Degrees & Certificates

For information regarding CSM transfer programs, please refer to Transfer Opportunities: Subject Areas and Majors. In addition, meet with a CSM counselor/advisor and use the resources of Transfer Services (collegeofsanmateo.edu/transfer) to develop an educational plan leading to transfer in your specific area of study. For information about Gainful Employment, see Gainful Employment Disclosure Information.

Degree or Certificate Program	Award Type	Units
ACCOUNTING		
Accounting	AA	60 units
Accounting	CA	22 units
Accounting Assistant	CS	8.5 units
Accounting Essentials for Business Professionals	CS	6 units
CPA Exam Prep: Auditing and Attestation (AUD)	CS	17 units
CPA Exam Prep: Business Environment and Concepts (BEC)	CS	16 units
CPA Exam Prep: Financial Accounting and Reporting (FAR)	CS	17 units
CPA Exam Prep: Regulation (REG)	CS	16 units
Enrolled Agent Exam Preparation	CS	17 units
Individual Tax Professional	CS	15.5 units
Personal Financial Planning	CS	6 units
Preparation for a Master's Degree in Accounting	CS	14 units
Preparation for a Master's Degree in Taxation	CS	14 units
Tax Preparer I	CS	9.5 units
Tax Preparer II	CS	17.5 units
ADDICTION STUDIES		
Addiction Studies	AA	60 units
Addiction Studies	CA	39 units
Co-Occurring Disorders	CS	15 units
ADMINISTRATION OF JUSTICE		
Administration of Justice	AS	60 units
Administration of Justice	AS-T	60 units
Administration of Justice	CA	24 units
Basic Police Academy (AJPS)	CA	22 units
ANTHROPOLOGY		
Anthropology	AA-T	60 units
ARCHITECTURE		
Architecture	AS	60 units
ART		
Art: Art History	AA	60 units
Art: Photography	AA	60 units

Degree or Certificate Program	Award Type	Units
Fine Arts: General Studio Art	AA	60 units
Art History	AA-T	60 units
Studio Art	AA-T	60 units
Art History	CA	18 units
ASTRONOMY		
Astroimaging and Observatory Operation (AOOC)	CA	27 - 31 units
BIOLOGY		
Biology	AS	60 units
Biology: Pre-Nursing	AS	60 units
Biology	AS-T	60 units
Nutrition and Dietetics	AS-T	60 units
Biotechnology	CS	10 - 11 units
BUILDING INSPECTION TECHNOLOGY		
Building Inspection	AS	60 units
Building Inspection	CA	34.5 - 36.5 units
Commercial Building Inspection	CS	13.5 units
Residential Building Inspection	CS	15 units
BUSINESS		
Business Administration, Option 1	AA	60 units
Business Administration, Option 2	AA	60 units
Business Information Processing Option 1: Microcomputer/Office Assistant	AA	60 units
Business Information Processing Option 2: Microcomputer/Data Base and Spreadsheet Functions	AA	60 units
Business Administration	AS-T	60 units
Business Information Processing Option 1: Microcomputer/Office Assistant	CA	21.5 - 23 units
Business Information Processing Option 2: Microcomputer/Data Base and Spreadsheet Functions	CA	24 units
Business Information Worker	CS	15 units
Entrepreneurship: From Idea to Success	CS	16.5 units
Office Assistant I	CS	8 - 9.5 units
Office Assistant II	CS	11 units
CHEMISTRY		
Chemistry	AS	60 units
COMMUNICATION STUDIES		
Communication Studies	AA	60 units
Communication Studies	AA-T	60 units
Communication Studies	CS	12 units
COMPUTER AND INFORMATION SCIENCE		

Degree or Certificate Program	Award Type	Units
Computer Science Applications and Development	AS	60 units
Computer and Information Science	AS	60 units
Web and Mobile Application Development	AS	60 units
Computer Science Applications and Development	CA	30 - 34 units
Web and Mobile Application Development	CA	32 - 35 units
C++ Programming	CS	8 units
Data Science and Big Data	CS	14 - 16 units
Database Programming	CS	14 - 15 units
DevOps	CS	17 units
Internet of Things (IoT) Programming	CS	15 units
Java Programming	CS	8 units
Web Programming	CS	14 - 17 units
Web/Mobile App Development	CS	15 units
COSMETOLOGY		
Cosmetology	AA	81 units
Cosmetology	CA	57 units
DENTAL ASSISTING		
Dental Assisting	AS	60 units
Dental Assisting	CA	33 units
DIGITAL MEDIA		
Digital Media: Broadcast and Electronic Media	AA	60 units
Digital Media: Graphic Design	AA	60 units
Digital Media: Web Design/Multimedia	AA	60 units
Film, Television, and Electronic Media	AS-T	60 units
Digital Media: Graphic Production	CA	21 units
Digital Media: Web Design/Multimedia	CA	18 units
Digital Media: Applied Audio and Video Production	CS	12 units
Digital Media: Broadcast and Electronic Media	CS	12 units
Digital Media: Web Design/Multimedia	CS	12 units
DRAFTING TECHNOLOGY		
CAD/Drafting Technology	AS	60 units
CAD/Drafting Technology	CA	18 units
Computer-Aided Design	CS	16.5 units
ECONOMICS		
Economics	AA-T	60 units
ELECTRICAL APPRENTICESHIP		
Apprenticeship: Electrical Technology: Inside Wireman	AS	60 units

Degree or Certificate Program	Award Type	Units
Apprenticeship: Electrical Technology: Inside Wireman	CA	35 units
ELECTRONICS TECHNOLOGY		
Industrial Electronics Technology	AS	60 units
Electrical Technology: Electrical Power Systems and Instrumentation	CA	19 units
Advanced Electrical Power Systems and Instrumentation	CS	16 units
Electrical Technology: Electrical Power Systems and Instrumentation	CS	16 units
Fundamentals of Smart Building Systems	CS	15 units
Telecommunications Fundamentals	CS	8 units
ENGINEERING		
Engineering	AS	60 units
Engineering Technology: General	AS	60 units
ENGLISH		
English	AA	60 units
English	AA-T	60 units
ETHNIC STUDIES		
Ethnic Studies	AA	60 units
Critical Pacific Islands and Oceania Studies	CA	18 - 20 units
Critical Pacific Islands and Oceania Studies	CS	15 - 16 units
FILM		
Film	AA	60 units
FIRE TECHNOLOGY		
Fire Technology	AS	60 units
Fire Technology	CA	33 - 35 units
GEOLOGY		
Geological Science	AS	60 units
Geology	AS-T	60 units
HISTORY		
History	AA-T	60 units
INTERDISCIPLINARY STUDIES		
Interdisciplinary Studies, Option 1: Intercultural Studies	AA	60 units
Interdisciplinary Studies, Option 2: Contemporary Issues	AA	60 units
Interdisciplinary Studies, Option 3: Science and Society	AA	60 units
KINESIOLOGY		
Dance	AA	60 units
Kinesiology	AA	60 units
Kinesiology	AA-T	60 units
Specialized Pilates Instructor	CA	18 - 21 units

Degree or Certificate Program	Award Type	Units
Athletic Coaching	CS	9.5 - 11 units
Comprehensive Pilates Instructor	CS	13 units
Group Fitness Instructor	CS	6 units
Pilates Mat Instructor	CS	7 units
Pilates Mat and Reformer Instructor	CS	10 units
Yoga Instructor	CS	8 units
Yoga Teacher Training - 300 Hour	CS	14 units
MANAGEMENT		
Management: Business Management	AA	60 units
Management: Marketing Management	AA	60 units
Management: Retail Management	AA	60 units
Business Management	CA	24 units
Marketing Management	CA	24 units
Retail Management	CA	25 - 26 units
Facility Management	CS	16 - 17 units
Human Resources Management	CS	9 units
Project Management	CS	12 units
MATHEMATICS		
Mathematics	AS	60 units
Mathematics	AS-T	60 units
MUSIC		
Electronic Music	AA	60 units
Music	AA	60 units
Music	AA-T	60 units
Electronic Music	CA	21 units
NURSING		
Nursing	AS	78.5-79.5 units
PHILOSOPHY		
Philosophy	AA-T	60 units
PHYSICAL SCIENCE		
Physical Science	AS	60 units
PHYSICS		
Physics	AS	60 units
Physics	AS-T	60 units
POLITICAL SCIENCE		
Political Science	AA-T	60 units
PSYCHOLOGY		

Degree or Certificate Program	Award Type	Units
Psychology	AA-T	60 units
Psychology: Pre-Counseling	CS	6 units
REAL ESTATE		
Real Estate	AA	60 units
Real Estate Salesperson	CS	9 units
SOCIAL SCIENCE		
Social Science	AA	60 units
SOCIOLOGY		
Sociology	AA-T	60 units
SPANISH		
Spanish	CS	12 units
UNIVERSITY TRANSFER		
University Transfer Option 1: California State University General Education Certification (CSUGE)	CA	39 units
University Transfer Option 2: Intersegmental General Education Transfer Curriculum Certification for CSU (IGETC/CSU)	CA	37 units
University Transfer Option 3: Intersegmental General Education Transfer Curriculum Certification for UC (IGETC/UC)	CA	34 units

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.

AA Associate in Arts Degree Program

Accounting..60 units

CA Certificate of Achievement

Accounting..22 units

CS Certificate of Specialization

Accounting Assistant...8.5 units

Accounting Essentials for Business Professionals....... 6 units

CPA Exam Prep: Auditing and Attestation (AUD)........17 units

CPA Exam Prep: Business Environment and Concepts (BEC)... 16 units

CPA Exam Prep: Financial Accounting and Reporting (FAR)..17 units

CPA Exam Prep: Regulation (REG)...............................16 units

Enrolled Agent Exam Preparation.............................. 17 units

Individual Tax Professional..15.5 units

Personal Financial Planning... 6 units

Preparation for a Master's Degree in Accounting...... 14 units

Preparation for a Master's Degree in Taxation...........14 units

Tax Preparer I..9.5 units

Tax Preparer II..17.5 units

Recommended high school preparation

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

University Transfer Program

Use Assist 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 Accounting

The associate degree in Accounting prepares students for a variety of positions in the accounting field. Many students find part-time employment after completing the initial accounting courses in the program and continue to work while fulfilling program requirements.

Lower division accounting courses are required for all business administration degree programs. These accounting courses provide an important foundation for students who plan to transfer to a four-year bachelor's degree program.

Program Learning Outcomes

Students completing this program will be able to:

1. Accounting/Financial Accounting - Understand and apply accounting principles to prepare financial statements.
2. Accounting Software - use QuickBooks to track and service business transactions in a small business.

Major Requirements

Required Core Courses: 16 units **Units**

ACTG 100	Accounting Procedures	3 units
ACTG 103	Ten-Key Skills	0.5 units
ACTG 121	Financial Accounting	4 units
ACTG 131	Managerial Accounting	4 units
ACTG 144	QuickBooks: Set-up and Service Business	1.5 units
ACTG 145	QuickBooks: Payroll and Merchandising Business	1.5 units
BUSW 415	Spreadsheet I Using Excel for Windows	1.5 units

Required Selective Courses: 6 units **Units**

A minimum of 6 units of any other ACTG courses or any BUS. courses.

Total Required Major Units: 22

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

CA Accounting

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/actg-ca-accounting.html).

Program Learning Outcomes

Students completing this program will be able to:

1. Understand the relevant concepts and applications of accounting needed to succeed in future accounting classes and in the workplace.
2. Demonstrate knowledge of ethical standards established by relevant professional organizations.

