per term
- Prerequisite: MATH 110 and 114 or equivalents

Introduction to the ideas of modern physics, including 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

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**PHYS-120 General College Physics I**

4 units LR
- 90 hours lecture/36 hours laboratory per term
- Prerequisite: MATH 121 or equivalent
- Recommended: Eligibility for ENGL 122 or equivalent

First term college physics for life science majors and others. A lecture and laboratory study of mechanics, heat and sound. CSU, UC (credit limits may apply to UC - see counselor)

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**PHYS-121 General College Physics II**

4 units LR
- 90 hours lecture/36 hours laboratory per term
- Prerequisite: PHYS 120 or equivalent

Second term college physics for life science majors and others. A lecture and laboratory study of electricity, magnetism, light and modern physics. CSU, UC (credit limits may apply to UC - see counselor)

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**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

This course adds calculus to the mathematical techniques used in PHYS 120 (general physics). This course is required of architecture and biological science majors transferring to UC Berkeley and may be a requirement at other UC campuses. 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
This course adds calculus to the mathematical techniques used in PHYS 121 (general physics). This course is required of architecture and biological science majors transferring to UC Berkeley and may be a requirement at other UC campuses. CSU, UC (credit limits may apply to UC - see counselor)

PHYS-129 Introductory Physics for Engineers
4 units LR
• 90 hours lecture/36 hours laboratory per term
• Co-requisite: MATH 192 or equivalent (may be taken previously)
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: This course or its equivalent is recommended for PHYS 130
Designed for engineering, physics and chemistry majors, this course is 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 also be presented. The student will be introduced to basic vocabulary and techniques of studying physics. Portions of this course may be taught online, for example: problem solving or discussion. 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
• 90 hours lecture/36 hours laboratory per term
• Co-requisite: MATH 193 (may be taken previously) or equivalent
• Recommended: PHYS 129 or equivalent; 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
Designed for engineering and physical science majors (such as physics, chemistry, and geology), this course is 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. CSU, UC (credit limits may apply to UC - see counselor)

PHYS-150 Topics in Physics
.3-4 units SC
• May be repeated three times
• 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
• 90 hours lecture/36 hours laboratory per term
• Prerequisite: PHYS 130 or equivalent; MATH 292 (may be taken concurrently) or equivalent
• Recommended: Eligibility for ENGL 122 or equivalent
Designed for engineering and physical science majors (such as physics, chemistry, and geology), this course is a continuation of PHYS 130. It is a lecture and laboratory study of thermodynamics, electricity, and magnetism. Topics included are temperature, heat and the first and second laws of thermodynamics, kinetic theory of gases, electric field and electric potential of static charges, magnetic field of moving charges, current, voltage, resistance, capacitance, induced electric fields, Maxwell's equations and plane electromagnetic waves. 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
• 90 hours lecture/36 hours laboratory per term
• Prerequisite: PHYS 230 and MATH 294 or equivalents (may be taken concurrently)
• Recommended: Eligibility for ENGL 122 or equivalent
Designed for engineering, physics and chemistry majors, this course is a continuation of PHYS 130 and 230. It is a lecture and laboratory study of optics and modern physics. Topics included are light as an electromagnetic wave, geometric and wave optics, special relativity, quantum physics, atomic and molecular physics, condensed matter physics, and nuclear physics. CSU, UC (credit limits may apply to UC - see counselor)

PHYS-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• 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

Physical Sciences and Engineering Division
Physical Sciences Building

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

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in science degree - Plumbing
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 requirements with a “C” grade or higher and complete all graduation 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 other graduation 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 G.E.).

<table>
<thead>
<tr>
<th>major requirements</th>
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<tbody>
<tr>
<td>PLUMB 110 OSHA-CPR</td>
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<tr>
<td>PLUMB 111 Trade Mathematics</td>
<td>1.5-2.5</td>
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<tr>
<td>PLUMB 112 Water Supply Systems</td>
<td>1.5-2.5</td>
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<tr>
<td>PLUMB 113 Sewage Disposal</td>
<td>1.5-2.5</td>
</tr>
<tr>
<td>PLUMB 114 Plumbing System Service and Repair</td>
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</tr>
<tr>
<td>PLUMB 115 Construction Management in Plumbing</td>
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</tr>
<tr>
<td>PLUMB 116 Medical Gas Systems</td>
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<tr>
<td>PLUMB 117 Related Science in the Piping Trades</td>
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<tr>
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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 requirements with a “C” grade or higher and complete all graduation 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 other graduation 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 G.E.).

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</tbody>
</table>

**total minimum required units** 30
Certificate of achievement - Plumbing

required courses units

complete at least 28 units from:
PLUMB 112 Water Supply Systems............................ 1.5-2.5
PLUMB 114 Plumbing System Service and Repair .... 1.5-2.5
PLUMB 115 Construction Management in Plumbing .. 1.5-2.5
PLUMB 116 Medical Gas Systems ......................... 1.5-2.5
PLUMB 117 Related Science in the Piping Trades ...... 1.5-2.5
PLUMB 118 Beginning Drawing and Plan Reading for the Piping Trades ......................... 1.5-2.5
PLUMB 119 Advanced Drawing in the Piping Trades .. 1.5-2.5
PLUMB 120 Plumbing Tool Workshop I ..................... 1.5-2.5
PLUMB 121 Plumbing Tool Workshop II .................... 1.5-2.5
PLUMB 122 Plumbing Code I .................................. 1.5-2.5
PLUMB 123 Plumbing Code II ................................ 1.5-2.5
PLUMB 124 Welding for Plumbers ......................... 1.5-2.5
PLUMB 125 Electricity for Plumbing ....................... 1.5-2.5
PLUMB 126 Gas Installation in Plumbing ................. 1.5-2.5
PLUMB 127 Backflow Prevention ......................... 1.5-2.5
PLUMB 128 Plumbing Fixtures ............................. 1.5-2.5
PLUMB 129 Certification Preparation ...................... 1.5-2.5

total minimum required units 28

Certificate of accomplishment - Plumbing

required courses units

complete at least 10 units from:
PLUMB 110 OSHA-CPR ............................................. 1.5-2.5
PLUMB 111 Trade Mathematics ............................ 1.5-2.5
PLUMB 112 Water Supply Systems ......................... 1.5-2.5
PLUMB 113 Sewage Disposal ............................... 1.5-2.5
PLUMB 114 Plumbing System Service and Repair .... 1.5-2.5
PLUMB 115 Construction Management in Plumbing .. 1.5-2.5
PLUMB 116 Medical Gas Systems ......................... 1.5-2.5

PLUMB-110 OSHA-CPR
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 110.
The regulations governed by OSHA 30, providing and recognizing safe work practices. Certification in Cardio-Pulmonary Resuscitation and First Aid. CSU

The principles and methods of water distribution and treatment. CSU

PLUMB-112 Water Supply Systems
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the union local responsible for the section.
• Formerly PLUMB 151
The principles and methods of water distribution and treatment. CSU

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.
• Formerly PLUMB 152
The principles and methods of sewage disposal for residential and commercial buildings. CSU

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.
• Formerly PLUMB 153
The planning and troubleshooting of plumbing systems and repairs. CSU
PLUMB-115 Construction Management 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.
- Formerly PLUMB 154
An introduction to the administrative procedures, plans and specifications, scheduling, and other forms of communication in the construction field. CSU

