ACCOUNTING

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60–70 transferable units
California State University
University of California
Independent Colleges and Universities

For students who wish to transfer as a Business Administration major, refer to Business on page 82.

AA  Associate in Arts Degree
Accounting ........................................ 60 units

CA  Certificate of Achievement
Accounting .......................................... 22 units

CS  Certificates of Specialization
Accounting Assistant ................................. 8.5 units
CPA Exam Preparation:
Financial Accounting and Auditing .......... 14 units
CPA Exam Preparation:
Business Environment and Regulation ...... 13.5 units
Enrolled Agent Exam Preparation .......... 14.5 units
Tax Preparer I ..................................... 8.5 units
Tax Preparer II ................................... 15.5 units

Recommended high school preparation
Coursework in Mathematics, English, and use of microcomputers, including spreadsheet and word processing applications.

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for Business and Accounting for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

AA  Major in Accounting
Complete General Education and other requirements listed for the Associate degree and

Major requirements: minimum 22 semester units
A grade of "C" or higher is required for each course applied to the major.

Complete 16 units listed below

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTG 100</td>
<td>Accounting Procedures</td>
<td>3</td>
</tr>
<tr>
<td>ACTG 103</td>
<td>Ten Key Skills</td>
<td>0.5</td>
</tr>
<tr>
<td>ACTG 121</td>
<td>Financial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>ACTG 131</td>
<td>Managerial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>ACTG 144</td>
<td>QuickBooks Set up and Services</td>
<td>1.5</td>
</tr>
<tr>
<td>ACTG 145</td>
<td>QuickBooks Payroll and Merchandising</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSW 415</td>
<td>Spreadsheet I</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Plus, select a minimum of 6 units from the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTG 161</td>
<td>Intermediate Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACTG 162</td>
<td>Intermediate Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>ACTG 163</td>
<td>Auditing</td>
<td>3</td>
</tr>
<tr>
<td>ACTG 164</td>
<td>Governmental and Nonprofit Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACTG 165</td>
<td>Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACTG 171</td>
<td>Individual Income Taxes</td>
<td>3</td>
</tr>
<tr>
<td>ACTG 172</td>
<td>Business Income Taxes</td>
<td>3</td>
</tr>
<tr>
<td>ACTG 173</td>
<td>Trust, Estate, Gift Taxes</td>
<td>1.5</td>
</tr>
<tr>
<td>ACTG 175</td>
<td>Volunteer Income Tax Assistance</td>
<td>2</td>
</tr>
<tr>
<td>ACTG 176</td>
<td>Enrolled Agent Exam Preparation</td>
<td>3</td>
</tr>
<tr>
<td>BUS 100</td>
<td>Contemporary American Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 201</td>
<td>Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 295</td>
<td>Computer Systems in Business</td>
<td>4</td>
</tr>
</tbody>
</table>

CA  Accounting
Minimum 22 semester units
Complete major requirements listed under Associate in Arts – Major in Accounting. A grade of "C" or higher is required for each course applied to the certificate.

CS  Accounting Assistant
8.5 semester units
A grade of "C" or higher is required for each course applied to the certificate.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTG 100</td>
<td>Accounting Procedures</td>
<td>3</td>
</tr>
<tr>
<td>ACTG 103</td>
<td>Ten Key Skills</td>
<td>0.5</td>
</tr>
<tr>
<td>ACTG 144</td>
<td>QuickBooks Set up and Service</td>
<td>1.5</td>
</tr>
<tr>
<td>ACTG 145</td>
<td>QuickBooks Payroll and Merchandising</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSW 415</td>
<td>Spreadsheet I</td>
<td>1.5</td>
</tr>
<tr>
<td>CRER 127</td>
<td>Career Choices: Job Search</td>
<td>0.5</td>
</tr>
</tbody>
</table>
## CPA Exam Preparation: Financial Accounting and Auditing

**14 semester units**

A grade of “C” or higher is required for each course applied to the certificate.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTG 161</td>
<td>Intermediate Accounting I</td>
<td>4 units</td>
</tr>
<tr>
<td>ACTG 162</td>
<td>Intermediate Accounting II</td>
<td>4 units</td>
</tr>
<tr>
<td>ACTG 163</td>
<td>Auditing</td>
<td>3 units</td>
</tr>
<tr>
<td>ACTG 164</td>
<td>Governmental and Nonprofit Accounting</td>
<td>3 units</td>
</tr>
</tbody>
</table>

## CPA Exam Preparation: Business Environment and Regulation

**13.5 semester units**

A grade of “C” or higher is required for each course applied to the certificate.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTG 165</td>
<td>Cost Accounting</td>
<td>3 units</td>
</tr>
<tr>
<td>ACTG 171</td>
<td>Individual Income Taxes</td>
<td>3 units</td>
</tr>
<tr>
<td>ACTG 172</td>
<td>Business Income Taxes</td>
<td>3 units</td>
</tr>
<tr>
<td>ACTG 173</td>
<td>Trust, Estate, Gift Taxes</td>
<td>1.5 units</td>
</tr>
<tr>
<td>BUS 201</td>
<td>Business Law I</td>
<td>3 units</td>
</tr>
</tbody>
</table>

## Enrolled Agent Exam Preparation

**14.5 semester units**

A grade of “C” or higher is required for each course applied to the certificate.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTG 121</td>
<td>Financial Accounting</td>
<td>4 units</td>
</tr>
<tr>
<td>ACTG 171</td>
<td>Individual Income Taxes</td>
<td>3 units</td>
</tr>
<tr>
<td>ACTG 172</td>
<td>Business Income Taxes</td>
<td>3 units</td>
</tr>
<tr>
<td>ACTG 173</td>
<td>Trust, Estate, Gift Taxes</td>
<td>1.5 units</td>
</tr>
<tr>
<td>ACTG 176</td>
<td>Enrolled Agent Exam Preparation</td>
<td>3 units</td>
</tr>
</tbody>
</table>

## Tax Preparer I

**8.5 semester units**

A grade of “C” or higher is required for each course applied to the certificate.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTG 100</td>
<td>Accounting Procedures</td>
<td>3 units</td>
</tr>
<tr>
<td>ACTG 103</td>
<td>Ten Key Skills</td>
<td>0.5 unit</td>
</tr>
<tr>
<td>ACTG 171</td>
<td>Individual Income Taxes</td>
<td>3 units</td>
</tr>
<tr>
<td>BUSW 415</td>
<td>Spreadsheet I</td>
<td>1.5 units</td>
</tr>
<tr>
<td>CRER 127</td>
<td>Career Choices: Job Search</td>
<td>0.5 unit</td>
</tr>
</tbody>
</table>

## Tax Preparer II

**15.5 semester units**

A grade of “C” or higher is required for each course applied to the certificate.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTG 103</td>
<td>Ten Key Skills</td>
<td>0.5 unit</td>
</tr>
<tr>
<td>ACTG 121</td>
<td>Financial Accounting</td>
<td>4 units</td>
</tr>
<tr>
<td>ACTG 144</td>
<td>QuickBooks: Set-up and Service Business</td>
<td>OR</td>
</tr>
<tr>
<td>ACTG 145</td>
<td>QuickBooks: Payroll and Merchandising Business</td>
<td>1.5 units</td>
</tr>
<tr>
<td>ACTG 171</td>
<td>Individual Income Taxes</td>
<td>3 units</td>
</tr>
<tr>
<td>ACTG 172</td>
<td>Business Income Taxes</td>
<td>3 units</td>
</tr>
<tr>
<td>ACTG 173</td>
<td>Trust, Estate, Gift Taxes</td>
<td>1.5 units</td>
</tr>
<tr>
<td>BUSW 415</td>
<td>Spreadsheet I</td>
<td>1.5 units</td>
</tr>
<tr>
<td>CRER 127</td>
<td>Career Choices: Job Search</td>
<td>0.5 unit</td>
</tr>
</tbody>
</table>
ADMINISTRATION OF JUSTICE

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60–70 transferable units
California State University
University of California
Independent Colleges and Universities

AS Associate in Science Degree
Administration of Justice ............... 60 units

AA-T AS-T Associate in Science Degree for Transfer/SB1440
Administration of Justice ............... 60 CSU transferable units

CA Certificate of Achievement
Administration of Justice ............... 24 units
Basic Police Academy .................. 22 units

University Transfer Program
Use Assist (www.americanmaiden.org) to identify lower division major preparation for the California State University and the University of California systems. Transfer majors may be listed as Administration of Justice, Criminal Justice, Criminology, Law and Society, or other listings. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

The Administration of Justice Program prepares students for jobs in the field of criminal justice. The program at CSM is designed to educate students on the many aspects of justice administration – from the human, social and moral problems to the larger scope of justice systems.

Through the expertise of the faculty and the exposure to professional personnel from the criminal justice system, students can expect to be prepared for a career in various fields including criminal justice, law enforcement, corrections, social services, probation, and law.

The criminal justice system offers employment in various municipal, county and state agencies in California, to individuals who have the ability to work well with all types of people, observe details others might miss, and make sound decisions in times of crisis.

The two-year degree covers a broad range of information and professional skills in criminal law, corrections, and the American justice system. While this degree is intended for transfer, it also may lead to employment or advancement within the justice system. Students planning to transfer to a four-year university should complete the Associate Degree.

AS Major in Administration of Justice

Upon completion of degree requirements, students will be able to:

1. Identify and classify the various components and goals of the Criminal Justice System, and explain how the components function as a team.
2. Recognize and discuss the development and practical application of law in society.
3. Explain and demonstrate the importance of developing interpersonal and written communication skills necessary to function within the Criminal Justice System and society at large.
4. Describe and demonstrate the value and necessity of ethics, integrity, and professionalism in law enforcement careers.

Complete General Education and other requirements listed for the Associate degree and

Major requirements: 21 semester units
A grade of “C” or higher is required for each course applied to the major.

- ADMJ 100 Introduction to the Criminal Justice System .............................. 3 units
- ADMJ 102 Principles and Procedures of the Justice System ......................... 3 units
- ADMJ 104 Concepts of Criminal Law .................................................. 3 units
- ADMJ 106 Legal Aspects of Evidence .................................................. 3 units
- ADMJ 120 Criminal Investigation and the Justice System ........................ 3 units

Plus, 6 units from the courses listed below:

- ADMJ 108 Community Relations ...................................................... 3 units
- ADMJ 125 Juvenile Procedures ......................................................... 3 units
- ADMJ 185 Introduction to Forensics .................................................. 3 units

AA-T AS-T Major in Administration of Justice

Major requirements: 18-19 semester units.

The AS-T major in Administration of Justice prepares students for transfer into bachelor’s degree programs in Administration of Justice and similar areas. Completion of this AS-T meets minimum eligibility for transfer to the California State University system. For more information go to page 62.

Complete CSU General Education and major requirements as noted below. A grade of “C” or higher is required for each course applied to the major. Major course requirements may also be applied to meet general education requirements.

Required Core Courses:

- ADMJ 100 Introduction to the Criminal Justice System ......................... 3 units
- ADMJ 104 Concepts of Criminal Law ................................................ 3 units

Plus, select 6 units from the following courses:

- ADMJ 102 Principles & Procedures of the Justice System ..................... 3 units
- ADMJ 106 Legal Aspects of Evidence ................................................ 3 units
- ADMJ 108 Community Relations and the Justice System ...................... 3 units
ADMJ 120 Criminal Investigation .......................... 3 units
ADMJ 125 Juvenile Procedures .............................. 3 units
ADMJ 185 Introduction to Forensic Science ............... 3 units

Plus, select 6 units from the following courses:
COMM 130 Interpersonal Communication ................ 3 units
SOCI 100 Introduction to Sociology ........................ 3 units
PSYC 100 General Psychology ............................... 3 units
PSYC 121 Basic Statistical Concepts ........................ 3 units
MATH 200 Elementary Probability and Statistics ........ 4 units

General Education requirements:
Select courses to complete CSU General Education OR IGETC for CSU.
This degree does not require the CSM AA/AS General Education pattern on pages 64 & 65.

CSU GE:
Area A1 Oral Communication .................................. 3 units
Area A2 Written Communication ............................... 3 units
Area A3 Critical Thinking ...................................... 3 units
Area B1 Physical Science ....................................... 3 units
Area B2 Life Science ............................................ 3 units
Area B3 Science Lab ............................................. 1 unit
Area B4 Math Concepts ........................................ 3 units
Area C1 Arts ...................................................... 3 units
Area C2 Humanities ............................................. 3 units
Area C1 or C2 ..................................................... 3 units
Area D Social, Political, and Economic Institutions .... 9 units
Area E Lifelong Understanding ................................ 3 units
OR
IGETC/CSU:
Area 1A English Composition ................................ 3 units
Area 1B Critical Thinking/Composition ...................... 3 units
Area 1C Oral Communication ................................ 3 units
Area 2 Math Concepts .......................................... 3 units
Area 3A Arts ..................................................... 3 units
Area 3B Humanities ............................................. 3 units
Area 3A or 3B ..................................................... 3 units
Area 4 Social and Behavioral Science ....................... 9 units
Area 5A Physical Science ...................................... 3 units
Area 5B Biological Science .................................... 3 units
Area 5C Science Lab - Either 5A or 5B must have a lab component ................. 1 unit

Electives:
Additional CSU transferable courses based on student interest to reach 60 units total.

**CA **Administration of Justice  
24 semester units
A grade of “C” or higher is required for each course applied to the certificate.
Complete major requirements listed under Associate in Science: Major in Administration of Justice. Plus, completion of the General Education requirement as outlined in Area 1, Group A of IGETC.

**CA **Basic Police Academy  
22 semester units
A grade of “C” or higher is required.
ADMJ 145 Basic Police Academy ............................... 22 units

This 880 hour course of training is certified by the California Commission of Peace Officer Standards and Training (POST) to the statutory basic training requirements. This training is presented on the College of San Mateo campus by our regional academy trainer, South Bay Regional Training Center. For more information, contact South Bay at (408) 270-6458.

**POST (California Commission on Peace Officers Standards and Training)**

Job opportunities within the law enforcement field require certification by POST of a candidate’s work preparation. Reserve officers are hired by local law enforcement agencies only after completing a POST-certified program such as that offered by College of San Mateo.

For regular police officer positions, the hiring agency might choose to hire the individual and then pay for his/her training. It is more often the case that the agency will seek out candidates who have completed training in a POST-certified program. College of San Mateo’s Administration of Justice program is oriented to comply directly with POST certification standards, placing our program graduates in an advantageous position when applying for jobs in the law enforcement field.

Upon successful completion of each of the following courses, students will receive a certification of course completion from the Administration of Justice department.

**PC 832 Training Courses**
ADMJ 771 PC 832: Arrest and Control Training .............. 3 units
ADMJ 775 PC 832: Firearms Training ........................ 0.5 unit

**Regular Basic Course Modular Format**
ADMJ 780 Regular Basic Course Module III .................. 9.5 units
ADMJ 781 Regular Basic Course Module II ................... 13 units
ALCOHOL AND OTHER DRUG STUDIES

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60–70 transferable units
California State University
University of California
Independent Colleges and Universities

AA Associate in Arts Degree
Alcohol and Other Drug Studies............. 60 units

CA Certificate of Achievement
Alcohol and Other Drug Studies............. 39 units

CS Certificate of Specialization
Co-Occurring Disorders.................... 15 units

University Transfer Program

Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. Related transfer majors may be listed under several different areas such as, but not limited to, Health, Sociology, and Psychology. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

The Alcohol and Other Drug Studies program prepares students to work with the alcohol and other drug dependent population, and the family and employer of the chemically dependent person. The program addresses community needs for trained alcohol and other drug prevention specialists to work and volunteer in both public and private agencies in the Bay Area.

Career opportunities in this field include Primary Addiction Counselor/Supervisor, Case Manager, Program Director, Prevention Educator, Mental Health Dual Diagnosis Counselor, Crisis Intervention Specialist, Incarceration Counselor, and Assessment/Placement Specialist. Other opportunities include working with adolescents, seniors, multicultural populations, and those who have been affected by HIV/AIDS.

Persons who are awarded the certificate may be employed by in-patient and out-patient treatment clinics, transitional housing centers, mental health clinics, job training/placement programs, shelters for various homeless populations, detoxification units, crisis intervention centers, incarceration facilitates, and education/prevention programs in the schools and community.

The certificate program conforms to the Proposed Guidelines for Alcohol and Other Drug Studies Programs within Higher Education prepared for the California State Department of Alcohol and Drug Programs and meets the accreditation standards set forth by the California Association for Alcohol/Drug Educators (CAADE).

AA Major in Alcohol and Other Drug Studies

Complete General Education and other requirements listed for the Associate degree and

Major requirements: 39 semester units

A grade of "C" or higher is required for each course applied to the major.

SOSC 301 Intro to Alcohol and Other Drug Studies............. 3 units
SOSC 302 Pharmacology/Physiological Effects of Alcohol and Other Drug Abuse............. 3 units
SOSC 304 Intervention, Treatment, Recovery............. 3 units
SOSC 307 Counseling the Family of the Addicted Person............. 3 units
SOSC 308 Group AOD Counseling Process............. 3 units
SOSC 310 Special Population Groups in Alcohol and Other Drug Studies............. 3 units
SOSC 314 Individual AOD Counseling Process............. 3 units
SOSC 315 Field Studies and Seminar I............. 3 units
SOSC 316 Field Studies and Seminar II............. 3 units
SOSC 319 Co-Occurring Disorders I:
Recognition and Referral............. 3 units

Plus 6 units selected from the following courses:

PSYC 100 General Psychology............. 3 units
PSYC 410 Abnormal Psychology............. 3 units
SOCI 100 Introduction to Sociology............. 3 units

Plus 3 units selected from the following courses:

SOSC 313 Alcohol and Other Drug Treatment for Incarcerated Populations............. 3 units
SOSC 325 Co-Occurring Disorders II - Management and Treatment............. 3 units

CA Alcohol and Other Drug Studies

39 semester units

Complete major requirements listed under Associate in Arts: Major in Alcohol and Other Drugs Studies. A grade of “C” or higher is required for each course applied to the certificate.

This certificate program conforms to the Proposed Guidelines for Alcohol and Other Drug Studies Programs within Higher Education prepared for the California State Department of Alcohol and Drug Programs and meets the accreditation standards set forth by the California Association for Alcohol/Drug Educators (CAADE).
Co-Occurring Disorders

15 semester units

A grade of “C” or higher is required for each course applied to the certificate.

SOSC 319 Co-occurring Disorders I:
Recognition and Referral ..................... 3 units
SOSC 325 Co-occurring Disorders II:
Management and Treatment .................. 3 units
SOSC 302 Pharmacology and Physiological Effects
of Alcohol and Other Drug Abuse ........... 3 units
SOSC 314 Individual AOD (Alcohol and Other Drug)
Counseling Process ............................ 3 units
PSYC 410 Abnormal Psychology ............... 3 units

ANTHROPOLOGY

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60–70 transferable units
California State University
University of California
Independent Colleges and Universities

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. Transfer majors may be listed as Anthropology or other listings. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.
ARCHITECTURE

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60–70 transferable units
California State University
University of California
Independent Colleges and Universities

AS Associate in Science Degree
Architecture .............................. 60 units

Recommended high school preparation:
Coursework in Art, Mathematics (four years), Mechanical Drawing, English

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for Architecture, Architectural Engineering, or Landscape, City, and Regional Planning for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

Most architecture majors, after completing their studies and obtaining their Professional Degree, will choose to obtain their license to practice architecture and go into private practice as owners of their own firm. As practitioners, they will service a wide variety of clientele: private, business, institutional, and governmental. Others may elect to find employment in existing architectural firms, as members of their teams, in the design and development of the built environment. Some may elect to do advance work in fields such as art, historic restoration, product development, government, politics, business administration, law, education, medicine, research, land development, the military, etc. Others find opportunities in related fields that utilize the technical and problem-solving skills obtained from their architectural education.

AS Major in Architecture
Upon completion of degree requirements, students will be able to:

1. Use basic architectural principles in elementary two & three dimensional design problem-solving.

2. Use graphics, including freehand drawing and computer applications, and physical models to communicate three dimensional design concepts and alternatives throughout a basic project design process.

3. Describe architectural precedents and traditions, in particular the influences of the 20th/21st century, as well as elementary climatic, technological, socioeconomic, and other cultural factors that impact the built environment and the practice of environmental design.

4. Successfully carry out both individual and collaborative work as a part of a design team.

Complete General Education and other requirements listed for the Associate degree and

Major requirements: 19 semester units
A grade of "C" or higher is required for each course applied to the major.

ARCH 100  Survey of Contemporary Architecture .......... 3 units
ARCH 120  Architecture + Design Drawing 1: Drawing and Visual Thinking .......... 2 units
ARCH 140  Architectural + Design Drawing II: Design Communication .......... 2 units
ARCH 210  Design I: Intro to Architecture, Environmental Design and the Design Process .......... 4 units
ARCH 220  Design II: Architecture: Design, Form and the Built Environment .......... 4 units
ARCH 666: Introduction to Architecture .......... 1 unit

Plus 3 additional units selected from the following courses:

ART 201 Drawing and Composition I ................. 3 units
ART 202 Drawing and Composition II ................. 3 units
ART 301 Design ................. 3 units
ART 350 Visual Perception ......................... 3 units
DGME 212 Media Design II: Photoshop ................. 3 units
DRAF 121 Computer-Aided Drafting I ................. 3 units
DRAF 122 Computer-Aided Drafting II ................. 3 units
ART

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60–70 transferable units
California State University
University of California
Independent Colleges and Universities

AA Associate in Arts Degree
Art: Fine Arts: General Studio Art .................. 60 units
Art: Art History .................................... 60 units
Art: Photography ..................................... 60 units

AA-T AS-T Associate in Science Degree for Transfer/SB1440
Studio Art .............................................. 60 CSU transferable units

CA Certificate of Achievement
Art: Art History ..................................... 18 units

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for Art and Art History for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

Art majors find employment in a variety of fields, which include advertising, manufacturing, industrial design, public relations, and communications. Experienced artists frequently specialize in a particular product or field such as fashion, industrial art, advertising, or story illustration.

Career opportunities include advertising manager, antique dealer, architect, art administrator, art therapist, art critic, art dealer, art historian, cartoonist, ceramicist, commercial ceramicist, community artist, computer artist, computer graphics illustrator, computer publisher, design consultant, curator, display designer/manager, fashion/floral/interior designer, educator, gallery director, graphic artist, illustrator, jewelry designer, layout artist, muralist, museum technician, painter, photographer, police artist, printmaker, set designer, sculptor, and visual information specialist.

Art: Fine Arts
The A.A. degree in Fine Arts provides the student with both a historical and contemporary perspective on the creation of art, the ability to analyze and understand compositional structure and historical significance, and hands-on skills working in a variety of media.

AA Major in Fine Arts: General Studio Art
Complete General Education and other requirements listed for the Associate degree and

Major requirements: 30 semester units
A grade of "C" or higher is required for each course applied to the major.

ART 101 Art and Architecture from the
Ancient World to Medieval Times ................... OR
ART 102 Art and Architecture of Renaissance and
Baroque Europe ..................................... OR
ART 124 Old Masters' Aesthetics and Techniques ...... 3 units
ART 103 Art of Europe and America from the
Rococo to the Present ................................ OR
ART 104 Art of the 20th Century ........................ 3 units
ART 201 Drawing and Composition I .................. 3 units
ART 202 Drawing and Composition II .................. 3 units
ART 206 Figure Drawing and Portraiture ................. 3 units
ART 207 Life Drawing .................................. 3 units
ART 214 Color ......................................... 3 units
ART 223 Oil Painting I .................................. OR
ART 225 Acrylic Painting I ............................. 3 units
ART 301 Design ....................................... OR
ART 315 Digital Printing and Mixed Media ............. OR
ART 245 Mosaic Mural I ............................... 3 units
ART 405 Sculpture I .................................... 3 units

AA Major in Art: Art History
Individuals interested in careers in the art history field may obtain an A.A. in Liberal Arts, which trains them in observation, analysis and communication, the basis for many careers in both the business and government sectors. Many graduates continue their education at a university, majoring in Art History.

Career opportunities for those with a B.A. or advanced degree include work with museums as curators or archivists; with galleries; in publishing as art editors or critics; art appraisal; art consulting; historical preservation; conservation; and education, teaching at the college or high school levels.

Upon completion of degree requirements, students will be able to:
1. Identify major monuments and movements in the history of art.
2. Identify and describe stylistic characteristics in order to place works of art in their historical and stylistic context.
3. Apply critical analysis to compare and contrast works of art.

Major in Art continued on next page
4. Relate works of art to the societies in which they were created.
5. Critique in an original manner, using the appropriate language of art, the form and content of works of art.

Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 18 semester units**

A grade of "C" or higher is required for each course applied to the major.