Requirements

Required Core Courses: 16 units **Units**

ACTG 100	Accounting Procedures	3 units
ACTG 103	Ten-Key Skills	0.5 units
ACTG 121	Financial Accounting	4 units
ACTG 131	Managerial Accounting	4 units
ACTG 144	QuickBooks: Set-up and Service Business	1.5 units
ACTG 145	QuickBooks: Payroll and Merchandising Business	1.5 units
BUSW 415	Spreadsheet I Using Excel for Windows	1.5 units

Required Selective Courses: 6 units **Units**

A minimum of 6 units of any other ACTG courses or any BUS. courses.

Total Required Units: 22

CS Accounting Assistant

Program Learning Outcomes

Students completing this program will be able to:

1. Understand the relevant concepts and applications of accounting needed to succeed in future accounting classes and in the workplace.
2. Demonstrate knowledge of ethical standards established by relevant professional organizations.

Requirements

Required Core Courses: 8.5 units		Units
ACTG 100	Accounting Procedures	3 units
ACTG 103	Ten-Key Skills	0.5 units
ACTG 144	QuickBooks: Set-up and Service Business	1.5 units
ACTG 145	QuickBooks: Payroll and Merchandising Business	1.5 units
BUSW 415	Spreadsheet I Using Excel for Windows	1.5 units
CRER 127	Career Choices II: Job Search	0.5 units

Total Required Units: 8.5

CS Accounting Essentials for Business Professionals

This certificate will give non-business majors an understanding of the essential concepts of accounting and finance needed to communicate effectively with accounting and finance professionals.

Career Opportunities

The classes in this certificate will enable non-business majors, such as program managers or business developers, to succeed in a business career.

Program Learning Outcomes

Students completing this program will be able to:

1. Understand the concepts of accounting and finance needed to effectively communicate with accounting and finance professionals.
2. Demonstrate knowledge of ethical standards established by relevant professional organizations.

Requirements

Required Core Courses: 6 units		Units
ACTG 106	Accounting Cycle Survey	1 unit
ACTG 107	Time Value of Money Survey	1 unit
ACTG 108	Financial Statement Analysis Survey	1 unit
ACTG 169	Accounting Ethics	3 units

Total Required Units: 6

CS CPA Exam Prep: Auditing and Attestation (AUD)

This certificate prepares students for the Auditing and Attestation (AUD) section of the CPA exam. The courses in this certificate cover 80% or more of the topics on the AUD exam.

College of San Mateo offers the courses you need to prepare for the CPA exam. The CPA Exam Prep certificates identify the courses that prepare you for each of the four sections of the CPA exam. Each certificate covers 80% or more of the topics that will be tested on the related section of the CPA exam.

CSM offers the following CPA Exam Prep certificates:

- Auditing and Attestation (AUD)
- Business Environment and Concepts (BEC)
- Financial Accounting and Reporting (FAR)
- Regulation (REG)

All CSM accounting courses qualify as accounting units to sit for the CPA exam and to meet the 150-semester hour requirement for licensure in California.

For more information about how to prepare for the CPA exam visit the CSM accounting department website at http://collegeofsanmateo.edu/accounting/

Career Opportunities

Passing the CPA exam prepares students for a career with a CPA firm or in the accounting or finance department of a business, nonprofit agency, or governmental entity.

Program Learning Outcomes

Students completing this program will be able to:

1. Understand the concepts, calculations, and reporting requirements needed to pass the Auditing and Attestation (AUD) section of the CPA exam.
2. Demonstrate knowledge of ethical standards established by relevant professional organizations.

Requirements

Required Core Courses: 17 units		Units
ACTG 106	Accounting Cycle Survey	1 unit
ACTG 107	Time Value of Money Survey	1 unit
ACTG 108	Financial Statement Analysis Survey	1 unit
ACTG 161	Intermediate Accounting I	4 units
ACTG 162	Intermediate Accounting II	4 units

ACTG 163	Auditing	3 units
ACTG 169	Accounting Ethics	3 units

Total Required Units: 17

CS CPA Exam Prep: Business Environment and Concepts (BEC)

This certificate prepares students for the Business Environment and Concepts (BEC) section of the CPA exam. The courses in this certificate cover 80% or more of the topics on the BEC exam.

College of San Mateo offers the courses you need to prepare for the CPA exam. The CPA Exam Prep certificates identify the courses that prepare you for each of the four sections of the CPA exam. Each certificate covers 80% or more of the topics that will be tested on the related section of the CPA exam.

CSM offers the following CPA Exam Prep certificates:

- Auditing and Attestation (AUD)
- Business Environment and Concepts (BEC)
- Financial Accounting and Reporting (FAR)
- Regulation (REG)

All CSM accounting courses qualify as accounting units to sit for the CPA exam and to meet the 150-semester hour requirement for licensure in California.

For more information about how to prepare for the CPA exam visit the CSM accounting department website at http://collegeofsanmateo.edu/accounting/

Career Opportunities

Passing the CPA exam prepares students for a career with a CPA firm or in the accounting or finance department of a business, nonprofit agency, or governmental entity.

Program Learning Outcomes

Students completing this program will be able to:

1. Understand the concepts, calculations, and reporting requirements needed to pass the Business Environment and Concepts (BEC) section of the CPA exam.

Requirements

Required Core Courses: 16 units		Units
ACTG 106	Accounting Cycle Survey	1 unit
ACTG 107	Time Value of Money Survey	1 unit

ACTG 108	Financial Statement Analysis Survey	1 unit
ACTG 131	Managerial Accounting	4 units
ACTG 165	Cost Accounting	3 units
ACTG 168	Financial Management for Accountants	3 units
ECON 100	Principles of Macroeconomics	3 units

Total Required Units: 16

CS CPA Exam Prep: Financial Accounting and Reporting (FAR)

This certificate prepares students for the Financial Accounting and Reporting (FAR) section of the CPA exam. The courses in this certificate cover 80% or more of the topics on the FAR exam.

College of San Mateo offers the courses you need to prepare for the CPA exam. The CPA Exam Prep certificates identify the courses that prepare you for each of the four sections of the CPA exam. Each certificate covers 80% or more of the topics that will be tested on the related section of the CPA exam.

CSM offers the following CPA Exam Prep certificates:

- Auditing and Attestation (AUD)
- Business Environment and Concepts (BEC)
- Financial Accounting and Reporting (FAR)
- Regulation (REG)

All CSM accounting courses qualify as accounting units to sit for the CPA exam and to meet the 150-semester hour requirement for licensure in California.

For more information about how to prepare for the CPA exam visit the CSM accounting department website at http://collegeofsanmateo.edu/accounting/

Career Opportunities

Passing the CPA exam prepares students for a career with a CPA firm or in the accounting or finance department of a business, nonprofit agency, or governmental entity.

Program Learning Outcomes

Students completing this program will be able to:

1. Understand the concepts, calculations, and reporting requirements needed to pass the Financial Accounting and Reporting (FAR) section of the CPA exam.

Requirements

Required Core Courses: 17 units		Units
ACTG 106	Accounting Cycle Survey	1 unit
ACTG 107	Time Value of Money Survey	1 unit
ACTG 161	Intermediate Accounting I	4 units
ACTG 162	Intermediate Accounting II	4 units
ACTG 164	Governmental & Nonprofit Accounting	3 units
ACTG 167	Advanced Accounting	4 units

Total Required Units: 17

CS CPA Exam Prep: Regulation (REG)

This certificate prepares students for the Regulation (REG) section of the CPA exam. The courses in this certificate cover 80% or more of the topics on the REG exam.

College of San Mateo offers the courses you need to prepare for the CPA exam. The CPA Exam Prep certificates identify the courses that prepare you for each of the four sections of the CPA exam. Each certificate covers 80% or more of the topics that will be tested on the related section of the CPA exam.

CSM offers the following CPA Exam Prep certificates:

- Auditing and Attestation (AUD)
- Business Environment and Concepts (BEC)
- Financial Accounting and Reporting (FAR)
- Regulation (REG)

All CSM accounting courses qualify as accounting units to sit for the CPA exam and to meet the 150-semester hour requirement for licensure in California.

For more information about how to prepare for the CPA exam visit the CSM accounting department website at http://collegeofsanmateo.edu/accounting/

Career Opportunities

Passing the CPA exam prepares students for a career with a CPA firm or in the accounting or finance department of a business, nonprofit agency, or governmental entity.

Program Learning Outcomes

Students completing this program will be able to:

1. Understand the concepts, calculations, and reporting requirements needed to pass the Regulation (REG) section of the CPA exam.

2. Demonstrate knowledge of ethical standards established by relevant professional organizations.

Requirements

Required Core Courses: 16 units		Units
ACTG 169	Accounting Ethics	3 units
ACTG 181	Taxation of Individuals Using Tax Software	4 units
ACTG 182	Taxation of Business Entities Using Tax Software	4 units
ACTG 183	Taxation of Trusts, Gifts, and Estates Using Tax Software	2 units
BUS. 201	Business Law	3 units

Total Required Units: 16

CS Enrolled Agent Exam Preparation

The Certificate of Specialization in Enrolled Agent Exam Preparation provides students with the knowledge that is essential for passing the Special Enrollment Examination (SEE).

Program Learning Outcomes

Students completing this program will be able to:

1. Understand the relevant concepts and applications of accounting needed to succeed in future accounting classes and in the workplace.
2. Demonstrate knowledge of ethical standards established by relevant professional organizations.

Requirements

Required Core Courses: 17 units		Units
ACTG 121	Financial Accounting	4 units
ACTG 176	Enrolled Agent Exam Preparation	3 units
ACTG 181	Taxation of Individuals Using Tax Software	4 units
ACTG 182	Taxation of Business Entities Using Tax Software	4 units
ACTG 183	Taxation of Trusts, Gifts, and Estates Using Tax Software	2 units

Total Required Units: 17

CS Individual Tax Professional

The Certificate of Specialization in Individual Tax Professional Program provides students with the knowledge that is essential for being successful in preparation of taxes for individuals and bookkeeping for a small business.

Career Opportunities

This certificate prepares students to start their own tax preparation business or to work as specialized tax preparers in CPA and EA firms.

Program Learning Outcomes

Students completing this program will be able to:

1. Understand the relevant concepts and applications of accounting needed to succeed in future accounting classes and in the workplace.
2. Demonstrate knowledge of ethical standards established by relevant professional organizations.

Requirements

Required Core Courses: 14.5 units   **Units**

ACTG 100	Accounting Procedures	3 units
ACTG 144	QuickBooks: Set-up and Service Business	1.5 units
ACTG 175	Volunteer Income Tax Preparation	2.5 units
ACTG 181	Taxation of Individuals Using Tax Software	4 units
ACTG 262	Depreciation, Business & Repair Expenses	0.5 units
ACTG 263	Sole Proprietorships	0.5 units
ACTG 264	Lacerte Tax Software Basics	0.5 units
ACTG 265	Taxation of Rental Real Estate	1 unit
ACTG 276	VITA Intermediate	1 unit

It is recommended that students take ACTG 181 prior to or concurrently with the other courses in this certificate.

Required Selective Courses: 1 unit (select from the following courses)   **Units**

ACTG 277	VITA Advanced	1 unit
ACTG 278	VITA Supervisory	1 unit

Total Required Units: 15.5

CS Personal Financial Planning

This certificate is designed to help students reach two goals:

- Learn the financial planning skills needed to develop a personal financial plan for one's own benefit.
- Provide the background to succeed in the future course work required to sit for the CFP® Board's CFP® Certification Examination. For more information about becoming a Certified Financial Planner (CFP®), visit the CFP Board at www.cfp.net.