PLUMB-116 Medical Gas 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.
- Formerly PLUMB 155
The requirements and standards of medical gas and vacuum system installation. CSU

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.
The scientific and mechanical principles that are basic to the work of the piping industry. CSU

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.
The interpretation of drawings and sketches associated with piping installation. CSU

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.
Interpret, coordinate and make drawings and sketches associated with piping installation. CSU

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.
- Formerly PLUMB 250
The practical and theoretical aspects of plumbing tool processes. Students will learn the safe and proper use of the commonly used trade tools. CSU

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.
- Formerly PLUMB 251
The practical and theoretical aspects of plumbing tool processes. Students will learn the proper use and safety of advanced trade tools. CSU

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.
- Formerly PLUMB 252
An introduction to the plumbing ordinances, articles 100-900, which provide minimum requirements and standards for public safety. CSU
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.
- Formerly PLUMB 253
An introduction to the plumbing ordinances, articles 901-1622, which provide minimum requirements and standards for public safety. CSU

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.
- Formerly PLUMB 254
The techniques and methods of the welding process for plumbers. CSU

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.
- Formerly PLUMB 270
The specialized knowledge and techniques required to make electrical systems operate and function effectively. CSU

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.
Principles and installation methods of gas piping systems. CSU

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.
Instruction on the approved methods and appropriate devices by which backflow and cross-connection can be eliminated. CSU

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.
The modern techniques and practices of plumbing fixtures and appliances. CSU

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.
Preparation and review of information required for obtaining state plumbing certification. CSU

PLUMB-150 Topics in Plumbing
.3-4 units SC
- May be repeated three times
- 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. CSU

PLUMB-298 Independent Study
.5-3 units SC
- May be repeated three times
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond current courses offerings.
An opportunity for advanced students to study special interests under the direction of the faculty. CSU
PLUMB-299 Student Instructional Assistant

.5-3 units SC
- May be repeated three times
- 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

POLITICAL SCIENCE – POLSC

Social Sciences Division
Faculty Offices

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.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in arts degree
Political science

Associate in arts degree - Political science
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. Successful completion of the major will prepare students for transfer to a political science major, or other related fields at the university level.

The DVC Political Science 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 G.E.). Option 1 (DVC General Education) is not generally advised.

To earn an associate of arts degree with a major in political science, 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 for the major, and complete all graduation requirements as listed in the catalog. Certain courses may satisfy both major and other graduation requirements; however, the units are only counted once. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

**major requirements**

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>POLSC 120</td>
<td>Introduction to Politics</td>
<td>3</td>
</tr>
<tr>
<td>POLSC 121</td>
<td>Introduction to United States Government</td>
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**complete 9 units from:**

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<tr>
<td>POLSC 220</td>
<td>Comparative Politics</td>
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<td>POLSC 240</td>
<td>Political Theory</td>
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<tr>
<td>POLSC 250</td>
<td>International Relations</td>
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<td>ANTHR 130</td>
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<tr>
<td>ECON 220</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
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<td>ECON 221</td>
<td>Principles of Microeconomics</td>
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</tr>
<tr>
<td>HIST 120</td>
<td>History of the United States Before 1877</td>
<td>3</td>
</tr>
<tr>
<td>HIST 121</td>
<td>History of the United States After 1877</td>
<td>3</td>
</tr>
<tr>
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<td>History of the United States: A Mexican-American Perspective</td>
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<td>HIST 127</td>
<td>African American Perspective History of US to 1865</td>
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</tr>
<tr>
<td>HIST 128</td>
<td>African American Perspective History of US after 1865</td>
<td>3</td>
</tr>
<tr>
<td>HIST 129</td>
<td>History of Asian and Pacific Islanders in the United States</td>
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</tr>
<tr>
<td>HIST 140</td>
<td>History of Western Civilization to the Renaissance</td>
<td>3</td>
</tr>
<tr>
<td>HIST 141</td>
<td>History of Western Civilization Since the Renaissance</td>
<td>3</td>
</tr>
<tr>
<td>HIST 150</td>
<td>History of East Asia (to 1600)</td>
<td>3</td>
</tr>
<tr>
<td>HIST 170</td>
<td>History of Women in the United States (Pre-Colonial-1877)</td>
<td>3</td>
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<tr>
<td>MATH 142</td>
<td>Elementary Statistics with Probability</td>
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<tr>
<td>SOCSC 123</td>
<td>American Popular Culture</td>
<td>3</td>
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<tr>
<td>SOCIO 121</td>
<td>Introduction to Social Problems</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO 122</td>
<td>Critical Thinking About Social and Cultural Issues</td>
<td>3</td>
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</table>

*Other courses with the prefix SOCIO, HUMAN, PHILO, GEOG may be submitted for consideration and evaluation in their suitability towards the political science major.

**total minimum required units** 18
POLSC-120 Introduction to Politics
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
Introduction to concepts of politics and the state and relationship of the state and individual, as applied to the American political system. Comparison of the American and selected other political systems. CSU UC

POLSC-121 Introduction to United States Government
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
The course is a survey of the American political framework and process. The course covers the Constitutional structure 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. CSU UC

POLSC-151 California Politics
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
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
- May be repeated three times
- 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
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
A comparative analysis of the political systems of selected foreign states. An investigation of the origins and nature of politics, philosophies, and cultures and their expression in political institutions and processes. CSU UC

POLSC-240 Political Theory
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
A survey of selected political theorists and concepts and/or issues from Plato to the present. Includes analysis of theoretical approaches used to explain, instruct, and justify the distribution of political power in societies. CSU UC

POLSC-250 International Relations
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
Introduction to various aspects of international relations and politics. Consideration of such topics as the 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. CSU

POLSC-298 Independent Study
.5-3 units SC
- May be repeated three times
- Variable hours
- Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond current courses offerings.
An opportunity for advanced students to study special interests under the direction of the faculty. CSU

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

Social Sciences Division
Faculty Offices

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.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in arts degree for transfer
Psychology

Associate in arts in psychology for transfer
The associate in arts in psychology for transfer major at Diablo Valley College (DVC) provides students with an introduction to psychology as the scientific study of thought, feeling, and behavior, and a helping profession dedicated to solving human problems. The associate degree curriculum meets lower division requirements for transfer to the CSU system baccalaureate degree programs in psychology and fulfills lower division general education requirements for transfer to the CSU system.

Psychology includes a variety of sub-fields, including clinical, counseling, developmental, forensic, social, cognitive, biological, and personality psychology. Most career options require more than two years of college study. The associate in arts in psychology for transfer degree provides preparation for transfer to psychology programs at baccalaureate-granting institutions. Transferring, completion of a bachelor’s degree, and graduate studies in psychology can lead to careers as psychotherapists, college professors, scientific researchers, administrators, and business consultants.

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. To achieve the associate in arts in psychology for transfer degree from DVC students must (1) complete the psychology major requirements, (2) fulfill the requirements of either the CSU general education or the IGETC general education pattern, (3) complete 60 college transfer level units, and (4) obtain a minimum grade point average of 2.0.