- ART 101 Art and Architecture from the Ancient World to Medieval Times 3 units
- ART 102 Art and Architecture of Renaissance and Baroque Europe 3 units
- ART 103 Art of Europe and America from the Rococo to the Present 3 units
- ART 104 Art of the 20th Century 3 units
- ART 201 Drawing and Composition I 3 units

Select 3 units from the following:

- ART 206 Figure Drawing and Portraiture 3 units
- ART 207 Life Drawing 3 units
- ART 214 Color 3 units
- ART 223 Oil Painting I 3 units
- ART 301 Design 3 units
- ART 350 Visual Perception 3 units
- ART 124 Old Masters' Aesthetics and Techniques 3 units
- ART 105 Asian Art History 3 units

**Film**

- FILM 100 Introduction to Film 3 units
- ANTH 110 Cultural Anthropology 3 units
- HIST 100 History of Western Civilization I 3 units
- HIST 101 History of Western Civilization 3 units

**Area 1: Drawing**

- ART 201 Drawing and Composition I 3 units
- ART 202 Drawing and Composition II 3 units
- ART 206 Figure Drawing and Portraiture 3 units
- ART 207 Life Drawing 3 units

**Area 2: Painting**

- ART 223 Oil Painting I 3 units
- ART 225 Acrylic Painting I 3 units
- ART 124 Old Masters' Aesthetics and Techniques 3 units

**Area 3: Ceramics**

- ART 411 Ceramics I 3 units

**Area 4: Digital Art**

- ART 315 Digital Printing and Mixed Media 3 units

**Area 5: Photography**

- ART 351 Beginning Black and White Photography 3 units
- ART 381 Beginning Digital Photography 3 units

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**Associate degree and Complete General Education and other requirements listed for the Associate degree and**

**Major requirements: 21 semester units**

A grade of "C" or higher is required for each course applied to the major.

- ART 350 Visual Perception 3 units
- ART 351 Beginning Black and White Photography 3 units
- ART 352 Intermediate Black and White Photography 3 units
- ART 354 Color Photography I 3 units
- ART 360 Experimental Photography 3 units
- ART 381 Beginning Digital Photography 3 units
- ART 353 Advanced Black and White Photography 3 units
- ART 355 Color Photography II 3 units

**AA-T AA-T Major in Studio Art**

**Major requirements: 27 semester units**

(18 effective units with ART HIST course double-counted for 6 units in CSU GE, c-1)

Complete CSU General Education and major requirements as noted below. A grade of "C" or higher is required for each course applied to the major. Major course requirements may also be applied to meet general education requirements.

**Required Core (15 units)**

- ART 102 Renaissance and Baroque Europe 3 units
- ART 103 Rococo to the Present 3 units
- ART 201 Drawing and Composition I 3 units
- ART 301 Design 3 units
- ART 405 Sculpture I 3 units

**List A: Art History Restricted Electives. Select one course (3 units)**

- ART 101 Ancient World to Medieval Times 3 units
- ART 104 20th Century 3 units

Select a maximum of one course from any of the following areas to total 9 units

**Area 1: Drawing**

- ART 202 Drawing and Composition II 3 units
- ART 206 Figure Drawing and Portraiture 3 units
- ART 207 Life Drawing 3 units

**Area 2: Painting**

- ART 223 Oil Painting I 3 units
- ART 225 Acrylic Painting I 3 units
- ART 124 Old Masters' Aesthetics and Techniques 3 units

**Area 3: Ceramics**

- ART 411 Ceramics I 3 units

**Area 4: Digital Art**

- ART 315 Digital Printing and Mixed Media 3 units

**Area 5: Photography**

- ART 351 Beginning Black and White Photography 3 units
- ART 381 Beginning Digital Photography 3 units
Major Requirements

BIOLOGY

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program

60–70 transferable units

California State University
University of California
Independent Colleges and Universities

AS  Associate in Science Degree

Biology .................................................. 60 units
Biology: General ..................................... 60 units
Biology: Biotechnology .............................. 60 units
Biology: Pre-Nursing ................................ 60 units
Biology: Medical (Pre-Med, Pre-Dental, Pre-Vet) 60 units

CS  Certificate of Specialization

Biotechnology ........................................ 10–11 units

Recommended high school preparation:

One year of Biology, Chemistry, Physics, four years of Mathematics, English

University Transfer Program

Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities, use their catalogs to locate this information. Transfer Services can assist you to gather this information.

Career opportunities for those who major in the Biological Sciences and obtain a Bachelor’s or advanced degree include a variety of interesting occupations related mainly to biology, agriculture or medicine. Biological professions include anatomist, aquatic biologist, bacteriologist, biologist, biotechnologist, botanist, cytogeneticist, cytologist, ecologist, embryologist, entomologist, geneticist, herpetologist, ichthyologist, mammalogist, marine biologist, microbiologist, molecular biologist, morphologist, mycologist, ornithologist, paleobotanist, paleoecologist, parasitologist, pathologist, pharmacologist, photobiologist, phycologist, physiologist, protozoologist, systematist, toxicologist, tropical biologist, virologist, wildlife biologist, and zoologist.

Many biologists are educators as well as scientists. Biologists are also employed as forensic scientists, illustrators, museum specialists, naturalists, photographers, and science writers/editors. Agricultural professions include agricultural biologist, agrigeneticist, animal scientist, apiculturist, farmer/farm manager, field crop manager, fish and game warden, food technologist, foresters/forestry technicians, horticulturist, plant and animal breeder, plant and animal physiologist, plant quarantine/pest control inspector, range scientist, and soil scientist/conservationist.

Area 6: Color

ART 214 Color ........................................ 3 units

Area 7: Other Media

ART 231 Watercolor I ................................. 3 units
ART 236 Chinese Brush Painting .................... 3 units
ART 245 Mosaic Mural I .............................. 3 units

Area 8: Advanced Courses

ART 224 Oil Painting II ............................... 3 units
ART 226 Acrylic Painting II ......................... 3 units
ART 246 Mosaic Mural II .............................. 3 units
ART 406 Sculpture II .................................. 3 units
ART 352 Intermediate Black & White Photo ...... 3 units
ART 383 Intermediate Digital Photography ...... 3 units

General Education requirements:
Select courses to complete CSU General Education OR IGETC for CSU.

This degree does not require the CSM AA/AS General Education pattern on pages 64 & 65.

CSU GE:

Area A1 Oral Communication ........................ 3 units
Area A2 Written Communication .................... 3 units
Area A3 Critical Thinking ............................. 3 units
Area B1 Physical Science ............................. 3 units
Area B2 Life Science .................................. 3 units
Area B3 Science Lab ................................. 1 unit
Area B4 Math Concepts ............................. 3 units
Area C1 Arts ........................................... 3 units
Area C2 Humanities .................................. 3 units
Area C1 or C2 .......................................... 3 units
Area D Social, Political, and Economic Institutions. 9 units
Area E Lifelong Understanding ..................... 3 units

OR

IGETC/CSU:

Area 1A English Composition ........................ 3 units
Area 1B Critical Thinking/Composition .............. 3 units
Area 1C Oral Communication ........................ 3 units
Area 2 Math Concepts ................................ 3 units
Area 3A Arts ........................................... 3 units
Area 3B Humanities .................................. 3 units
Area 3A or 3B .......................................... 3 units
Area 4 Social and Behavioral Science ................. 9 units
Area 5A Physical Science ............................. 3 units
Area 5B Biological Science ........................... 3 units
Area 5C Science Lab: Either 5A or 5B must have a lab component 1 unit

Electives:

Additional CSU transferable courses based on student interest to reach 60 units total.
Medical professions include audiologist, chiropractor, coroner, dentist, exercise physiologist, health care administrator, medical laboratory technologist/technician, medical librarian, nurse, nutritionist, optometrist, pharmacist, physician, podiatrist, public/ environmental health specialist, sanitary, speech pathologist, and veterinarian. Additional medical careers include specialists in sports medicine, and manual arts, music, occupational, physical, and recreational therapists.

**Major in Biology**

Upon completion of degree requirements, students will be able to:

1. Explain the scientific method and its applications, and use the scientific method in a laboratory setting.
2. Explain the principle of evolution as a fundamental process of all biology.
3. Describe how structure and function are related at all levels of life.
4. Demonstrate proficiency in basic lab skills and analysis.

**Major requirements: 24 semester units**

A grade of “C” or higher is required for each course applied to the major.

- **BIOL 210 General Zoology** .......................... 5 units
- **BIOL 220 General Botany** ............................. 5 units
- **BIOL 230 Introductory Cell Biology** ............... 4 units
- **CHEM 210 General Chemistry I** ....................... 5 units
- **CHEM 220 General Chemistry II** ....................... 5 units

Students with little or no high school preparation should complete **BIOL 110**, **CHEM 192**, **MATH 110**, and **PHYS 100** prior to beginning major coursework.

**AS Major in Biology: Biotechnology**

Biotechnology is a field of scientific research that applies molecular biology. The biotechnologist therefore requires the knowledge and skills of the biochemist, molecular biologist, microbiologist, and immunologist.

An advanced degree in Biotechnology can lead to career opportunities in research, manufacturing/production, marketing/sales, patents, quality control, and regulatory affairs. In addition, there are extended career opportunities for biotechnology specialists as lawyers, physicians, professional managers at all corporate levels, regulatory agency personnel, toxicologists, veterinarians, pharmaceutical manufacturers and clinical researchers.

Upon completion of degree requirements, students will be able to:

1. Explain the scientific method and its applications, and the use of the scientific method in a laboratory setting.
2. Explain the principles of evolution as a fundamental process of all biology.
3. Describe how structure and function are related at all levels of life.
4. Demonstrate proficiency in basic lab skills and analysis.
5. Students will provide examples of the pathways from academic techniques and discoveries in biotechnology to industrial/commercial applications.

Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 24 semester units**

A grade of "C" or higher is required for each course applied to the major.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 123 Biotechnology Workshop</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 210 General Zoology</td>
<td></td>
</tr>
<tr>
<td>OR BIOL 220 General Botany</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 230 Introductory Cell Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 240 General Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 210 General Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 220 General Chemistry II</td>
<td>5</td>
</tr>
</tbody>
</table>

Students with little or no high school preparation should complete BIOL 100, CHEM 100 or 192, and PHYS 100 prior to beginning major coursework.

### CS Biotechnology

**10–11 semester units**

A grade of "C" or higher is required for each course applied to the certificate.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 123 Biotechnology Workshop</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 210 or 220 General Chemistry I/II</td>
<td>5</td>
</tr>
</tbody>
</table>

Plus select one course from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 110, 210, 220, 230, 240</td>
<td></td>
</tr>
</tbody>
</table>

### AS Major in Biology: Medical

An Associate degree in Biology: Medical, when followed by transfer to a baccalaureate institution for a Bachelor's degree and continued study at medical-related professional schools, leads to career opportunities in the medical field.

Careers in medicine include general practitioner, obstetrician, pediatrician, psychiatrist, surgeon, and ear, nose and throat specialist. The dental field offers careers in general dentistry, as well as endodontics, oral pathology, orthodontics, pediatric dentistry, periodontics, and prosthodontics. Most students who complete veterinary school pursue careers as veterinarians, though some choose related careers, such as laboratory animal medicine, wildlife pathology, or research.

Upon completion of the degree requirements, students will be able to:

1. Explain the scientific method and its applications, and use the scientific method in a laboratory setting.
2. Explain the principles of evolution as a fundamental process of all biology.
3. Describe how structure and function contribute to homeostasis at all levels of human biology.
4. Demonstrate proficiency in basic lab skills and analysis.
5. Demonstrate knowledge of common and current clinical issues.

Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 23–24 semester units**

A grade of "C" or higher is required for all courses applied to the major.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 210 General Zoology</td>
<td></td>
</tr>
<tr>
<td>BIOL 230 Introductory Cell Biology</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 210 General Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 220 General Chemistry II</td>
<td>5</td>
</tr>
<tr>
<td>Plus 4 or 5 units from one of the following courses</td>
<td></td>
</tr>
<tr>
<td>BIOL 240 General Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 250 Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 260 Introduction to Physiology</td>
<td>5</td>
</tr>
</tbody>
</table>

### AS Major in Biology: Pre-Nursing

The Biology degree in Pre-Nursing prepares students to transfer to a four-year program at a baccalaureate institution. Upon completion of a Bachelor of Science in Nursing, graduates choose from first level professional nursing staff positions in specializations which include community health, geriatrics, maternity, mental health, pediatrics, psychiatry, and surgery.

Upon completion of degree requirements, students will be able to:

1. Explain the scientific method and its applications, and use the scientific method in a laboratory setting.
2. Explain the principles of evolution as a fundamental process of all biology.
3. Describe how structure and function contribute to homeostasis at all levels of human biology.
4. Demonstrate proficiency in basic lab skills and analysis.
5. Demonstrate knowledge of common and current clinical issues.

Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 21–23 semester units**

A grade of "C" or higher is required for all courses applied to the major.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 240 General Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 250 Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 260 Introduction to Physiology</td>
<td>5</td>
</tr>
<tr>
<td>Plus 8 or 10 units from one of the following groups</td>
<td></td>
</tr>
<tr>
<td>Group 1 CHEM 210 and 220</td>
<td>10</td>
</tr>
<tr>
<td>Group 2 CHEM 410 and 420</td>
<td>8</td>
</tr>
</tbody>
</table>
BROADCAST AND ELECTRONIC MEDIA

For courses, please see the listing under Digital Media (DGME). Meet with a counselor to determine the DGME courses that are applicable to Broadcasting and Electronic Media degree and certificates.

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60–70 transferable units
California State University
University of California
Independent Colleges and Universities

AA Associate in Arts Degree
Broadcast and Electronic Media
Option 1: Television Production .................. 60 units
Option 2: Broadcast Audio .................. 60 units
Option 3: Television Producing .................. 60 units

CA Certificate of Achievement
Broadcast and Electronic Media
Option 1: Television Production .................. 33 units
Option 2: Broadcast Audio .................. 32.5 units
Option 3: Television Producing .................. 30 units

CS Certificates of Specialization
Lighting .................. 15 units
On-Air .................. 16 units
Editing .................. 15 units

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for Broadcast and Electronic Media for the California State University and the University of California systems. Research related majors in Mass Communication, Journalism, Radio and Television, and Film and Television. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

AA Major in Broadcast and Electronic Media
Option 1: Television Production
33 semester units
Complete General Education and other requirements listed for the Associate degree and

Major requirements: 33 semester units
A grade of "C" or higher is required for each course applied to the major.

BCST 110 Media in Society .................. 3 units
BCST 210 Television Studio Techniques .................. 3 units
BCST 310 Studio Lighting Techniques .................. 1.5 units
BCST 312 Field Lighting Techniques .................. 1.5 units
BCST 320 Digital Television Field Production .................. 3 units
BCST 410 Advanced Production Techniques .................. 3 units
MULT 184 Digital Video .................. 3 units
MULT 187 Final Cut Pro .................. 3 units
MULT 192 Digital Audio .................. 3 units
MULT 282 After Effects .................. 3 units
MULT 292 DVD Studio Pro .................. 3 units
MULT 387 Digital Video Workflow .................. 3 units
Strongly Recommended: BCST 450

CA Broadcast and Electronic Media
Option 1: Television Production
33 semester units
Complete major requirements listed under Associate in Arts: Major in Broadcast and Electronic Media Option 1: Television Production. A grade of “C” or higher is required for each course applied to the certificate.

AA Major in Broadcast and Electronic Media
Option 2: Broadcast Audio
32.5 semester units
Complete General Education and other requirements listed for the Associate degree and

Major requirements: 32.5 semester units
A grade of "C" or higher is required for each course applied to the major.

BCST 110 Media in Society .................. 3 units
BCST 210 Television Studio Techniques .................. 3 units
BCST 420 Advanced Audio Operations .................. 3 units
MULT 184 Digital Video .................. 3 units
MULT 192 Digital Audio .................. 3 units
MULT 292 DVD Studio Pro .................. 3 units
MULT 297 Pro Tools LEI .................. 3 units
MULT 317 Digital Recording Studio .................. 3 units
MULT 387 Digital Video Workflow .................. 3 units
MUS 292 Sound Creation: Sampling and Synthesis .................. 3 units
MUS 293 Audio for Visual Media .................. 2.5 units
Strongly Recommended: BCST 450
**Major Requirements**

**CA Broadcast and Electronic Media Option 2: Broadcast Audio**  
32.5 semester units  
Complete major requirements listed under Associate in Arts: Major in Broadcast and Electronic Media Option 2: Broadcast Audio. A grade of "C" or higher is required for each course applied to the certificate.

**AA Major in Broadcast and Electronic Media Option 3: Television Producing**  
Complete General Education and other requirements listed for the Associate degree and  
Major requirements: 30 semester units  
A grade of "C" or higher is required for each course applied to the major.  
BCST 110 Media in Society .......................... 3 units  
BCST 210 Television Studio Techniques ................. 3 units  
BCST 220 Broadcast Writing .................................. 3 units  
BCST 316 Producing for Media .......................... 3 units  
BCST 320 Digital Television Field Production ............. 3 units  
MGMT 265 Project Management .......................... 3 units  
MULT 184 Digital Video .................................. 3 units  
MULT 192 Digital Audio .................................. 3 units  
MULT 292 DVD Studio Pro .................................. 3 units  
MULT 387 Digital Video Workflow .......................... 3 units  
Strongly Recommended: BCST 450

**CA Broadcast and Electronic Media Option 3: Television Producing**  
30 semester units  
Complete major requirements listed under Associate in Arts: Major in Broadcast and Electronic Media Option 3: Television Producing. A grade of "C" or higher is required for each course applied to the certificate.

**CS On-Air**  
16 semester units  
A grade of "C" or higher is required for each course applied to the certificate.  
BCST 210 Television Studio Techniques ................. 3 units  
BCST 220 Broadcast Writing .................................. 3 units  
BCST 230 On-Air Talent .................................. 3 units  
BCST 240 Directing Talent .................................. 1 unit  
COMM 110 Public Speaking .................................. 3 units  
COMM 170 Oral Interpretation I .......................... 3 units

**CS Editing**  
15 semester units  
A grade of "C" or higher is required for each course applied to the certificate.  
BCST 210 Television Studio Techniques ................. OR  
BCST 320 Digital Television Field Production ............. 3 units  
MULT 184 Digital Video .................................. 3 units  
MULT 187 Final Cut Pro .................................. 3 units  
MULT 192 Digital Audio .................................. 3 units  
MULT 282 After Effects .................................. 3 units

**CS Lighting**  
15 semester units  
A grade of "C" or higher is required for each course applied to the certificate.  
BCST 210 Television Studio Techniques .................. 3 units  
BCST 310 Studio Lighting Techniques ...................... 1.5 units  
BCST 312 Field Lighting Techniques ...................... 1.5 units  
BCST 320 Digital Television Field Production ............. 3 units  
MULT 184 Digital Video .................................. 3 units  
MULT 192 Digital Audio .................................. 3 units
BUILDING INSPECTION TECHNOLOGY

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60–70 transferable units
California State University
University of California
Independent Colleges and Universities

AS  Associate in Science Degree
Building Inspection .......................... 60 units

CA  Certificate of Achievement
Building Inspection .......................... 34–35 units

AS  Major in Building Inspection
Upon completion of degree requirements, students will be able to:
1. Describe and discuss Building Inspection standards and testing criteria to assure quality construction.
2. Explain the intent of code requirements
3. Identify and explain graphics and terms of structural design and engineering

Complete General Education and other requirements listed for the Associate degree and

Major requirements: 34–35 semester units
A grade of "C" or higher required for each course applied to the major.
BLDG 700 Introduction to Building Code. ............... 3 units
BLDG 710 Non-Structural Provisions of the Uniform Building Code ......... 3 units
BLDG 720 Electrical Inspection I ......................... 3 units
BLDG 725 Electrical Inspection II ...................... 3 units
BLDG 730 Plumbing Inspection ......................... 3 units
BLDG 735 ADA Building Requirements .................. 3 units
BLDG 740 Mechanical Code ........................... 3 units
BLDG 750 Structural Plan Review ....................... 3 units
BLDG 760 Energy Regulations .......................... 3 units
BLDG 775 Introduction to Residential Dwelling Inspection Technology ........ 3 units

Plus,
ENGL 838/848 or higher ................................. 4–5 units

Suggested electives:
BLDG 790; MGMT 235, 265; PHYS 100

CA  Building Inspection
34–35 semester units
Complete major requirements listed under Associate in Science: Major in Building Inspection. A grade of "C" or higher is required for each course applied to the certificate.

BUSINESS

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60–70 transferable units
California State University
University of California
Independent Colleges and Universities

AA  Associate in Arts Degree
Business Administration,
Option 1 (Non-transfer program) ............... 60 units
Business Administration,
Option 2 (Transfer program) ..................... 60 units
Business Information Processing
Option 1: Microcomputer/Office Assistant .... 60 units
Option 2: Microcomputer/Database and Spreadsheet Functions ............. 60 units

CA  Certificate of Achievement
Business Information Processing
Option 1: Microcomputer/Office Assistant .... 23–24.5 units
Option 2: Microcomputer/Database and Spreadsheet Functions ............. 24 units

CS  Certificates of Specialization
Office Assistant I ................................. 8–9.5 units
Office Assistant II ............................... 11 units

Recommended high school preparation:
Coursework in Mathematics, English, Accounting, and use of microcomputers, including spreadsheet and word processing applications.

AA  Major in Business Administration,
Option 1 (Non-transfer)
Career opportunities for Business Administration majors are diverse and many. The major prepares students for careers in business disciplines which include sales, marketing, public relations, and human resources. Many graduates find employment within the manufacturing industries: automotive, aerospace, commercial; investment banking; consulting services; retailing; and information technology and telecommunications. Others secure employment in federal, state, or local government agencies. Still others work for non-profit or private foundations and professional organizations. Administrative assistant, bookkeeper, buyer, employment interviewer, and sales agent are some of the careers for which the non-transfer option helps prepare the student.
Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 24–26 semester units**

A grade of "C" or higher is required for each course applied to the major.

- ACTG 100 Accounting Procedures .......................... 3 units. OR
- ACTG 121 Financial Accounting .................................. 4 units
- BUS 100 Contemporary American Business ............... 3 units
- BUS 101 Human Relations I ................................. 3 units
- BUS 115 Business Mathematics .............................. 3 units
- BUS 201 Business Law I ......................................... 3 units
- BUS 401 Business Communications ......................... 3 units
- BUS 295 Computer Systems in Business ................. 4 units. OR
- CIS 110 Introduction to Computer and Information Science ............................................. 3 units

Plus, select 3 units from a BUSW series

### AA **Major in Business Administration, Option 2 (Transfer Program)**

With a B.A. or advanced degree, career opportunities extend to include accountant, administrative assistant, budget analyst, management consultant, claims agent, controller, credit analyst, financial manager, financial planner, hospital administrator, insurance agent, lawyer, loan officer, securities analyst, and trust officer.

Additional fields for which this option helps prepare the student are advertising/marketing, international business, banking, business publications, computer operations, and computer software implementation.

Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 20–24 semester units**

A grade of "C" or higher is required for each course applied to the major.

- ACTG 121 Financial Accounting .................................. 4 units
- ECON 100 Principles of Macroeconomics ............... 3 units
- ECON 102 Principles of Microeconomics ............... 3 units
- MATH 200 Statistics ................................................. 4 units

Plus, select 6–10 units from the following courses:

- ACTG 131 Managerial Accounting .......................... 4 units
- BUS 100 Contemporary American Business ............... 3 units
- BUS 201 Business Law I ......................................... 3 units
- BUS 295 Computer Systems in Business ................. 4 units
- MATH 125 Elementary Finite Math .......................... 3 units
- MATH 241 Applied Calculus 1 .................................. 5 units
- MATH 251 Calculus with Analytic Geometry I ......... 5 units

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### AA **Major in Business Information Processing Option 1: Microcomputer/Office Assistant**

Career opportunities available to Business Information Processing graduates include employment in both entry-level positions and mid-level office management. Other areas of career opportunities include sales, marketing, public relations, and human resources.

Students develop the ability to organize and manage work tasks and information through the use of computer/office technology. These programs offer training in decision-making and administrative duties that are required for promotion.

Among career opportunities for those skilled in microcomputer word processing are office assistant, administrative staff assistant, executive secretary, senior secretary, secretary supervisor, and secretarial services entrepreneur.

Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 23–24.5 semester units**

A grade of "C" or higher is required for each course applied to the major.

- BUS 101 Human Relations I ................................... 3 units
- BUS 115 Business Mathematics ............................. 3 units
- BUS 315 Keyboarding I .......................................... 3 units. OR
- BUS 317 Keyboarding Skill-Building ....................... 1.5 units
- BUS 326 Electronic Filing and Records Management ... 1.5 units
- BUS 401 Business Communication ......................... 3 units
- BUSW 105 Introduction to Microcomputers ............... 1.5 units
- BUSW 114 Windows Fundamentals I ......................... 1.5 units
- BUSW 214 Word Processing I Using WORD for Windows .......... 1.5 units
- BUSW 215 Word Processing II Using WORD for Windows .......... 1.5 units
- BUSW 383 Business Presentations Using Power Point for Windows .......... 1.5 units
- BUSW 415 Spreadsheet I Using Excel for Windows .......... 1.5 units
- BUSW 530 Introduction to Internet ......................... 1.5 units
- CRER 127 Career Choices: Job Search .................... 0.5 unit

### CA **Business Information Processing Option 1: Microcomputer/Office Assistant**

23–24.5 semester units

Complete major requirements listed under Associate in Arts – Major in Business: Business Information Processing Option 1 Microcomputer/Office Assistant. A grade of "C" or higher is required for each course applied to the certificate.

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*Major in Business continued on next page*
**Major in Business Information Processing Option 2: Microcomputer/Data Base and Spreadsheet Functions**

Among career opportunities for those skilled in microcomputer database and spreadsheet functions are technical support specialist, PC applications support specialist, PC telephone customer service representative, computer support aide, and consultant/trainer.

Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 24 semester units**

A grade of "C" or higher is required for each course applied to the major.