Career Opportunities

The courses in this certificate will give students the background they need to succeed in future course work to become a financial planner and sit for the CFP® Board's CFP® Certification Examination.

Program Learning Outcomes

Students completing this program will be able to:

1. Understand the concepts and calculations needed to prepare a personal financial plan.

Requirements

Required Core Courses: 6 units   **Units**

ACTG 118	Personal Investing	3 units
ACTG 119	Personal Financial Planning	3 units

Total Required Units: 6

CS Preparation for a Master's Degree in Accounting

This certificate prepares students with a bachelor's degree in any discipline to apply for a master's in accounting program. The courses in this certificate prepare students for the rigorous course work found in a master's program. This certificate includes the classes commonly required as prerequisites for a master's program.

All CSM accounting courses qualify as accounting units to sit for the CPA exam and to meet the 150-semester hour requirement for licensure in California. For more information about how to prepare for the CPA exam visit the CSM accounting department website at http://collegeofsanmateo.edu/accounting/

Program Learning Outcomes

Students completing this program will be able to:

1. Understand the concepts, calculations, and reporting requirements needed to prepare for a master's in accounting program.
2. Demonstrate knowledge of ethical standards established by relevant professional organizations.

Requirements

Required Core Courses: 14 units		Units
ACTG 106	Accounting Cycle Survey	1 unit
ACTG 107	Time Value of Money Survey	1 unit
ACTG 108	Financial Statement Analysis Survey	1 unit
ACTG 121	Financial Accounting	4 units
ACTG 131	Managerial Accounting	4 units
ACTG 169	Accounting Ethics	3 units

Total Required Units: 14

CS Preparation for a Master's Degree in Taxation

This certificate prepares students with a bachelor's degree in any discipline to apply for a a master's in taxation program. The courses in this certificate prepare students for the rigorous course work found in a master's program. This certificate includes the classes commonly required as prerequisites for a master's program.

All CSM accounting courses qualify as accounting units to sit for the CPA exam and to meet the 150-semester hour requirement for licensure in California. For more information about how to prepare for the CPA exam visit the CSM accounting department website at

http://collegeofsanmateo.edu/accounting/

Program Learning Outcomes

Students completing this program will be able to:

1. Understand the concepts, calculations, and reporting requirements needed to prepare for a master's in taxation program.
2. Demonstrate knowledge of ethical standards established by relevant professional organizations.

Requirements

Required Core Courses: 14 units		Units
ACTG 106	Accounting Cycle Survey	1 unit

ACTG 169	Accounting Ethics	3 units
ACTG 181	Taxation of Individuals Using Tax Software	4 units
ACTG 182	Taxation of Business Entities Using Tax Software	4 units
ACTG 183	Taxation of Trusts, Gifts, and Estates Using Tax Software	2 units

Total Required Units: 14

CS Tax Preparer I

The Certificate of Specialization in Tax Preparer I provides students with the basic knowledge that is essential for beginning a new career as a tax preparer.

Program Learning Outcomes

Students completing this program will be able to:

1. Understand the relevant concepts and applications of accounting needed to succeed in future accounting classes and in the workplace.
2. Demonstrate knowledge of ethical standards established by relevant professional organizations.

Requirements

Required Core Courses: 9.5 units		Units
ACTG 100	Accounting Procedures	3 units
ACTG 103	Ten-Key Skills	0.5 units
ACTG 181	Taxation of Individuals Using Tax Software	4 units
BUSW 415	Spreadsheet I Using Excel for Windows	1.5 units
CRER 127	Career Choices II: Job Search	0.5 units

Total Required Units: 9.5

CS Tax Preparer II

The Certificate of Specialization in Tax Preparer II provides students with the basic knowledge of bookkeeping for a small business and beginning a career as a tax preparer.

Program Learning Outcomes

Students completing this program will be able to:

1. Understand the relevant concepts and applications of accounting needed to succeed in future accounting classes and in the workplace.
2. Demonstrate knowledge of ethical standards established by relevant professional organizations.

Requirements

Required Core Courses: 17.5 units		**Units**
ACTG 103	Ten-Key Skills	0.5 units
ACTG 121	Financial Accounting	4 units
ACTG 144	QuickBooks: Set-up and Service Business	1.5 units
	OR
ACTG 145	QuickBooks: Payroll and Merchandising Business	1.5 units
ACTG 181	Taxation of Individuals Using Tax Software	4 units
ACTG 182	Taxation of Business Entities Using Tax Software	4 units
ACTG 183	Taxation of Trusts, Gifts, and Estates Using Tax Software	2 units
BUSW 415	Spreadsheet I Using Excel for Windows	1.5 units

Total Required Units: 17.5

ADDICTION 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 Program

Addiction Studies...60 units

CA Certificate of Achievement

Addiction Studies...39 units

CS Certificate of Specialization

Co-Occurring Disorders... 15 units

University Transfer Program

Use Assist 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.

About the program

The Addiction 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 Addiction Studies

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

Career Opportunities

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 Addiction Studies Programs within Higher Education prepared by the Department of Education and meets the accreditation standards set forth by the California Association for Alcohol/Drug Educators (CAADE).

Program Learning Outcomes

Students completing this program will be able to:

1. Explain a variety of models and theories of addiction; the social political, economic, and cultural context; risk and resiliency factors; the behavioral, psychological, physical health, and social effects of psychoactive substances.
2. Describe the philosophies, practices, policies, and scientifically supported models of treatment, recovery, relapse prevention, and continuing care for addiction and the interdisciplinary approach to addiction treatment.
3. Demonstrate the use of specific diagnostic criteria for substance use disorders and describe treatment modalities and placement criteria within the continuum of care and apply treatment

services appropriate to the personal and cultural identity and language of the client.
4. Demonstrate the professional readiness of the counselor to apply their understanding of diverse cultures into clinical practice, the importance of self-awareness in one's own personal, professional, and cultural life, adherence to addiction professional's ethical and behavioral standards of conduct, importance of ongoing supervision and understand procedures for handling crisis or dangerous situations.

Major Requirements

Required Core Courses (Foundation Core Courses): 15 units

		Units
SOSC 301	Introduction to Alcohol and Other Drug Studies	3 units
SOSC 302	Pharmacology and Physiological Effects of Alcohol and Other Drug Abuse	3 units
SOSC 304	Intervention, Treatment and Recovery	3 units
SOSC 319	Co-Occurring Disorders I: Recognition and Referral	3 units
SOSC 333	Laws and Ethics in Addiction Studies	3 units

Required Core Courses (Skill Building Courses): 15 units

		Units
SOSC 307	Family Systems in Addiction	3 units
SOSC 308	Group AOD (Alcohol and Other Drug) Counseling Process	3 units
SOSC 310	Special Population Groups in Addiction Studies	3 units
SOSC 314	Individual AOD (Alcohol and Other Drug) Counseling Process	3 units
SOSC 317	Case Management	3 units

Required Core Courses (Field Study Courses): 6 units

		Units
SOSC 315	Field Studies and Seminar I	3 units
SOSC 316	Field Studies and Seminar II	3 units

Required Selective Courses: Select 3 units from the following:

		Units
PSYC 100	General Psychology	3 units

PSYC 410	Abnormal Psychology	3 units

Additional recommended courses (not required for degree) **Units**

SOSC 321	Adolescent/Youth Substance Use Prevention, Interventions and Treatment	3 units
SOSC 325	Co-Occurring Disorders II: Management and Treatment	3 units

Total Required Major Units: 39

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

CA Addiction Studies

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/aods-ca-add.html).

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

Career Opportunities

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 Addiction Studies Programs within Higher Education prepared for the California State Department of Education and meets the accreditation standards set forth by the California Association for Alcohol/ Drug Educators (CAADE).

Program Learning Outcomes

Students completing this program will be able to:

1. Explain a variety of models and theories of addiction; the social political, economic, and cultural context; risk and resiliency factors; the behavioral, psychological, physical health, and social effects of psychoactive substances.
2. Describe the philosophies, practices, policies, and scientifically supported models of treatment, recovery, relapse prevention, and continuing care for addiction and the interdisciplinary approach to addiction treatment.
3. Demonstrate the use of specific diagnostic criteria for substance use disorders and describe treatment modalities and placement criteria within the continuum of care and apply treatment services appropriate to the personal and cultural identity and language of the client.
4. Demonstrate their professional readiness to apply their understanding of diverse cultures into clinical practice, the importance of self-awareness in one's own personal, professional, and cultural life, adherence to addiction professional's ethical and behavioral standards of conduct, importance of ongoing supervision and understand procedures for handling crisis or dangerous situations.

Requirements

Required Core Courses (Foundation Core Courses): 15 units **Units**

SOSC 301	Introduction to Alcohol and Other Drug Studies	3 units
SOSC 302	Pharmacology and Physiological Effects of Alcohol and Other Drug Abuse	3 units
SOSC 304	Intervention, Treatment and Recovery	3 units
SOSC 319	Co-Occurring Disorders I: Recognition and Referral	3 units
SOSC 333	Laws and Ethics in Addiction Studies	3 units

Required Core Courses (Skill Building Courses): 15 units **Units**

SOSC 307	Family Systems in Addiction	3 units
SOSC 308	Group AOD (Alcohol and Other Drug) Counseling Process	3 units
SOSC 310	Special Population Groups in Addiction Studies	3 units
SOSC 314	Individual AOD (Alcohol and Other Drug) Counseling Process	3 units
SOSC 317	Case Management	3 units

Required Core Courses (Field Study Courses): 6 units

		Units
SOSC 315	Field Studies and Seminar I	3 units
SOSC 316	Field Studies and Seminar II	3 units

Required Selective Courses: Select 3 units from the following:

		Units
PSYC 100	General Psychology	3 units
PSYC 410	Abnormal Psychology	3 units

Additional recommended courses (not required for certificate)

		Units
SOSC 321	Adolescent/Youth Substance Use Prevention, Interventions and Treatment	3 units
SOSC 325	Co-Occurring Disorders II: Management and Treatment	3 units

Total Required Units: 39

CS Co-Occurring Disorders

Program Learning Outcomes

Students completing this program will be able to:

1. Understand Addiction: a variety of models and theories of addiction; the social political, economic, and cultural context; risk and resiliency factors; the behavioral, psychological, physical health, and social effects of psychoactive substances.
2. Describe the philosophies, practices, policies, and scientifically supported models of treatment, recovery, relapse prevention, and continuing care for addiction and the interdisciplinary approach to addiction treatment.
3. Understand how to apply the education and training to practice by understanding the diagnostic criteria for substance use disorders and describe treatment modalities and placement criteria within the continuum of care and apply treatment services appropriate to the personal and cultural identity and language of the client.
4. Assess the professional readiness of the counselor as to apply their understanding of diverse cultures into clinical practice, the importance of self-awareness in one's own personal, professional, and cultural life, adherence to addiction professional's ethical and behavioral standards

of conduct, importance of ongoing supervision and understand procedures for handling crisis or dangerous situations.

Requirements

Required Core Courses: 15 units

		Units
PSYC 410	Abnormal Psychology	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
SOSC 319	Co-Occurring Disorders I: Recognition and Referral	3 units
SOSC 325	Co-Occurring Disorders II: Management and Treatment	3 units

Total Required Units: 15

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 Program

Administration of Justice.. 60 units

AS-T Associate in Science Degree for Transfer

Administration of Justice.. 60 units

CA Certificate of Achievement

Administration of Justice.. 24 units

Basic Police Academy (AJPS)....................................... 22 units

University Transfer Program

Use Assist (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 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.