Students must complete each course used to meet a major requirement with a “C” grade or higher. The major requires 18 units. Of these units, a minimum of 12 units must be earned in psychology courses, at least 6 of which must be taken at Diablo Valley College. Most courses in the psychology 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>PSYCH 101 Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 215 Introduction to Research Methods in Psychology</td>
<td>3</td>
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</table>

at least 3 units from:

<table>
<thead>
<tr>
<th>course</th>
<th>title</th>
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<tbody>
<tr>
<td>BUS 240</td>
<td>Business Statistics</td>
</tr>
<tr>
<td>MATH 142</td>
<td>Elementary Statistics with Probability</td>
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complete at least 3 units from:

<table>
<thead>
<tr>
<th>course</th>
<th>title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSC 102</td>
<td>Fundamentals of Biological Science with Laboratory</td>
</tr>
<tr>
<td>BIOSC 117</td>
<td>Human Biology with Laboratory</td>
</tr>
<tr>
<td>PSYCH 130</td>
<td>Emotions, Learning and the Brain</td>
</tr>
</tbody>
</table>

complete at least 3 units from:

<table>
<thead>
<tr>
<th>course</th>
<th>title</th>
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</thead>
<tbody>
<tr>
<td>PSYCH 145</td>
<td>Critical Thinking in Psychology</td>
</tr>
<tr>
<td>PSYCH 200</td>
<td>Life Span Development</td>
</tr>
<tr>
<td>PSYCH 225</td>
<td>Social Psychology</td>
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complete at least 3 units from:

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<tr>
<th>course</th>
<th>title</th>
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<tbody>
<tr>
<td>PSYCH 122</td>
<td>Psychology in Modern Life</td>
</tr>
<tr>
<td>PSYCH 140</td>
<td>Psychology of African Americans in a Multicultural Society</td>
</tr>
<tr>
<td>PSYCH 141</td>
<td>Psychology of Latinos/Chicanos in the U.S.</td>
</tr>
<tr>
<td>PSYCH 160</td>
<td>Psychology of Women</td>
</tr>
<tr>
<td>PSYCH 190</td>
<td>Psychology of Adolescence</td>
</tr>
<tr>
<td>PSYCH 220</td>
<td>Psychology of Personality: Personal, Social, Cultural Differences</td>
</tr>
<tr>
<td>PSYCH 230</td>
<td>Abnormal Psychology</td>
</tr>
<tr>
<td>PSYCH 240</td>
<td>Transpersonal Psychology</td>
</tr>
</tbody>
</table>

total minimum units 18
PSYCH-101 Introduction to Psychology  
3 units SC  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL 122 or equivalent  
- Formerly PSYCH 210  
PSYCH 101 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, and social psychology. CSU, UC

PSYCH-115 Resiliency and Student Success  
1 unit P/NP  
- 18 hours lecture per term  
- Recommended: Eligibility for ENGL 116/118 or equivalent  
A course designed to help students identify automatic thoughts and to practice new critical thinking skills to become more resilient in dealing with problems and more successful in educational endeavors. Students will have the opportunity to gain new insight into their own thought processes while learning constructive ways to deal with anxiety and adversity. Students will also learn ways to improve relationships through more effective means of communication. CSU

PSYCH-122 Psychology in Modern Life  
3 units SC  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL 122 or equivalent  
This course examines the psychological and physiological, and cultural factors involved in personality development, interpersonal relationships, and the relevance of psychology to social processes. CSU, UC

PSYCH-130 Emotions, Learning and the Brain  
3 units SC  
- 54 hours lecture per term  
- Recommended: Eligibility for ENGL 122 or equivalent  
This course examines the psychology of emotions, learning, and social behavior. The relationship between brain and environment is used to provide an understanding of motor, visual, and conceptual development; processes of emotion and learning; and learning disabilities of children and adults. Research and theory will be examined for practical application. CSU, UC

PSYCH-140 Psychology of African Americans in a Multicultural Society  
3 units SC  
- 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  
- 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

PSYCH-145 Critical Thinking in Psychology  
3 units SC  
- 54 hours lecture per term  
- Prerequisite: ENGL 122 or equivalent  
This course helps students develop 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. CSU, UC
PSYCH-155  Topics in Psychology  
3-4 units SC  
• May be repeated three times  
• 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  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL 122 or equivalent  
Examination of various factors in the development of gender identity, including personality, social processes, biology, and culture. CSU, UC

PSYCH-190  Psychology of Adolescence  
3 units SC  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL 122 or equivalent  
A survey of adolescent development and the problems of adolescents highlighting topic areas which would include adolescent values and attitudes: adolescent self-concept, self-esteem and identity; adolescent sex-role socialization; parent and family influence on adolescent socialization; peer group influence on adolescent development. CSU, UC

PSYCH-200  Life Span Development  
3 units LR  
• 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 infancy to old age. A major goal of this course is to introduce students to the psychological characteristics, personal/social challenges and developmental opportunities for each of life’s age periods. A second goal of this course is to expose students to classic and contemporary theory and research in the area of life span development. Emphasis will be placed on life cycle theories, the role of heredity and environment, and the role of individual differences. Life stages will be viewed in terms of a variety of theoretical frameworks. CSU, UC

PSYCH-215  Introduction to Research Methods in Psychology  
3 units SC  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL 122 or equivalent  
This course is an introduction to the methods psychologists use to understand human behavior. Includes the philosophy of science and the examination of inductive and deductive reasoning methods and their relationship to theory. Topics include: experimental and non-experimental research designs; group and single-subject designs; APA-style report writing; research ethics. Activities include: performing a literature review; designing an original research study; collection and analysis of psychological data. CSU, UC

PSYCH-220  Psychology of Personality: Personal, Social, Cultural Differences  
3 units SC  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL 122 or equivalent  
This course probes into the dynamics of personality development, adjustment, and growth. Particular emphasis is placed on contrasting the ideas and methodologies of the different schools of psychology, including Western and non-Western views. CSU, UC

PSYCH-225  Social Psychology  
3 units SC  
• 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, 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. CSU, UC

PSYCH-230  Abnormal Psychology  
3 units SC  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL 122 or equivalent  
This course is a study of the symptoms, causes, treatments, and prevention of psychological disorders. Multiple theoretical perspectives are used to examine the biological, psychological, and social factors creating abnormality. The course examines the Diagnostic and Statistical Manual of Mental Disorders (DSM) classification system, cultural and gender differences in abnormality, current issues, and case illustrations of behavioral disorders. CSU, UC
PSYCH-240 Transpersonal Psychology  
3 units SC  
- 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-298 Independent Study  
.5-3 units SC  
- May be repeated three times  
- Variable hours  
- Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond current courses offerings.  
An opportunity for advanced students to study topics of special interest under direction of the faculty. CSU

PSYCH-299 Student Instructional Assistant  
.5-3 units SC  
- May be repeated three times  
- 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

REAL ESTATE – RE
  See Business-Real Estate – RE

RESPIRATORY THERAPY – RT

Associate in science degree  
Respiratory therapy

Associate in science degree - respiratory therapy  
The respiratory therapy (RT) program is offered as a conjoint program with Ohlone College in Fremont. Students complete general education courses at DVC, laboratory and clinical courses at Ohlone College, and have supervised clinical practice at local hospitals. Certain RT classroom courses are offered at the DVC San Ramon Campus; students should refer to the college schedule.