- **ACTG 100** Accounting Procedures ........................................ 3 units
- **ACTG 144** Quick Books: Set-up and Service Business .................. 1.5 units
- **ACTG 145** Quick Books: Payroll and Merchandising ................... 1.5 units
- **BUS 100** Contemporary American Business ............................ 3 units
- **BUS 115** Business Mathematics .............................................. 3 units
- **BUSW 105** Introduction to Microcomputers ............................... 1.5 units
- **BUSW 114** Windows Fundamentals I ........................................ 1.5 units
- **BUSW 214** Word Processing Using WORD for Windows ............... 1.5 units
- **BUSW 415** Spreadsheet I Using Excel for Windows .................. 1.5 units
- **BUSW 416** Spreadsheet II Using Excel for Windows .................. 1.5 units
- **BUSW 464** Database Management Fundamentals Using Access for Windows ........................................ 3 units
- **BUSW 530** Introduction to the Internet ..................................... 1.5 units

**Business Information Processing Option 2: Microcomputer/Data Base and Spreadsheet Functions**

24 semester units

Complete major requirements listed under Associate in Arts – Major in Business: Business Information Processing Option 2 Microcomputer/Data Base and Spreadsheet Functions. A grade of "C" or higher is required for each course applied to the certificate.

**Office Assistant I**

8–9.5 semester units

A grade of "C" or higher is required for each course applied to the certificate.

- **BUS 317** Keyboarding Skill-Building ....................................... 1.5 units
- **BUSW 214** Word Processing Using WORD for Windows ............... 1.5 units
- **BUSW 114** Windows Fundamentals I ........................................ 1.5 units
- **BUSW 415** Spreadsheet I Using Excel for Windows .................. 1.5 units
- **BUSW 530** Introduction to the Internet ..................................... 1.5 units
- **CRER 127** Career Choices: Job Search ..................................... 0.5 unit

**Office Assistant II**

11 semester units

A grade of "C" or higher is required for each course applied to the certificate.

- **BUS 317** Keyboarding Skill-Building ....................................... 1.5 units
- **BUSW 114** Windows Fundamentals I ........................................ 1.5 units
- **BUSW 214** Word Processing I Using WORD for Windows ............... 1.5 units
- **BUSW 215** Word Processing II Using WORD for Windows ............... 1.5 units
- **BUSW 383** Business Presentations Using PowerPoint for Windows .... 1.5 units
- **BUSW 415** Spreadsheet I Using Excel for Windows .................. 1.5 units
- **BUSW 530** Introduction to Internet ......................................... 1.5 units
- **CRER 127** Career Choices: Job Search ..................................... 0.5 unit
CHEMISTRY

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60 – 70 transferable units
California State University
University of California
Independent Colleges and Universities

Associate in Science Degree
Chemistry ..................... 60 units

Recommended high school preparation:
Coursework in Chemistry, Biology, Physics, Mathematics

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

The Chemistry major prepares students to transfer to four-year institutions for continued study in the field of chemistry. While an A.S. degree may be sufficient for an individual to secure employment as an environmental technician, laboratory technician, safety manager, sanitarian, or water-quality analyst, most careers in the field require a B.S. or advanced degree. Analytical chemist, biochemist, biotechnologist, dentist, educator, forensic specialist, environmental/industrial health engineer, pharmacist, physician, research chemist, and veterinarian are some of the careers for which an Associate degree in Chemistry prepares a student who subsequently obtains a university degree in the field. Approximately two-thirds of all chemists work for manufacturing firms. Chemists are also employed with federal, state and local governments, such as the departments of Defense, Health and Human Resources, and Agriculture. Some chemists work for research organizations and educational institutions.

Major in Chemistry
Complete General Education and other requirements listed for the Associate degree and

Major requirements: 24–25 semester units
A grade of “C” or higher is required for each course applied to the major.
CHEM 210 General Chemistry I ..................... 5 units
CHEM 220 General Chemistry II .................... 5 units
CHEM 231 Organic Chemistry I ..................... 5 units
CHEM 232 Organic Chemistry II .................... 5 units
PHYS 210/211 General Physics I / Calculus Supplement ................ 5 units. OR
PHYS 250 Physics with Calculus ..................... 4 units

COMMUNICATION STUDIES

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60 – 70 transferable units
California State University
University of California
Independent Colleges and Universities

Associate in Arts Degree
Communication Studies ..................... 60 units

Recommended high school preparation:
Coursework in English, Speech, Psychology

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

An A.A. degree in Communication Studies prepares students for transfer to a baccalaureate institution for a degree in Communication Studies or a related discipline. The ability to organize one’s thoughts and present them with clarity and precision are communication skills transferable to all careers. A background in communication studies is particularly applicable to careers in advertising, arts administration, cinema, copy editing and writing, corporate communications, counseling, education, entertainment, interviewing, journalism, labor relations, law, the legislature, lobbying, management, marketing, media, news analysis, personnel, play writing, politics, proofreading, public affairs, public information, public relations, radio and television, reporting, research, sales, script writing and editing, speech writing, sportscasting, supervision, television, and theatre.

Certificate of Specialization
Communication Studies ..................... 12 units

Recommended high school preparation:
Coursework in English, Speech, Psychology

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

Major in Communication Studies continued on next page
AA  Major in Communication Studies

Upon completion of degree requirements, students will be able to:

1. Write a speech outline that demonstrates proper organizational components.
2. Apply communication skills and communication theories when working in a team.

Complete General Education and other requirements listed for the Associate degree and

Major requirements: 18 semester units

A grade of “C” or higher is required for each course applied to the major.

COMM 110  Public Speaking .......................... 3 units
COMM 130  Interpersonal Communication .......................... 3 units
COMM 140  Small Group Communication .......................... 3 units
COMM 150  Intercultural Communication .......................... 3 units

Plus, select 6 units from the following courses:

COMM 170  Oral Interpretation I .......................... 3 units
COMM 171  Oral Interpretation II .......................... 3 units
BUS. 401  Business Communication .......................... 3 units
MGMT 220  Organizational Behavior .......................... 3 units
PSYC 110  Courtship, Marriage and Family .......................... 3 units
SOCI 110  Courtship, Marriage and Family .......................... 3 units

AA-T  Major in Communication Studies

Major requirements: 18 semester units

The AA-T major in Communication Studies prepares students for transfer into bachelor’s degree programs in communication and similar areas.

Upon completion of degree requirements, students will be able to:

1. Write a speech outline that demonstrates proper organizational components.
2. Apply communication skills and communication theories when working in a team.

Complete General Education and major requirements as noted below. A grade of “C” or higher is required for each course applied to the major. Major course requirements may also be applied to meet general education requirements.

Required Core Course:

COMM 110  Public Speaking .......................... 3 units

Group A: Students must take the following:

COMM 130  Interpersonal Communication .......................... 3 units
COMM 140  Small Group Communication .......................... 3 units

Group B: Any two courses from the following (6 units):

COMM 150  Intercultural Communication .......................... 3 units
COMM 170  Oral Interpretation I .......................... 3 units

Group C: Any one course from the following or any Group B course not used above (3 units):

ANTH 110  Cultural Anthropology .......................... 3 units
PSYC 100  General Psychology .......................... 3 units
SOCI 100  Introduction to Sociology .......................... 3 units
ENGL 110  Composition, Literature, and Critical Thinking .......................... 3 units
DGME 260  Newswriting and Reporting .......................... 3 units
COMM 171  Oral Interpretation II .......................... 3 units

General Education requirements:
Select courses to complete CSU General Education OR IGETC or CSU. This degree does not require the CSM AA/AS General Education pattern on pages 64 and 65.

CSU GE:

Area A1: Oral Communication .......................... 3 units
Area A2 Written Communication .......................... 3 units
Area A3 Critical Thinking .......................... 3 units
Area B1 Physical Science .......................... 3 units
Area B2 Life Science .......................... 3 units
Area B3 Science Lab .......................... 1 unit
Area B4 Math Concepts .......................... 3 units
Area C1 Arts .......................... 3 units
Area C2 Humanities .......................... 3 units
Area C1 or C2 .......................... 3 units
Area D Social, Political, and Economic Institutions .......................... 9 units
Area E Lifelong Understanding .......................... 3 units

OR

IGETC/CSU:

Area 1A English Composition .......................... 3 units
Area 1B Critical Thinking/Composition .......................... 3 units
Area 1C Oral Communication .......................... 3 units
Area 2 Math Concepts .......................... 3 units
Area 3A Arts .......................... 3 units
Area 3B Humanities .......................... 3 units
Area 3A or 3B .......................... 3 units
Area 4 Social and Behavioral Science .......................... 9 units
Area 5A Physical Science .......................... 3 units
Area 5B Biological Science .......................... 3 units
Area 5C Science Lab - Either 5A or 5B must have a lab component .......................... 1 unit

Electives:

Additional CSU transferable courses based on student interest to reach 60 transferable units total.
Communication Studies

12 semester units

A grade of “C” or higher is required for each course applied to the certificate

COMM 110  Public Speaking .......................... 3 units
COMM 130  Interpersonal Communication ........... 3 units

Plus, select 6 units from the following courses

COMM 140  Small Group Communication ................ 3 units
COMM 150  Intercultural Communication ............... 3 units
COMM 170  Oral Interpretation I .......................... 3 units
COMM 171  Oral Interpretation II ......................... 3 units

CS  Major in Computer and Information Science

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program

60–70 transferable units

California State University
University of California
Independent Colleges and Universities

AS  Associate in Science Degree

Computer and Information Science ............... 60 units
Computer and Network Forensics ............. 60 units
Computer Science Applications and Development .......... 60 units

CA  Certificate of Achievement

Computer and Network Forensics ............... 33 units
Computer Science Applications and Development .......... 31–34 units

CS  Certificates of Specialization

C++ Programming ................................. 8 units
CIS Network Security Specialist ................ 9 units
Computer Forensics ............................... 15 units
Internet Programming ............................. 15–17 units
Java Programming ................................. 8 units

Recommended high school preparation:


University Transfer Program

Use Assist (www.assist.org) to identify lower division major preparation for Computer and Information Science for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

Computer and Information Science offers extraordinary career opportunities to individuals who possess fluency in the English language, solid keyboarding skills, and a desire to work with computers on a daily basis. Students in the Computer and Information Science program at CSM are trained primarily on PC microcomputers and receive the finest training and experience available in areas such as programming, data communications, applications development, network support, end-user support, and hardware/systems support.
This training is intended to lead to employment in the computing industry or transfer to a baccalaureate institution for continued study in the field and to provide advanced study for computing professionals.

Career opportunities include applied scientist, communications technician, computer maintenance technician, computer operator, database specialist, documentation specialist, information specialist, Local Area Network (LAN) administrator, PC specialist, programmer, software engineer, software technician, systems analyst, systems test engineer, technician support representative, and as sales personnel skilled in marketing methods for computer systems. While some students secure employment following completion of the A.S. degree or Certificate program, many transfer to four-year universities to complete a Bachelor’s degree in a computer-related field.

**AS Major in Computer and Information Science**

Upon completion of degree requirements, students will be able to:

1. Implement, test and debug a medium-size computer program that is stylistically and functionally correct, based on an object-oriented design model.
2. Construct reliable, robust, object oriented solutions to problems involving the storage, retrieval and update of large quantities of data.
3. Demonstrate proficiency in one or more computer programming languages.
4. Communicate technical concepts both in writing and orally.

Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 31 semester units**

A grade of “C” or higher is required for each course applied to the major.

- **CIS 255 (CS1) Programming Methods: Java** OR
- **CIS 278 (CS2) Programming Methods: C++** 4 units
- **CIS 256 (CS2) Data Structures: Java** OR
- **CIS 279 (CS2) Data Structures: C++** 4 units
- **MATH 251 Calculus with Analytic Geometry I** 5 units
- **MATH 252 Calculus with Analytic Geometry II** 5 units
- **ENGL 100 Composition and Reading** 3 units

Plus, select 4 or more units from CIS courses numbered 110 or higher

Plus, select 6 or more units from MATH 253, 268, 270, 275; PHYS 250.

**AS Major in Computer and Network Forensics**

CNF is the discovery, recovery, and preservation of digital evidence. Students taking this curriculum are introduced to forensic science, networking, computer science, computer hardware, operating systems, and criminal and civil law. The CNF program prepares graduates for entry-level positions in the law enforcement agencies; governmental agencies; private security firms; human resource departments, information system departments, and computer forensic departments in private sector corporations.

Upon completion of degree requirements, students will be able to:

1. Apply criminal investigation techniques to basic computer forensic investigations.
3. Employ surveillance methods to uncover and prevent network intrusions.
4. Formulate a network security policy based on risk analysis of the network.
5. Explain how computer forensics is applied by law enforcement and in corporate environments.

Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 33 semester units**

A grade of “C” or higher is required for each course applied to the major.

- **CIS 121 Unix/Linux** 3 units
- **CIS 151 Networks and Digital Communications** 3 units
- **CIS 479 Network Security Fundamentals** 3 units
- **CIS 489 Computer Forensics** 3 units
- **CIS 490 Computer Forensics: Network Analysis and Defense** 3 units
- **CIS 491 Computer Forensics: Search and Seizure** 3 units
- **ADMJ 102 Principles and Procedures of the Justice System** 3 units
- **ADMJ 104 Introduction to Criminal Law** 3 units
- **ADMJ 106 Legal Aspects of Evidence** 3 units
- **ADMJ 120 Criminal Investigation** 3 units
- **ELEC 215 Introduction to PC Hardware** 3 units

**CA Computer and Network Forensics**

33 semester units

Complete major requirements listed under Associate in Science – Major in Computer and Network Forensics. A grade of “C” or higher is required for each course applied to the certificate.
**AS Major in Computer Science Applications and Development**

The Computer Science Applications Development program prepares CSM graduates for entry-level programming positions with companies of all sizes. Program emphasis is on cultivating computer professionals who are technically competent and work well with others. Career opportunities exist in numerous businesses and industries. Typical entry-level positions include quality assurance and systems testing, and frequently involve working on project teams.

Upon completion of degree requirements, students will be able to:

1. Create and debug code for given specifications and write appropriate documentation.
2. Demonstrate a comprehensive understanding of one or more computer programming languages.
3. Demonstrate proficiency in using data analysis and data management tools.
4. Demonstrate proficiency in using one or more internet programming languages to design and implement a web based program.
5. Communicate effectively orally, in writing and in media.
6. Work collaboratively and ethically in teams on projects.

Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 31-34 semester units**

A grade of "C" or higher is required for each course applied to the major.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 110 Introduction to Computer and Information Science</td>
<td>3</td>
</tr>
<tr>
<td>CIS 151 Networks and Digital Communications</td>
<td>3</td>
</tr>
<tr>
<td>CIS 254 Introduction to Object-Oriented Program Design</td>
<td>4</td>
</tr>
<tr>
<td>CIS 255 (CS1) Programming Methods: Java</td>
<td>4</td>
</tr>
<tr>
<td>CIS 278 (CS2) Programming Methods: C++</td>
<td>4</td>
</tr>
<tr>
<td>CIS 279 (CS2) Data Structures: C++</td>
<td>4</td>
</tr>
</tbody>
</table>

Plus, select 6-8 units from the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 278 (CS2) Programming Methods: C++ (if not used above)</td>
<td>4</td>
</tr>
<tr>
<td>CIS 255 (CS1) Programming Methods: Java (if not used above)</td>
<td>4</td>
</tr>
<tr>
<td>CIS 256 (CS2) Data Structures: Java (if not used above)</td>
<td>4</td>
</tr>
<tr>
<td>CIS 279 (CS2) Data Structures: C++ (if not used above)</td>
<td>4</td>
</tr>
<tr>
<td>CIS 121 Unix/Linux</td>
<td>3</td>
</tr>
<tr>
<td>CIS 363 Enterprise Database Management with MySQL</td>
<td>4</td>
</tr>
<tr>
<td>CIS 364 Enterprise Data Warehouse</td>
<td>4</td>
</tr>
</tbody>
</table>

**CA Computer Science Applications and Development**

31-34 semester units

Complete major requirements listed under Associate in Science – Major in Computer Science Applications and Development. A grade of "C" or higher is required for each course applied to the certificate.

**CS C++ Programming**

8 semester units

A grade of "C" or higher is required for each course applied to the certificate.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 278 (CS1) Programming Methods: C++</td>
<td>4</td>
</tr>
<tr>
<td>CIS 279 (CS2) Data Structures: C++</td>
<td>4</td>
</tr>
</tbody>
</table>

**CS CIS Network Security Specialist**

9 semester units

A grade of "C" or higher is required for each course applied to the certificate.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 151 Networks and Digital Communication</td>
<td>3</td>
</tr>
<tr>
<td>CIS 479 Network Security Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>CIS 489 Computer Forensics</td>
<td>3</td>
</tr>
</tbody>
</table>

**CS Computer Forensics**

15 semester units

A grade of "C" or higher is required for each course applied to the certificate.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 121 Unix/Linux</td>
<td>3</td>
</tr>
<tr>
<td>CIS 479 Network Security Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>CIS 489 Computer Forensics</td>
<td>3</td>
</tr>
<tr>
<td>CIS 490 Computer Forensics: Network Analysis and Defense</td>
<td>3</td>
</tr>
<tr>
<td>CIS 491 Computer Forensics: Search and Seizure</td>
<td>3</td>
</tr>
</tbody>
</table>

Major in Computer and Information Science continued on next page
COSMETOLOGY

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

AA  Associate in Arts Degree
Cosmetology........................................ 81 units

CA  Certificate of Achievement
Cosmetology......................................... 57 units

Recommended high school preparation:
Coursework in Art, Business Mathematics, Accounting, Psychology and Interpersonal Communication.

State Law requires completion of the tenth grade or equivalent. Student must be 17 years of age to be eligible for the State Examination. High School students may enroll in cosmetology training at College of San Mateo in their junior or senior year. Contact the Cosmetology Department for more information.

The Cosmetology program at CSM is designed to give students the finest training and experience available, and to prepare them for qualification to take the California State Board of Barbering and Cosmetology examination for licensure as a cosmetologist. Through the expertise of a talented faculty and exposure to professional cosmetologists and salon owners, students can learn hair design, hair coloring, hair analysis, skin care, nail care, and aesthetic enhancement of the body.

Skilled cosmetologists find employment with full-service and specialty salons. Licensed cosmetologists also have the freedom to work either full or part-time, and employment opportunities are available without regard to gender or age. The employment outlook for cosmetologists is good, with positions presently outnumbering applicants.

Admission Requirements:
Student must complete the four items below.

1. The CSM Admissions Application
2. The Cosmetology Program Application (Contact the Department for an application (650) 574-6363
3. CSM English Placement Test
4. CSM Matriculation requirements

Admissions priority is given to San Mateo Community College District residents.

When space is available, students with previous training may be eligible for admission to the Advanced Standing program in Cosmetology within a one-year period of withdrawal from a pervious school and upon submission of State Board records to the Cosmetology Department.

No student who has completed more than 600 hours of approved training in another school will be admitted to the Advanced Standing program.
**AA Major in Cosmetology**

Upon completion of degree requirements, students will be able to:

1. Pass the practical section of the State of California Board of Barbering and Cosmetology licensing exam.
2. Pass the written section of the State of California Board of Barbering and Cosmetology licensing exam.
3. Work effectively as a member of a team.
4. Evaluate client needs and select appropriate techniques and products to achieve desired results.
5. Practice work habits that meet industry standards and practice life-long learning to remain current with industry standards.

Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 57 semester units**

A grade of “C” or higher is required for each course applied to the major.

- COSM 712 Fundamentals of Cosmetology I .................. 10 units
- COSM 722 Fundamentals of Cosmetology II ................. 10 units
- COSM 732 Advanced Cosmetology I .................. 18.5–23.5 units
- COSM 742 Advanced Cosmetology II .................. 18.5–23.5 units

Upon satisfactory completion of 1600 total hours with grades of “C” or higher, students are qualified to take the California State Board of Cosmetology examination for licensure as a Cosmetologist.

**CA Cosmetology**

57 semester units required

Complete major requirements listed under Associate in Arts – Major in Cosmetology. A grade of “C” or higher is required for each course applied to the certificate.

**Special Course in Cosmetology**

COSM 750 – Brush-Up

Refresher course to upgrade skills for students who hold an out-of-state license that require supplemental training to qualify for the California State Bureau of Cosmetology licensing exam.

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**DENTAL ASSISTING**

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

**AS Associate in Science Degree**

Dental Assisting ........................................ 60 units

**CA Certificate of Achievement**

Dental Assisting ........................................ 32–40.5 units

**Recommended high school preparation:**

Coursework in Science, English, Psychology, and courses in Art that develop manual dexterity.

**Requirements:**

Students are required to take the CSM English Placement Test prior to enrolling in the program. Any student who wants to become licensed by the State of California as a Registered Dental Assistant (RDA) must have a high school diploma or equivalent to qualify for the licensing exam.

**AS Major in Dental Assisting**

Upon completion of degree requirements, students will be able to:

1. Legally sit for the Registered Dental Assistant (RDA) licensing examination for the State of California.
2. Legally sit for the Certified Dental Assistant (CDA) licensing examination administered by the Dental Assisting National Board (DANB).
3. Follow the continuing education (CE) procedures necessary to maintain current knowledge and remain updated in areas of dental assisting and dentistry in general.
4. Demonstrate knowledge of existing California laws regarding delegatable duties and dental ethics as they relate to dental assisting.

Complete General Education and other requirements listed for the Associate of Science degree and

**Major requirements: 35–37 semester units**

A grade of “C” or higher is required for each course applied to the major.

- DENT 716 Dental Office Procedures (Fall) .................. 2.5 units
- DENT 721 Dental Materials I (Fall) .................. 3 units
- DENT 722 Dental Materials II (Spring) .................. 2 units
- DENT 731 Dental Science I (Fall) .................. 3 units
- DENT 732 Dental Science II (Spring) .................. 3 units
- DENT 735 (Fall only) or PSYC 100 or SOCI 100 .................. 1–3 units
- DENT 740 Chair side I (Fall) .................. 3 units
- DENT 742 Chair side II (Spring) .................. 3 units
- DENT 743 Coronal Polish (Spring) .................. 0.5 unit
- DENT 749 Pre-Clinical Science (Fall) .................. 0.5 unit
DIGITAL MEDIA

(Pending approval from the State Chancellor’s Office)

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program

60–70 transferable units

California State University
University of California
Independent Colleges and Universities

AA Associate in Arts Degree

Digital Media: Broadcast and Electronic Media Concentration
- Digital Audio Option
- Digital Video Production Option
- Television Producing Option

Digital Media: Graphic Design Concentration

Digital Media: Journalism Concentration

Digital Media: Web/Multimedia Concentration
- Web Design Option
- Web Developer Option
- Multimedia Option

CA Certificate of Achievement

Digital Media: Graphic Design Concentration
- Graphic Design
- Graphic Production

Digital Media: Journalism Concentration

Digital Media: Web/Multimedia Concentration
- Web Design
- Web Developer
- Multimedia

CS Certificate of Specialization

Digital Media: Broadcast and Electronic Media Concentration
- Video Journalism
- Television and Radio Broadcasting
- Lighting
- Digital Audio

Digital Media: Graphic Design Concentration
- Graphic Design
- Graphic Production

Digital Media: Web/Multimedia Concentration
- Web Design/Web Developer
- Multimedia
- Digital Video

University Transfer Program

Use Assist (www.assist.org) to identify lower division major preparation for Digital Media for the California State University and the University of California systems. For independent or out-of-state col-
leges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

**Broadcast and Electronic Media**

CSM's Broadcast and Electronic Media program is helping to train the next generation of media makers, equipping them with technical skills, an ethical conscience, and an understanding of how media affects society. This 21st century program prepares students for a career in broadcasting through professional hands-on training. Students in Broadcast and Electronic Media can choose from three A.A. Degrees and four Certificates of Specialization, earn transfer credits, or just build their career skills. Students have the opportunity to explore a variety of possible career choices within the broadcasting industry: TV and video producing, directing, lighting, camera operation (in the studio and field), video editing, scriptwriting, on-air talent, audio recording and mixing, and radio programming. Students can expect rigorous training and real world projects.

TV training takes place in CSM's state-of-the-art TV studio, which is located inside a full-time broadcast station, KCSM-TV. Some classes produce programming that is broadcast on KCSM, so students work on TV shows that will air in a top-ten media market. Students enrolled in radio production will produce programming for a web-based college radio station.

**AA Major in Digital Media: Broadcast and Electronic Media Concentration: Digital Audio Option**

(Pending approval from the State Chancellor’s Office)

The Digital Audio degree prepares students for entry level work in the radio industry or audio production. This degree focuses on: training students in sound recording and mixing; creating radio programming; and studying the intersection of audio and visual media. Students receive hands-on training for work in recording studios, audio production companies, and radio stations.

Upon completion of degree requirements, students will be able to:

1. Demonstrate a working knowledge of the practical and theoretical concepts used in sound recording for radio, television, and other electronic media.

2. Analyze the artistic and technical aspects of audio productions.

Complete General Education and other requirements listed for the Associate degree and

**Major Requirements: 27.5 semester units**

A grade of “C” or higher is required for each course applied to the major.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>DGME 100</td>
<td>Media in Society</td>
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<td>DGME 102</td>
<td>Media Law and Ethics</td>
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<td>DGME 112</td>
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<td>OR</td>
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<td>DGME 113</td>
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<td>DGME 150</td>
<td>Advanced Audio: Radio Production</td>
<td>OR</td>
</tr>
<tr>
<td>DGME 152</td>
<td>Advanced Digital Audio: Pro Tools</td>
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</tr>
<tr>
<td>MUS 290</td>
<td>Electronic Music I</td>
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<tr>
<td>DGME 250</td>
<td>Digital Media Practicum</td>
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<tr>
<td>DGME 255</td>
<td>Portfolio</td>
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</table>

**CS Digital Media: Broadcast and Electronic Media Concentration: Digital Audio Option**

12 semester units

A grade of "C" or higher is required for each course applied to the certificate.