About the Program

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 Administration of Justice

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.

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.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: 15 units		Units
ADMJ 100	Introduction to the Criminal Justice System	3 units
ADMJ 102	Principles and Procedures of the Criminal Justice System	3 units
ADMJ 104	Concepts of Criminal Law	3 units
ADMJ 106	Legal Aspects of Evidence	3 units
ADMJ 120	Criminal Investigation	3 units

Required Selective Courses: 6 units from the courses listed below:		Units
ADMJ 108	Community Relations and the Justice System	3 units
ADMJ 125	Juvenile Procedures	3 units
ADMJ 185	Introduction to Forensic Science	3 units

Total Required Major Units: 21

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AS-T Administration of Justice

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.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: 6 units

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

Required Selective Courses: Select 6 units from the following courses:

		Units
ADMJ 102	Principles and Procedures of the Criminal 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

Required Selective Courses: Select 6 units from the following courses:

		Units
COMM 130	Interpersonal Communication	3 units
PSYC 100	General Psychology	3 units
SOCI 100	Introduction to Sociology	3 units
PSYC 121	Basic Statistical Concepts	3 units
	OR	
MATH 200	Elementary Probability and Statistics	4 units

Total Required Major Units: 18 - 19

General Education - certified completion of one of the following:

- California State University General Education-Breadth pattern (CSU GE Breadth),
- **OR**
- Intersegmental General Education Transfer Curriculum (IGETC/CSU) pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more information.

CA Administration of Justice

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/admj-ca-aj.html).

Program Learning Outcomes

Students completing this program 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.

Requirements

Required Core Courses: 18 units   **Units**

ADMJ 100	Introduction to the Criminal Justice System	3 units
ADMJ 102	Principles and Procedures of the Criminal Justice System	3 units
ADMJ 104	Concepts of Criminal Law	3 units
ADMJ 106	Legal Aspects of Evidence	3 units
ADMJ 120	Criminal Investigation	3 units
Completion of IGETC GE requirement under Area 1, Group A: English Composition		3 units

Required Selective Courses: 6 units from the courses listed below: **Units**

ADMJ 108	Community Relations and the Justice System	3 units
ADMJ 125	Juvenile Procedures	3 units
ADMJ 185	Introduction to Forensic Science	3 units

Total Required Units: 24

CA Basic Police Academy (AJPS)

The Basic Police Academy includes fundamental principles, procedures and techniques of law enforcement, including: Criminal Law, Cultural Diversity, Report Writing, Arrest and Control Techniques, Firearms, Leadership, Ethics, Community Policing, Police Vehicle Operations, and First Aid/CPR. The course also includes a physical conditioning requirement that will prepare academy students for police service. The Basic Police Academy satisfies the California Commission on Peace Officer Standards and Training (POST)minimum training requirements for entry-level peace officer positions in California. Upon completion the student can apply to law enforcement agencies as a Regular Police Officer, Reserve Police Officer, or Peace Officer.

Career Opportunities

Regular Police Officer; Reserve Police Officer; Peace Officer

Program Learning Outcomes

Students completing this program will be able to:

1. Recognize crime elements, classifications and associated concepts relating to criminal law, property crimes, crimes against persons, general crime statues, crimes against children, sex crimes, juvenile law, alcohol and controlled substances, domestic violence, crimes against the justice system, and weapons violations.
2. Discuss the principles and procedures of the criminal justice system as they relate to constitutional rights, juvenile law, laws of arrest, search and seizure, presentation of evidence, management of crime scenes and the collection of evidence, use of force, and custody.
3. Demonstrate effective communication (verbal, non-verbal, and written) for composing investigative reports, testifying in court, requesting information, and interactions with peers, superiors and the community.
4. Demonstrate the prescribed competencies for psychomotor skills, including vehicle operations, arrest and control techniques, first aid/CPR, Firearms and Chemical Agents, as determined by the Commission on Peace Officer Standards and Training (POST).
5. Demonstrate the appropriate physical conditioning and lifestyle choices required for a career in law enforcement.

Requirements

Required Core Course: 22 units   **Units**

AJPS 107	Basic Police Academy	22 units

Total Required Units: 22

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

AA-T Associate in Arts Degree for Transfer

Anthropology...60 units

University Transfer Program

Use Assist (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.

AA-T Anthropology

Anthropology is a broad discipline which employs both pure science and practical application to all aspects of human populations. The Associate in Arts in Anthropology for Transfer degree prepares students for transfer into bachelor's degree programs in Anthropology and similar programs at a CSU campus and guarantees admission to the CSU system.

Career Opportunities

Students majoring in Anthropology have opportunities in archeology, cultural resource management, environmental impact analysis, ethnic relations, ethnology, exhibit design, expeditions, film ethnography, health research, linguistics, museum curatorship, population analysis, public information, recreation, redevelopment, social gerontology, social services consultation, transcultural nursing, travel consultation, and urban planning.

Program Learning Outcomes

Students completing this program will be able to:

1. Analyze anthropological concepts and theories
2. Evaluate diverse viewpoints and evidence related to the human population.
3. Produce evidence-based arguments.

Major Requirements

Required Core Courses: 9 units		Units
ANTH 110	Cultural Anthropology	3 units
ANTH 125	Physical Anthropology	3 units
ANTH 350	Introduction to Archaeology and World Prehistory	3 units

Required Selective Courses: List A: Select 3-4 units from the following:		Units
MATH 200	Elementary Probability and Statistics	4 units
PSYC 121	Basic Statistical Concepts	3 units

Required Selective Courses: List B: Select 3-7 units from the following:		Units
ANTH 127	Physical Anthropology Laboratory	1 unit
BIOL 250	Human Anatomy	4 units
GEOL 100	Survey of Geology	3 units
GEOL 101	Geology Laboratory	1 unit
PSYC 120	Introduction to Research Methods	3 units
SOCI 121	Introduction to Research Methods	3 units

Required Selective Courses: Select 3 units from the following:		Units
ANTH 180	Magic, Science and Religion	3 units
COMM 150	Intercultural Communication	3 units
GEOG 110	Cultural Geography	3 units
MUS. 250	World Music	3 units
PHIL 300	Introduction to World Religions	3 units
SOCI 141	Race and Ethnic Relations	3 units

Total Required Major Units: 18 - 23

General Education - certified completion of one of the following:

- California State University General Education-Breadth pattern (CSU GE Breadth),
- **OR**
- Intersegmental General Education Transfer Curriculum (IGETC/CSU) pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more 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 Program

Architecture..60 units

Recommended high school preparation

Coursework in Art, Mathematics (four years), Mechanical Drawing, English

University Transfer Program

Use Assist (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.

AS Architecture

Career Opportunities

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.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: 16 units		Units
ARCH 100	Survey of Modern Architecture	3 units
ARCH 120	Architecture + Design Drawing I: Drawing and Visual Thinking	2 units
ARCH 140	Architecture + Design Drawing II: Design Communication	2 units
ARCH 210	Design I: Introduction 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

Required Selective Courses: 3 units selected from the following courses:		Units
ART 204	Drawing I	3 units
ART 205	Drawing II	3 units
ART 301	Two-Dimensional Design	3 units
ART 350	Visual Perception	3 units
DRAF 121	Computer-Aided Drafting I	3 units
DRAF 122	Computer-Aided Drafting II	3 units

Total Required Major Units: 19

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

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 Program

Art: Art History...60 units

Art: Photography.. 60 units

Fine Arts: General Studio Art...................................... 60 units

AA-T Associate in Arts Degree for Transfer

Art History.. 60 units

Studio Art..60 units

CA **Certificate of Achievement**

Art History.. 18 units

University Transfer Program

Use Assist (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.

About the Program

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.

AA **Art: Art History**

The Art Major with an Emphasis in Art History is designed for students who wish to pursue the study of the visual arts in a social, political, philosophical and cultural context as a foundation for understanding human history and creativity. The study of art history develops a greater sensitivity to art-related issues, the ability to think critically about art and history, and to appreciate the artistic expression of varied cultures and civilizations. Completion of the AA degree in Art with an Emphasis in Art history exposes students to the major stylistic periods of Western European and American Art and Architecture and provides a firm basis for continued study in the field of art history.

Career Opportunities

Career opportunities, which require additional studies at a four-year institution, include the following: college professor, teacher, arts administrator, museum/gallery curator, corporate art advisor, museum docent, slide librarian, consultant on historical style for film and TV production, museum conservator, historical conservationist, art critic, tour guide, travel consultant, research assistant, and art dealer.

Program Learning Outcomes

Students completing this program 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.
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.

Major Requirements

Required Core Courses: 15 units		Units
ART 101	Art and Architecture from the Ancient World to Medieval Times (c. 1400)	3 units
ART 102	Art of Renaissance and Baroque (c. 1300-1700)	3 units
ART 103	Art of Europe and America: Neoclassical (c. 1750-Present)	3 units
ART 104	Modern Art	3 units
ART 204	Drawing I	3 units

Required Selective Courses: Select 3 units from the following:		Units
ART 105	Art of Asia and the Near East	3 units
ART 124	Old Masters' Aesthetics and Techniques	3 units
ART 206	Expressive 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	Two-Dimensional Design	3 units
ART 350	Visual Perception	3 units
ANTH 110	Cultural Anthropology	3 units
FILM 100	Introduction to Film	3 units
HIST 100	History of Western Civilization I	3 units
HIST 101	History of Western Civilization II	3 units

Total Required Major Units: 18

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AA Art: Photography

The Major in Art: Photography program offers a foundation in both film based photography and digital photography. Students will learn the basics of photography including composition, traditional film processing, digital imaging, and lighting. Through photography students develop a visual literacy that is useful in any field of study, developing the ability to observe, discover, and interpret the world. The program provides a solid foundation for students transferring to university baccalaureate photography programs and fine art schools.

Career Opportunities

Career opportunities include community artist, photography curator, portrait, wedding photography and visual communication specialist . The photography program also accommodates students whose photographic goals are not career-oriented.

Program Learning Outcomes

Students completing this program will be able to:

1. Utilize the photographic medium as a means of self-expression.
2. Create effective photographic compositions using design principles.
3. Demonstrate the ability to produce a fine print and create a professional presentation.
4. Critically analyze and evaluate a photographic exhibit.

Major Requirements

Required Core Courses: 15 units		Units
ART 351	Beginning Black and White Photography	3 units
ART 352	Intermediate Black and White Photography	3 units
ART 391	Experimental Photography 1	3 units
ART 381	Beginning Digital Photography	3 units
ART 383	Intermediate Digital Photography	3 units

Required Selective Courses: Select 3 units from the following:		Units
ART 353	Advanced Black and White Photography	3 units
ART 384	Advanced Digital Photography	3 units
ART 396	Documentary Photography 1	3 units

Total Required Major Units: 18

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AA Fine Arts: General Studio Art

Students gain historical and contemporary perspectives on the creation of art, the ability to analyze and understand compositional structure, and hands-on skills working in a variety of media. 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.

Career Opportunities

Job prospects for art majors are at an all-time high. According to the Bureau of Labor Statistics, the revolution in electronic communications, multimedia and entertainment has created a growing need for highly skilled artists and designers. Employment of visual artists is expected to grow faster than average for all occupations over the next decade. Career opportunities include animator, architect, art therapist, cartoonist, community artist, computer artist, computer graphics illustrator, design consultant, display designer/manager, fashion/floral/interior designer, fine artist, educator, game design, gallery director, graphic artist, illustrator, industrial design jewelry designer, layout artist, muralist, museum technician, painter, police artist, visual information specialist and web design.