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 CAAHEP (Commission on Accreditation of Allied Health Education 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 a certificate of achievement and associate in science degree from Ohlone College. Students must maintain a 2.0 grade point average or higher. For applications and information, contact the Career and Employment Services Office located in the Student Services Building at the Pleasant Hill Campus.

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<th>required program prerequisites or equivalents</th>
<th>units</th>
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<tbody>
<tr>
<td>BIOSC 139 Human Anatomy</td>
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<tr>
<td>CHEM 108 Introductory Chemistry</td>
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<tr>
<td>ENGL 122 Freshman English: Composition and</td>
<td></td>
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<tr>
<td>Reading I</td>
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<tr>
<td>MATH 120 Intermediate Algebra</td>
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<table>
<thead>
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<th>required supporting courses</th>
<th>units</th>
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<tbody>
<tr>
<td>BIOSC 140 Human Physiology</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 110 Elementary Physics</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 122 Psychology in Modern Life</td>
<td>3</td>
</tr>
<tr>
<td><strong>plus at least 4 units from:</strong></td>
<td></td>
</tr>
<tr>
<td>BIOSC 119 Fundamentals of Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC 146 Principles of Microbiology</td>
<td>5</td>
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**Respiratory Therapy Major Requirements**

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<tbody>
<tr>
<td>RT 101*</td>
<td>Principles of Respiratory Therapy I</td>
<td>3</td>
</tr>
<tr>
<td>RT 101L*</td>
<td>Beginning Clinical Practice</td>
<td>1</td>
</tr>
<tr>
<td>RT 102*</td>
<td>Beginning Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>RT 103*</td>
<td>Basic Patient Care</td>
<td>0.5</td>
</tr>
<tr>
<td>RT 104A*</td>
<td>Principles of Respiratory Therapy II</td>
<td>3</td>
</tr>
<tr>
<td>RT 104B*</td>
<td>Principles of Respiratory Therapy III</td>
<td>3</td>
</tr>
<tr>
<td>RT 105A*</td>
<td>Intermediate Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>RT 105B*</td>
<td>Intermediate Laboratory II</td>
<td>0.5</td>
</tr>
</tbody>
</table>

*These are Ohlone College courses.

**Total Minimum Required Units**: 44.5

**Note**: Prerequisites must be completed prior to entering RT 101. Students who document completion of one term survey A and P course prior to fall 2006 will be exempt from completion of DVC BIOSC 139 and BIOSC 140. Students who already possess a DVC associate degree are considered to have met the AS in RT general education requirement.

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**Russian - Russ**

Students with prior foreign language instruction should check with a language teacher regarding their proper placement in foreign language courses. The following system is generally used to determine the appropriate term of college work based on high school language: two years equal one college term; three years equal two college terms; four years equal three college terms.

**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.

**Program Level Student Learning Outcomes**

Program level student learning outcomes have been developed for each of the three Options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at: [www.dvc.edu/slo](http://www.dvc.edu/slo).
Certificate of achievement
Russian

Certificate of achievement - Russian
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 which must be completed with a “C” grade or higher.

*complete at least 15 units from the following list of courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>RUSS 120</td>
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<td>First Term Russian</td>
</tr>
<tr>
<td>RUSS 121</td>
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<td>Second Term Russian</td>
</tr>
<tr>
<td>RUSS 220</td>
<td>5</td>
<td>Third Term Russian</td>
</tr>
<tr>
<td>RUSS 221</td>
<td>5</td>
<td>Fourth Term Russian</td>
</tr>
</tbody>
</table>

**total minimum required units 15**

**RUSS-120 First Term Russian**
5 units SC
- 90 hours lecture/18 hours laboratory by arrangement per term
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 world. Declensions in the prepositional and accusative cases and the present tense are stressed. CSU, UC

**RUSS-121 Second Term Russian**
5 units SC
- 90 hours lecture/18 hours laboratory by arrangement per term
- Recommended: RUSS 120 or equivalent
A second term course providing further development of verb patterns as well as other grammar forms. There is expansion of vocabulary and emphasis on writing and sentence structure. Declensions in the singular genitive and dative cases and the past and future tenses are stressed. CSU, UC

**RUSS-150 Topics in Russian**
.3-4 units SC
- May be repeated three times
- 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
- 90 hours lecture/18 hours laboratory by arrangement per term
- Recommended: RUSS 121 or equivalent
This is a third term course which delves more extensively into the declensions of nouns and the coordination of various case endings including the accusative and genitive plurals and the instrumental cases. Reflexive, imperfective and perfective verbs are covered and reading and writing continues at an increasing level of complexity. There is continued study and interpretation of Russian and Soviet culture through literature and selected articles. CSU, UC

**RUSS-221 Fourth Term Russian**
5 units SC
- 90 hours lecture/18 hours laboratory by arrangement per term
- Recommended: RUSS 220 or equivalent
This is a fourth term course which refines understanding, speaking, reading, and writing Russian and a continuation of the study of Russian literature and history. The course expands on the study and interpretation of Russian and Soviet culture, with emphasis on current events. Verbs of asking, declensions of last names and additional uses of the instrumental case will be covered. CSU, UC

**RUSS-299 Student Instructional Assistant**
.5-3 units SC
- May be repeated three times
- 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 LANGUAGE – SIGN

Students with prior sign language instruction should check with a sign language teacher regarding proper placement in sign language courses. The following system is generally used to determine the appropriate term of college work based on high school language: one year equals one college term; two years equal two college terms; three years equal three college terms.

 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
• May be repeated once
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent

Designed for students interested in learning beginning American Sign Language, a language developed in a visual/gestural mode, and used by the general American deaf population. Also designed to increase the student's awareness of the deaf culture. The course serves as an introduction to American Sign Language introducing expressive and receptive sign, the manual alphabet, facial expression, and body gestures. Emphasis is on conversational skills in functional situations, knowledge of deaf culture and the deaf community. CSU, UC

SIGN-281 American Sign Language (ASL) II
3 units SC
• 54 hours lecture per term
• Prerequisite: SIGN 280 or equivalent

Course further develops skills including expressive and receptive sign, the manual alphabet, facial expression, and body gestures. Emphasis on conversational skills in functional situations, continued vocabulary and grammatical expression development, and knowledge of deaf culture and community. CSU, UC

SIGN-282 American Sign Language (ASL) III
3 units SC
• 54 hours lecture per term
• Prerequisite: SIGN 281 or equivalent

Using ASL I and II as a base, this course expands vocabulary and grammatical skills, both receptive and expressive. It will further develop conversational skills in functional situations, and lead to an appreciation of the deaf culture and history. CSU, UC

SIGN-283 American Sign Language (ASL) IV
3 units SC
• 54 hours lecture per term
• Prerequisite: SIGN 282 or equivalent

Using ASL I, II, and III as a base, this course expands vocabulary and grammatical skills, both receptive and expressive. It will further develop conversational skills in functional settings, and lead to an appreciation of the deaf culture and history. CSU, UC

SOCIAL SCIENCE – SOCSC

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.