<table>
<thead>
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<td>DGME 150</td>
<td>Advanced Audio: Radio Production</td>
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<td>DGME 152</td>
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<td>3</td>
</tr>
<tr>
<td>MUS 290</td>
<td>Electronic Music I</td>
<td>3</td>
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</table>

**AA Major in Digital Media: Broadcast and Electronic Media Concentration: Digital Video Production Option**

(Pending approval from the State Chancellor’s Office)

The Digital Video Production degree prepares students for entry level work in TV and video production. This degree concentrates on broadcast level TV production and shooting and editing digital video. There are hundreds of production companies and TV stations throughout California that employ qualified directors of photography, video journalists, and video editors who have the type of training this program offers.

Upon completion of degree requirements, students will be able to:

1. Demonstrate technical proficiency in video production and postproduction,

2. Analyze the artistic and technical aspects of video productions such as composition, sound, lighting, and continuity.

Complete General Education and other requirements listed for the Associate degree and

**Major Requirements: 29 semester units**

A grade of “C” or higher is required for each course applied to the major.

<table>
<thead>
<tr>
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<td>DGME 100</td>
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<td>DGME 102</td>
<td>Media Law and Ethics</td>
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<td>DGME 260</td>
<td>Newswriting and Reporting</td>
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<td>DGME 112</td>
<td>TV Studio Production</td>
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<td>DGME 113</td>
<td>Digital Video Production</td>
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<td>DGME 118</td>
<td>Digital Audio Production</td>
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<td>DGME 120</td>
<td>Advanced Video and Editing</td>
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<td>DGME 130</td>
<td>Lighting for Studio and Field</td>
<td>3</td>
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<tr>
<td>DGME 155</td>
<td>Video Journalism</td>
<td>3</td>
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<tr>
<td>DGME 255</td>
<td>Portfolio</td>
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</tbody>
</table>

**Major in Digital Media continued on next page**
Major in Digital Media: Broadcast and Electronic Media Concentration: Television Producing Option

(Pending approval from the State Chancellor’s Office)

The Television Producing degree prepares students for entry level work as a media producer. This degree focuses on creating regular TV programming, writing, and producing video. Hands-on courses provide training in camera operation, news reporting, video editing and on-air talent, including voiceover and on-camera announcing.

Upon completion of degree requirements, students will be able to:
1. Produce television segments that serve target viewers
2. Identify possible effects of media productions on audiences

Complete General Education and other requirements listed for the Associate degree and

Major Requirements: 29 semester units
A grade of “C” or higher is required for each course applied to the major.

DGME 100 Media in Society ........................................... 3 units
DGME 101 Writing Across the Media ................................. 3 units
DGME 102 Media Law and Ethics ...................................... 3 units
DGME 103 Thinking Visually: Fundamentals of Two-Dimensional Design ........................................... 3 units
DGME 112 TV Studio Production ....................................... 3 units
DGME 113 Digital Video Production ................................... 3 units
DGME 120 Advanced Video and Editing .............................. 3 units
DGME 128 On-Air Talent ............................................. 3 units
DGME 155 Video Journalism .......................................... 3 units
DGME 255 Portfolio .................................................... 2 units

Major in Digital Media: Graphic Design Concentration

(Pending approval from the State Chancellor’s Office)

The Graphic Design associate’s degree prepares students for entry level work in the visual media industry; the degree also serves the needs of students planning to transfer to study Graphic Design at a four-year school. The curriculum includes basic visual literacy and visual communication skills, the complete software package necessary for employment or transfer, typography, graphic design theory and application, and several production classes that offer real-world hands-on learning experiences.

The skills that graphic designers possess transcend media boundaries. They may work in print or they may work in three-dimensional media such as environmental graphics, exhibit and display design, or signage. They may design for electronic media such as television, the web, or multimedia or they may create motion graphics and titling for film and video. They may work in information design and interface design or even type design.

They may design packaging, books, magazines, and posters, all forms of advertising, corporate communications, corporate identity, environmental and retail design, web design, education design, or nonprofit design. Their creativity and skills are necessary wherever a message and an audience meet, regardless of the media.

Upon completion of degree requirements, students will be able to:
1. Synthesize visual solutions to graphic problems by integrating information and ideas.
2. Design and produce original solutions to graphic problems using technology and software central to the graphics industry effectively.
3. Analyze, compare and contrast the effectiveness of their own original design work and the work of others.

Complete General Education and other requirements listed for the Associate degree and

Major Requirements: 31 semester units
A grade of “C” or higher is required for each course applied to the major.

DGME 103 Thinking Visually: Fundamentals of Two-Dimensional Design ........................................... 3 units
DGME 211 Media Design I: Illustrator ................................ 3 units
DGME 212 Media Design II: Photoshop ............................ 3 units
DGME 168 Web Design II: Dreamweaver .......................... 3 units
DGME 220 Typography ................................................ 3 units
DGME 230 Publication Design and Production
  with InDesign ....................................................... 3 units
DGME 235 Graphic Design Theory and Application ............. 4 units
DGME 240 Digital Publishing .......................................... 4 units
DGME 250 Digital Media Practicum .................................. 3 units
DGME 255 Portfolio .................................................... 2 units

Digital Media: Graphic Design Concentration: Graphic Design

(Pending approval from the State Chancellor’s Office)

Upon completion of certificate requirements, students will be able to:
1. Create original graphic design projects using comprehensive design, production, and business techniques.
2. Create an original portfolio in order to pursue employment or college transfer opportunities.
3. Collaborate effectively with project team members and industry professionals.
4. Demonstrate a holistic understanding and practical ability to complete an industry standard graphic design project from inception to completion.

27 semester units
A grade of “C” or higher is required for each course applied to the certificate.
DGME 103 Thinking Visually: Fundamentals of Two-Dimensional Design ............................................. 3 units
DGME 211 Media Design I: Illustrator ............................................. 3 units
DGME 212 Media Design II: Photoshop ............................................. 3 units
DGME 215 History of Graphic Design ............................................. 3 units
DGME 220 Typography ................................................................. 3 units
DGME 230 Publication Design and Production with InDesign ............................................. 3 units
DGME 235 Graphic Design Theory and Application ................................................................. 4 units
DGME 250 Digital Media Practicum ............................................. 3 units
DGME 255 Portfolio ................................................................. 2 units

**CS Digital Media: Graphic Design Concentration: Graphic Design**

Upon completion of certificate requirements, students will be able to:

1. Create original graphic design projects using comprehensive design techniques.
2. Communicate effectively to present graphic design solutions to peers and clients.
3. Demonstrate a holistic understanding and practical ability to create an industry standard graphic design project from inception to completion.

**13 semester units**

A grade of “C” or higher is required for each course applied to the certificate.

DGME 103 Thinking Visually: Fundamentals of Two-Dimensional Design ............................................. 3 units
DGME 215 History of Graphic Design ............................................. 3 units
DGME 220 Typography ................................................................. 3 units
DGME 235 Graphic Design Theory and Application ................................................................. 4 units

**CA Digital Media: Graphic Design Concentration: Graphic Production**

(Pending approval from the State Chancellor’s Office)

Upon completion of certificate requirements, students will be able to:

1. Create original graphic design / web design projects using comprehensive production and business techniques.
2. Create an original portfolio in order to pursue employment or college transfer opportunities.
3. Collaborate effectively with project team members and industry professionals.
4. Demonstrate a holistic understanding and practical ability to complete an industry standard graphic design / web design project from inception to completion.

**27 semester units**

A grade of “C” or higher is required for each course applied to the certificate.

DGME 211 Media Design I: Illustrator ............................................. 3 units
DGME 212 Media Design II: Photoshop ............................................. 3 units
DGME 215 History of Graphic Design ............................................. 3 units
DGME 220 Typography ................................................................. 3 units
DGME 230 Publication Design and Production with InDesign ............................................. 3 units
DGME 250 Digital Media Practicum ............................................. 3 units
DGME 255 Portfolio ................................................................. 2 units

**CS Digital Media: Graphic Design Concentration: Graphic Production**

Upon completion of certificate requirements, students will be able to:

1. Produce graphic design / web design projects using comprehensive production techniques.
2. Demonstrate the ability to communicate effectively to team members or clients regarding graphic design / web design production techniques and solutions.
3. Demonstrate a holistic understanding and practical ability to complete production cycles of graphic design / web design projects.

**12 semester units**

A grade of “C” or higher is required for each course applied to the certificate.

DGME 211 Media Design I: Illustrator ............................................. 3 units
DGME 212 Media Design II: Photoshop ............................................. 3 units
DGME 230 Publication Design and Production with InDesign ............................................. 3 units
DGME 168 Web Design II: Dreamweaver ............................................. 3 units

**CS Digital Media: Graphic Design Concentration: Graphic Production**

Upon completion of certificate requirements, students will be able to:

1. Produce graphic design / web design projects using comprehensive production techniques.
2. Demonstrate the ability to communicate effectively to team members or clients regarding graphic design / web design production techniques and solutions.
3. Demonstrate a holistic understanding and practical ability to complete production cycles of graphic design / web design projects.

**12 semester units**

A grade of “C” or higher is required for each course applied to the certificate.

DGME 211 Media Design I: Illustrator ............................................. 3 units
DGME 212 Media Design II: Photoshop ............................................. 3 units
DGME 230 Publication Design and Production with InDesign ............................................. 3 units
DGME 168 Web Design II: Dreamweaver ............................................. 3 units

**AA Major in Digital Media: Journalism Concentration**

(Pending approval from the State Chancellor’s Office)

CSM’s Journalism program provides a robust learning environment where hands-on experience and training in media ethics prepare students for further study and careers in media industries, or for personal enrichment. Students work on The San Matean, the award-winning campus newspaper and website, in real-world exploration of how media function. Among the skills they develop are reporting, editing, news photography, online editing, video reporting and page design. Students can earn an AA in Journalism or Certificate of Achievement as part of the new integrative digital media curriculum that combines offerings from several disciplines.

The program can help students pursue an array of career opportunities, including work for advertising agencies, corporate communications departments, magazines, news agencies, newspapers,

Major in Digital Media continued on next page
publishing companies, and radio/television stations. Specific career opportunities include advertising copywriter, biographer, columnist, correspondent, editor, editorial assistant, editorial writer, freelance writer, interviewer, journalist, legislative assistant, novelist, photographer, press/public relations officer, proofreader, radio/television announcer or writer, reporter, and science, speech, or technical writer.

The Digital Media degree with a Journalism concentration readies students for transfer to four-year journalism programs or to enter media industries. Students are provided a rich exploration of media issues, ethics and other vital journalism basics, including reporting, newswriting and editing. Students learn to collaborate and work on multiple media platforms while participating on the program’s First Amendment newspaper and website.

Complete General Education and other requirements listed for the Associate degree and

**Major Requirements: 24 semester units**
A grade of “C” or higher is required for each course applied to the major.

- DGME 100 Media in the Society .................. 3 units
- DGME 101 Writing Across the Media ............. 3 units
- DGME 113 Digital Video Production ............ 3 units
- DGME 118 Digital Audio Production ............ 3 units
- DGME 167 Web Design I: Fireworks .................. 3 units
- DGME 260 Newswriting and Reporting .......... 3 units
- DGME 261 Advanced Newswriting and Reporting .. 3 units
- DGME 265 Newspaper and Online News Production .... 3 units

**Digital Media: Journalism Concentration: Journalism**
(Pending approval from the State Chancellor’s Office)

Upon completion of certificate requirements, students will be able to:

1. Communicate effectively by producing beat reports and formulating story ideas based on campus and off-campus research.
2. Demonstrate effective teamwork and project planning by working within a student-centered hierarchy on print and online journalism projects. Students learn to collaborate and assign individual duties within their group.
3. Develop story and photo ideas and original ways of presenting materials for the newspaper and website.
4. Produce an authentic newspaper and website.
5. Gather content and design coverage for print and online within a First Amendment context.
6. Produce video and audio content for the website.

**21 semester units**
A grade of “C” or higher is required for each course applied to the certificate.

**DGME 100 Media in Society .................. 3 units**
**DGME 113 Digital Video Production ............ 3 units**
**DGME 118 Digital Audio Production ............ 3 units**
**DGME 167 Web Design I: Fireworks .................. 3 units**
**DGME 260 Newswriting and Reporting .......... 3 units**
**DGME 261 Advanced Newswriting and Reporting .. 3 units**
**DGME 265 Newspaper and Online News Production .... 3 units**

**AA Major in Digital Media: Web/Multimedia Concentration: Web Design Option**
(Pending approval from the State Chancellor’s Office)

Web designers are responsible for creating the look and feel of World Wide Web pages for a client’s website. This involves developing an interface design that effectively communicates the ideas being promoted by the website. A web designer may take part in the initial planning of a website, meeting with the clients to discuss ideas for the layout and organization of the site, and other matters concerning the overall design and accessibility of the site. Web designers may also be involved with programming and project management.

The work environments of web designers include working for large and medium sized corporations, web design and development firms, government agencies, academic organizations, non-profit organizations, and internet companies, or working as independent web designers.

Upon completion of degree requirements, students will be able to:

1. Demonstrate web editing software
2. Differentiate and construct web graphic formats
3. Differentiate the different scripting languages
4. Evaluate the limitations of the web
5. Know legal and ethical issues

Complete General Education and other requirements listed for the Associate degree and

**Major Requirements: 26 semester units**
A grade of “C” or higher is required for each course applied to the major.

- DGME 102 Media Law and Ethics ................... 3 units
- DGME 103 Thinking Visually: Fundamentals of Two-Dimensional Design ................... 3 units
- DGME 167 Web Design I: Fireworks .................. 3 units
- DGME 168 Web Design II: Dreamweaver ............. 3 units
- DGME 169 Web Design III: CSS ...................... 3 units
- DGME 165 Digital Animation: Flash ................. 3 units
- DGME 220 Typography .................. 3 units
- DGME 250 Digital Media Practicum ................. 3 units
- DGME 255 Portfolio .................. 2 units
Digital Media: Web/Multimedia Concentration: Web Design

(Pending approval from the State Chancellor’s Office)

Upon completion of certificate requirements, students will be able to:

1. Describe design concepts at various stages of development relating to the design process and use of appropriate software.
2. Demonstrate the ability to work in teams effectively.
3. Apply critical thinking and creative problem-solving skills to a variety of design and production cases.
4. Employ theoretical knowledge, skills and attitudes to real world issues/situations.
5. Develop and evaluate student project-based learning activities.
6. Demonstrate proficiency with design processes and software tools.

24 semester units

A grade of “C” or higher is required for each course applied to the certificate.

DGME 102 Media Law and Ethics ........................................ 3 units
DGME 103 Thinking Visually: Fundamentals of Two-Dimensional Design ........................................ 3 units
DGME 165 Digital Animation: Flash .................................... 3 units
DGME 166 Web Authoring: ActionScript ............................ 3 units
DGME 167 Web Design I: Fireworks .................................... 3 units
DGME 168 Web Design II: Dreamweaver ............................. 3 units
DGME 169 Web Design III: CSS ........................................ 3 units
DGME 165 Digital Animation ................................................ 3 units
DGME 166 Web Authoring: ActionScript ............................ 3 units
CIS 111 Introduction to Internet Programming ...................... 3 units
CIS 114 Internet Programming: JavaScript/Ajax ..................... 4 units
DGME 250 Digital Media Practicum .................................... 3 units
DGME 255 Portfolio .......................................................... 2 units

Digital Media: Web/Multimedia Concentration: Web Developer Option

(Pending approval from the State Chancellor’s Office)

Upon completion of certificate requirements, students will be able to:

1. Describe web editing software
2. Differentiate and construct web graphic formats
3. Differentiate the different scripting languages
4. Evaluate the limitations of the web
5. Know legal and ethical issues

Complete General Education and other requirements listed for the Associate degree and

Major Requirements: 33 semester units

A grade of “C” or higher is required for each course applied to the major.

DGME 102 Media Law and Ethics ........................................ 3 units
DGME 103 Thinking Visually: Fundamentals of Two-Dimensional Design ........................................ 3 units
DGME 167 Web Design I: Fireworks .................................... 3 units
DGME 168 Web Design II: Dreamweaver ............................. 3 units
DGME 169 Web Design III: CSS ........................................ 3 units
DGME 165 Digital Animation ................................................ 3 units
DGME 166 Web Authoring: ActionScript ............................ 3 units
CIS 111 Introduction to Internet Programming ...................... 3 units
CIS 114 Internet Programming: JavaScript/Ajax ..................... 4 units
DGME 250 Digital Media Practicum .................................... 3 units
DGME 255 Portfolio .......................................................... 2 units

Digital Media: Web/Multimedia Concentration: Web Developer

(Pending approval from the State Chancellor’s Office)

Upon completion of certificate requirements, students will be able to:

1. Describe developer concepts at various stages of development relating to the developer process and use of appropriate software.
2. Describe developer concepts at various stages of development relating to the developer process and use of appropriate software.
3. Apply critical thinking and creative problem-solving skills to a variety of developer and production cases.
4. Employ theoretical knowledge, skills, and attitudes to real world issues/situations.
5. Develop and evaluate student project-based learning activities.
6. Demonstrate proficiency with developer processes and software tools.

21 semester units

A grade of “C” or higher is required for each course applied to the certificate.

DGME 102 Media Law and Ethics ........................................ 3 units
DGME 165 Digital Animation: Flash .................................... 3 units
DGME 166 Web Authoring: ActionScript ............................ 3 units
DGME 167 Web Design I: Fireworks .................................... 3 units
DGME 168 Web Design II: Dreamweaver ............................. 3 units
DGME 169 Web Design III: CSS ........................................ 3 units
CIS 111 Introduction to Internet Programming ...................... 3 units

Major in Digital Media continued on next page
Digital Media: Web/Multimedia Concentration: Web Design/Web Developer

Upon completion of certificate requirements, students will be able to:

1. Describe developer concepts at various stages of development relating to the developer process and use of appropriate software.
2. Demonstrate the ability to work in teams effectively.
3. Apply critical thinking and creative problem-solving skills to a variety of developer and production cases.
4. Employ theoretical knowledge, skills, and attitudes to real world issues / situations.
5. Demonstrate proficiency with developer processes and software tools.

12 semester units
A grade of “C” or higher is required for each course applied to the certificate.

DGME 165 Digital Animation: Flash .......................... 3 units
DGME 166 Web Authoring: ActionScript ................... 3 units
DGME 167 Web Design I: Fireworks ......................... 3 units
DGME 168 Web Design II: Dreamweaver ..................... 3 units

Major in Digital Media: Web/Multimedia Concentration: Multimedia Option
(Pending approval from the State Chancellor’s Office)

Multimedia designers combine design and technical knowledge to create information and communication technology-based products that entertain, educate, or inform the user. This includes entertainment products such as computer games, education and training materials such as electronic kiosks in museums and trade shows, DVD-ROM games and “edutainment” programs, and interactive presentations used in business settings.

The duties of a multimedia designer may include animation, storyboarding, digital audio, digital video, project management, accessibility, and liaising with clients.

Multimedia designers work in the film and TV industries, advertising and marketing firms, web companies, government agencies, academic organizations and non-profit organizations, or may work as independent multimedia designers.

Upon completion of degree requirements, students will be able to:

1. Demonstrate multimedia editing software
2. Differentiate and construct multimedia formats
3. Differentiate digital media file formats
4. Evaluate the limitations of digital media
5. Know legal and ethical issues

Complete General Education and other requirements listed for the

Associate degree and

Major Requirements: 32 semester units
A grade of “C” or higher is required for each course applied to the major.

DGME 102 Media Law and Ethics ................................ 3 units
DGME 103 Thinking Visually: Fundamentals of Two-Dimensional Design ............................................. 3 units
DGME 165 Digital Animation: Flash .......................... 3 units
DGME 166 Web Authoring: ActionScript ................... 3 units
DGME 113 Digital Video Production ............................ 3 units
DGME 118 Digital Audio Production ........................... 3 units
DGME 143 Motion Graphics ...................................... 3 units
DGME 220 Typography ............................................ 3 units
DGME 250 Digital Media Practicum ............................ 3 units
DGME 255 Portfolio ................................................. 2 units

Digital Media: Web/Multimedia Concentration: Multimedia
(Pending approval from the State Chancellor’s Office)

Upon completion of certificate requirements, students will be able to:

1. Describe multimedia concepts at various stages of development relating to the multimedia process and use of appropriate software.
2. Demonstrate the ability to work in teams effectively.
3. Apply critical thinking and creative problem-solving skills to a variety of multimedia and production cases.
4. Employ theoretical knowledge, skills and attitudes to real world issues / situations.
5. Develop and evaluate student project-based learning activities.
6. Demonstrate proficiency with multimedia processes and software tools.

24 semester units
A grade of “C” or higher is required for each course applied to the certificate.

DGME 102 Media Law and Ethics ................................ 3 units
DGME 103 Thinking Visually: Fundamentals of Two-Dimensional Design ............................................. 3 units
DGME 113 Digital Video Production ............................ 3 units
DGME 143 Motion Graphics ...................................... 3 units
DGME 165 Digital Animation ................................. 3 units
DGME 166 Web Authoring: ActionScript ................... 3 units
DGME 167 Web Design I: Fireworks ......................... 3 units
DGME 168 Web Design II: Dreamweaver ..................... 3 units
**CS Digital Media: Web/Multimedia Concentration: Multimedia**

Upon completion of certificate requirements, students will be able to:

1. Describe multimedia concepts at various stages of development relating to the multimedia process and use of appropriate software.
2. Demonstrate the ability to work in teams effectively.
3. Apply critical thinking and creative problem-solving skills to a variety of multimedia and production cases.
4. Employ theoretical knowledge, skills, and attitudes to real world issues / situations.
5. Demonstrate proficiency with multimedia processes and software tools.

**12 semester units**

A grade of “C” or higher is required for each course applied to the certificate.

DGME 113 Digital Video Production ....................... 3 units
DGME 143 Motion Graphics .................................. 3 units
DGME 165 Digital Animation: Flash .......................... 3 units
DGME 166 Web Authoring: ActionScript ................... 3 units

**CS Digital Media: Broadcast and Electronic Media Concentration: Video Journalism**

Upon completion of certificate requirements, students will be able to:

1. Produce video that clearly communicates information for specific audiences.
2. Write and report a typical video news package.
3. Explain the difference between video journalism and more traditional forms of journalism.

**15 semester units**

A grade of “C” or higher is required for each course applied to the certificate.

DGME 101 Writing Across the Media ....................... 3 units
DGME 113 Digital Video Production ....................... 3 units
DGME 120 Advanced Video and Editing .................... 3 units
DGME 155 Video Journalism .................................. 3 units
DGME 260 Newswriting and Reporting ..................... 3 units

**CS Digital Media: Broadcast and Electronic Media Concentration: Television and Radio Broadcasting**

Upon completion of certificate requirements, students will be able to:

1. Demonstrate developing proficiency in video production.
2. Cooperate in and contribute to a team environment.
3. Produce a block of radio programming.

**15 semester units**

A grade of “C” or higher is required for each course applied to the certificate.

DGME 100 Media in Society .................................. 3 units
DGME 112 TV Studio Production ............................. 3 units
DGME 113 Digital Video Production ....................... 3 units
DGME 118 Digital Audio Production ....................... 3 units
DGME 150 Advanced Audio: Radio Production .......... 3 units

**CS Digital Media: Broadcast and Electronic Media Concentration: Lighting**

Upon completion of certificate requirements, students will be able to:

1. Create a lighting design for a typical TV studio set.
2. Apply aesthetic principles to create a specific mood/tone.
3. Demonstrate use of shadow to shape perception.

**9 semester units**

A grade of “C” or higher is required for each course applied to the certificate.

DGME 103 Thinking Visually: Fundamentals of Two-Dimensional Design .................. 3 units
DGME 112 TV Studio Production ............................. OR
DGME 113 Digital Video Production ....................... 3 units
DGME 130 Lighting for Studio and Field ................... 3 units

**CS Digital Media: Broadcast and Electronic Media Concentration: Digital Audio**

Upon completion of certificate requirements, students will be able to:

1. Select and configure recording equipment for a recording session.
2. Record using digital audio technology.
3. Mix and transcode a digital audio production.

**12 semester units**

A grade of “C” or higher is required for each course applied to the certificate.

DGME 118 Digital Audio Production ....................... 3 units
DGME 150 Advanced Audio: Radio Production .......... 3 units
DGME 152 Advanced Digital Audio: Pro Tools ............ 3 units
MUS 290 Electronic Music I ................................. 3 units

Major in Digital Media continued on next page
DRAFTING TECHNOLOGY

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program

60–70 transferable units
California State University
University of California
Independent Colleges and Universities

CS  Associate in Science Degree
CAD/Drafting Technology .......................... 60 units

CA  Certificates of Achievement
CAD/Drafting Technology .......................... 21 units

CS  Certificates of Specialization
Computer-Aided Design .......................... 16–17 units

Recommended high school preparation:
Coursework in Mechanical Drawing, Art, Computers, Mathematics

University Transfer Program

Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. Consider university majors that may be listed as Industrial Technology, Construction Management, Construction Engineering Technology. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

Drafting is common to all manufacturing and construction activities. The drafter interprets the engineer’s ideas, presenting them in the language of manufacturing and construction. Recognized as one of the finest Drafting programs in the state, CSM’s instructors have recent industry experience and classrooms are equipped with the latest equipment, including computer-aided drafting (CAD) stations. A graduate of CSM’s Drafting Technology program may select from several enviable opportunities. The graduate may immediately enter industry as a draftsperson with the potential to become a designer or may opt to continue their education at a state university for a Bachelor’s degree in Industrial Technology, becoming eligible for technical management positions.

Digital Media: Web/Multimedia
Concentration: Digital Video

Upon completion of certificate requirements, students will be able to:
1. Use video editing to tell a story.
2. Enhance and improve video with purposeful graphics.