Program Learning Outcomes

Students completing this program will be able to:

1. Exhibit visual literacy and critical thinking through communication, analysis, and reflection on artworks and the concepts and influences from which artworks originate.

2. Possess physical/technical skills within an art/design based medium to be used as tools for creative expression.

Major Requirements

Required Core Courses: 18 - 18.5 units — **Units**

ART 102	Art of Renaissance and Baroque (c. 1300-1700)	3 units
	OR	
ART 124	Old Masters' Aesthetics and Techniques	3 units
ART 103	Art of Europe and America: Neoclassical (c. 1750-Present)	3 units
ART 204	Drawing I	3 units
ART 214	Color	3 units
ART 301	Two-Dimensional Design	3 units

And select one of the following: — **Units**

ART 200	Portfolio Preparation	3 units
ART 385	Master Portfolio - Digital Photography	3.5 units
ART 388	Master Photography Portfolio	3.5 units

Required Selective Courses: Select 12 units from any of the following courses.

Drawing: — **Units**

ART 205	Drawing II	3 units
ART 206	Expressive Figure Drawing and Portraiture	3 units
ART 230	Expressive Figure Drawing and Portraiture II	3 units
ART 207	Life Drawing	3 units
ART 213	Life Drawing II	3 units
ART 208	Portrait Drawing I	3 units
ART 209	Portrait Drawing II	3 units
ART 215	Portraiture III	3 units
ART 216	Portraiture IV	3 units

Painting: — **Units**

ART 223	Oil Painting I	3 units
ART 224	Oil Painting II	3 units
ART 244	Oil Painting III	3 units
ART 247	Oil Painting IV	3 units
ART 225	Acrylic Painting I	3 units
ART 226	Acrylic Painting II	3 units
ART 251	Acrylic Painting III	3 units
ART 252	Acrylic Painting IV	3 units
ART 231	Watercolor I	3 units
ART 232	Watercolor II	3 units
ART 233	Watercolor III	3 units
ART 243	Watercolor IV	3 units
ART 203	Plein Air Painting	3 units
ART 253	Plein Air Painting II	3 units
ART 254	Plein Air Painting III	3 units
ART 255	Plein Air Painting IV	3 units

Ceramics and Sculpture: — **Units**

ART 401	Three-Dimensional Design	3 units
ART 405	Sculpture I	3 units
ART 406	Sculpture II	3 units
ART 409	Sculpture III Extended Expertise	3 units
ART 410	Sculpture IV Advanced Expression	3 units
ART 411	Ceramics I	3 units
ART 412	Ceramics II	3 units
ART 417	Ceramics Glaze	3 units
ART 418	Ceramics III	3 units

Digital Art: — **Units**

DGME 211	Introduction to Graphic Design	3 units

Photography (Darkroom): — **Units**

ART 351	Beginning Black and White Photography	3 units
ART 352	Intermediate Black and White Photography	3 units
ART 353	Advanced Black and White Photography	3 units
ART 391	Experimental Photography 1	3 units
ART 392	Experimental Photography 2	3 units

ART 393	Experimental Photography 3	3 units
ART 394	Experimental Photography 4	3 units

Digital Photography: **Units**

ART 350	Visual Perception	3 units
ART 381	Beginning Digital Photography	3 units
ART 383	Intermediate Digital Photography	3 units
ART 384	Advanced Digital Photography	3 units
ART 396	Documentary Photography 1	3 units
ART 397	Documentary Photography 2	3 units
ART 398	Documentary Photography 3	3 units
ART 399	Documentary Photography 4	3 units

For students who wish to explore career options in arts organizations or art education, it is recommended to take ART 420 Art Internship.

Total Required Major Units: 30 - 30.5

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AA-T Art History

The Art major with an Art History emphasis is designed for students who wish to pursue the study of the visual arts in a social, political, philosophical and cultural context as a foundation for understanding human history and creativity. The study of art history develops a greater sensitivity to art-related issues, the ability to think critically about art and history, and to appreciate the artistic expression of varied cultures and civilizations. Completion of the AA degree in Art with an emphasis in Art History exposes students to the major stylistic periods of Western European, American and Asian Art & Architecture and provides a firm basis for continued study in the fields of art history.

Career Opportunities

Career opportunities include the following: college professor, K-12 teacher, arts administrator, museum or gallery curator, corporate art advisor, museum docent, slide librarian, consultant on historical period styles for film and TV production, museum conservator, historical conservationist, art critic or writer, tour guide, travel consultant, research assistant, and art dealer.

Program Learning Outcomes

Students completing this program 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.
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.

Major Requirements

Required Core Courses: 12 units **Units**

ART 101	Art and Architecture from the Ancient World to Medieval Times (c. 1400)	3 units
ART 102	Art of Renaissance and Baroque (c. 1300-1700)	3 units
ART 103	Art of Europe and America: Neoclassical (c. 1750-Present)	3 units
ART 204	Drawing I	3 units

Required Selective Courses: List A: Select 3 units: **Units**

ART 105	Art of Asia and the Near East	3 units

Required Selective Courses: List B: Select 3 units: **Units**

ART 206	Expressive Figure Drawing and Portraiture	3 units
ART 207	Life Drawing	3 units
ART 223	Oil Painting I	3 units
ART 301	Two-Dimensional Design	3 units
ART 350	Visual Perception	3 units
ART 401	Three-Dimensional Design	3 units
ART 405	Sculpture I	3 units
ART 411	Ceramics I	3 units

Required Selective Courses: List C: Select 3 units **Units**

Any List B course not already used		
ARCH 100	Survey of Modern Architecture	3 units
ART 104	Modern Art	3 units
HIST 100	History of Western Civilization I	3 units
HIST 101	History of Western Civilization II	3 units
PHIL 300	Introduction to World Religions	3 units

Total Required Major Units: 21

General Education - certified completion of one of the following:

- California State University General Education-Breadth pattern (CSU GE Breadth),
- **OR**
- Intersegmental General Education Transfer Curriculum (IGETC/CSU) pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more information.

AA-T Studio Art

The Associate in Arts for Transfer (AA-T) is intended for students who plan to complete a bachelor's degree in a similar major at a CSU campus. Students completing these degrees (AA-T) are guaranteed admission to the CSU system, but not to a particular campus or major. This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system. Students should consult with a counselor when planning to complete the degree for more information on university admission and transfer requirements.

The Associate in Arts in Studio Arts for Transfer will prepare students for transfer into bachelor's degree programs in Studio Arts and similar majors. Students gain historical and contemporary perspectives on the creation of art, the ability to analyze and understand compositional structure, and hands-on skills working in a variety of media.

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

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.

Program Learning Outcomes

Students completing this program will be able to:

1. Exhibit visual literacy and critical thinking through communication, analysis, and reflection on artworks and the concepts and influences from which artworks originate.
2. Possess physical/technical skills within an art/design based medium to be used as tools for creative expression.

Major Requirements

Required Core Course: 15 units		Units
ART 102	Art of Renaissance and Baroque (c. 1300-1700)	3 units
ART 103	Art of Europe and America: Neoclassical (c. 1750-Present)	3 units
ART 204	Drawing I	3 units
ART 301	Two-Dimensional Design	3 units
ART 401	Three-Dimensional Design	3 units

Required Selective Courses: List A: Art History Restricted Electives. Select 3 units from the following:		Units
ART 101	Art and Architecture from the Ancient World to Medieval Times (c. 1400)	3 units
ART 104	Modern Art	3 units
ART 105	Art of Asia and the Near East	3 units

Required Selective Courses: Select a maximum of one course from any of the following areas to total 9 units:

Area 1: Drawing		Units
ART 205	Drawing II	3 units
ART 206	Expressive Figure Drawing and Portraiture	3 units
ART 207	Life Drawing	3 units

Area 2: Painting		Units
ART 223	Oil Painting I	3 units
ART 225	Acrylic Painting I	3 units
ART 231	Watercolor I	3 units
ART 203	Plein Air Painting	3 units

Area 3: Color		Units
ART 214	Color	3 units

Area 4: Photography		Units
ART 351	Beginning Black and White Photography	3 units
ART 381	Beginning Digital Photography	3 units

Area 5: Ceramics		Units
ART 411	Ceramics I	3 units

Area 6: Sculpture

		Units
ART 405	Sculpture I	3 units

Area 7: Advanced Courses

		Units
ART 200	Portfolio Preparation	3 units
ART 224	Oil Painting II	3 units
ART 226	Acrylic Painting II	3 units
ART 232	Watercolor II	3 units
ART 253	Plein Air Painting II	3 units
ART 208	Portrait Drawing I	3 units
ART 209	Portrait Drawing II	3 units
ART 213	Life Drawing II	3 units
ART 230	Expressive Figure Drawing and Portraiture II	3 units
ART 352	Intermediate Black and White Photography	3 units
ART 383	Intermediate Digital Photography	3 units
ART 391	Experimental Photography 1	3 units
ART 392	Experimental Photography 2	3 units
ART 396	Documentary Photography 1	3 units
ART 397	Documentary Photography 2	3 units
ART 406	Sculpture II	3 units
ART 412	Ceramics II	3 units

Total Required Major Units: 27

General Education - certified completion of one of the following:

- California State University General Education-Breadth pattern (CSU GE Breadth),
- **OR**
- Intersegmental General Education Transfer Curriculum (IGETC/CSU) pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more information.

CA Art History

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/art-ca-arthistory.html).

The certificate in Art History is designed for students who wish to pursue the study of the visual arts in a social, political, philosophical and cultural context as a foundation for understanding human history and creativity. The study of art history develops a greater sensitivity to art-related issues, the ability to think critically about art and history, and to appreciate the artistic expression of varied cultures and civilizations. Completion of the certificate in Art history exposes students to the major stylistic periods of Western European and American Art and Architecture and provides a firm basis for continued study in the field of art history.

Career Opportunities

Career opportunities, which require additional studies at a four-year institution, include the following: college professor, teacher, arts administrator, museum/gallery curator, corporate art advisor, museum docent, slide librarian, consultant on historical style for film and TV production, museum conservator, historical conservationist, art critic, tour guide, travel consultant, research assistant, and art dealer.

Program Learning Outcomes

Students completing this program 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.
4. Relate works of art to the societies in which they were created.

Requirements

Required Core Courses: 15 units

		Units
ART 101	Art and Architecture from the Ancient World to Medieval Times (c. 1400)	3 units
ART 102	Art of Renaissance and Baroque (c. 1300-1700)	3 units
ART 103	Art of Europe and America: Neoclassical (c. 1750-Present)	3 units
ART 104	Modern Art	3 units
ART 204	Drawing I	3 units

Required Selective Courses: Select 3 units from the following:

		Units
ART 105	Art of Asia and the Near East	3 units
ART 124	Old Masters' Aesthetics and Techniques	3 units

ART 206	Expressive 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	Two-Dimensional Design	3 units
ART 350	Visual Perception	3 units
ANTH 110	Cultural Anthropology	3 units
FILM 100	Introduction to Film	3 units
HIST 100	History of Western Civilization I	3 units
HIST 101	History of Western Civilization II	3 units

Total Required Units: 18

ASTRONOMY

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

CA Certificate of Achievement

Astroimaging and Observatory Operation (AOOC).....27 - 31 units

University Transfer Program

Use Assist (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.