SOCSC-110 The American Social Experience
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent

A multicultural and interdisciplinary examination of the various interpretations developed within the social sciences of the roles of individuals and their experiences in American society. 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 Latinos, African Americans, Native Americans, and women in shaping the evolution of the concept of American individualism. It 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
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
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, with emphasis on the U.S. Constitution and state and local government in California. 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-115  Citizenship and Status: Asian Americans and Pacific Islanders in the U.S.
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
Immigration and citizenship are the basis of American history and political development. Policies and concepts related to these have evolved significantly. This course will examine the Constitution, laws, Supreme Court decisions and movements that have impacted these changes. Within this context the experience of Asian and Pacific Islanders as immigrants, alien residents, refugees, nationals and citizens at the federal, state and local levels will be examined. Special consideration will be directed to race, class, gender and identity issues, and political status of Chinese, Japanese, Indian, Southeast Asians, Hawaiian, and Samoans as separate ethnic groups. CSU, UC

SOCSC-120  Women and Social Change in the United States: 1890-Present
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
A history of American women from the Progressive Era (1890) to present, emphasizing both the commonalities of women's experience based on their gender, and the 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 Mexican/Latina women. The course will focus on political, economic and cultural change in the U.S., how women have fostered it and been affected by it, and on the changing roles of women in the family and continuity of the American experience. In addition analysis of 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 will be covered. CSU, UC

SOCSC-123  American Popular Culture
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
A multicultural and interdisciplinary examination of popular culture's changing nature in American society. It examines the social institutions and values that shape American popular culture, and national and California state governments through the lens of popular culture. The course considers the significant contributions of Latino, 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 (credit limits may apply to UC - see counselor)

SOCSC-155  Topics in Social Science
.3-.4 units  SC
• May be repeated three times
• 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-162  Italian Life and Culture
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
An inquiry into Italian life and culture, from its historical origins through contemporary perspectives. Includes an introduction to Italian society and civilization through readings, lectures, seminar presentations/discussions, Italian guest speakers and field trips. Topics include the government, political parties, regional and ethnic identity, the Mafia, common market, media, sports, gastronomy, art, literature, music, language, Church-State relations, sexuality, the family and urban life. Takes a social, historical and cultural approach to the study of contemporary Italian society. CSU

SOCSC-163  French Life and Culture
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
A survey of French life and culture in historical and contemporary perspective. Specifically, the course will cover the history, politics, economics, culture, and society of modern-day France. This course is taught on-site within the study abroad program. CSU
SOCSC-220 Women in United States Society
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
A multicultural and interdisciplinary examination of women's changing roles in U.S. society. Examines the social institutions and values which shape those roles, including federal, state, and local governments, as well as the U.S. and California Constitutions. The course considers the significant events and developments shaping the social, political, and economic status of women. It will also consider the importance of race/ethnicity, class, region, and sexual orientation in differentiating the experiences and opportunities for women. CSU, UC

SOCSC-298 Independent Study
0.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.
An opportunity for advanced students to study special interests under the direction of the faculty. CSU

SOCSC-299 Student Instructional Assistant
0.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.
Students work as instructional assistants, lab assistants and research assistants in this department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects, or help instructors by setting up laboratory or demonstration apparatus. Students may not assist in course sections in which they are currently enrolled. CSU

SOCIOLOGY – SOCIO
Social Sciences Division
Faculty Offices

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.

Program Level Student Learning Outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of the current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in arts degree for transfer
Sociology

Associate in arts in sociology for transfer
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. This program fulfills typical lower-division requirements at four-year institutions. Some variation in requirements may exist at a particular four-year college or university. Therefore, it is essential that the student intending on majoring in sociology refer to the catalog of the prospective transfer institution, consult with a program advisor and consult a counselor.
To receive the Diablo Valley College associate in arts degree in sociology for transfer, students must complete a minimum of 18 units of the required courses as outlined for the sociology major, fulfill the minimum units of the requirements of the CSU general education pattern or the IGETC general education pattern, complete 60 college transfer level units, and obtain a minimum grade point average of 2.0. Students must complete each course used to meet the sociology major requirement with a “C” grade or higher.

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. Courses in sociology may satisfy both major requirements and other graduation requirements; however, the units are only counted once.

**Major Requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>SOCIO 120</td>
<td>Introduction to Sociology</td>
<td>3</td>
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<tr>
<td>BUS 240</td>
<td>Business Statistics with Probability</td>
<td>3</td>
</tr>
<tr>
<td>MATH 142</td>
<td>Elementary Statistics with Probability</td>
<td>4</td>
</tr>
<tr>
<td>SOCIO 121</td>
<td>Introduction to Social Problems</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO 123</td>
<td>Introduction to Social Research</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 225</td>
<td>Social Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO 124</td>
<td>Gender, Culture and Society</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO 125</td>
<td>Introduction to Marriage and Family</td>
<td>3</td>
</tr>
<tr>
<td>SOCIO 135</td>
<td>Patterns of Ethnic Culture in America</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Minimum Required Units**: 18

**SOcio-121 Introduction to Social Problems**

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

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 taken from a range of possible items such as problems of aging, health care needs, 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
- 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 process will include an introduction to the principles of logic, the structure of language, the scientific method, and prevailing theoretical models in sociology. Specific writing skills will be developed through a series of increasingly complex analytical essays and through instruction in metaphor, analogy, comparing and contrasting, the nature of evidence, as well as essay structure and expression. The goal is for students to learn how to identify sociological viewpoints, to gather and analyze sociological information, to recognize sociological relationships and patterns, and to see 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
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent

A study of the various social research methods and a review of problems in assessing data relating to social life. Topics to be covered 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. CSU, UC
SOCIO-124  Gender, Culture and Society
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
A multidimensional examination of the socialization of sex roles in United States society and other cultures, including the mechanisms by which gender roles develop and the social consequences for society. The course examines the social and cultural processes and institutional arrangements that give meaning to being a woman and a man in gendered society. CSU, UC

SOCIO-125  Introduction to Marriage and Family
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
An examination of basic issues concerning marriage, family and kinship in African American, Euro American, Hispanic, Asian and Native American families. Emphasis on cross-cultural and cross-societal comparisons, kinship groups, the nature of human marriage, relationship of the family to other social institutions, 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
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
A multicultural look at social change in cities and in the suburbs which examines the experience of African Americans, Latinos, Asian Pacific Americans, Native Americans and Euro Americans, currently and in historical perspective. The course addresses challenges that face people in multicultural communities, neighborhoods and suburbs, and examines programs and strategies that are designed to meet these challenges in US cities and suburbs. CSU, UC

SOCIO-135  Patterns of Ethnic Culture in America
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: This course fulfills the American Cultures requirement at UC Berkeley
The sociological analysis of ethnic cultures in the United States. Topics include political, economic, religious, judicial, and familial organization of ethnic communities, the effects on the dominant society on these institutions and recent socio-political movements. CSU, UC

SOCIO-155  Topics in Sociology
.3-4 units  SC
• May be repeated three times
• 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
• May be repeated three times
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.
An opportunity for advanced students to study special interests under the direction of the faculty. CSU

SOCIO-299  Student Instructional Assistant
.5-3 units  SC
• May be repeated three times
• 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

Students with prior foreign language instruction should check with a language teacher regarding their proper placement in foreign language courses. The following system is generally used to determine the appropriate term of college work based on high school language: two years equal one college term; three years equal two college terms; four years equal three college terms.

Applied and Fine Arts Division
Michael Almaguer, Dean
Business and Foreign Language Building 204
925-685-1230, ext. 2312

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.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Certificate of achievement
Spanish

Certificate of achievement - Spanish
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 which must be completed with a “C” grade or higher.