9 semester units
A grade of “C” or higher is required for each course applied to the certificate.

DGME 113 Digital Video Production .................. 3 units
DGME 120 Advanced Video and Editing ............... 3 units
DGME 143 Motion Graphics .......................... 3 units

Recommended high school preparation:
Coursework in Mechanical Drawing, Art, Computers, Mathematics

Digital Video Production
DGME 113 Digital Video Production .................. 3 units
DGME 120 Advanced Video and Editing ............... 3 units
DGME 143 Motion Graphics .......................... 3 units

A grade of “C” or higher is required for each course applied to the certificate.

DGME 113 Digital Video Production .................. 3 units
DGME 120 Advanced Video and Editing ............... 3 units
DGME 143 Motion Graphics .......................... 3 units

CS  Associate in Science Degree
CAD/Drafting Technology .......................... 60 units

CS  Certificates of Specialization
Computer-Aided Design .......................... 16–17 units

A grade of “C” or higher is required for each course applied to the certificate.
AS  **Major in CAD/Drafting Technology**
Complete General Education and other requirements listed for the Associate degree and

**Major Requirements: 21 semester units**
A grade of “C” or higher is required for each course applied to the major.

DRAF 120  Principles of Technical Drawing ............ 3 units  
DRAF 121  Computer-Aided Drafting I ................. 3 units  
DRAF 122  Computer-Aided Drafting II ............... 3 units  
DRAF 123  Computer-Aided Drafting III .............. 3 units  
DRAF 124  Computer-Aided Drafting IV .............. 3 units  
DRAF 130  Mechanical Design and Computer Aided Drafting (CAD) ............ 3 units

Plus, select 3 units from any course in:  
ARCH (Architecture)  
BUSW (Business Applications Windows Platform)  
ELEC (Electronics)  
MULT (Multimedia)

CA  **CAD/Drafting Technology**
21 semester units

Complete major requirements listed under Associate in Science – Major in Drafting. A grade of “C” or higher is required in each course applied to the certificate.

CS  **Computer-Aided Design**
16–17 semester units

A grade of “C” or higher is required in each course applied to the certificate.

DRAF 120  Principles of Technical Drawing ............ 3 units  
DRAF 121  Computer-Aided Drafting I ................. 3 units  
DRAF 122  Computer-Aided Drafting II ............... 3 units  
DRAF 130  Mechanical Design and Computer Aided Drafting (CAD) ............ 3 units  
CRER 123  Career Exploration and Student Success ........ 1 unit  
ENGL 848  Introduction to Composition and Writing ........ 4 units  OR  
ENGL 100  Composition and Reading ............ 3 units

**ECONOMICS**

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

**University Transfer Program**
60–70 transferable units
California State University  
University of California  
Independent Colleges and Universities

Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.
ELECTRICAL TECHNOLOGY

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

Certificate of Specialization
Electrical Technology: Inside Wireman ....... 15 units

Requirements
The courses required for this degree and certificate are administered by College of San Mateo in conjunction with the Joint Apprenticeship Training Committee. Registration is limited to those students fulfilling the related instructional requirements of the State of California as an indentured apprentice. For information, contact the San Mateo County JATC for Electrical Construction Industry of the Technology Division.

Students must be at least 18 years of age and have a high school diploma or G.E.D. High school mathematics courses or at least one semester of college-level algebra is also required for this course of study.

For course descriptions see 'Apprenticeship Training'.

Electrical Technology: Inside Wireman
Inside Wireman install electrical service, establish grounding systems, establish power distribution, install raceway systems and wiring, provide power and controls to motors, and install receptacles, lighting systems, and fixtures in commercial, industrial, and residential construction. Employment opportunities in this field are tied to the construction trade industry. Students who successfully complete this program receive journeyman status as an Inside Wireman.

15 semester units
A grade of "C" or higher is required in each course applied to the certificate.

ELEL 731 Electrical Apprenticeship I ............... 1.5 units
ELEL 732 Electrical Apprenticeship II ............... 1.5 units
ELEL 733 Electrical Apprenticeship III ............... 1.5 units
ELEL 734 Electrical Apprenticeship IV ............... 1.5 units
ELEL 735 Electrical Apprenticeship V ............... 1.5 units
ELEL 736 Electrical Apprenticeship VI ............... 1.5 units
ELEL 737 Electrical Apprenticeship VII ............... 1.5 units
ELEL 738 Electrical Apprenticeship VIII ............... 1.5 units
ELEL 739 Electrical Apprenticeship IX ............... 1.5 units
ELEL 740 Electrical Apprenticeship X ............... 1.5 units

ELECTRONICS TECHNOLOGY

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60–70 transferable units
California State University
University of California
Independent Colleges and Universities

Certificate of Achievement
Electrical Technology: Electrical Power Systems and Instrumentation ............. 19 units
Electronics Technology
Industrial Electronics ....................... 46 units

Certificate of Specialization
Electrical Technology: Electrical Power Systems and Instrumentation .......... 16 units
Fundamentals of Smart Building Systems .... 15 units
Telecommunications Fundamentals .......... 11 units

Recommended high school preparation:
Coursework in Electronics, Science, Mathematics, English

The Electronics Technology program at CSM prepares a student for entry-level employment as an electronics technician and, with additional General Education coursework, for transfer to a baccalaureate institution. Entry-level employment opportunities exist in many segments of the electronics industry in the greater Bay Area. Companies involved with circuit design and fabrication; computer construction, installation, and support; component manufacturing; high-technology transportation; aerospace systems; automated process control; and consumer electronics all offer program graduates opportunities for entry-level employment.

Career opportunities in Electronics include work as an engineering aide, a technician, or a manager. These individuals are involved with design, manufacturing, sales, or service of a wide range of products. Electronics is one of the largest and fastest growing career fields in Northern California, with more significant growth expected over the next decade. Most Electronics Technology majors specialize in a particular area, such as communications systems, computer and digital systems, microwave, medical electronics, manufacturing, or precision instruments.
**Major in Electronics Technology: Industrial Electronics**

Complete General Education and other requirements listed for the Associate degree and

**Major Requirements: 46 semester units**

A grade of "C" or higher is required in each course applied to the major.

- **BUSW 114 Windows Fundamentals I** .................. 1.5 units
- **BUSW 530 Introduction to Internet** .................. 1.5 units
- **ELEC 201 D.C. Electronics** .................. 3 units
- **ELEC 202 A.C. Electronics** .................. 3 units
- **ELEC 215 Introduction to PC Hardware** .................. 3 units
- **ELEC 231 Basic Applied Electronic Mathematics** ........ 2 units
- **ELEC 232 Advanced Electronics Mathematics** ........ 1 unit
- **ELEC 262 Digital Electronics** .................. 4 units
- **ELEC 275 Active Devices** .................. 4 units
- **ELEC 282 Introduction to Soldering Rework** ........ 2 units
- **ELEC 290 Introduction to Communications Systems** .... 3 units
- **ELEC 320 Linear Circuit Analysis** ........ 4 units
- **ELEC 332 Prototype Project Development** ........ 2 units

Plus, select 3 courses from the following:

- **ELEC 421 Fundamentals of Electric Motor Control** ........ 4 units
- **ELEC 422 Introduction to Programmable Logic Controllers** ........ 4 units
- **ELEC 424 Hydraulic, Pneumatic and Vacuum Power Systems** ........ 4 units
- **ELEC 441 Sensors and Data Transmission Systems** ........ 4 units
- **ELEC 442 Electronic and Pneumatic Process Control Systems** ........ 4 units
- **ELEC 444 Automated Process Control System Design** ........ 4 units

**Electronics Technology:**

**Electrical Technology: Electrical Power Systems and Instrumentation**

**16 semester units**

A grade of "C" or "P" or higher is required for each course applied to the certificate.

- **ELEC 111 Introduction to Fundamentals of Electronics** ........ 3 units
- **ELEC 231 Basic Applied Electronic Mathematics** ........ 2 units
- **ELEC 232 Advanced Electronics Mathematics** ........ 1 unit
- **ELEC 405 Transformers/Rotating Machines** ........ 2 units
- **ELEC 421 Fundamentals of Electric Motor Control** ........ 4 units
- **ELEC 441 Sensors and Data Transmission Systems** ........ 4 units

**Fundamentals of Smart Building Systems**

**15 semester units**

A grade of "C" or "P" or higher is required for each course applied to the certificate.

- **ELEC 111 Introduction to Fundamentals of Electronics** ........ 3 units
- **ELEC 144 Solar Energy Fundamentals** ........ 4 units
- **BLDG 700 Introduction to the Building Code** ........ 3 units
- **BLDG 790 Blueprint Reading for Construction** ........ 3 units

**Telecommunications Fundamentals**

**11 semester units**

A grade of "C" or higher is required for each course applied to the certificate.

- **ELEC 111 Introduction to Fundamentals of Electronics** ........ 3 units
- **ELEC 231 Basic Applied Electronic Mathematics** ........ 2 units
- **CIS 110 Introduction to Computer and Information Science** ........ 3 units
- **TCOM 410 Writing and Installation for Telecommunications and Networking (Skyline)** ........ 3 units
ENGINEERING

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60–70 transferable units
California State University
University of California
Independent Colleges and Universities

Associate in Science Degree
Engineering .............................. 60 units
Engineering Technology: General ........ 60 units

Recommended high school preparation:
Coursework in Mathematics (four years), Physics (one year), Chemistry (one year), Mechanical Drawing (one year), Computer Information Science and English

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for Engineering for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

Engineering is one of the largest professions in the United States, with over one million jobs in fields ranging from airplane design to pollution control. The three largest branches of engineering are electrical, mechanical and civil. All branches of engineering place a heavy emphasis on problem solving and mathematics. Engineering education focuses on teaching scientific and engineering concepts and their application to the creative and effective solution of problems.

Career opportunities for those who hold a Bachelor’s or advanced degree include engineering positions in aerospace, agricultural, architectural, biomedical, chemical, civil, computer, electrical, industrial, materials, mechanical, and environmental nuclear fields. Most engineers work for manufacturing industries, while a smaller percentage work for federal, state and local government agencies or as private consultants. The remainder hold faculty positions at colleges and universities.

Major in Engineering

Upon completion of degree requirements, students will be able to:
1. Use math, science, and engineering concepts to identify, formulate, and solve engineering problems.
2. Use the techniques and tools of engineering at an elementary level to design a device, program, or process to meet specified requirements
3. Communicate the results of design and analysis orally and through text and graphics.
4. Work effectively in teams.

Engineering degree SLOs 1–4 are based on a subset of ABET’s Criterion 3: Program Outcomes used in the accreditation of Bachelor’s degree programs in engineering.

Complete General Education and other requirements listed for the Associate degree and

Major Requirements: 19 semester units
A grade of "C" or higher is required for each course applied to the major.
Select at least two courses from the engineering core (6–8 units):
- ENGR 210  Engineering Graphics ................................. 4 units
- ENGR 230  Engineering Statics .................................. 3 units
- ENGR 260  Circuits and Devices ................................. 4 units
- ENGR 270  Materials Science ................................. 3 units
Select at least one programming course (3–4 units):
- CIS 255 (CS1) Programming Methods: Java ................ 4 units
- CIS 278 (CS1) Programming Methods: C++ .............. 4 units
- ENGR 215  Computational Methods for Engineers and Scientists ........................................ 3 units
Select the remaining units from the engineering core and the following list (7–10 units). ENGR 100 is strongly recommended:
- CHEM 220  General Chemistry II ............................... 5 units
- CHEM 231  Organic Chemistry I ................................. 5 units
- ECON 100  Principles of Macroeconomics  OR
- ECON 102  Principles of Microeconomics .......................... 3 units
- ENGR 100  Introduction to Engineering .......................... 3 units
- MATH 200  Elementary Probability and Statistics ........ 4 units
- MATH 270  Linear Algebra ...................................... 3 units
- MATH 275  Ordinary Differential Equations .............. 3 units
- PHYS 270  Physics with Calculus III ............................. 4 units
**AS Major in Engineering Technology: General**

Engineering Technology is that part of the engineering field which blends scientific and engineering knowledge with technical skills in research, development and production. CSM offers the General Education, mathematics, science, engineering, and many of the technical courses required to meet lower division requirements in Engineering Technology and prepare the student for transfer to a baccalaureate institution for a degree in Engineering Technology. The Associate degree alone prepares students for employment as engineering technicians, who work with or under the direction of engineers.

Career opportunities exist largely with manufacturers of electrical and electronic equipment, aircraft/aircraft parts, machinery, scientific instruments, chemical, motor vehicles, fabricated metal products, and primary metals. Non-manufacturing opportunities exist with engineering and architectural firms, research and testing facilities, and business services in which engineering work is done on a contract basis for organizations in other sectors of the economy. Additional opportunities for employment exist in the communications, utilities, and construction industries; and with federal, state and local government agencies.

Upon completion of degree requirements, students will be able to:

1. Identify, analyze, and solve technical problems in an area of specialization;
2. Conduct, analyze, and interpret experiments;
3. Work effectively in teams.

Engineering Technology SLOs are based on a subset of ABET’s Criterion 3: Program Outcomes used in the accreditation of degree programs in engineering technology.

Complete General Education and other requirements listed for the Associate degree and

**Major Requirements: 26 semester units**

A grade of "C" or higher is required for each course applied to the major.

- ENGR 210 Engineering Graphics 4 units
- MATH 241 Applied Calculus I 5 units
- MATH 242 Applied Calculus II 3 units
- PHYS 210 General Physics I 4 units
- PHYS 220 General Physics II 4 units

Plus, select 6 units from an area of technology specialization.

Suggested Electives:

- ACTG 100 Accounting Procedures 3 units
- ENGR 100 Introduction to Engineering 3 units
- CIS 278 (CS1) Programming Methods: C++ 4 units
- MATH 200 Elementary Probability and Statistics 4 units

Or other technical courses

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**ENGLISH**

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

**University Transfer Program**

**60–70 transferable units**

<table>
<thead>
<tr>
<th>California State University</th>
<th>University of California</th>
<th>Independent Colleges and Universities</th>
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**AA Associate in Arts Degree**

| English | 60 units |

**Recommended high school preparation:**

Coursework in English, Literature, Journalism

**University Transfer Program**

Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

The English major provides students with a broad-based foundation for transfer to baccalaureate institutions. English course work prepares individuals to succeed in many diverse fields such as advertising, business, communications, editing, film/video production, insurance, journalism, law, politics, medicine, public relations, teaching, and writing. Career opportunities include advertising copy writer or manager, columnist/journalist, editor, educator, freelance writer, information specialist, lexicographer, librarian, media planner, novelist, poet, public relations officer, publisher, radio/television announcer, reporter, researcher, technical writer, and writing consultant.

Additional career opportunities include business administrator, civil servant, clergy member, foreign service officer, fund raiser, insurance examiner, legislative assistant, and program developer.

Major in English continued on next page
Major Requirements

Major in English

Upon completion of degree requirements, students will be able to:

1. Analyze and respond critically to literary and expository texts.
2. Demonstrate knowledge of a variety of authors, literary genres, and literary devices.

Complete General Education and other requirements listed for the Associate degree and

Major requirements: 18 semester units

A grade of "C" or higher is required for each course applied to the major.

Select 3 units from the following courses:

- ENGL 110 Composition, Literature, and Critical Thinking
- ENGL 135 Composition, Fiction, and Critical Thinking
- ENGL 165 Advanced Composition

And complete 15 units in Group A or Group B below:

Group A - 15 units
- Literature courses in the 100 series, the 200 series, LIT 430

Group B - 15 units
- 9-12 units from Literature courses in the 100 series, the 200 series, LIT 430
- And select 3–6 units from Creative Writing classes:

- ENGL 161 Creative Writing I
- ENGL 162 Creative Writing II
- ENGL 163 Creative Writing III

ETHNIC STUDIES

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program

60–70 transferable units

California State University
University of California
Independent Colleges and Universities

Associate in Arts Degree

Ethnic Studies: 60 units

Recommended high school preparation:

Coursework in History, Social Science, Psychology, Sociology, English

University Transfer Program

Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

The multicultural emphasis of the Ethnic Studies program has attracted many persons currently employed in public school systems, social services and human relations, as well as professionals whose jobs involve interpersonal situations with multiracial groups. Students who transfer and complete a Bachelor’s degree in Ethnic Studies can pursue careers in the arts, business, city planning, creative writing, education at all levels, international relations, journalism, law, medicine, politics, psychology, public health, research, and social work. In addition, Ethnic Studies courses allow public school teachers the opportunity to meet California State requirements in ethnic education.

Major in Ethnic Studies

Complete General Education and other requirements listed for the Associate degree and

Major Requirements: 18 semester units

A grade of "C" or higher is required for each course applied to the major.

ETHN 101 Introduction to Ethnic Studies I

ETHN 102 Introduction to Ethnic Studies II

Plus, select 12 units from the following courses:

- ETHN 160 Psychology of People of Color
- ETHN 288 African-American Cinema
- ETHN 300 Introduction to La Raza Studies
- ETHN 350 Native American Way of Life
- ETHN 351 The Primal Mind and Cultural Diversity
- ETHN 440 Cultural Experience of Asian-American Writers
- ETHN 585 Ethnicity in Cinema
**FILM**

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

**University Transfer Program**

60–70 transferable units

California State University
University of California
Independent Colleges and Universities

**AA Associate in Arts Degree**

Film ........................................... 60 units

**University Transfer Program**

Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

Individuals interested in careers in film may obtain an A.A. in Film, which trains them in history, analysis, and production. Many graduates continue their education at a university, majoring in Film. Career opportunities for those with an A.A., B.A. or advanced degree include film criticism, film education and production in the film and television industries.

**AA Major in Film**

Upon completion of degree requirements, students will be able to:

1. Analyze and respond critically to film form and film style.
2. Demonstrate knowledge of important directors, genres and movements in the history of film art.

Complete General Education and other requirements listed for the Associate degree and

**Major Requirements: 21 semester units**

A grade of "C" or higher is required for each course applied to the major.

FILM 100 Introduction to Film ........................................... 3 units
FILM 120 Film History I ........................................... 3 units
FILM 121 Film History II ........................................... 3 units
FILM 215 Film and New Digital Media ........................................... 3 units

Plus, select 9 units from the following courses:

FILM 153 Screenwriting ........................................... 3 units
FILM 200 Film in Focus ........................................... 3 units
ENGL 161, 162, 163 Creative Writing I/II/III ........................................... 3 units each
ETHN 288 African-American Cinema ........................................... 3 units
ETHN 585 Ethnicity in Cinema. ........................................... 3 units
DGME 100 Media in Society ........................................... 3 units
DGME 112 TV Studio Production ........................................... 3 units
DGME 113 Digital Video Production ........................................... 3 units
DGME 118 Digital Audio Production ........................................... 3 units
DGME 130 Lighting for Studio and Field ........................................... 3 units

**FIRE TECHNOLOGY**

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

**University Transfer Program**

60–70 transferable units

California State University
University of California
Independent Colleges and Universities

**AS Associate in Science Degree**

Fire Technology ........................................... 60 units

**CA Certificate of Achievement**

Fire Technology ........................................... 33–38 units

**Recommended high school preparation:**

Coursework in Mathematics, English, and use of microcomputers, including spreadsheet and word processing applications.

**University Transfer Program**

Use Assist (www.assist.org) to identify lower division major preparation for areas such as Fire Protection or Forestry and Land Management for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

The Fire Technology program prepares students to meet the high standards necessary in pursuing a career in the fire service as a firefighter, or a member of related fire protection services such as emergency medical technician.

Students who wish to concentrate on meeting the basic requirements for entry-level employment are advised to complete FIRE 793 and FIRE 796. Many of the fire agencies in California require completion of this training to meet minimum requirements for employment as a firefighter.

Students will develop entry-level expertise in the areas of fire suppression, fire prevention, training and administration. Opportunities also exist with private industry safety programs, insurance companies and fire equipment manufacturing firms.

The Fire Technology field offers enhanced opportunities for employment to students who have completed CSM’s program.

Through the expertise of the faculty and the exposure to professional fire service personnel, students can expect to be trained in the latest theories and techniques of fire technology, firefighting skills and emergency medical training.

**AS Major in Fire Technology**

Upon completion of degree requirements, students will be able to:

1. Identify and discuss the concepts and theories related to the fire service including its history and development, fire prevention techniques and fire protection equipment, fire behavior and

*Major in Fire Technology continued on next page*
chemistry, building construction considerations, and firefighter safety.

2. Recognize the tools and equipment used in the fire service, and demonstrate their safe and proper use.

3. Explain and demonstrate the importance of developing interpersonal and communication skills necessary to function within the fire service and society at large.

4. Describe and demonstrate the value and necessity of ethics, integrity, and professionalism in the fire service.

Complete General Education and other requirements listed for the Associate degree and

**Major Requirements: 30 semester units**

A grade of "C" or higher is required for each course applied to the major.

- FIRE 715 (FT1) Fire Protection Organization ............... 3 units
- FIRE 720 (FT2) Fire Prevention Technology ............... 3 units
- FIRE 730 (FT5) Fire Behavior and Combustion ........... 3 units
- FIRE 740 (FT4) Building Construction for Fire Protection .3 units
- FIRE 745 (FT3) Fire Protection Systems and Equipment ..3 units
- FIRE 748 (FT6) Firefighter Safety and Survival .......... 3 units

Plus, select 12 units from the following courses:

- FIRE 714 Wildland Fire Control .......................... 3 units
- FIRE 725 Fire Apparatus and Equipment .............. 3 units
- FIRE 793 Firefighter I Academy ............................ 12 units
- FIRE 796 Emergency Medical Technician - Basic .... 10 units
- FIRE 800 Fire Service Entrance Test Prep ............ 3 units
- FIRE 810 Firefighter Internship ............................ 3 units

Other FIRE courses may be used with permission from the Fire Technology Coordinator and with an official course substitution approval on file in the Admissions and Records Office.

**Fire Technology**

33–38 semester units

Complete major requirements listed under Associate in Science - Major in Fire Technology. A grade of "C" or higher is required for each course applied to the certificate.

**Firefighter I Academy**

The Firefighter Academy is a State Board of Fire Services certified academy that, when combined with a specified experience component, leads to State certification as a Firefighter I.

**Emergency Medical Technician**

Completion of Fire Technology 796, a ten unit course, and passing the National Registry Test provides the student with a National Registry certificate as an EMT. This course is also required as a prerequisite for students who want to continue on with paramedic training.
GEOLOGICAL SCIENCES

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60–70 transferable units
California State University
University of California
Independent Colleges and Universities

AS Associate in Science Degree
Geological Science.........................60 units

AS-T Associate in Science Degree for Transfer/SB1440
Geology........................................60 CSU transferable units

Recommended high school preparation:
Coursework in Chemistry, Biology, Mathematics,

University Transfer Program

Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

An Associate degree in Geological Science prepares the student for transfer to a baccalaureate institution for a four-year degree in Geology. While some jobs are available for technicians with Associate degrees in Geological Science, a Bachelor’s degree in Geology is a minimum requirement for employment in exploratory geology, minerals management, and engineering.

Approximately 40% of geologists work for oil and gas companies, either in service or exploration. Some work for mining and quarrying companies, while others work as consultants or are self-employed. Government agencies provide employment opportunities with the Bureau of Mines, U.S. Geologic Survey, and Bureau of Reclamation. Specific career opportunities include engineering geologist, environmental geologist, geochemist, geology assistant, geophysicist, hydrologist, mining geologist, marine geologist, oceanographer, paleontologist, petroleum geologist, petrologist, seismologist, soils technician, teacher/professor, volcanologist, and waste management geologist.

AS Major in Geological Science

Upon completion of degree requirements, students will be able to:

1. Demonstrate a fundamental understanding of the basic concepts and principles of physical and historical geology, including:
   - the internal and external processes that shape and form the Earth
   - the materials of the Earth, Geologic Time and Dating Methods
   - Ecology, Evolution, Extinction and the Fossil Record

2. Apply the principles of the scientific method and geologic concepts to identify minerals, rocks and fossils interpret rocks and fossils interpret geologic maps, cross sections and stratigraphic columns analyze geologic and paleontologic data

Complete General Education and other requirements listed for the Associate degree and

Major Requirements: 18 semester units

A grade of "C" or higher is required for each course applied to the major.

GEOL 100/101 Survey of Geology and Lab .................. 4 units
PALN 110/111 General Paleontology and Lab. ............... 4 units
CHEM 210/220 General Chemistry I and II .................. 10 units

Additional recommended preparation (not required):

MATH 241/242 Applied Calculus I and II .................... 8 units
PHYS 210/220 General Physics I and II ...................... 8 units

OR

MATH 251/252 Calculus and Analytical Geometry I and II 10 units
PHYS 250/260 Physics with Calculus I and II ............... 8 units

AS-T Major in Geology

Major requirements: 28 semester units

Complete CSU General Education and major requirements as noted below. A grade of "C" or higher is required for each course applied to the major. Major course requirements may also be applied to meet general education requirements.

Required Core:

GEOL 100/101 Survey of Geology and Lab .................. 4 units
PALN 110/111 General Paleontology and Lab ............... 4 units
MATH 251 Calculus with Analytical Geometry I ............. 5 units
MATH 252 Calculus with Analytical Geometry II .......... 5 units
CHEM 210 General Chemistry I ............................. 5 units
CHEM 220 General Chemistry II ............................ 5 units

Additional recommended preparation (not required):

PHYS 250 Physics with Calculus I ........................... 4 units
PHYS 260 Physics with Calculus II ......................... 4 units

General Education requirements:

Select courses to complete CSU General Education OR IGETC for CSU. This degree does not require the CSM AA/AS General Education pattern on pages 64 and 65.