CA Astroimaging and Observatory Operation (AOOC)

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/astr-ca-aooc.html).

At the heart of astronomy research are observatory operations and astroimaging techniques. Observatories all around the world are in need of technicians who can fulfill those tasks. Yet there are not many institutions that can provide the necessary training for such technicians. The College of San Mateo Astronomy Department, with its roll-off-roof observatory, containing a wide selection of refracting and reflecting telescopes, as well as various imaging instrumentation, provides the training for students, who would like to pursue such a career. The students' training is enriched by access to a well-equipped forty-foot domed, state-of-the-art planetarium, along with a dedicated faculty and staff, active in astronomical research. This program is designed to introduce the students to the operation of various telescopes and to the implementation of important astroimaging techniques such as spectroscopy and photometry, along with sophisticated software to process images. While the learning of the techniques is hands-on, the underlying principles are emphasized. Furthermore, this certificate program is designed such that students can, with a slight modification, apply the course

load of this program toward higher degrees in astronomy or astrophysics.

Career Opportunities

Most of the courses in this program are aligned with the requirements for transfer. In addition, upon completion of this program, the student is qualified to operate any observatory and to be employed to gather and analyze astronomical data for different institutions, or apply for a higher degree in astronomy.

Program Learning Outcomes

Students completing this program will be able to:

1. Operate and control various types of telescopes, such as refractors, reflectors, and Schmidt-Cassegrains.
2. Understand the basic physics and operation of various types of observatory equipment, including CCD cameras and spectrographs.
3. Use and understand the various image acquisition, analysis, and reduction programs.
4. Image, do photometry, and take the spectra of various celestial objects including planets, stars, nebulae, and galaxies.

Requirements

Required Core Courses: 19 units		Units
ASTR 100	Introduction to Astronomy	3 units
ASTR 101	Astronomy Laboratory	1 unit
ASTR 103	Observational Astronomy Lab	1 unit
ASTR 125	Stars, Galaxies, and Cosmology	3 units
ASTR 200	Introduction to Astrophysics	3 units
ASTR 203	Astroimaging Techniques	4 units
ASTR 204	Application of Astroimaging Techniques	4 units

Physics Requirement: 8 units		Units
PHYS 210	General Physics I	4 units
	AND	
PHYS 220	General Physics II	4 units
	OR	
PHYS 250	Physics with Calculus I	4 units
	AND	
PHYS 270	Physics with Calculus III	4 units

Students planning to pursue an undergraduate degree in Physics, Astronomy or Astrophysics should take PHYS 250 and 270.

Mathematics Requirement: 0-4 units	Units
MATH 130 Analytical Trigonometry OR placement in MATH 222 or MATH 251	0 - 4 units

MATH 130 is sufficient for students who plan to take PHYS 210 and 220. Students who plan to take PHYS 250 and 270 will also need MATH 222, 251, 252, and 253.

Total Required Units: 27 - 31

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 Program

Biology..60 units

Biology: Pre-Nursing.......................................60 units

AS-T Associate in Science Degree for Transfer

Biology..60 units

Nutrition and Dietetics..................................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.

About the Program

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, paleozoologist, parasitologist, pathologist, pharmacologist, photobiologist, phycologist, physiologist, protozoologist, systematist, taxonomist, 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.

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, sanitarian, speech pathologist, and veterinarian. Additional medical careers include specialists in sports medicine, and manual arts, music, occupational, physical, and recreational therapists.

AS Biology

The Biology AS degree satisfies requirements for students to transfer into bachelor's degree programs in most Biology majors at U. C. campuses. Students should be sure to check the UC website for an explanation of IGETC for STEM.

Career Opportunities

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, paleozoologist, parasitologist, pathologist, pharmacologist, photobiologist, phycologist, physiologist, protozoologist, systematist, taxonomist, 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. 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, sanitarian, speech pathologist, and veterinarian. Additional medical careers include specialists in sports medicine, and manual arts, music, occupational, physical, and recreational therapists.

Program Learning Outcomes

Students completing this program 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

Required Core Courses: 24 units		Units
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.

Total Required Major Units: 24

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AS 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.

Note that for College of San Mateo's Nursing Program CHEM 410 is the specific chemistry prerequisite. Be sure to check the specific prerequisites for other Nursing Programs.

Career Opportunities

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, paleozoologist, parasitologist, pathologist, pharmacologist, photobiologist, phycologist, physiologist, protozoologist, systematist, taxonomist, 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. 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, sanitarian, speech pathologist, and veterinarian. Additional medical careers include specialists in sports medicine, and manual arts, music, occupational, physical, and recreational therapists.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: 13 units		Units
BIOL 240	General Microbiology	4 units
BIOL 250	Human Anatomy	4 units
BIOL 260	Human Physiology	5 units

Required Selective Courses: 8 or 10 units from one of the following groups:

Group 1		Units
CHEM 210	General Chemistry I	5 units
	AND	
CHEM 220	General Chemistry II	5 units

Group 2		Units
CHEM 410	Health Science Chemistry I	4 units
	AND	
CHEM 420	Health Science Chemistry II	4 units

Total Required Major Units: 21 - 23

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AS-T Biology

The Biology AS Degree prepares students for transfer into bachelor's degree programs in Biology. Completion of the AS-T in Biology meets minimum eligibility for transfer to the California State University System.

Program Learning Outcomes

Students completing this program 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

Required Core Courses: 14 units		Units
BIOL 230	Introductory Cell Biology	4 units
BIOL 210	General Zoology	5 units
BIOL 220	General Botany	5 units

Required Selective Courses: 23 units		Units
CHEM 210	General Chemistry I	5 units

CHEM 220	General Chemistry II	5 units
MATH 251	Calculus with Analytic Geometry I	5 units
PHYS 210	General Physics I	4 units
	AND	
PHYS 220	General Physics II	4 units
	OR	
PHYS 250	Physics with Calculus I	4 units
	AND	
PHYS 260	Physics with Calculus II	4 units

Total Required Major Units: 37

General Education - certified completion of Intersegmental General Education Transfer Curriculum (IGETC/CSU) for STEM pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more information.

AS-T Nutrition and Dietetics

The AS-T major in Nutrition and Dietetics prepares students for transfer into bachelor's degree programs in Nutrition and Dietetics and similar areas. Completion of this AS-T meets minimum eligibility for transfer to the California State University system.

Career Opportunities

Careers opportunities in health clubs, hospital and clinics, public and private schools, government organizations, health and welfare agencies, health and welfare promotion organizations, businesses, industry, research facilities, and teaching, are available to graduates in the field of Nutrition and Dietetics.

Program Learning Outcomes

Students completing this program will be able to:

1. Explain the principles of nutrition and their effect on health.
2. Demonstrate a fundamental understanding of health behaviors on nutritional and health status.
3. Assess the impact of age, culture and gender on diet and nutrition.
4. Describe food preparation, preservation, serving, and storage techniques that prevent food poisoning.
5. Design meal plans based on current nutritional guidelines.
6. Interpret current nutrition research.

Major Requirements

Required Core Courses: 15 units		Units
BIOL 310	Nutrition	3 units
PSYC 100	General Psychology	3 units
CHEM 210	General Chemistry I	5 units
BIOL 240	General Microbiology	4 units

Required Selective Courses: List A: Select 8-10 units from the following courses:		Units
CHEM 220	General Chemistry II	5 units
BIOL 260	Human Physiology	5 units
MATH 200	Elementary Probability and Statistics	4 units
	OR	
PSYC 121	Basic Statistical Concepts	3 units

Required Selective Courses: List B: Select 3-4 units from the following courses:		Units
BIOL 250	Human Anatomy	4 units
ECON 100	Principles of Macroeconomics	3 units
SOCI 100	Introduction to Sociology	3 units

Total Required Major Units: 26 - 29

General Education - certified completion of one of the following:

- California State University General Education-Breadth pattern (CSU GE Breadth),
- **OR**
- Intersegmental General Education Transfer Curriculum (IGETC/CSU) pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more information.

CS Biotechnology

For gainful employment information, see the program's website: collegeofsanmateo.edu/gedi/docs/biol-cs-biotechnology.pdf

Program Learning Outcomes

Students completing this program will be able to:

1. Demonstrate proficiency in basic lab skills and analysis commonly used in molecular biology and biotechnology.
2. Explain the basis for and applications of techniques in biotechnology.

Requirements

Required Core Courses: 6 units		Units
BIOL 123	Biotechnology Workshop	1 unit
CHEM 210	General Chemistry I	5 units
	OR	
CHEM 220	General Chemistry II	5 units

Required Selective Courses: Select one course from the following:		Units
BIOL 110	General Principles of Biology	4 units
BIOL 210	General Zoology	5 units
BIOL 220	General Botany	5 units
BIOL 230	Introductory Cell Biology	4 units
BIOL 240	General Microbiology	4 units

Total Required Units: 10 - 11

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 Program

Building Inspection...60 units

CA Certificate of Achievement

Building Inspection..34.5 - 36.5 units

CS Certificate of Specialization

Commercial Building Inspection..............................13.5 units

Residential Building Inspection...................................15 units

AS Building Inspection

Building Inspection is a critical component in the construction and maintenance of residential, commercial, multi-unit and specialty buildings within California. Each area critical to the proper quality of construction, safety of operation and durability over an appropriate time, is separately inspected, tested and certified as compliant with the International Building Code.

The responsibilities of building inspectors are reflected in the importance of their role in ensuring the safety of inhabitants during earthquakes, floods, and other emergency situations. The safety of firefighters entering buildings is increased by compliance with the building code requirements for proper installation of fire sprinklers and other safety measures. Employment is primarily within city, county and state agencies with some opportunities with larger real estate or construction organizations and has remained steady during the last decade.

Career Opportunities

Typical of real estate/construction related occupations, building inspection has some ebb and flow with economic cycles. However, this specialty area does not suffer the extreme peaks and valleys of employment found in general for real estate related industries. The need for building inspection services is not limited to new construction. Rather it is in demand for the great majority of remodel or updating projects, for re-inspection of properties that fall under new regulations and support of code violation enforcement. The employers are predominately government agencies and private firms that contract to government agencies, where the work is in consistent demand and is closely tied to the work of fire marshals, emergency preparedness services, etc. A snapshot of the employment demand in five Bay area Counties reveals that there were 2,215 jobs in 2016 (nationally there were 88,977 jobs), with a projected increase in the Bay Area of 15% over the next 7 years. The median hourly earnings are $42.18/hour. Our students are frequently hired into Building Inspection Departments in San Mateo County. The majority of our instructors graduated from the CSM program and are currently building inspectors in either San Mateo, San Francisco or Santa Clara counties.

Program Learning Outcomes

Students completing this program will be able to:

1. Describe and discuss building inspection standards and testing criteria to assure quality construction.
2. Explain the intent of various code requirements.
3. Identify and explain graphics and terms of structural design and engineering.

Major Requirements

Required Core Courses: 31.5 units

		Units
BLDG 700	Introduction to the Building Code	3 units
BLDG 710	Advanced Building Inspection	4.5 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 Provisions	3 units
BLDG 760	Energy Regulations	3 units
BLDG 775	Introduction to Residential Dwelling Inspection Technology	3 units

Required Selective Courses: 3-5 units   Units

		Units
ENGL 838	Intensive Introduction to Composition and Reading	5 units
	OR	
ENGL 848	Introduction to Composition and Reading	4 units
Or higher level ENGL course		3 - 5 units

Total Required Major Units: 34.5 - 36.5

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

CA Building Inspection

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/bldg-ca-buildinginspection.html).