List A

SPAN 110 Spanish for Business I .......................... 3
SPAN 111 Spanish for Business II .......................... 3
SPAN 120 First Term Spanish ........................................ 5
SPAN 121 Second Term Spanish .................................... 5
SPAN 220 Third Term Spanish ...................................... 5
SPAN 221 Fourth Term Spanish .................................... 5
SPAN 230 Fifth Term Spanish ....................................... 3
SPAN 231 Sixth Term Spanish ....................................... 3
SPAN 250 Contemporary Spanish and Latin-American Literature ........................................ 3

List B

SPAN 121 Second Term Spanish .................................... 5
SPAN 155 First Term Beginning Conversational
Spanish .......................................................... 3
SPAN 156 Second Term Beginning Conversational
Spanish .......................................................... 3
SPAN 157 Third Term Beginning Conversational
Spanish .......................................................... 3
SPAN 220 Third Term Spanish ....................................... 5
SPAN 221 Fourth Term Spanish ....................................... 5

Total minimum required units 13

SPAN-110  Spanish for Business I
3 units SC
• 54 hours lecture per term
Introductory course designed to provide basic effective business communication skills in the Spanish language. The focus will be on career-specific vocabulary, providing functional oral and written language samples, as well as communicative practice through a defined grammatical syllabus. The topic of cultural practices in various Spanish-speaking countries as related to business will be included. CSU

SPAN-111  Spanish for Business II
3 units SC
• 54 hours lecture per term
• Recommended: SPAN 110 or equivalent
This second term course continues to provide effective business communication skills in the Spanish language. The focus will be on specialized vocabulary that business professionals need to communicate with Hispanic members of the community in the course of their daily work. Personalized questions, grammar exercises, role-play, reality based activities, as well as translation and interpretation tasks will be covered in this course. CSU

SPAN-120  First Term Spanish
5 units SC
• 90 hours lecture/18 hours laboratory per term
This is a basic course in understanding, speaking, reading, and writing Spanish. It offers a balanced approach to language and culture. Basic communicative functions and structures are introduced, as well as basic exploration of the culture and countries of the Spanish-speaking world. CSU, UC
SPAN-121  Second Term Spanish  
5 units  SC  
- 90 hours lecture/18 hours laboratory per term  
- Recommended: SPAN 120 or equivalent  
This is a sequential course in Spanish, including the understanding, speaking, reading and writing of the language. A continuation of basic communicative structures and functions are introduced, as well as a continued examination of the culture of the Spanish-speaking world. Students will learn the preterit and imperfect tenses, compound tenses in the indicative mood, future and conditional tenses, as well as expanding their vocabulary. CSU, UC

SPAN-150  Topics in Spanish  
.3-4 units  SC  
- May be repeated three times  
- 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/18 hours laboratory per term  
- Note: This course does not satisfy the academic requirements of the SPAN 120-121 series.  
This is the first term of the beginning Spanish conversation series. It is a participatory class based on practical material with oral-aural practice. The present tense is emphasized, and covers basic vocabulary and cultural material. CSU

SPAN-156  Second Term Beginning Conversational Spanish  
3 units  SC  
- 54 hours lecture/18 hours laboratory per term  
- Recommended: SPAN 155 or equivalent  
- Note: This course does not satisfy the academic requirements of the SPAN 120-121 series.  
This is the second term of the beginning Spanish conversation series. It is a participatory class based on practical material with oral-aural practice. The preterit and imperfect tenses are introduced and contrasted. New vocabulary and cultural material is covered. CSU

SPAN-157  Third Term Beginning Conversational Spanish  
3 units  SC  
- 54 hours lecture/18 hours laboratory 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 cultural material are covered. CSU

SPAN-220  Third Term Spanish  
5 units  SC  
- 90 hours lecture/18 hours laboratory by arrangement per term  
- Recommended: SPAN 121 or equivalent  
This is a third term intermediate Spanish course which develops fluency in understanding, speaking, reading and writing Spanish. The use of the imperfect subjunctive is reviewed and expanded; the pluperfect subjunctive and the sequence of tenses are introduced as well as new vocabulary and idiomatic expressions are introduced. Selected readings about Latin American and Spanish culture and literature will be explored. This course is taught entirely in Spanish. CSU, UC

SPAN-221  Fourth Term Spanish  
5 units  SC  
- 90 hours lecture/18 hours laboratory by arrangement per term  
- Recommended: SPAN 220 or equivalent  
This is a fourth term intermediate Spanish course which develops functional fluency in understanding, speaking, reading and writing Spanish. The use of the imperfect subjunctive is reviewed and expanded; the pluperfect subjunctive and the sequence of tenses are introduced as well as new vocabulary and idiomatic expressions. Selected readings about Latin American and Spanish culture and literature will be explored. This course is conducted entirely in Spanish. CSU, UC

SPAN-230  Fifth Term Spanish  
3 units  SC  
- 54 hours lecture per term  
- Recommended: SPAN 221 or equivalent  
This is an advanced Spanish language course emphasizing reading, 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. CSU, UC
SPAN-231  Sixth Term Spanish
3 units  SC
• 54 hours lecture per term
• Recommended: SPAN 230 or equivalent
This is an advanced Spanish language course emphasizing more complex reading, 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. CSU, UC

SPAN-250  Contemporary Spanish and Latin-American Literature
3 units  SC
• 54 hours lecture per term
• Recommended: SPAN 230 or equivalent
Analysis of literary works from contemporary Spanish and Latin American writers, read in the original language. The class will be conducted entirely in Spanish. CSU, UC

SPAN-298  Independent Study
.5-3 units  SC
• May be repeated three times
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.
An opportunity for advanced students to study special interests under the direction of faculty. CSU

SPAN-299  Student Instructional Assistant
.5-3 units  SC
• May be repeated three times
• 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
SPECIAL EDUCATION – SPEDU
Counseling Division
Counseling

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.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in arts degree
Special education paraeducator/instructional assistant

Certificate of achievement
Special education paraeducator/instructional assistant

Associate in arts degree - Special education paraeducator/instructional assistant
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.
**SPECIAL EDUCATION**

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

**plus 2-4 units from:**
- COOP 170 Occupational Work Experience Education | 1-4
- COOP 180 Internship in Occupational Work
  Experience Education | 1-4

**plus at least 6 units from:**
- ECE 125 Principles and Practices of Early Childhood Education | 3
- ECE 126 Health, Safety, and Nutrition for the Young Child | 3
- ECE 128 Advanced Curriculum Development in ECE | 3
- ECE 263 The Special Needs Child: Speech, Language and Hearing Development | 1
- ECE 265 Working with Young Children with Special Needs | 2
- ECE 269 Introduction to Special Needs in Young Children | 3
- EDUC 120 Teaching as a Profession | 3
- EDUC 122 Introduction to Reading Development and Interventions for K-3 | 3
- MATH 124 Mathematics for Liberal Arts | 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 required units** | **23**

**required courses**

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<tr>
<td>SPEDU 103 Classroom Strategies for the Special Education Paraeducator</td>
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</table>

**plus 2-4 units from:**
- COOP 170 Occupational Work Experience Education | 1-4
- COOP 180 Internship in Occupational Work
  Experience Education | 1-4