CSU GE:

Area A1 Oral Communication ............................... 3 units
Area A2 Written Communication ........................... 3 units

Major in Geological Sciences continued on next page
**GLOBAL STUDIES**

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

### University Transfer Program

**60–70 transferable units**

- California State University
- University of California
- Independent Colleges and Universities

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**Certificate of Specialization**

Global Studies .......... 15 units

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**University Transfer Program**

Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

The Global Studies program, consisting of interdisciplinary and multicultural courses, is designed to provide students with a broad background in developing their understanding of global economic, political, technological, social, and environmental issues. It offers a comprehensive awareness of multicultural and multi-dimensional issues that occur as a result of globalization and provides a strong, practical foundation for doing business in a global market; skills in intercultural communications and cross-cultural business communication; and an understanding of global politics, economies, and major world views. It prepares students for a variety of careers in international trade, government, finance and banking, and sales and marketing; the travel industry; import/export activities; and human changes.

---

**Global Studies**

15 semester units.

- A grade of "C" or higher is required for each course applied to the certificate.
- BUS 125 International Business ................. 3 units
- PLSC 120 Area Studies ......................... 3 units

Plus, select 3 units from the following courses:
- GEOG 110 Cultural Geography .................. 3 units
- GEOG 150 World Regional Geography .......... 3 units
- ECON 100 Principles of Macroeconomics .......... 3 units
- ECON 102 Principles of Microeconomics ............ 3 units

Plus, 3 units from the following course:
- COMM 150 Intercultural Communication .......... 3 units

Plus, select 3 units of any 100 level foreign language course

---

### Major Requirements

- Scalable between .25 inches and .18 inches wide:
  - Sized to .15", no shield at this size:
  - Scalable above .25 inches:
  - .15".25"

---

**GLOBAL STUDIES**

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

### University Transfer Program

**60–70 transferable units**

- California State University
- University of California
- Independent Colleges and Universities

---

**Certificate of Specialization**

Global Studies .......... 15 units

---

**University Transfer Program**

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Plus, 3 units from the following course:
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Plus, select 3 units of any 100 level foreign language course

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### Major Requirements

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**GLOBAL STUDIES**

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### University Transfer Program

**60–70 transferable units**

- California State University
- University of California
- Independent Colleges and Universities

---

**Certificate of Specialization**

Global Studies .......... 15 units

---

**University Transfer Program**

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Plus, 3 units from the following course:
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Plus, select 3 units of any 100 level foreign language course

---

### Major Requirements

- Scalable between .25 inches and .18 inches wide:
  - Sized to .15", no shield at this size:
  - Scalable above .25 inches:
  - .15".25"
GRAPHICS

For courses, please see listing under Digital Media (DGME). Use the chart on pages 166–167, and meet with a counselor to determine the DGME courses that are applicable to Graphics degrees and certificates.

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60–70 transferable units
California State University
University of California
Independent Colleges and Universities

AA Associate in Arts Degree
Graphics ..................... 60 units

CA Certificate of Achievement
Graphics ..................... 39 units

Recommended high school preparation:
Coursework in Art, Computers, English

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

AA Major in Graphics
Complete General Education and other requirements listed for the Associate degree and

Major Requirements: 39 semester units
A grade of "C" or higher is required for each course applied to the major.

GRA 115 Designing with Type I: Essentials of Typographic Expression ............ 3 units
GRA 116 Designing with Type II: Delivering the Message Effectively ............... 3 units
GRA 135 Graphic Design Foundation .................................................. 4 units
GRA 150 Adobe Illustrator for Print and Web Design I ................... 3 units
GRA 151 Adobe Illustrator for Print and Web Design II ................... 3 units
GRA 160 Adobe Photoshop for Print and Web Design I ............... 3 units
GRA 161 Adobe Photoshop for Print and Web Design II ............... 3 units
GRA 170 Adobe InDesign ............................................................. 3 units
GRA 235 Graphic Design: Theory and Application ..................... 4 units
GRA 242 Image on Paper: The Possibilities of Print ............... 3 units
GRA 255 Digital Publishing ............................................................ 3 units
GRA 260 Portfolio ........................................................................ 1 unit
MULT 172 Web Design: Dreamweaver ............................................ 3 units

CA Graphics
39 semester units
Complete major requirements listed under Associate in Arts – Major in Graphics. A grade of "C" or higher is required for each course applied to the certificate.
**HISTORY**

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

**University Transfer Program**
60–70 transferable units
California State University
University of California
Independent Colleges and Universities

Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

**INTERDISCIPLINARY STUDIES**

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

**University Transfer Program**
60–70 transferable units
California State University
University of California
Independent Colleges and Universities

**AA Associate in Arts Degree**
Interdisciplinary Studies with an Area of Emphasis with three options:
Option 1 - Intercultural Studies .......... 60 units
Option 2 - Contemporary Issues .......... 60 units
Option 3 - Science and Society .......... 60 units

Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

**AA Major in Interdisciplinary Studies, Option 1: Intercultural Studies**

This degree option introduces students to multiple cultural perspectives to enable them to be informed, engaged citizens in a multicultural society. Depending on the student’s focus, this degree offers transfer opportunities into areas such as World Arts and Cultures, Global Studies, Multicultural Studies, and Ethnic Studies. Students should work with a counselor to identify any additional supporting classes for transfer to a particular program and university. Note: most courses listed in this major can also be used to meet requirements for the California State University General Education or IGETC.

Complete General Education and other requirements listed for the Associate degree and

**Major requirements: A minimum of 18 units**
A grade of “C” or higher is required for each course applied to the major.

At least 3 units of courses that examine more than one culture within the course to be selected from the following options:

ANTH 110 Cultural Anthropology ............ 3 units
ANTH 180 Magic, Science and Religion ........ 3 units
ETHN 351 The Primal Mind and Cultural Diversity ........ 3 units
ETHN 585 Ethnicity in Cinema ................. 3 units
GEOG 110 Cultural Geography ............... 3 units
LIT 220 Introduction to World Literature .......... 3 units
MUS 250 World Music ......................... 3 units
PHIL 300 Introduction to World Religions 3 units
PLSC 110 Contemporary Foreign Governments 3 units
COMM 150 Intercultural Communication 3 units

At least 6 units of courses in the arts and literature to be selected from the following options:

ETHN 288 African-American Cinema 3 units
ETHN 350 Native American Way of Life 3 units
ETHN 440 Cultural Experience of Asian-American Writers 3 units
LIT 232 Survey of English Literature 3 units
LIT 430 Mythology and Folklore 3 units

At least 9 units of courses in the areas of social, political, and economic institutions to be selected from the following options:

ANTH 370 Olmec, Maya, and Aztec People and Cultures of Mexico and Central America 3 units
ETHN 101 Introduction to Ethnic Studies I 3 units
ETHN 102 Introduction to Ethnic Studies II 3 units
ETHN 300 Introduction to La Raza Studies 3 units
ETHN 440 Cultural Experience of Asian-American Writers 3 units
HIST 100 History of Western Civilization I 3 units
HIST 101 History of Western Civilization II 3 units
HIST 102 History of American Civilization 3 units
HIST 260 Women in American History 3 units

**AA Major in Interdisciplinary Studies, Option 2: Contemporary Issues**

This degree option provides students with both an introduction to the wide range of issues facing contemporary society and the tools to analyze these issues critically. Depending on the student’s focus, this degree offers transfer possibilities into such majors as Communications, Environmental Studies, Ethnic Studies, Sociology, and Social Services. Note: most courses listed in this major can also be used to meet requirements for the California State University General Education or IGETC.

Complete General Education and other requirements listed for the Associate degree and

**Major requirements: A minimum of 18 units**

A grade of “C” or higher is required for each course applied to the major.

At least 6 units of courses that introduce students to major disciplines in the social sciences. The 6 units of courses must be selected from the following options and include at least two different discipline areas:

BUS 100 Contemporary American Business 3 units
ECON 100 Principles of Macroeconomics 3 units
ECON 102 Principles of Microeconomics 3 units
GEOG 110 Cultural Geography 3 units
PSYC 100 General Psychology 3 units

**AA Major in Interdisciplinary Studies, Option 3: Science and Society**

This degree provides students with the foundation from which to understand the impact of scientific issues on contemporary society. Depending on the student’s focus, this major offers transfer possibilities in the social sciences, including Economics, Sociology, and Social/Behavioral Sciences, and in more specialized interdisciplinary majors such as Environmental Economics and Policy, Environmental Analysis and Design, Social Ecology, Community and Regional Development, and Development Studies. Students should work with a counselor to identify the appropriate mathematics classes and any additional supporting classes for transfer to a particular program and university. Note: most courses listed in this major can also be used to meet requirements for the California State University General Education or IGETC.

Complete General Education and other requirements listed for the Associate degree and

**Major requirements: A minimum of 19 units**

A grade of “C” or higher is required for each course applied to the major.

**AA Major in Interdisciplinary Studies continued on next page**
At least 3 units of courses that link science with society, to be selected from:
- MATH 147 Mathematics and Global Studies .................. 4 units
- PHIL 244 Contemporary Social and Moral Issues ........... 3 units

At least 7 units of courses in the sciences to be selected from the following options:
- BIOL 100 Introduction to Life Sciences .................. 3 units
- BIOL 102 Environmental Conservation .................. 3 units
- BIOL 110 General Principles of Biology .................. 4 units
- BIOL 145 Plants, People, and Environment ............... 3 units
- BIOL 184 Wildlife Biology .................................. 3 units
- BIOL 195 Biology Field Laboratory ....................... 1 unit
- GEOG 100 Physical Geography ............................ 3 units
- GEOL 100 Survey of Geology ................................ 3 units
- GEOL 101 Geology Laboratory .............................. 1 unit
- OCEN 100 Oceanography .................................... 3 units
- OCEN 101 Oceanography Laboratory/Field Study ....... 1 unit

At least 9 units of courses in the social sciences to be selected from the following options:
- ANTH 110 Cultural Anthropology .................. 3 units
- ANTH 180 Magic, Science and Religion ................. 3 units
- ECON 100 Principles of Macroeconomics ................ 3 units
- ECON 102 Principles of Microeconomics ................. 3 units
- GEOG 110 Cultural Geography ............................ 3 units
- GEOG 150 World Regional Geography ................... 3 units
- PLSC 215 Contemporary Issues in American Politics .... 3 units
- PSYC 100 General Psychology ............................ 3 units
- PSYC 220 Introduction to Psychobiology ................. 3 units
- SOCI 100 Introduction to Sociology ................ 3 units
- SOCI 105 Social Problems .................................. 3 units

**JOURNALISM**

For courses, please see the listing under Digital Media (DGME). Use the chart on pages 166–167, and meet with a counselor to determine the DGME courses that are applicable to Journalism degrees and certificates.

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

**University Transfer Program**

60–70 transferable units
- California State University
- University of California
- Independent Colleges and Universities

**AA** Associate in Arts Degree
- Journalism ........................................... 60 units

**Recommended high school preparation:**
Coursework in English, Journalism, Creative Writing, Political Science, Mass Communication, Psychology, Sociology

**University Transfer Program**

Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. Research majors in Journalism, Mass Communication, Media Arts. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

**AA Major in Journalism**

Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 19 semester units**

A grade of "C" or higher is required for each course applied to the major.
- JOUR 110 Mass Media in Society ..................... 3 units
- JOUR 120 Newswriting .................................. 4 units
- JOUR 300 Newspaper Production ..................... 3 units

Plus, select 9 units from English and/or literature courses
KINESIOLOGY

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program

60 – 70 transferable units

California State University
University of California
Independent Colleges and Universities

AA-T Associate in Art Degree for Transfer/ SB1440

Kinesiology .......................... 60 CSU transferable units

CS Certificates of Specialization

Pilates Mat Instructor .................. 7–8 units
Pilates Mat and Reformer Instructor . 10–11 units
Comprehensive Pilates Instructor ...... 13–14 units
Yoga Instructor .......................... 8 units

University Transfer Program

Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities, use their catalogs to locate this information. Transfer Services can assist you to gather this information.

AA-T Major in Kinesiology

Major requirements: 20–24 semester units

The AA-T major in Kinesiology prepares students for transfer into bachelor’s degree programs in kinesiology and similar areas.

Complete CSU General Education and major requirements as noted below. A grade of “C” or higher is required for each course applied to the major. Major course requirements may also be applied to meet general education requirements.

Group A: Complete the following courses (15 units):

KINE 101 Introduction to Kinesiology .................. 3 units
BIOL 250 Human Anatomy .......................... 4 units
BIOL 260 Introductory Physiology .................. 5 units

And select 3 units from the following with a maximum of one unit from any one area:

Aquatics:
AQUA 127 Swim Conditioning .................. 0.5 or 1 unit
AQUA 133 Individual Swim Conditioning .... 0.5 or 1 unit
AQUA 135 Aqua Exercise .................. 0.5 or 1 unit

Dance:
DANC 117 Tap Dance .................. 0.5 or 1 unit
DANC 121 Contemporary Modern Dance ...... 0.5 or 1 unit

DANC 131 Jazz Dance I .................. 0.5 or 1 unit
DANC 132 Jazz Dance II .................. 0.5 or 1 unit
DANC 141 Beginning Ballet .................. 0.5 or 1 unit
DANC 143 Intermediate Ballet .................. 0.5 or 1 unit

Fitness:
FITN 116 Body Conditioning .................. 0.5 or 1 unit
FITN 134 Track and Trail Aerobics .................. 0.5 or 1 unit
FITN 201 Beginning Weight Training .................. 0.5 or 1 unit
FITN 202 Intermediate Weight Training .... 0.5 or 1 unit
FITN 206 Circuit Weight Training .................. 0.5 or 1 unit
FITN 207 Periodized Weight Training .... 0.5 or 1 unit
FITN 225 Athletic Conditioning .................. 0.5 or 1 unit
FITN 226 Plyometric Training .................. 0.5 or 1 unit
FITN 235 Cross Training Boot Camp .................. 0.5 or 1 unit
FITN 237 Total Core Training .................. 0.5 or 1 unit
FITN 301 Spinning .................. 0.5 or 1 unit
FITN 312 Spinning Heart Rate .................. 0.5 or 1 unit
FITN 334 Yoga .................. 0.5 or 1 unit
FITN 353 Pilates .................. 0.5 or 1 unit
FITN 338 Yoga/Pilates Fusion ........ 0.5 or 1 unit
FITN 339 Pilates Circuit Training ........ 0.5 or 1 unit

Individual Sports:
INDV 120 Badminton .................. 0.5 or 1 unit
INDV 251 Beginning Tennis .................. 0.5 or 1 unit
INDV 252 Beginning/Intermediate Tennis .... 0.5 or 1 unit
INDV 254 Intermediate Tennis ........ 0.5 or 1 unit

Team Sports:
TEAM 110 Basketball .................. 0.5 or 1 unit
TEAM 148 Indoor Soccer .................. 0.5 or 1 unit

Group B: Select two courses from the following (5–9 units)

MATH 200 Elementary Probability and Statistics 4 units
BIOL 100/BIOL 195 Human Biology and Biology Field Lab 4 units
CHEM 210 General Chemistry .................. 5 units
PHYS 210 General Physics .................. 4 units
KINE 120 First Aid/CPR .................. 1 unit

General Education requirements:
Select courses to complete CSU General Education OR IGETC or CSU. This degree does not require the CSM AA/AS General Education pattern on pages 64 and 65.

CSU GE:

Area A1: Oral Communication .................. 3 units
Area A2 Written Communication .................. 3 units
Area A3 Critical Thinking .................. 3 units
Area B1 Physical Science .................. 3 units
Area B2 Life Science .................. 3 units
Area B3 Science Lab .................. 1 unit
Area B4 Math Concepts .................. 3 units

Major in Kinesiology continued on next page
Select one of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 130 Human Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 250 Anatomy</td>
<td>4</td>
</tr>
</tbody>
</table>

Plus complete one unit from the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>KINE 120 First Aid/CPR</td>
<td>1</td>
</tr>
<tr>
<td>FITN 335 Pilates</td>
<td>1</td>
</tr>
<tr>
<td>FITN 338 Yoga/Pilates Fusion</td>
<td>1</td>
</tr>
</tbody>
</table>

**CS Comprehensive Pilates Instructor**

13–14 semester units

Prepares students to teach the complete Pilates repertoire on the Mat, Reformer, Trapeze Table, Chair, Barrels and Small Apparatus.

A grade of "C" or higher is required for each course applied to the certificate.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>KINE 125 Pilates Mat Instructor Training</td>
<td>3</td>
</tr>
<tr>
<td>KINE 126 Pilates Reformer Instructor Training</td>
<td>3</td>
</tr>
<tr>
<td>KINE 127 Pilates Apparatus Instructor Training</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the following courses:

<table>
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<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 130 Human Biology</td>
<td>3</td>
</tr>
<tr>
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<td>4</td>
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Plus complete one unit from the following courses:

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<tbody>
<tr>
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<td>1</td>
</tr>
<tr>
<td>FITN 338 Yoga/Pilates Fusion</td>
<td>1</td>
</tr>
</tbody>
</table>

**CS Yoga Instructor**

8 semester units

The Yoga Instructor Certificate Program prepares students to teach at a health club, fitness center, or privately owned studio. The Yoga Certificate program includes instruction in the technique, pedagogy, history, culture and theory involved in Yoga studies and practice. Students will gain observation and student teaching hours by taking the Yoga Pedagogy Lab course.

This certificate program is intended to fulfill the requirements of the Yoga Alliance 200 hour Yoga Teacher Training. Yoga Alliance is the nationally recognized organization that regulates yoga teaching standards, and students who complete their training at CSM may register online with Yoga Alliance.

The Yoga Instructor Certificate enables instructors to teach Level I and Level II Hatha Yoga to groups and individuals.

A grade of "C" or higher is required for each course applied to the certificate.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>KINE 200 Yoga History and Culture</td>
<td>3</td>
</tr>
<tr>
<td>KINE 201 Yoga Pedagogy Lecture</td>
<td>3</td>
</tr>
<tr>
<td>KINE 202 Yoga Pedagogy Lab</td>
<td>1</td>
</tr>
<tr>
<td>FITN 334 Yoga</td>
<td>1</td>
</tr>
</tbody>
</table>

Additional recommended course:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>KINE 120 First Aid/CPR, or equivalent</td>
<td>1</td>
</tr>
</tbody>
</table>
MANAGEMENT

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60–70 transferable units
California State University
University of California
Independent Colleges and Universities

AA Associate in Arts Degree
Business Management .......................... 60 units
Marketing Management ......................... 60 units
Retail Management ............................ 60 units

CA Certificate of Achievement
Business Management .......................... 24 units
Marketing Management ......................... 24 units
Retail Management ............................ 31–32 units

CS Certificates of Specialization
Human Resource Management .................. 9 units
Project Management ............................ 12 units

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

This program is designed for individuals working at the supervisory level and for those interested in supervisory positions. An advisory committee composed of representatives from various types of businesses and industrial organizations has assisted the College staff in the development of the program.

Career opportunities for those with supervisory and management training should improve dramatically in the years ahead. Employers in virtually every field will be seeking individuals with formal training in organization and management for supervisory, mid-level, and top management positions. Specific management opportunities include administrative assistant, bank trust officer, branch manager, chief executive officer, claims adjuster, department/division manager, employment interviewer, first-line supervisor, inventory manager, management consultant, information systems consultant, management trainee, office manager, operations manager, plant manager, president, production controller, project manager, shift supervisor, small business owner/manager, and store manager. Some of these careers require a Bachelor’s or advanced degree. The program provides readily usable skills for the student who earns an Associate degree, as well as a base for those who intend to transfer to baccalaureate institutions.

AA Major in Management: Business Management

Management is an essential function of every business. Accordingly, there are a substantial number and wide variety of management positions ranging from first-line supervisor and store manager to division manager and chief executive officer. Managers need to have technical knowledge as well as interpersonal, communications, and conceptual skills. They spend much of their time making business planning and operational decisions as well as delegating specialized tasks and responsibilities to subordinates. Managers’ salaries are significantly above those of the average worker. Managers are responsible for business performance and must lead and motivate their subordinates to accomplish business goals and objectives.

Upon completion of degree requirements, students will be able to:
1. Critically analyze business management concepts and principles as applied to a business situation
2. Explain human resources: recruitment, retention, and compensation
3. Describe and discuss risk management

Complete General Education and other requirements listed for the Associate degree and

Major requirements: 24 semester units
A grade of “C” or higher is required for each course applied to the major.
BUS 100 Contemporary American Business ..................... 3 units
MGMT 100 Intro to Business Management ..................... 3 units
MGMT 235 Techniques of Supervision ..................... 3 units
ACTG 100 or 3 units from BUSW series ..................... 3 units

Plus select 12 units from the following courses:
BUS 150 Small Business Management ..................... 3 units
BUS 180 Marketing ........................................ 3 units
CIS 110 Introduction to CIS ................................ 3 units
MGMT 215 Management of Human Resources ............ 3 units
MGMT 220 Organizational Behavior ..................... 3 units
MGMT 265 Project Management ..................... 3 units

CA Business Management
24 semester units

Complete major requirements listed under Associate in Arts – Major in Business Management A grade of “C” or higher is required for each course applied to the certificate.

Major in Management continued on next page
**AA Major in Management: Marketing Management**

Careers in Marketing Management are largely in wholesale and retail trade and include areas such as advertising, customer service, distribution, market research, personal selling, retailing, and wholesaling. Specific career opportunities include positions in advertising such as account executive, advertising manager, creative staff member, media planning/buyer, and traffic manager; assistant research analyst; booking agent; brand/product manager; buyer/merchandiser; consumer affairs director; financial planner; import/export agent; management trainee; manufacturer’s representative; marketing manager; market research manager; purchasing agent; retail manager; sales associate; and wholesaler, as well as positions in international marketing management. Additional career possibilities include claims adjustor, Internal Revenue investigator, securities trader, and stockbroker.

Upon completion of degree requirements, students will be able to:

1. Critically analyze marketing management concepts and principles as applied to a business situation
2. Describe how to apply marketing to the global marketplace
3. Explain the elements of the process of marketing process and how to apply them to marketing situations
4. Define marketing and explain different marketing strategies

Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 24 semester units**

A grade of "C" or higher is required for each course applied to the major.

- MGMT 100 Introduction to Business Management .............. 3 units
- MGMT 235 Techniques of Supervision .................................. 3 units
- BUS 100 Contemporary American Business ................... 3 units
- BUS 180 Marketing ......................................................... 3 units

Plus select 12 units from the following courses:

- CIS 110 Introduction to CIS ........................................ 3 units
- MGMT 215 Management of Human Resources .............. 3 units
- MGMT 220 Organizational Behavior ................................. 3 units
- MGMT 265 Project Management ........................................ 3 units
- BUSW series .................................................................... 1.5–3 units

**CA Marketing Management**

24 semester units

Complete major requirements listed under Associate in Arts – Major in Marketing Management. A grade of "C" or higher is required for each course applied to the certificate.

**AA Management: Retail Management**

Developed in cooperation with the Western Association of Food Chains, the certificate and degree programs in Retail Management give students core courses in preparation for management and supervisory positions with excellent prospects for employment.

Upon completion of degree requirements, students will be able to:

1. Critically analyze retail management concepts and principles as applied to a business situation
2. Describe exposure identification and risk management techniques
3. Explain the relevance of endorsements in modifying contracts
4. Explain the basic IRS corporate tax structure

Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 31–32 semester units**

A grade of "C" or higher is required for each course applied to the major.

- ACTG 100 Accounting Procedures .......................... 3 units OR
- ACTG 121 Financial Accounting .................................. 4 units
- BUS 101 Human Relations I ........................................... 3 units
- BUS 115 Business Mathematics ............................... 3 units
- BUS 180 Marketing ......................................................... 3 units
- BUS 186 (Canada College) .............................................. OR
- BUS 190 (Skyline College) .............................................. 3 units
- BUS 295 Computer Systems in Business .................... 4 units
- BUS 401 Business Communications .......................... 3 units
- MGMT 100 Introduction to Business Management .............. OR
- MGMT 235 Techniques of Supervision .......................... 3 units
- MGMT 215 Management of Human Resources .............. 3 units
- COMM 130 Interpersonal Communication .................... 3 units

**CA Retail Management**

31–32 semester units

Complete major requirements listed under Associate in Arts – Major in Retail Management. A grade of "C" or higher is required for each course applied to the certificate.

**CS Human Resources Management**

9 semester units

A grade of "C" or higher is required for each course applied to the certificate.

- MGMT 100 Introduction to Business Management .............. 3 units
- MGMT 215 Management of Human Resources .................. 3 units

Plus select 3 units from the following courses:

- MGMT 220 Organizational Behavior ................................. 3 units
- MGMT 235 Techniques of Supervision .................................. 3 units
Project Management
12 semester units
A grade of “C” or higher is required for each course applied to the certificate.

MGMT 100  Introduction to Business Management  . . . . . . . . . . . . 3 units
MGMT 265  Project Management  ........................................ 3 units
BUSW 450  Microsoft Project Fund. I  ............................. 1.5 units
BUSW 451  Microsoft Project Fund. II  ............................. 1.5 units

Plus select 3 units from the following courses:
MGMT 220  Organizational Behavior  .................................. 3 units

Mathematics

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60 – 70 transferable units
California State University
University of California
Independent Colleges and Universities

AS  Associate in Science Degree
Mathematics  .......................................................... 60 units

AS-T  Associate in Science Degree for Transfer/SB1440
Mathematics  .................................................. 60 CSU transferable units

Recommended high school preparation:
Four years of Mathematics.