Program Learning Outcomes

Students completing this program 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.

Requirements

Required Core Courses: 31.5 units		Units
BLDG 700	Introduction to the Building Code	3 units
BLDG 710	Advanced Building Inspection	4.5 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 Provisions	3 units
BLDG 760	Energy Regulations	3 units
BLDG 775	Introduction to Residential Dwelling Inspection Technology	3 units

Required Selective Courses: 3-5 units		Units
ENGL 838	Intensive Introduction to Composition and Reading	5 units
	OR	
ENGL 848	Introduction to Composition and Reading	4 units
Or higher level ENGL course		3 - 5 units

Total Required Units: 34.5 - 36.5

CS Commercial Building Inspection

Building Inspection is a critical component in the construction and maintenance of residential, commercial, multi-unit and specialty buildings within California. Each area critical to the proper quality of construction, safety of operation and durability over an appropriate time, is separately inspected, tested and certified as compliant with the International Building Code.

The responsibilities of building inspectors are reflected in the importance of their role in ensuring the safety of inhabitants during earthquakes, floods, and other emergency situations. The safety of firefighters entering buildings is increased by compliance with the building code requirements for proper installation of fire sprinklers and other safety measures. Employment is primarily within city, county and state agencies with some opportunities with larger real estate or construction organizations and has remained steady during the last decade.

Career Opportunities

Typical of real estate/construction related occupations, building inspection has some ebb and flow with economic cycles. However, this specialty area does not suffer the extreme peaks and valleys of employment found in general for real estate related industries. The need for building inspection services is not limited to new construction. Rather it is in demand for the great majority of remodel or updating projects, for re-inspection of properties that fall under new regulations and support of code violation enforcement. The employers are predominately government agencies and private firms that contract to government agencies, where the work is in consistent demand and is closely tied to the work of fire marshals, emergency preparedness services, etc. A snapshot of the employment demand in five Bay area Counties reveals that there were 2,215 jobs in 2016 (nationally there were 88,977 jobs), with a projected increase in the Bay Area of 15% over the next 7 years. The median hourly earnings are $42.18/hour. Our students are frequently hired into Building Inspection Departments in San Mateo County. The majority of our instructors graduated from the CSM program and are currently building inspectors in either San Mateo, San Francisco or Santa Clara counties.

Program Learning Outcomes

Students completing this program will be able to:

1. Describe and discuss inspection standards for each of the critical areas of commercial and multi-unit structures in California.
2. Explain the intent of the code requirements for the green and sustainable practices and materials in California.

Requirements

Required Core Courses: 13.5 units		Units
BLDG 710	Advanced Building Inspection	4.5 units
BLDG 725	Electrical Inspection II	3 units
BLDG 735	ADA Building Requirements	3 units
BLDG 790	Blueprint Reading for Construction	3 units

Total Required Units: 13.5

CS Residential Building Inspection

Building Inspection is a critical component in the construction and maintenance of residential, commercial, multi-unit and specialty buildings within California. Each

area critical to the proper quality of construction, safety of operation and durability over an appropriate time, is separately inspected, tested and certified as compliant with the International Building Code.

The responsibilities of building inspectors are reflected in the importance of their role in ensuring the safety of inhabitants during earthquakes, floods, and other emergency situations. The safety of firefighters entering buildings is increased by compliance with the building code requirements for proper installation of fire sprinklers and other safety measures. Employment is primarily within city, county and state agencies with some opportunities with larger real estate or construction organizations and has remained steady during the last decade.

Career Opportunities

Typical of real estate/construction related occupations, building inspection has some ebb and flow with economic cycles. However, this specialty area does not suffer the extreme peaks and valleys of employment found in general for real estate related industries. The need for building inspection services is not limited to new construction. Rather it is in demand for the great majority of remodel or updating projects, for re-inspection of properties that fall under new regulations and support of code violation enforcement. The employers are predominately government agencies and private firms that contract to government agencies, where the work is in consistent demand and is closely tied to the work of fire marshals, emergency preparedness services, etc. A snapshot of the employment demand in five Bay area Counties reveals that there were 2,215 jobs in 2016 (nationally there were 88,977 jobs), with a projected increase in the Bay Area of 15% over the next 7 years. The median hourly earnings are $42.18/hour. Our students are frequently hired into Building Inspection Departments in San Mateo County. The majority of our instructors graduated from the CSM program and are currently building inspectors in either San Mateo, San Francisco or Santa Clara counties.

Program Learning Outcomes

Students completing this program will be able to:

1. Describe and discuss inspection standards for each of the critical areas of residential structures in California.
2. Explain the intent of the code requirements for residential structure in California.

Requirements:

Required Core Courses: 15 units		Units
BLDG 720	Electrical Inspection I	3 units
BLDG 730	Plumbing Inspection	3 units
BLDG 740	Mechanical Code	3 units

BLDG 760	Energy Regulations	3 units
BLDG 775	Introduction to Residential Dwelling Inspection Technology	3 units

Total Required Units: 15

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 Program

Business Administration, Option 1..............................60 units

Business Administration, Option 2..............................60 units

Business Information Processing Option 1: Microcomputer/Office Assistant...60 units

Business Information Processing Option 2: Microcomputer/Data Base and Spreadsheet Functions.......................60 units

AS-T Associate in Science Degree for Transfer

Business Administration...60 units

CA Certificate of Achievement

Business Information Processing Option 1: Microcomputer/Office Assistant...21.5 - 23 units

Business Information Processing Option 2: Microcomputer/Data Base and Spreadsheet Functions.......................24 units

CS Certificate of Specialization

Business Information Worker......................................15 units

Entrepreneurship: From Idea to Success.................16.5 units

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 Business Administration, Option 1

The major prepares students for careers in a variety of business disciplines.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program will be able to:

1. Apply critical thinking and analytical skills in decision-making and problem solving.
2. Understand and apply accounting principles to prepare financial statements.
3. Develop an understanding of the law and the legal environment as it relates to business operations, including its ethical implications.
4. Identify the basics of information technology and apply software applications to enhance efficiency of business functions.
5. Create effective oral and written business communications utilizing modern communication technologies.

Major Requirements

Required Core Courses: 21-23 units		Units
ACTG 100	Accounting Procedures	3 units
	OR	
ACTG 121	Financial Accounting	4 units
BUS. 100	Introduction to Business	3 units
BUS. 115	Business Mathematics	3 units
BUS. 201	Business Law	3 units
BUS. 401	Business Communications	3 units
MGMT 220	Organizational Behavior	3 units
BUS. 295	Computer Systems in Business	4 units

	OR	
CIS 110	Introduction to Computer and Information Science	3 units

Required Selective Courses: 3 units	Units
3 units from a BUSW series of courses	

Total Required Major Units: 24 - 26

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AA Business Administration, Option 2

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

Career Opportunities

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.

Program Learning Outcomes

Students completing this program will be able to:

1. Apply critical thinking and analytical skills in decision-making and problem solving.
2. Understand and apply accounting principles to prepare financial statements.
3. Develop an understanding of the law and the legal environment as it relates to business operations, including its ethical implications.
4. Identify the basics of information technology and apply software applications to enhance efficiency of business functions.
5. Create effective oral and written business communications utilizing modern communication technologies.

Major Requirements

Required Core Courses: 14 units		Units
ACTG 121	Financial Accounting	4 units
ECON 100	Principles of Macroeconomics	3 units

ECON 102	Principles of Microeconomics	3 units
MATH 200	Elementary Probability and Statistics	4 units

Required Selective Courses: Select 6-10 units from the following courses: **Units**

ACTG 131	Managerial Accounting	4 units
BUS. 100	Introduction to Business	3 units
BUS. 201	Business Law	3 units
BUS. 295	Computer Systems in Business	4 units
MATH 125	Elementary Finite Mathematics	3 units
MATH 241	Applied Calculus I	5 units
MATH 251	Calculus with Analytic Geometry I	5 units

Total Required Major Units: 20 - 24

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AA Business Information Processing Option 1: Microcomputer/Office Assistant

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.

Career Opportunities

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. 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.

Program Learning Outcomes

Students completing this program will be able to:

1. Organize and manage a variety of work tasks and information through the use of office technology.
2. Develop proficiency in the use of Word, Excel, and Powerpoint.
3. Utilize manual and computer filing methods from creation through maintenance of data records.

4. Develop business mathematics skills.
5. Create effective oral and written business communications utilizing modern communication technologies.
6. Demonstrate an understanding of human resources policies and programs in a work environment.

Major Requirements

Required Core Courses: 21.5-23 units **Units**

MGMT 220	Organizational Behavior	3 units
BUS. 115	Business Mathematics	3 units
BUS. 315	Keyboarding I	3 units
	OR	
BUS. 317	Keyboarding Skill building	1.5 units
BUS. 401	Business Communications	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 I Using PowerPoint for Windows	1.5 units
BUSW 415	Spreadsheet I Using Excel for Windows	1.5 units
BUSW 530	Introduction to Internet Competency	1.5 units
CRER 127	Career Choices II: Job Search	0.5 units

Total Required Major Units: 21.5 - 23

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

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

Career Opportunities

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.

Program Learning Outcomes

Students completing this program will be able to:

1. Organize and manage a variety of work tasks and information through the use of office technology.
2. Explain and demonstrate the ethical behavior required in the accounting profession.
3. Acquire skills to perform bookkeeping tasks for a small business.
4. Develop proficiency in the use of Word and Excel.
5. Develop proficiency in the use of QuickBooks to set-up and service business transactions.
6. Identify the uses, structures, operation of a database.
7. Determine and organize information for a database, conducting queries and editing data.

Major Requirements

Required Core Courses: 24 units		Units
ACTG 100	Accounting Procedures	3 units
ACTG 144	QuickBooks: Set-up and Service Business	1.5 units
ACTG 145	QuickBooks: Payroll and Merchandising Business	1.5 units
BUS. 100	Introduction to 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 I 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 Internet Competency	1.5 units

Total Required Major Units: 24

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AS-T Business Administration

The Associate in Science in Business Administration for Transfer will prepare students for transfer into bachelor's degree programs in Business Administration and similar majors. The degree provides students with the background needed for specialization in accounting, finance, human resources management, management, and marketing.

Upon completion of the Associate in Science in Business Administration for Transfer, students will be able to prepare and analyze financial statements, prepare and manage an operating budget, evaluate the impact of current economic conditions on a business, and assess the legal implications of business decisions.

Career Opportunities

Upon completion of a bachelor's degree, Business Administration majors find employment in a variety of fields related to the planning, operation, and regulation of businesses. Career opportunities include accountant, administrative assistant, budget analyst, management consultant, claims agent, controller, credit analyst, financial manager, financial planner, hospital administrator, insurance agent, loan officer, securities analyst, and trust officer.

Program Learning Outcomes

Students completing this program will be able to:

1. Prepare and analyze financial statements.
2. Prepare and manage an operating budget.
3. Evaluate the impact of current economic conditions on a business.
4. Assess the legal implications of business decisions.