**plus at least 6 units from:**
- ECE 125 Principles and Practices of Early Childhood Education | 3
- ECE 126 Health, Safety, and Nutrition for the Young Child | 3
- ECE 128 Advanced Curriculum Development in ECE | 3
- ECE 263 The Special Needs Child: Speech, Language and Hearing Development | 1
- ECE 265 Working with Young Children with Special Needs | 2
- ECE 269 Introduction to Special Needs in Young Children | 3
- EDUC 120 Teaching as a Profession | 3
- EDUC 122 Introduction to Reading Development and Interventions for K-3 | 3
- MATH 124 Mathematics for Liberal Arts | 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 required units** | **23**

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**Certificate of achievement - Special education paraeducator/instructional assistant**

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

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

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**SPEDU-101 Introduction to Disabilities and the Law**

3 units | SC

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

This course examines historical and cultural developments of disability issues, and compares international perspectives to understand the changing roles of people with disabilities. The legal and functional definitions of physical, communicative, sensory, psychological, neurological and developmental disabilities will be emphasized. Acquired versus congenital disabilities will be differentiated, and all forms of chronic/progressive illness will be explored. CSU

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**SPEDU-102 Historical Perspectives of Disabilities and the Law**

3 units | SC

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

This course will examine the legal rights of the disabled, beginning with historical roots of the disability movement in the United States. Essential understanding of the earliest to current legislation governing access to education in federal, state, and local legal mandates will be emphasized. CSU
SPEECH – SPCH

Applied and Fine Arts Division
Michael Almaguer, Dean
Business and Foreign Language Building 204
925-685-1230, ext. 2312

Possible career opportunities
The scope of employment opportunities for speech majors includes: marketing, public relations, sales training and management. Careers related to speech communication that may require an undergraduate degree and/or further training include: salesperson, broadcaster, lawyer, human resource recruiter, tour guide, political campaign worker, and public relations specialist.

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Associate in arts degree
Communication studies

Associate in arts degree for transfer
Communication studies

Certificate of achievement
Communication studies

Associate in arts degree - Communication studies
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.
The associate in arts in communication studies for transfer degree prepares students who wish to attend a four-year university or professional school. In addition, as effective verbal and nonverbal communication is a requirement for most jobs, the program prepares students for a wide variety of professions. Further, the program prepares students for careers in the fields of public relations, communication education, the performing arts, marketing, public relations, sales training and management. Additional careers in fields related to communication studies include salesperson, broadcaster, lawyer, tour guide, political campaign worker, teacher, customer service worker, public and international relations specialist, and negotiator/arbiter.

Selected courses in the program meet lower division requirements for the bachelor of arts degree at many California State University and University of California campuses. Consult with department faculty and a counselor at your prospective college for more information. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or Option 3 (CSU Breadth). Option 1 (DVC general education) is not generally advised.

To earn an associate in arts in communication studies for transfer degree, students must complete one core course supplemented by 11 restricted electives from which students select a minimum of nine 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 better in the coursework required for the major. Certain courses may satisfy both a major and a DVC general education requirement; however, the units are only counted once.

### Certificate of achievement - Communication studies

To earn a certificate of achievement in communication studies, students must complete three core courses supplemented by ten 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 at Diablo Valley College.

#### Required courses

- SPCH 120 Public Speaking ............................................. 3
- SPCH 121 Persuasion and Critical Thinking ................... 3
- SPCH 128 Interpersonal Communication ........................ 3

#### Plus at least 3 units from:

- SPCH 123 Argumentation and Debate ................................ 3
- SPCH 124 Voice and Diction ........................................... 3
- SPCH 130 Small Group Communication ............................. 3
- SPCH 140 Effective Listening........................................... 1
- SPCH 148 Performance of Literature .................................. 3
- SPCH 155 Topics in Speech ........................................... 0.3-4
- SPCH 160 Projects in Public Speaking .............................. 1
- SPCH 161 Projects in Debate ........................................... 1
- SPCH 162 Projects in Oral Interpretation ............................ 1
- SPCH 298 Independent Study ........................................... 0.5-3

#### Total minimum required units 12

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### SPCH-120 Public Speaking

3 units SC

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

Students learn to 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 learned include audience analysis, determining speech goals, organization, clarity, language, evidence, visual aids, and delivery. CSU, UC

### SPCH-121 Persuasion and Critical Thinking

3 units LR

- 54 hours lecture per term
- Prerequisite: ENGL 122 or equivalent

An introduction to the principles of reasoning and their application to the analysis and evaluation of political and marketplace communication. Examines 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. This course emphasizes the integration of critical thinking principles with techniques of effective written and spoken argument. CSU, UC (credit limits may apply to UC - see counselor)
SPCH-123  Argumentation and Debate
3 units  LR
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
The study and 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. CSU, UC (credit limits may apply to UC - see counselor)

SPCH-124  Voice and Diction
3 units  SC
- 54 hours lecture per term
This course focuses on 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 in oral communication, as well as communication, speech, and drama majors. CSU, UC

SPCH-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. Content will stress psychological, social, cultural, and linguistic factors which affect human interaction. Attention will be given to perception, listening, conflict resolution, relationship development and stages, and verbal and nonverbal communication. CSU, UC

SPCH-130  Small Group Communication
3 units  SC
- 54 hours lecture per term
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. CSU, UC

SPCH-140  Effective Listening
1 unit  P/NP
- 18 hours lecture per term
Students learn to listen effectively and respond to messages. Listening for content and feeling are emphasized along with how to respond effectively. Learning activities include listening activities, role-play, and class discussion. CSU

SPCH-148  Performance of Literature
3 units  SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
- Formerly SPCH 150
This course develops, through analysis and repeated oral performance, an appreciation for the skill of reading literature (poetry, prose, and drama) out loud. CSU, UC

SPCH-155  Topics in Speech
3-4 units  SC
- May be repeated three times
- Variable hours
- Recommended: Eligibility for ENGL 122 or equivalent
A supplemental course in speech communication designed to develop oral communication skills in specialized areas of interaction such as conference leading, conflict resolution, job interviewing, listening, and business presentations. Specific topics will be announced in the schedule of classes. CSU

SPCH-160  Projects in Public Speaking
1 unit  SC
- May be repeated three times
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
Participation in public speaking events which include persuasive speaking, informative speaking, impromptu speaking, extemporaneous speaking, communication analysis and speeches to entertain as a member of the DVC Intercollegiate Speech and Debate Team. Students in this class may travel to tournaments in northern California and/or prepare speeches to present to local community groups outside of the class period. CSU

SPCH-161  Projects in Debate
1 unit  SC
- May be repeated three times
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
Participation in debate as a member of the DVC Intercollegiate Speech and Debate Team. Students in this class may travel to tournaments in northern California and/or prepare debates to present to local community groups outside the class period. CSU

SPCH-162  Projects in Oral Interpretation
1 unit  SC
- May be repeated three times
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
Participation in speaking projects which include oral interpretation, prose, poetry, dramatic interpretation, duo interpretation and Reader's Theater as a member of the DVC Intercollegiate Speech and Debate Team. Students in this class may travel to tournaments in northern California and/or prepare oral readings to present to local community groups outside of the class period. CSU
SPCH-298 Independent Study
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend study beyond courses offered.
An opportunity for advanced students to pursue special studies in communication under the direction of faculty. CSU

SPCH-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• 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

SPORTS MEDICINE/ATHLETIC TRAINING
See Physical Education Theory - PETHE

STEAMFITTING – STMFT
Physical Sciences and Engineering Division
Physical Sciences Building
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.