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

Mathematics provides the foundation for studying engineering; the biological, physical and health sciences; economics; business; computer science; statistics; and many other fields. A major in mathematics itself opens up job opportunities in numerous fields, as mathematical problem-solving skills are widely applicable.

The Mathematics major may be used as a basis for professional careers which include accountant, actuary, appraiser, assessor, auditor, banker, biometrician, budget analyst, casualty rater, controller, computer programmer, data processing manager, demographer, econometrician, educator at all levels, engineering analyst, epidemiologist, financial analyst/planner, insurance agent/broker, loan officer, management trainee, market research analyst, mathematician, securities trader, statistician, surveyor, and systems analyst.

Additional professional areas for which a degree in Mathematics prepares individuals are the aircraft and space industries, architectural and surveying services, civil service, communications, and science, including work in high technology industries such as research and development laboratories.

Major in Mathematics continued on next page
AS  **Major in Mathematics**

Upon completion of degree requirements, students will be able to:

1. Synthesize ideas expressed in mathematical language by
   a. Demonstrating the ability to understand both written and spoken mathematics.
   b. Demonstrating a basic understanding of proof.
   c. Communicating arguments clearly.
   d. Demonstrating the ability to collaborate in problem solving (i.e. study groups, group projects).

2. Demonstrate analytical thinking by
   a. Identifying what a problem is really asking.
   b. Breaking complex problems into manageable smaller problems.
   c. Identifying the relationships among verbal, symbolic, graphical and numerical representations within the same problem.
   d. Solving non-algorithmic problems.

3. Demonstrate resourcefulness in problem solving by
   a. Choosing appropriate methods.
   b. Synthesizing appropriate strategies, techniques or information from prerequisite courses.
   c. Using alternative representations of mathematical ideas.
   d. Recognizing and explaining source of errors and impossible solutions.

4. Employ mathematical strategies with confidence.

**Major requirements: 21–22 semester units**

A grade of "C" or higher required for each course applied to the major.

**Required Core:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 251</td>
<td>Calculus with Analytical Geometry I</td>
<td>5</td>
</tr>
<tr>
<td>MATH 252</td>
<td>Calculus with Analytical Geometry II</td>
<td>5</td>
</tr>
<tr>
<td>MATH 253</td>
<td>Calculus with Analytical Geometry III</td>
<td>5</td>
</tr>
</tbody>
</table>

**List A:** Plus one course from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 270</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 275</td>
<td>Ordinary Differential Equations</td>
<td>3</td>
</tr>
</tbody>
</table>

**List B:** Plus one course from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 270</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 275</td>
<td>Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MATH 268</td>
<td>Discrete Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>CIS 278</td>
<td>Programming Methods C++</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 250</td>
<td>Physics with Calculus I</td>
<td>4</td>
</tr>
</tbody>
</table>

AS-T  **Major in Mathematics**

The AS-T major in Mathematics prepares students for transfer into bachelor's degree programs in mathematics and similar areas.

Upon completion of degree requirements, students will be able to:

1. Synthesize ideas expressed in mathematical language by
   a. Demonstrating the ability to understand both written and spoken mathematics.
   b. Demonstrating a basic understanding of proof.
   c. Communicating arguments clearly.
   d. Demonstrating the ability to collaborate in problem solving (i.e. study groups, group projects).

2. Demonstrate analytical thinking by
   a. Identifying what a problem is really asking.
   b. Breaking complex problems into manageable smaller problems.
   c. Identifying the relationships among verbal, symbolic, graphical and numerical representations within the same problem.
   d. Solving non-algorithmic problems.

3. Demonstrate resourcefulness in problem solving by
   a. Choosing appropriate methods.
   b. Synthesizing appropriate strategies, techniques or information from prerequisite courses.
   c. Using alternative representations of mathematical ideas.
   d. Recognizing and explaining source of errors and impossible solutions.

4. Employ mathematical strategies with confidence.

Completion of this AS-T meets minimum eligibility for junior standing for the California State University system. For more information go to page 62.

**Major requirements: 21–22 semester units**

Complete CSU General Education and major requirements as noted below. A grade of "C" or higher is required for each course applied to the major. Major course requirements may also be applied to meet general education requirements.

**Required Core:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 251</td>
<td>Calculus with Analytical Geometry I</td>
<td>5</td>
</tr>
<tr>
<td>MATH 252</td>
<td>Calculus with Analytical Geometry II</td>
<td>5</td>
</tr>
<tr>
<td>MATH 253</td>
<td>Calculus with Analytical Geometry III</td>
<td>5</td>
</tr>
</tbody>
</table>

**List A:** Plus one course from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 270</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 275</td>
<td>Ordinary Differential Equations</td>
<td>3</td>
</tr>
</tbody>
</table>

**List B:** Plus one course from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 270</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 275</td>
<td>Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MATH 268</td>
<td>Discrete Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>CIS 278</td>
<td>Programming Methods C++</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 250</td>
<td>Physics with Calculus I</td>
<td>4</td>
</tr>
</tbody>
</table>
General Education requirements:
Select courses to complete CSU General Education OR IGETC for CSU. This degree does not require the CSM AA/AS General Education pattern on pages 64 and 65.

CSU GE:
Area A1 Oral Communication ........................................... 3 units
Area A2 Written Communication ........................................ 3 units
Area A3 Critical Thinking .................................................. 3 units
Area A4 Physical Science .................................................. 3 units
Area A5 Life Science ......................................................... 3 units
Area B1 Science Lab .......................................................... 1 unit
Area B2 Math Concepts ...................................................... 3 units
Area C1 Arts ................................................................. 3 units
Area C2 Humanities ......................................................... 3 units
Area C1 or C2 ................................................................. 3 units
Area D Social, Political and Economic Institutions .............. 9 units
Area E Lifelong Understanding ......................................... 3 units

OR

IGETC/CSU:
Area 1A English Composition ............................................. 3 units
Area 1B Critical Thinking/Composition ................................ 3 units
Area 1C Oral Communication ............................................. 3 units
Area 2 Math Concepts ....................................................... 3 units
Area 3A Arts ................................................................. 3 units
Area 3B Humanities ......................................................... 3 units
Area 3A or 3B ................................................................. 3 units
Area 4 Social and Behavioral Science ................................ 9 units
Area 5A Physical Science ................................................... 3 units
Area 5B Biological Science ................................................ 3 units
Area 6 Science Lab - Either 5A or 5B must have a lab component ........................................... 1 unit

Electives:
Additional CSU transferable courses based on student interest to reach 60 units total.

MULTIMEDIA

For courses, please see the listing under Digital Media (DGME). Use the chart on pages 166–167, and meet with a counselor to determine the DGME courses that are applicable to Multimedia degrees and certificates.

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60 – 70 transferable units
California State University
University of California
Independent Colleges and Universities

AA Associate in Arts Degree
Multimedia Option 1: Web Design ......................... 60 units
Multimedia Option 2: Digital Video ....................... 60 units
Multimedia Option 3: Digital Audio .................... 60 units

CA Certificate of Achievement
Multimedia Web Design .................. 30 units
Multimedia Digital Video .................. 28.5 units
Multimedia Digital Audio .................. 25.5 units

CS Certificates of Specialization
Multimedia Web Design .................. 12 units
Multimedia Digital Video .................. 12 units

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.
AA Multimedia Option 1: Web Design
Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 30 semester units**
A grade of "C" or higher is required for each course applied to the major.
- MULT 102 Introduction to Multimedia 3 units
- MULT 172 Web Design: Dreamweaver 3 units
- MULT 177 Graphics for Multimedia (Photoshop/Fireworks) 3 units
- MULT 253 Multimedia Design 3 units
- MULT 274 Flash 3 units
- MULT 279 Flash Actionscript 3 units
- MULT 392 Multimedia Internship 3 units
- CIS 111 Introduction to Internet Programming 3 units

Design Electives: choose 6 units from the following:
- MULT 113, BCST 110, GRA 160, GRA 115/116

Developer Electives: choose 6 units from the following: CIS 254, 377, 380.

CA Multimedia Web Design
**30 semester units**
Complete major requirements listed under Associate in Arts – Major in Multimedia Option 1: Web Design. A grade of "C" or higher is required for each course.

AA Multimedia Option 2: Digital Video
Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 28.5 semester units**
A grade of "C" or higher is required for each course applied to the major.
- MULT 102 Introduction to Multimedia 3 units
- MULT 177 Multimedia Graphics (Photoshop/Fireworks) 3 units
- MULT 187 Final Cut Pro 3 units
- MULT 184 Digital Video 3 units
- MULT 192 Digital Audio 3 units
- MULT 282 After Effects 3 units
- MULT 292 DVD Studio Pro 3 units
- MULT 387 Digital Video Workflow 3 units
- BCST 312 Field Lighting/Studio Lighting 1.5 units

Electives - choose 3 units from the following:
- MULT 113, BCST 110

Strongly recommended: MULT 392

CA Multimedia Digital Video
**28.5 semester units**
Complete major requirements listed under Associate in Arts – Major in Multimedia Option 2: Digital Video. A grade of "C" or higher is required for each course applied to the certificate.

AA Multimedia Option 3: Digital Audio
Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 25.5 semester units**
A grade of "C" or higher is required for each course applied to the major.
- MULT 102 Introduction to Multimedia 3 units
- MULT 192 Digital Audio 3 units
- MULT 297 Pro Tools LE 3 units
- MULT 317 Digital Studio Recording 3 units
- MUS 290 Electronic Music I 3 units
- MUS 291 Electronic Music II 2 units
- MUS 292 Sound Creation: Sampling and Synthesis 3 units
- MUS 293 Audio for Visual Media 2.5 units

Plus, 3 units from the following courses:
- MULT 113 Fundamentals of Mac OS and File Management 3 units
- BCST 110 Media in Society 3 units

CA Multimedia Digital Audio
**25.5 semester units**
Complete major requirements listed under Associate in Arts – Major in Multimedia Option 3: Digital Audio. A grade of "C" or higher is required for each course applied to the certificate.

CS Multimedia Web Design
**12 semester units**
A grade of "C" or higher is required for each course applied to the certificate.
- MULT 172 Web Design: Dreamweaver 3 units
- MULT 177 Graphics for Multimedia (Photoshop) 3 units
- MULT 253 Multimedia Design 3 units
- MULT 274 Flash 3 units

CS Multimedia Digital Video
**12 semester units**
A grade of "C" or higher is required for each course applied to the certificate.
- MULT 184 Digital Video 3 units
- MULT 187 Final Cut Pro 3 units
- MULT 282 After Effects 3 units
- MULT 292 DVD Studio Pro 3 units
MUSIC

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60 – 70 transferable units
California State University
University of California
Independent Colleges and Universities

AA Associate in Arts Degree
Music ........................................ 60 units
Electronic Music ............................. 60 units

CA Certificate of Achievement
Electronic Music ................................ 26.5 units

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

The College of San Mateo provides a creative environment where every student may become enriched through an active association with the art of music and a faculty who are active in the music profession. The Music Department at College of San Mateo places strong emphasis upon performance as well as composition in both traditional and electronic media. At the same time, the department offers the general student enhanced understanding and appreciation of all forms of music. Through this two-fold approach, the department’s purpose becomes clear: to promote excellence in all aspects of music performance and academic course work, to provide basic preparation for careers in music, and to promote interest in all music and artistic endeavors at the College and in the Bay Area community.

Career opportunities include accompanist; arranger; composer; conductor; critic; band, orchestra or recording musician; lyricist, performing instrumentalist or vocalist; music director (radio station); private music instructor; music producer; music publisher; music therapist; night-club/restaurant entertainer; recording engineer; and teacher/professor. Additional career possibilities include choir director, music librarian, music minister, piano tuner, professional manager, recreation specialist, and soloist.

AA Music

Upon completion of degree requirements, students will be able to:

1. Demonstrate proficiency in aural skills such as sight-singing, rhythmic execution, harmonic, melodic and rhythmic dictation.

2. Perform advanced analysis on the melodic, harmonic and formal components of written music from the common practice period.

3. Create derivative and/or original music in 4-voice chorale style consistent with common practice period voice leading norms.

4. Demonstrate basic proficiency in keyboard skills including scales, basic chord progressions, sight-reading and repertoire appropriate to graduating first year piano students.

5. Demonstrate proficiency on an instrument or voice that enables self-expression and musical communication.

Complete General Education and other requirements listed for the Associate degree and

Major requirements: 31–35 semester units

A grade of “C” or higher is required for each course applied to the major.

Theor y and Musicianship Core, 24 units:
1st Semester (Fall Only):
MUS 131 Harmony I .......................... 3 units
MUS 101 Musicianship ........................ 3 units
2nd Semester (Spring Only):
MUS 132 Harmony II ........................... 3 units
MUS 102 Musicianship II ......................... 3 units
3rd Semester (Fall Only):
MUS 133 Harmony III .......................... 3 units
MUS 103 Musicianship III ......................... 3 units
4th Semester (Spring Only):
MUS 134 Harmony IV .......................... 3 units
MUS 104 Musicianship IV ......................... 3 units

Ensemble Requirements, four semesters of ensemble; 4–8 units, select from the following courses:

MUS 231 Afro-Latin Percussion Ensemble I ................ 2 units
MUS 232 Afro-Latin Percussion Ensemble II ................ 2 units
MUS 233 Afro-Latin Percussion Ensemble III ................ 2 units
MUS 234 Afro-Latin Percussion Ensemble IV ................ 2 units
MUS 424 Small Jazz Ensembles ......................... 2 units
MUS 425 Contemporary Jazz Combo ...................... 2 units
MUS 429 Wind Ensemble .......................... 1.5 units
MUS 430 Symphonic Band .......................... 1 unit
MUS 454 Jazz Workshop Big Band ........................ 1.5 units
MUS 455 Jazz Ensemble .......................... 1 unit

History Requirements, 3 units, select one from the following:

MUS 202 Music Listening and Enjoyment ...................... 3 units
MUS 250 World Music .................................. 3 units

Major in Music continued on next page
Keyboard Proficiency Requirement: Student must pass a keyboard proficiency exam. If student does not pass, music faculty recommend enrolling in the following courses to develop proficiency:

- MUS 301 Piano I ........................................ 1 unit
- MUS 302 Piano II ........................................ 1 unit

Recommended additional courses:

Music Technology:
- MUS 290 Electronic Music I .......................... 3 units

Piano (dependent on level), select from the following:
- MUS 301 Piano I ........................................ 1 unit
- MUS 302 Piano II ........................................ 1 unit
- MUS 303 Piano III ....................................... 1 unit
- MUS 304 Piano IV ....................................... 1 unit

History, select from the following:
- MUS 202 Music Listening and Enjoyment .......... 3 units
- MUS 250 World Music .................................. 3 units
- MUS 275 History of Jazz ................................. 3 units

**Electronic Music**

The Electronic Music major combines the areas of music, electronics and computer science, with a primary emphasis on music. The Electronic Music major is designed for students who intend to transfer to baccalaureate institutions; however, upon completion of the Associate degree in this discipline, many individuals start their own electronic music studios, where they record music for videos, films, or individual artists, as well as compose their own music on electronic instruments. Completion of a Bachelor’s degree in Electronic Music expands career opportunities to include performer, producer, recording engineer, and sound engineer. Software companies also hire Electronic Music graduates to develop and test new electronic equipment ranging from synthesizers to software packages.

Upon completion of degree requirements, students will be able to:

1. Compose, produce, record and mix original electronic music pieces using various electronic music technologies and techniques.
2. Design original sounds using analog synthesis, digital synthesis and sampling.
3. Create and synchronize original sound effects, Foley, music and dialogue to visuals.
4. Analyze the compositional elements, production qualities and musical aesthetics of their own works and the works of other electronic musicians, producers and composers.

Complete major requirements listed under Associate in Arts – Major in Electronic Music. A grade of “C” or higher is required for each course applied to the certificate.
NURSING – REGISTERED NURSING PROGRAM

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60 – 70 transferable units
California State University
University of California
Independent Colleges and Universities

AS Associate in Science Degree
Nursing .......................... 74–83.5 units

Recommended high school preparation:
Coursework in Biology, Chemistry, Anatomy, English, Mathematics, Psychology

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

The College of San Mateo Nursing Program provides students with opportunities for learning at the College, local hospitals, and related health agencies. Clinical practice begins early in the first semester. Upon graduation, the candidate receives an Associate in Science degree and is eligible to take the National Council Licensing Exam (NCLEX). The graduate is also eligible to transfer to a four-year nursing program.

Career opportunities are available in hospitals, physician’s offices, clinics, labs, nursing and personal care facilities, public health and other government agencies, educational services, health and allied services, outpatient care facilities. Many nurses specialize in areas such as cardiac care, geriatrics, intensive care, obstetrics, pediatrics, and surgery. Specific career opportunities include nursing administrator, clinic nurse, critical care nurse, emergency department nurse, flight nurse, home health nurse, hospital staff nurse, industrial nurse, medical researcher, nurse anesthetist, nurse midwife, nurse practitioner, office nurse, public health nurse, school nurse, and teacher/educator.

Nursing Program Admissions Requirements
Go to the CSM Nursing Program web site for the current admissions information (collegeofsanmateo.edu/nursing). At this site print the Nursing Program Information Sheet and the Nursing Articulation Grid for detailed information about admissions requirements and processes. You may also contact the Nursing Department, (650) 574-6218.

Admissions Requirements
If there are more applicants than spaces available, the following applicants are given priority.

1. Applicants who have completed the "pre admission" major requirements.
2. Applicants with a grade point average of 2.5 or higher for all pre admissions and major course requirements.
3. Applicants who have completed Biology 240, Biology 250, and Biology 260 with a cumulative grade point average of 2.5 for this group and no grade less than C in each course and no more than one repetition of any of these courses.
4. Applicants with equal priority are selected by a computerized random number system.
5. Applicants are required to successfully complete an assessment test prior to the entry into the program. In the event that the applicant does not pass the test, they need to successfully complete remediation course work prior to entry into the nursing program.

AS Major in Nursing
Upon completion of degree requirements, students will be able to:

Demonstrate a sound knowledge of nursing methods, skills and healthcare management. Students should be able to:

1. Apply nursing methods, protocols and procedures to appropriate care situations
2. Use the nursing process, which emphasizes critical thinking, independent judgment and continual evaluation as a means to determine nursing activities
3. Utilize theory and knowledge from nursing, the physical/behavioral sciences and the humanities in providing nursing care.

Using the nursing process, engage in an ongoing evaluation of all care delivered and change the plan of care as appropriate. Students should be able to:

1. Identify and assess the healthcare needs of patients/clients using the tools/framework appropriate to the clinical setting
2. Document and evaluate the outcome of nursing and other interventions and communicate to team members
3. Prioritize care-delivery on an ongoing basis

Demonstrate effective skills in communicating information, advice, and professional opinion to colleagues, patients, clients, and their families. Students should be able to:

1. Work in partnership with patients, clients, and caregivers
2. Engage in and disengage from therapeutic relationships through the use of effective interpersonal and counseling skills
3. Provide compassionate, culturally sensitive care to clients in a variety of settings

Major in Multimedia continued on next page
Follow professional and ethical standards when they provide nursing care to patients. Students should be able to:

1. Adhere to the ANA Code of Ethics for nurses, treating patients as unique whole individuals with specific needs, desires, and abilities
2. Describe current legal and professional standards for nurses in relation to common clinical problems
3. Practice in a manner that respects patient confidentiality and adheres to HIPAA.

Value themselves as growing professionals by demonstrating accountability for own learning and practice that serves as the basis for continual development as a professional nurse.

1. Appraise own professional performance accurately. Evaluate their professional learning needs and take steps to meet them

Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 74–83.5 semester units**

A grade of “C” or higher is required in each course applied to the major.

- NURS 211  Introduction to Nursing 4.5 units
- NURS 212  Concepts of Homeostasis in Nursing 4.5 units
- NURS 215  Nursing Skills Lab I 0.5 unit
- NURS 221  Pediatric Nursing 4.5 units
- NURS 222  Maternity Nursing 4.5 units
- NURS 225  Nursing Skills Lab II 0.5 unit
- NURS 231  Psychiatric Nursing 5 units
- NURS 232  Medical/Surgical Nursing 5 units
- NURS 235  Nursing Skills Lab III 0.5 unit
- NURS 241  Advanced Medical/Surgical Nursing 5 units
- NURS 242  Leadership/Management in Nursing 5 units
- NURS 245  Nursing Skills Lab IV 0.5 unit
- NURS 808  Open Skills Laboratory 0.5–1.5 units
- BIOL 240  General Microbiology 4 units
- BIOL 250  Anatomy 4 units
- BIOL 260  Introductory Physiology 5 units
- PSYC 100  General Psychology 3 units
- PSYC 200  Developmental Psychology 3 units
- ANTH 110  Cultural Anthropology 3 units
- COMM 110  Public Speaking 3 units
- COMM 130  Interpersonal Communication 3 units
- COMM 150  Intercultural Communication 3 units
- ENGL 100  Composition and Reading 3 units

**Pre-admissions Major requirements 37–38 units**

*MATH 120 or MATH 122 and 123 5–6 units

*For those students with catalog rights prior to Fall 2009, completion of Math 110 or 111/112 or the equivalent or placement in a math course higher than Math 110/112 on the College of San Mateo Math Placement Test meet this pre-admissions major requirement. Beginning in fall 2009 and thereafter, students must complete Intermediate Algebra, Math 120 or Math 122/123 or the equivalent or placement in a math course higher than Math 120/123 on the College of San Mateo Math Placement Test to meet this admissions and major requirement.

- CHEM 410 or 192 or 210 4 units
- BIOL 240  General Microbiology 4 units
- BIOL 250  Anatomy 4 units
- BIOL 260  Physiology 5 units
- ENGL 100  English Composition 3 units
- PSYC 100  General Psychology 3 units
- PSYC 200  Developmental Psychology 3 units
- SOCI 100  Introduction to Sociology 3 units
- ANTH 110  Cultural Anthropology 3 units
- COMM 110 or 130 or 150 3 units

**Other Major requirements once accepted into the program 42–46 units**

- NURS 211  Introduction to Nursing 4.5 units
- NURS 212  Concepts of Homeostasis in Nursing 4.5 units
- NURS 215  Nursing Skills Lab I 0.5 unit
- NURS 221  Pediatric Nursing 4.5 units
- NURS 222  Maternity Nursing 4.5 units
- NURS 225  Nursing Skills Lab II 0.5 unit
- NURS 231  Psychiatric Nursing 5 units
- NURS 232  Medical/Surgical Nursing 5 units
- NURS 235  Nursing Skills Lab III 0.5 unit
- NURS 241  Advanced Medical/Surgical Nursing 5 units
- NURS 245  Nursing Skills Lab IV 0.5 unit
- NURS 245  Advanced Medical/Surgical Nursing 5 units
- NURS 242  Leadership/Management in Nursing 5 units
- NURS 245  Nursing Skills Lab IV 0.5 units
- NURS 808  Open Skills Laboratory 2–6 units

Students interested in an LVN upgrade through the ADN plan or 30 Unit Option should call the Nursing Department for additional information. Students who wish to transfer into the nursing program or challenge nursing courses should also call the Nursing Department.

*To comply with recent legislation, students accepted into the nursing program who have completed a bachelor’s degree at a college or university in the United States that is accredited by an agency approved by the SMCCCD do not need to complete CSM prescribed general education courses. Only major courses listed above are required for the ASN degree for students with a bachelor’s degree.

**Requirements for R.N. Licensing Exam:**

1. Graduation from high school or equivalent
2. All major requirements listed under pre-admissions and major.
3. If an individual has been convicted of a crime, he or she should contact the Board of Registered Nursing regarding eligibility for licensure. Candidates are reviewed on a case by case basis.
PHILOSOPHY

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60 – 70 transferable units
California State University
University of California
Independent Colleges and Universities

PHYSICAL SCIENCE

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60 – 70 transferable units
California State University
University of California
Independent Colleges and Universities

Associate in Science Degree
Physical Science .......................... 60 units

Recommended high school preparation:
Coursework in Mathematics, Chemistry, Physics, English

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

The A.S. degree in Physical Science provides students with a breadth of understanding of the physical sciences, in addition to a depth of knowledge in the specialized fields of astronomy, chemistry, geology, and physics. The program is designed to prepare students for transfer to baccalaureate institutions as majors in Physical Science or related science disciplines. Career opportunities include astronomer, chemist, geographer, geologist, geophysicist, meteorologist, oceanographer, and physicist. Physical scientists are employed by government agencies, and the chemical, computer, construction, drug, food, industrial electronics, manufacturing and petroleum industries. Additional career opportunities exist in energy management, mineral exploration and land use planning.

Major in Physical Science
Complete General Education and other requirements listed for the Associate degree and

Major requirements: 18 semester units
A grade of "C" or higher is required for each course applied to the major.
Select one or more classes from each group.
Group 1
ASTR 100 Introduction to Astronomy .................. 3 units
ASTR 101 Astronomy Laboratory ...................... 1 unit
Group 2
CHEM 210 General Chemistry I ...................... 5 units
CHEM 410 Health Science Chemistry I ............... 4 units
Group 3
GEOL 100 Survey of Geology ....................... 3 units

Major in Physical Science continued on next page
**Group 4**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 100</td>
<td>Conceptual Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 210</td>
<td>General Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 250</td>
<td>Physics with Calculus I</td>
<td>4</td>
</tr>
</tbody>
</table>

You may complete the required 18 units with courses selected from Groups 1, 2, 3, and 4. However, if you have not completed the required 18 units from these groups you may complete the unit requirement by selecting courses from the following list.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 231</td>
<td>Organic Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>CIS 255</td>
<td>Programming Methods: Java I</td>
<td>4</td>
</tr>
<tr>
<td>CIS 278</td>
<td>Programming Methods: C++</td>
<td>4</td>
</tr>
<tr>
<td>MATH 251</td>
<td>Calculus w/ Analytical Geometry I</td>
<td>5</td>
</tr>
<tr>
<td>MATH 252</td>
<td>Calculus w/ Analytical Geometry II</td>
<td>5</td>
</tr>
<tr>
<td>MATH 253</td>
<td>Calculus w/ Analytical Geometry III</td>
<td>5</td>
</tr>
<tr>
<td>MATH 275</td>
<td>Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 250</td>
<td>Physics with Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 260</td>
<td>Physics with Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 270</td>
<td>Physics with Calculus III</td>
<td>4</td>
</tr>
</tbody>
</table>

You may complete the required 18 units with courses selected from Groups 1, 2, 3, and 4. However, if you have not completed the required 18 units from these groups you may complete the unit requirement by selecting courses from the following list.