STMFT-110 OSHA-CPR
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 110.
• Formerly STMFT 151
The regulations governed by OSHA 30, providing and recognizing safe work practices. Certification in Cardio-Pulmonary Resuscitation and First Aid. CSU

STMFT-111 Trade Mathematics
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-111.
• Formerly STMFT 152
The approaches to mathematical problem solving used in pipe fitting and metric conversion. CSU

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.
• Formerly STMFT 250
The identification of tools encountered in the industrial environment. The proper use of trade-related tools. CSU
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.
• Formerly STMFT 251
The introductory course in welding safety and theory. Beginning plate arc welding will be addressed. CSU

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.
• Formerly STMFT 252
Oxygen and acetylene cutting and safety. Cutting for various plate thicknesses and layouts. CSU

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.
• Formerly STMFT 253
The use of various pipe and fitting materials and their application. Using pipes and pipe fitting materials to build piping projects based on isometric drawings. CSU

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.
• Formerly STMFT 270
Related technical instruction, supplementary to the apprentice's on-the-job training. Student will be introduced to basic isometric drawing and basic steam systems. Copper connections will be made with solder and brazing procedures. CSU

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.
• Formerly STMFT 153
The scientific and mechanical principles that are basic to the work of the piping industry. CSU

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.
• Formerly STMFT 154
The interpretation of drawings and sketches associated with piping installation. CSU

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.
• Formerly STMFT 155
Interpret, coordinate and make drawings and sketches associated with piping installation. CSU

STMFT-120 Instrumentation 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.
• Formerly STMFT 273
Related technical instruction, supplementary to the apprentice's on-the-job training. Instrumentation 1 includes basic descriptions of processes, loop diagrams and documentation in the instrumentation field. CSU
STMFT-121 Instrumentation 2  
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.  
- Formerly STMFT 274  
Related technical instruction, supplementary to the apprentice’s on-the-job training. Instrumentation 2 will give the students the knowledge of pneumatic controls, liquid level instruments, analyzers and fiber optic signals. CSU

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.  
- Formerly STMFT 275  
Related technical instruction, supplementary to the apprentice’s on-the-job training. Introduction to the properties of saturated steam, traps, boilers and heating systems. CSU

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.  
- Formerly STMFT 276  
The specialized knowledge and techniques required to make electrical systems operate and function properly for the steamfitter working in the instrumentation field. CSU

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.  
- Formerly STMFT 277  
Related technical instruction, supplementary to the apprentice’s on-the-job training. Students will be able to identify safe work habits to use with industrial rigging. Load limits, crane ratings, equipment storage and handling are all covered. CSU

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.  
- Formerly STMFT 260  
Introductory course covering the computer application AutoCAD as it relates to the creation of technical drawings. Course covers two dimensional computer aided drafting of objects in orthographic projection. Hands-on training utilizing a comprehensive overview of the software package and its applications in pipe drafting is stressed. Students are recommended to have a basic knowledge of technical drawing. CSU

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.  
- Formerly STMFT 271  
Course is designed for students with previous knowledge and experience in using AutoCAD. Course covers surface/wireframe and solid modeling features of AutoCAD for 3-dimensional modeling and photo realistic rendering, customization and optimal application of AutoCAD and utility options for presentation purposes and project management. CSU

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.  
- Formerly STMFT 278  
Related technical instruction, supplementary to the apprentice’s on-the-job training. Student will review the different types, installation, operation and maintenance of industrial pumps. CSU
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.
• Formerly STMFT 279

Related technical instruction, supplementary to the apprentice’s on-the-job training. Students will complete projects related to tube bending and installations. Several tubing connection assignments will assist the student in recognizing different tubing connectors. CSU

STMFT-129  Union Heritage
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 program is designed to review the heritage and traditions of the United Association of Steamfitters and Welders. Students will learn about past and current events with presentations and classroom interactions. CSU

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.
• Formerly STMFT 261

The techniques and methods for beginning welding processes for the steamfitting apprentice. Safe procedures and practices for use of cutting torch. Introduction of groove pipe welding. CSU

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.
• Formerly STMFT 262

The techniques and methods for welding processes for the steamfitting apprentice. Students will learn to identify various welding rods and their applications. CSU

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.

The techniques and methods for welding processes for the steamfitting apprentice. Techniques studied will include string beads on an open grooved pipe weld and proper torch positioning for advanced torch cutting. CSU

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.
• Formerly STMFT 263

The techniques and methods for welding processes for the steamfitting apprentice. Topics will include proper handling of grinders, identification of hazards and an introduction to square groove welding processes. CSU

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.
• Formerly STMFT 264

The techniques and methods for welding processes for the steamfitting apprentice. Techniques studied will include single vee groove coupons in various positions. CSU

STMFT-136  Welding 9
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.
• Formerly STMFT 265

The techniques and methods for welding processes for the steamfitting apprentice. Topics will include identification of trapped slag using an x-ray image, as well as completing a root bead in a welding coupon in 6G position. CSU
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.
• Formerly STMFT 267
The techniques and methods for welding processes for the steamfitting apprentice. Topics will include identification of materials and tools needed for stainless steel welding processes, and both location and repair of welding defects on carbon steel pipe. CSU

STMFT-138  Orbital 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.

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.
• Formerly STMFT 272
An introduction to the administrative procedures, plans and specifications, scheduling and other forms of communication in the construction field. CSU

STMFT-150  Topics in Steamfitting
.3-4 units  SC
• May be repeated three times
• 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. CSU

STMFT-299  Student Instructional Assistant
.5-3 units  SC
• May be repeated three times
• 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

TRANSFER STUDIES – CSU

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Certificate of achievement - CSU General Education breadth
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. Many courses satisfy both CSU and graduation requirements; however, the units are only counted once towards the 60 unit degree requirement for an associate degree. 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 G.E. transfer information in this catalog.)

total minimum required units (CSU G.E.) 39
TRANSFER STUDIES – IGETC

Program level student learning outcomes
Program level student learning outcomes have been developed for each of the three options for General Education. A complete list of current program level student learning outcomes for each program is available on the DVC website at www.dvc.edu/slo.

Certificate of achievement - Intersegmental General Education Transfer Curriculum - IGETC
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. Many courses satisfy both IGETC and graduation requirements; however, the units are only counted once towards the 60 unit degree requirement for an associate degree. Although the certificate recognizes the completion of lower division IGETC requirements, it does not guarantee admission to a specific campus or school within the UC or CSU systems nor does it guarantee admission to a specific major. Some majors and colleges may require a different lower division preparation and/or a higher GPA than is necessary for this certificate.

Students who intend to transfer must meet all current IGETC transfer requirements including minimum GPA and eligibility for certification. Students are strongly advised to meet with a counselor to discuss transfer requirements and lower division major preparation that is needed for their intended transfer school. (Also see IGETC transfer information in this catalog)

**total minimum required units (IGETC)** 34

*Note: Students intending to transfer to the CSU system are advised that an additional six units of study are required for the American Institutions graduation requirement from CSU.*

WORK EXPERIENCE
See Cooperative Education - COOP