**PHYSICS**

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

**University Transfer Program**

**60 – 70 transferable units**

California State University

University of California

Independent Colleges and Universities

**AS**

**Associate in Science Degree**

Physics ........................................ 60 units

**AS-T**

**Associate in Science Degree for Transfer/SB1440**

Physics ........................................ 60 CSU transferable units

**Recommended high school preparation:**

Coursework in Mathematics (four years), Physics, Chemistry, English

**University Transfer Program**

Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

The A.S. degree in Physics is designed to prepare students for transfer to baccalaureate institutions as Physics or other science majors. Physics is also an accepted pre-medical field of study. A large percentage of Physics majors select employment with universities as researchers and/or professors. Private industry employs approximately two-thirds of all non-academic physicists in companies manufacturing aircraft and missiles, chemicals, electrical equipment, and scientific equipment. Government, hospitals, and commercial research laboratories also employ Physics graduates. Specific careers include aerodynamist, airplane navigator, air pollution operating specialist, ballistics expert, educator, electrical or mechanical engineer, electrician, hydrologist, industrial hygienist, and electrical, laser, mechanical or optics physicist.

**AS**

**Major in Physics**

Complete General Education and other requirements listed for the Associate degree and

**Major requirements: 18 semester units**

A grade of “C” or higher is required for each course applied to the major.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 250</td>
<td>Physics with Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 260</td>
<td>Physics with Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 270</td>
<td>Physics with Calculus III</td>
<td>4</td>
</tr>
</tbody>
</table>
Major Requirements

• Scalable between .25 inches and .18 inches wide:

  - Sized to .15", no shield at this size:

  - Scalable above .25 inches:

  - Plus, 6 units selected from the following courses:

    CHEM 210  General Chemistry I .................. 5 units
    CHEM 220  General Chemistry II ................. 5 units
    CHEM 231  Organic Chemistry I .................. 5 units
    CHEM 232  Organic Chemistry II .................. 5 units
    CIS 255  Programming Methods: Java ............. 4 units
    CIS 278  Programming Methods: C++ .............. 4 units
    MATH 200  Elementary Probability and Statistics .... 4 units
    MATH 251  Calculus with Analytical Geometry I .... 5 units
    MATH 252  Calculus with Analytical Geometry II ..... 5 units
    MATH 253  Calculus with Analytical Geometry III .... 5 units
    MATH 270  Linear Algebra .......................... 3 units
    MATH 275  Ordinary Differential Equations ........ 3 units

AS-T  Major in Physics

Major requirements: 27 semester units

Complete CSU General Education and major requirements as noted below. A grade of "C" or higher is required for each course applied to the major. Major course requirements may also be applied to meet general education requirements.

PHYS 250 Physics with Calculus I .................. 4 units
PHYS 260 Physics with Calculus II .................. 4 units
PHYS 270 Physics with Calculus III ................ 4 units
MATH 251 Calculus with Analytical Geometry I ........ 5 units
MATH 252 Calculus with Analytical Geometry II ........ 5 units
MATH 253 Calculus with Analytical Geometry III ........ 5 units
MATH 270 Linear Algebra .......................... 3 units
MATH 275 Ordinary Differential Equations ........ 3 units

Additional Recommended preparation chosen from the following courses (While these additional courses are not required for this degree, completion of these courses will better prepare students for upper division Physics courses at a CSU):

MATH 270 Linear Algebra .......................... 3 units
MATH 275 Ordinary Differential Equations ........ 3 units
CHEM 210/220 General Chemistry I and II ........ 10 units
One course in computer programming .............. 4 units

General Education requirements:

Select courses to complete CSU General Education OR IGETC for CSU. This degree does not require the CSM AA/AS General Education pattern on pages 64 & 65.

CSU GE:

  - Area A1 Oral Communication .......................... 3 units
  - Area A2 Written Communication ..................... 3 units
  - Area A3 Critical Thinking .......................... 3 units
  - Area B1 Physical Science .......................... 3 units
  - Area B2 Life Science ................................. 3 units
  - Area B3 Science Lab ................................. 1 unit
  - Area B4 Math Concepts .............................. 3 units
  - Area C1 Arts ......................................... 3 units
  - Area C2 Humanities ................................. 3 units
  - Area C1 or C2 ....................................... 3 units
  - Area D Social, Political, and Economic Institutions .... 9 units
  - Area E Lifelong Understanding ........................ 3 units
  - OR

IGETC/CSU:

  - Area 1A English Composition .......................... 3 units
  - Area 1B Critical Thinking/Composition .............. 3 units
  - Area 1C Oral Communication ........................ 3 units
  - Area 2 Math Concepts ................................ 3 units
  - Area 3A Arts ......................................... 3 units
  - Area 3B Humanities ................................. 3 units
  - Area 3A or 3B ....................................... 3 units
  - Area 4 Social and Behavioral Science ...................... 9 units
  - Area 5A Physical Science .......................... 3 units
  - Area 5B Biological Science .......................... 3 units
  - Area 5C Science Lab - Either 5A or 5B must have a lab component 1 unit

Electives:

Additional CSU transferable courses based on student interest to reach 60 units total.
POLITICAL SCIENCE

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60 – 70 transferable units
California State University
University of California
Independent Colleges and Universities

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

PSYCHOLOGY

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60 – 70 transferable units
California State University
University of California
Independent Colleges and Universities

AA-T Associate in Arts Degree for Transfer/SB1440
Psychology .......................... 60 CSU transferable units

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

AA-T Major in Psychology
Major requirements: 18-19 units

Complete CSU General Education and major requirements as noted below.

A grade of "C" or higher is required for each course applied to the major. Major course requirements may also be applied to meet general education requirements.

Required Core (9 units)
PSYC 100 General Psychology .......................... 3 units
PSYC 121 Basic Statistical Concepts .......................... 3 units
PSYC 120 Introduction to Research Methods .......................... 3 units

List A: Select one course (3-4 units)
PSYC 220 Introduction to Psychobiology .......................... 3 units
BIOL 110 General Principles of Biology .......................... 4 units
BIOL 130 Human Biology .......................... 3 units

List B: Select one course (3 units)
Any List A course not used above
PSYC 201 Child Development .......................... 3 units
PSYC 105 Experimental Psychology .......................... 3 units

List C: One course from the following (3 units)
Any List A or List B course not used above
PSYC 110 Courtship, Marriage, and the Family .......................... 3 units
PSYC 200 Developmental Psychology .......................... 3 units
PSYC 225 Theories of Personality .......................... 3 units
PSYC 300 Social Psychology .......................... 3 units
PSYC 410 Abnormal Psychology .......................... 3 units
REAL ESTATE

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

Associate in Arts Degree
Real Estate ......................... 60 units

Recommended high school preparation:
Coursework in Mathematics, Business, Accounting, English

Essentially all real estate agents are employed in real estate offices as salespersons. Some agents secure employment with developers, land buying corporations, and government agencies. Additional opportunities for those with a background in real estate include appraiser, escrow officer, loan officer, mortgage banker/broker, and property manager.

Pre-requisite Requirements:
For licensed Real Estate Agents, R.E. 100 and 105 may be waived as prerequisites for all real estate courses.

Major in Real Estate

Upon completion of degree requirements, students will be able to:

1. Meet the requirements to sit for the California Real Estate License Exam.
2. Define the role and responsibilities of a real estate agent in California.
3. Critically analyze how real estate is acquired, held, used, regulated, taxed, and transferred.

Complete General Education and other requirements listed for the Associate degree and

Major requirements: 21 semester units
A grade of "C" or higher is required for each course applied to the major.

BUS 100 Contemporary American Business ............... OR
MGMT 100 Introduction to Business Management .... 3 units
R.E. 100 Real Estate Principles ......................... 3 units
R.E. 110 Real Estate Practice ............................ 3 units
R.E. 121 Legal Aspects of Real Estate .................... 3 units
R.E. 131 Real Estate Finance I ............................. 3 units
R.E. 141 Real Estate Appraisal: Basic .................... 3 units
R.E. 200 Real Estate Economics ......................... 3 units

General Education requirements:
Select courses to complete CSU General Education OR IGETC for CSU. This degree does not require the CSM AA/AS General Education pattern on pages 64 & 65.

CSU GE:
Area A1 Oral Communication .......................... 3 units
Area A2 Written Communication ...................... 3 units
Area A3 Critical Thinking ............................... 3 units
Area B1 Physical Science ............................... 3 units
Area B2 Life Science ................................. 3 units
Area B3 Science Lab ...................................... 1 unit
Area B4 Math Concepts ..................................... 3 units
Area C1 Arts ............................................. 3 units
Area C2 Humanities ...................................... 3 units
Area C1 or C2 ............................................. 3 units
Area D Social, Political, and Economic Institutions .... 9 units
Area E Lifelong Understanding ......................... 3 units

IGETC/CSU:
Area 1A English Composition .......................... 3 units
Area 1B Critical Thinking/Composition .................. 3 units
Area 1C Oral Communication ............................ 3 units
Area 2 Math Concepts ................................... 3 units
Area 3A Arts ............................................. 3 units
Area 3B Humanities ...................................... 3 units
Area 3A or 3B ............................................. 3 units
Area 4 Social and Behavioral Science .................. 9 units
Area 5A Physical Science ................................ 3 units
Area 5B Biological Science ............................... 3 units
Area 5C Science Lab - Either 5A or 5B must have a lab component ................................. 1 unit

Electives:
Additional CSU transferable courses based on student interest to reach 60 units total.
SOCIAL SCIENCE

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60 – 70 transferable units
California State University
University of California
Independent Colleges and Universities

AA  Associate in Arts Degree
Social Science .............................. 60 units

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

Social Science fields are many and varied, and include such areas as Cultural Anthropology, Economics, Ethnic Studies, Geography, History, International Relations, Philosophy, Political Science, Psychology, and Sociology. An A.A. degree prepares students for transfer to a baccalaureate institution for further study in Social Science or one of its encompassed fields. Career opportunities for social scientists are found with federal, state and local government agencies. Additional opportunities exist with colleges and universities in research and teaching. Some social scientists are self-employed in research or special studies for business, industry or government.

AA  Major in Social Science
Complete General Education and other requirements listed for the Associate degree and

Major requirements: 18 semester units
A grade of "C" or higher is required for each course applied to the major.

Select courses from at least three of the subject areas listed below. In one of the subject areas you must select at least two courses.

- Anthropology
- Economics
- Ethnic Studies (excluding ETHN 288, 350, 351, 585)
- Geography (excluding GEOG 100)
- History
- Political Science
- Psychology (excluding PSYC 121)
- Social Science
- Sociology

SOCIOLOGY

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60 – 70 transferable units
California State University
University of California
Independent Colleges and Universities

AA-T  Associate in Arts Degree for Transfer/SB1440
Sociology .............................. 60 CSU transferable units

University Transfer Program
Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

Courses in Sociology prepare students to transfer to baccalaureate institutions for a degree in Sociology or a related discipline. A background in Sociology provides students with career opportunities which include child care program developer, claims examiner, criminologist, demographer, employment counselor, industrial sociologist, interviewer, population or public opinion analyst, probation officer, public health statistician, public relations consultant, recreation specialist, researcher, social ecologist, social worker, and urban planner.

AA-T  Major in Sociology
Major requirements: 18-19 semester units
The AA-T major in Sociology prepares students for transfer into bachelor’s degree programs in sociology and similar areas.

Upon completion of degree requirements, students will be able to:

1. Distinguish the different sociological approaches (conflict theory, symbolic interactionism, functionalism, and post modernism) and their explanation of society.
2. Apply critical thinking skills to examination of social institutions.
3. Evaluate US and global level social stratification and social inequality
4. Identify major methodological approaches to social research.
Complete CSU General Education and major requirements as noted below. A grade of "C" or higher is required for each course applied to the major. Major course requirements may also be applied to meet general education requirements.

**SOCI 100 Introduction to Sociology** .......................... 3 units

Group A: Two courses from the following (6–7 units):
- SOCI 105 Social Problems ................................. 3 units
- SOCI 121 Introduction to Research Methods .................. 3 units
- PSYC 121 Basic Statistical Concepts ......................... 3 units
- OR MATH 200 Elementary Probability and Statistics .......... 4 units

Group B: Two courses from the following (6–7 units):
- Any Group A course not used above ......................... 3–4 units
- SOCI 110 Courtship, Marriage, and the Family ............... 3 units
- SOCI 141 Race and Ethnic Relations ......................... 3 units
- PSYC 300 Social Psychology ................................ 3 units

Group C: One course from the following (3–4 units):
- Any Group A or Group B course not used above ............ 3–4 units

**General Education requirements:**
Select courses to complete CSU General Education OR IGETC for CSU. This degree does not require the CSM AA/AS General Education pattern on pages 64 & 65.

**CSU GE:**
- Area A1 Oral Communication ................................. 3 units
- Area A2 Written Communication ............................. 3 units
- Area A3 Critical Thinking ..................................... 3 units
- Area B1 Physical Science ....................................... 3 units
- Area B2 Life Science ............................................ 3 units
- Area B3 Science Lab ............................................. 1 unit
- Area B4 Math Concepts .......................................... 3 units
- Area C1 Arts .......................................................... 3 units
- Area C2 Humanities ............................................... 3 units
- Area C1 or C2 ........................................................ 3 units
- Area D Social, Political, and Economic Institutions ....... 9 units
- Area E Lifelong Understanding ............................... 3 units

OR

**IGETC/CSU:**
- Area 1A English Composition ............................... 3 units
- Area 1B Critical Thinking/Composition ....................... 3 units
- Area 1C Oral Communication .................................. 3 units
- Area 2 Math Concepts ........................................... 3 units
- Area 3A Arts .......................................................... 3 units
- Area 3B Humanities .............................................. 3 units
- Area 3A or 3B ........................................................ 3 units

Electives:
Additional CSU transferable courses based on student interest to reach 60 units total.
SPANISH

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

University Transfer Program
60 – 70 transferable units
California State University
University of California
Independent Colleges and Universities

AA Associate in Arts Degree
Spanish ......................... 60 units

CS Certificate of Specialization
Spanish ......................... 12 units

University Transfer Program

Use Assist (www.assist.org) to identify lower division major preparation for the California State University and the University of California systems. For independent or out-of-state colleges and universities use their catalogs to locate this information. Transfer Services can assist you to gather this information.

In addition to providing skills in understanding, speaking, reading, and writing Spanish, the major provides a greater understanding of Spanish culture and civilization and prepares students for greater international and domestic career opportunities. Given the multinational nature of the business world today, fluency in a foreign language, such as Spanish, increases an individual’s marketability and value in the areas of banking, consular and junior foreign service, education, import/export business, international business, international relations, medicine, nursing, overseas employment, police work, social security, translating/interpreting services, and social services. Specific career opportunities include bilingual aide, border patrol officer, buyer, court interpreter, counselor, customs agent/inspector, foreign exchange clerk, foreign student advisor, interpreter, journalist, museum curator, physician, scientific linguist, tour guide, and tutor.

AA Major in Spanish

Upon completion of the degree requirements, students will be able to:

1. Understand native speech at average speed on a variety of common topics (listening)
2. Utilize appropriate vocabulary, grammar and pronunciation to express verbal communication covering a broad spectrum of common interpersonal interactions. (speaking)
3. Decode written Spanish in a variety of formats, and will be familiar with the literature of the Spanish-speaking cultures and will have read and analyzed representative works of prose, poetry, and drama. (reading)
4. Use appropriate levels of Standard Spanish vocabulary and grammatical structures to write on a variety of common topics so as to be understood by a native speaker unfamiliar with English. (writing)

5. Identify aspects of Hispanic culture throughout the world, and then compare and contrast them with aspects of non-Hispanic cultures. (cultural awareness) Complete General Education and other requirements listed for the Associate degree and

Major requirements: 18 semester units

A grade of "C" or higher is required for each course applied to the major.

SPAN 110 Elementary Spanish ....................... 5 units
SPAN 111 Elementary Spanish I .................... 3 units
SPAN 112 Elementary Spanish II ................... 3 units
SPAN 120 Advanced Elementary Spanish .......... 5 units
SPAN 121 Advanced Elementary Spanish I ....... 3 units
SPAN 122 Advanced Elementary Spanish II ...... 3 units
SPAN 130 Intermediate Spanish .................... 3 units
SPAN 131 Intermediate Spanish I .................. 3 units
SPAN 132 Intermediate Spanish II ................ 3 units
SPAN 140 Advanced Intermediate Spanish ....... 3 units
SPAN 251 Hispanoamerica Contemporanea ........ 3 units

With Language Arts Division approval, ANTH 110 may be accepted as part of the 18 units.

CS Spanish

12 semester units

"Pass" or grade of “C” or higher is required for each course applied to the certificate.

Select at least 5 of the 12 units from the following courses

SPAN 110 Elementary Spanish ....................... 5 units
SPAN 111 Elementary Spanish I .................... 3 units
SPAN 112 Elementary Spanish II ................... 3 units
SPAN 120 Advanced Elementary Spanish .......... 5 units
SPAN 121 Advanced Elementary Spanish I ....... 3 units
SPAN 122 Advanced Elementary Spanish II ...... 3 units
SPAN 130 Intermediate Spanish .................... 3 units
SPAN 131 Intermediate Spanish I .................. 3 units
SPAN 132 Intermediate Spanish II ................ 3 units
SPAN 140 Advanced Intermediate Spanish ....... 3 units
SPAN 251 Hispanoamerica Contemporanea ........ 3 units

The balance of units may be from the following courses:

SPAN 801 Conversational Spanish I, Elementary .... 2 units
SPAN 802 Conversational Spanish II, Advanced Elementary .......... 2 units
SPAN 803 Conversational Spanish III, Intermediate .... 2 units
SPAN 804 Conversational Spanish IV, Advanced Intermediate .......... 2 units

In special circumstances, the Dean of Language Arts may approve the limited use of other courses in the same language (such as those numbered 680 or taken at Skyline or Canada Colleges). In rare circumstances, the Dean may approve using a course in another discipline if its content is closely related to the language studied.
SPRINKLER FITTER

The courses required for this degree are administered by College of San Mateo in conjunction with the Joint Apprenticeship and Training Committee. Registration is limited to those individuals fulfilling the related instruction requirements of the State of California as an indentured apprentice. For additional Information contact the Plumbers JATC or the Technology Division Office at 650-574-6177.

AS Associate in Science Degree
Sprinkler Fitter ................................. 60 units

CA Certificate of Achievement
Sprinkler Fitter ................................. 35 units

Required high school preparation:
Coursework in Mathematics. At least 18 years of age; High School graduate or GED; one semester of college-level algebra with a grade of “C” or higher.

AS Major in Sprinkler Fitter
Complete General Education and other requirements listed for the Associate degree and

Major Requirements: 35 semester units
A grade of “C” or higher is required for each course applied to the major.
SPFI 711 Sprinkler Fitter Apprentice I ............................. 3.5 units
SPFI 712 Sprinkler Fitter Apprentice II ............................. 3.5 units
SPFI 713 Sprinkler Fitter Apprentice III ............................. 3.5 units
SPFI 714 Sprinkler Fitter Apprentice IV ............................. 3.5 units
SPFI 715 Sprinkler Fitter Apprentice V ............................. 3.5 units
SPFI 716 Sprinkler Fitter Apprentice VI ............................. 3.5 units
SPFI 717 Sprinkler Fitter Apprentice VII ............................. 3.5 units
SPFI 718 Sprinkler Fitter Apprentice VIII ............................. 3.5 units
SPFI 719 Sprinkler Fitter Apprentice IX ............................. 3.5 units
SPFI 720 Sprinkler Fitter Apprentice X ............................. 3.5 units

CA Sprinkler Fitter
35 semester units
Complete major requirements listed under Associate in Science with a major in Fire Sprinkler Technology. A grade of “C” or higher is required for each course applied to the certificate.

UNIVERSITY TRANSFER

Meet with a CSM counselor to discuss how to achieve academic goals and to develop a comprehensive student educational plan (SEP).

California State University
University of California
Independent Colleges and Universities

CA Certificate of Achievement

University Transfer with three options:
Option 1: California State University General Education Certification (CSU/GE) ............................. 39 units
Option 2: Intersegmental General Education Transfer Curriculum Certification CSU (IGETC/CSU) ................................................. 37 units
Option 3: Intersegmental General Education Transfer Curriculum Certification for UC (IGETC/UC) ................................................. 34--39 units

For all options, find courses approved to meet university transfer general education requirements at www.assist.org and search under College of San Mateo.

CA University Transfer Option 1:
California State University General Education Certification (CSUGE)
Complete 39 units of coursework to meet the California State University General Education Certification requirements as listed below.

Complete 9 units of Area A:
Communications in the English Language and Critical Thinking. Courses in Area A must be completed with a grade of “C” or higher. Select a course from each area below.
A1: Oral Communication ................................................................. 3 units
A2: Written Composition ................................................................. 3 units
A3: Critical Thinking ................................................................. 3 units

Complete 9 units of Area B:
Physical Universe and Its Life Forms. The course used to meet Area B4 must be completed with a grade of “C” or higher. One of the courses selected to meet Area B1 or Area B2 must be a lab course or have a lab component to meet the B3 lab requirement. Select a course from each area below.
B1: Physical Science ................................................................. 3 units
B2: Life Science ................................................................. 3 units
B3: Lab Course (the course selected to meet either B1 or B2 must be a lab course or have a lab component to meet the B3 requirement)
B4: Math Concepts/Quantitative Reasoning ................................................................. 3 units

Complete 9 units of Area C:
Arts, Literature, Philosophy and Foreign Language. At least one course must be selected from Arts and one course from Humanities.

Major in University Transfer continued on next page
The third course can be selected from either Arts or Humanities.

- C1: Arts ....................................................... 3 units
- C2: Humanities ........................................... 3 units

C1 or C2 .......................................................... 3 units

Complete 9 units in Area D:
Social, Political and Economic Institutions. Must complete coursework in at least two disciplines. Courses selected to meet Area D may also be used to meet a CSU graduation requirement in US History, US Constitutions, and California State and Local Government (referred to as AHandl/CA State). (CSU Chico does not allow double counting of courses in Area D to meet AHandl/CA State.)

Area D ......................................................... 9 units

Complete 3 units in Area E:
Lifelong Understanding and Self Development.

Area E .......................................................... 3 units

CA University Transfer Option 2: Intersegmental General Education Transfer Curriculum Certification for CSU (IGETC/CSU)

Complete 37 units of coursework to meet the IGETC/CSU Certification requirements as listed below.

All courses must be completed with a grade of “C” or higher.

Complete 9 units in Area 1: English Communication
- Area 1A: English Composition .................................... 3 units
- Area 1B: Critical Thinking ........................................ 3 units
- Area 1C: Oral Communication .................................... 3 units

Complete 3 units in Area 2:
Mathematical Concepts and Quantitative Reasoning.

Area 2 .......................................................... 3 units

Complete 9 units in Area 3:
Arts and Humanities. At least one course must be selected from Arts and one course from Humanities. The third course can be selected from either Arts or Humanities.

- Area 3A: Arts ....................................................... 3 units
- Area 3B: Humanities ........................................... 3 units
- Area 3A or 3 B .................................................... 3 units

Complete 9 units in Area 4:
Social and Behavioral Sciences. Must complete coursework in at least two disciplines.

Area 4 .......................................................... 9 units

Complete 7 units in Area 5:
Physical and Biological Sciences. At least one course must include a laboratory component.

Area 5A: Physical Science ........................................ 3-4 units
Area 5B: Biological Science ...................................... 3-4 units

Language other than English - Area 6:
This area is a proficiency requirement that can be fulfilled through a number of options. Verification for any of the options listed on page 58 is required to complete certification.

CA University Transfer Options 3: Intersegmental General Education Transfer Curriculum Certification for UC (IGETC/UC)

Complete 34 - 39 units of coursework to meet the IGETC/UC Certification requirements as listed below.

All courses must be completed with a grade of “C” or higher.

Complete 6 units in Area 1: English Communication
- Area 1A: English Composition .................................... 3 units
- Area 1B: Critical Thinking ........................................ 3 units

Complete 3 units in Area 2:
Mathematical Concepts and Quantitative Reasoning.

Area 2 .......................................................... 3 units

Complete 9 units in Area 3:
Arts and Humanities. At least one course must be selected from Arts and one course from Humanities. The third course can be selected from either Arts or Humanities.

- Area 3A: Arts ....................................................... 3 units
- Area 3B: Humanities ........................................... 3 units
- Area 3A or 3 B .................................................... 3 units

Complete 9 units in Area 4:
Social and Behavioral Sciences. Must complete coursework in at least two disciplines.

Area 4 .......................................................... 9 units

Complete 7 units in Area 5:
Physical and Biological Sciences. At least one course must include a laboratory component.

Area 5A: Physical Science ........................................ 3-4 units
Area 5B: Biological Science ...................................... 3-4 units