Major Requirements

Required Core Courses: 17 units		Units
ACTG 121	Financial Accounting	4 units
ACTG 131	Managerial Accounting	4 units
BUS. 201	Business Law	3 units
ECON 100	Principles of Macroeconomics	3 units
ECON 102	Principles of Microeconomics	3 units

Required Selective Courses: List A: Select one course 3-5 units		Units
MATH 125	Elementary Finite Mathematics	3 units
MATH 200	Elementary Probability and Statistics	4 units
MATH 241	Applied Calculus I	5 units

Required Selective Courses: List B: Select two courses 6-9 units

		Units
Any List A course not used above		3 - 5 units
BUS. 295	Computer Systems in Business	4 units
BUS. 100	Introduction to Business	3 units
	OR	
BUS. 401	Business Communications	3 units

Total Required Major Units: 26 - 31

General Education - certified completion of one of the following:

- California State University General Education-Breadth pattern (CSU GE Breadth),
- **OR**
- Intersegmental General Education Transfer Curriculum (IGETC/CSU) pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more information.

CA Business Information Processing Option 1: Microcomputer/Office Assistant

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/bus-ca-mc-officeassistant.html).

Program Learning Outcomes

Students completing this program will be able to:

1. Organize and manage a variety of work tasks and information through the use of office technology.
2. Develop proficiency in the use of Word, Excel, and Powerpoint.
3. Utilize manual and computer filing methods from creation through maintenance of data records.
4. Develop business mathematics skills.
5. Create effective oral and written business communications utilizing modern communication technologies.
6. Demonstrate an understanding of human resources policies and programs in a work environment.

Requirements

Required Core Courses: 21.5-23 units		Units
MGMT 220	Organizational Behavior	3 units
BUS. 115	Business Mathematics	3 units
BUS. 315	Keyboarding I	3 units
	OR	
BUS. 317	Keyboarding Skill building	1.5 units
BUS. 401	Business Communications	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 I Using PowerPoint for Windows	1.5 units
BUSW 415	Spreadsheet I Using Excel for Windows	1.5 units
BUSW 530	Introduction to Internet Competency	1.5 units
CRER 127	Career Choices II: Job Search	0.5 units

Total Required Units: 21.5 - 23

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

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/bus-ca-mc-db-ss-functions.html).

Program Learning Outcomes

Students completing this program will be able to:

1. Organize and manage a variety of work tasks and information through the use of office technology.
2. Explain and demonstrate the ethical behavior required in the accounting profession.
3. Acquire skills to perform bookkeeping tasks for a small business.
4. Develop proficiency in the use of Word and Excel.
5. Develop proficiency in the use of QuickBooks to set-up and service business transactions.

6. Identify the uses, structures, operation of a database.
7. Determine and organize information for a database, conducting queries and editing data.

Requirements

Required Core Courses: 24 units

Course	Title	Units
ACTG 100	Accounting Procedures	3 units
ACTG 144	QuickBooks: Set-up and Service Business	1.5 units
ACTG 145	QuickBooks: Payroll and Merchandising Business	1.5 units
BUS. 100	Introduction to 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 I 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 Internet Competency	1.5 units

Total Required Units: 24

CS Business Information Worker

The Business Information Worker Certificate of Specialization is a job readiness pathway for office workers whereby enrolled students learn a broad range of entry-level office skills and applications which promote success in a variety of business office environments.

Career Opportunities

Enrolled students are prepared in a broad range of entry-level office skills and applications which promote success in a variety of office environments/general business, commerce positions, and lead to gainful employment outcomes. This certification facilitates the upward mobility of lower-wage office workers, to higher-wage white collar positions, and helps address Bay Region under-supply of such workers.

Program Learning Outcomes

Students completing this program will be able to:

1. Communicate effectively in a business office environment.
2. Operate applications in the Microsoft Office Suite (Excel, Word, PowerPoint, Word) and project management software (Project).

Requirements

Required Core Courses: 15 units

Course	Title	Units
BUS. 317	Keyboarding Skill building	1.5 units
BUS. 401	Business Communications	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 383	Business Presentations I Using PowerPoint for Windows	1.5 units
BUSW 415	Spreadsheet I Using Excel for Windows	1.5 units
BUSW 450	Microsoft Project Fundamentals I	1.5 units
BUSW 530	Introduction to Internet Competency	1.5 units

Total Required Units: 15

CS Entrepreneurship: From Idea to Success

The Certificate Program in Entrepreneurship & Small Business Management delivers cutting-edge curriculum for entrepreneurs with an existing small business, or those seeking to launch and operate one. The certificate program covers all stages of small business development: the entrepreneurial mindset, idea generation, the feasibility analysis, pitching to investors, designing the organization, marketing strategies, picking a location, and operations management. The certificate program also provides access to guest entrepreneurs whom are experts in their fields, and counseling at CSM's on-campus, Small Business Development Center, which is sponsored by the Small Business Administration.

Career Opportunities

This program will position students to be managers, owners, partners, and/or independent contractors for small business across a wide-spectrum of markets.

Program Learning Outcomes

Students completing this program will be able to:

1. Identify market opportunities.
2. Develop a comprehensive business plan.
3. Pitch a business idea to investors.

Major Requirements

Required Core Courses: 13.5		Units
BUS. 150	Entrepreneurship - Small Business Management	3 units
BUS. 171	The Entrepreneurial Mindset	1.5 units
BUS. 173	Sources of Financing	1.5 units
BUS. 174	The Business Plan	1.5 units
BUS. 176	Selling the Idea	1.5 units
BUS. 177	Marketing for Entrepreneurs	1.5 units
BUS. 178	Business Law for Entrepreneurs	1.5 units
BUS. 179	Human Resources for Entrepreneurs	1.5 units

Required Selective Courses: Select 3 units from the following courses		Units
ACTG 100	Accounting Procedures	3 units
COSM 766	Salon Business Entrepreneur	3 units
DGME 250	Internship	3 units
	OR	
ACTG 144	QuickBooks: Set-up and Service Business	1.5 units
	AND	
ACTG 145	QuickBooks: Payroll and Merchandising Business	1.5 units

Total Required Units: 16.5

CS Office Assistant I

Program Learning Outcomes

Students completing this program will be able to:

1. Meet entry-level industry standings for keyboard speed and accuracy.
2. Prepare multi-page documents, utilizing a variety of functions in Word and Excel.
3. Utilize principles of file management in Windows.

4. Competently utilize Internet tools to conduct research for educational and business purposes.
5. Develop analytic skills to determine an appropriate career or job choice and conducts a successful job search and application.

Requirements

Required Core Courses: 8-9.5 units		Units
BUS. 317	Keyboarding Skill building	1.5 units
BUS. 316	Keyboarding II	3 units
	OR	
BUSW 214	Word Processing I 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 Internet Competency	1.5 units
CRER 127	Career Choices II: Job Search	0.5 units

Total Required Units: 8 - 9.5

CS Office Assistant II

Program Learning Outcomes

Students completing this program will be able to:

1. Meet entry-level industry standards for keyboard speed and accuracy.
2. Prepare multi-page documents, utilizing a variety of functions in Word and Excel.
3. Utilize principles of file management in Windows.
4. Identify the advanced formatting and styles options that can enhance the organization and professional presentation of a document.
5. Create PowerPoint presentations for business, utilizing a variety of application features.
6. Competently utilize Internet tools to conduct research for educational and business purposes.

Requirements

Required Core Courses: 11 units		Units
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 I Using PowerPoint for Windows	1.5 units
BUSW 415	Spreadsheet I Using Excel for Windows	1.5 units
BUSW 530	Introduction to Internet Competency	1.5 units
CRER 127	Career Choices II: Job Search	0.5 units

Total Required Units: 11

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

AS Associate in Science Degree Program

Chemistry...60 units

Recommended high school preparation

Coursework in Chemistry, Biology, Physics, Mathematics

University Transfer Program

Use Assist (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.

AS Chemistry

The Chemistry major prepares students to transfer to four-year institutions for continued study in the field of chemistry.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program will be able to:

1. Demonstrate preparedness to transfer to a 4 year institution
2. Effectively explain general chemistry and organic chemistry theories and concepts. (Effective Communication)
3. Perform quantitative analysis relating but not limited to graphical and numerical data obtained from laboratory experiments, and apply general chemistry and organic chemistry theories to solve problems. (Quantitative Skill)
4. Critically analyze and apply general chemistry and organic chemistry concepts. (Critical Thinking)

Major Requirements

Required Core Courses: 24-25 units		Units
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	General Physics I	4 units
	AND	
PHYS 211	General Physics I-Calculus Supplement	1 unit
	OR	
PHYS 250	Physics with Calculus I	4 units

Total Required Major Units: 24 - 25

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

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

AA Associate in Arts Degree Program

 Communication Studies...60 units

AA-T Associate in Arts Degree for Transfer

 Communication Studies...60 units

CS Certificate of Specialization

 Communication Studies...12 units

Recommended high school preparation

Coursework in English, Speech, Psychology

University Transfer Program

Use Assist (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.

About the Program

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.

AA Communication Studies

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.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program will be able to:

1. Write a speech outline that demonstrates proper organizational components.
2. Apply learned skills and communication theories in teamwork.
3. Demonstrate ability to effectively deliver presentations.
4. Apply critical thinking skills to analyze conflict and controversial situations.

Major Requirements

Required Core Courses: 12 units		Units
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

Required Selective Courses: Select 6 units from the following courses:		Units
COMM 170	Oral Interpretation I	3 units
COMM 171	Oral Interpretation II	3 units
BUS. 401	Business Communications	3 units

MGMT 220	Organizational Behavior	3 units
PSYC 110	Courtship, Marriage and the Family	3 units
	OR	
SOCI 110	Courtship, Marriage and the Family	3 units

Total Required Major Units: 18

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AA-T Communication Studies

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

Career Opportunities

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.

Program Learning Outcomes

Students completing this program will be able to:

1. Write a speech outline that demonstrates proper organizational components.
2. Apply learned skills and communication theories in teamwork.
3. Demonstrate ability to effectively deliver presentations.
4. Apply critical thinking skills to analyze conflict and controversial situations.

Major Requirements

Required Core Course: 3 units		Units
COMM 110	Public Speaking	3 units

Required Selective Courses: 6 units
Group A: Students must take the following:

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

Required Selective Courses: 6 units
Group B: Any two courses from the following:

		Units
COMM 150	Intercultural Communication	3 units
COMM 170	Oral Interpretation I	3 units
DGME 100	Media in Society	3 units

Required Selective Courses: 3 units
Group C: Any one course from the following or any Group B course not used above:

		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
COMM 171	Oral Interpretation II	3 units

Total Required Major Units: 18

General Education - certified completion of one of the following:

- California State University General Education-Breadth pattern (CSU GE Breadth),
- **OR**
- Intersegmental General Education Transfer Curriculum (IGETC/CSU) pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more information.

CS Communication Studies

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.

Program Learning Outcomes

Students completing this program will be able to:

1. Write a speech outline that demonstrates proper organizational components.
2. Apply learned skills and communication theories in teamwork.

Required Core Courses: 6 units

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

Required Selective Courses: select 6 units from the following courses

		Units
COMM 115	Survey of Human Communication	3 units
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

Total Required Units: 12

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 Program

Computer Science Applications and Development... 60 units

Computer and Information Science............................60 units

Web and Mobile Application Development................60 units

CA Certificate of Achievement

Computer Science Applications and Development.....30 - 34 units

Web and Mobile Application Development.........32 - 35 units

CS Certificate of Specialization

C++ Programming...8 units

Data Science and Big Data...................................14 - 16 units

Database Programming.. 14 - 15 units

DevOps...17 units

Internet of Things (IoT) Programming........................15 units

Java Programming... 8 units

Web Programming...14 - 17 units

Web/Mobile App Development....................................15 units

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Recommended high school preparation

Coursework in Mathematics, computer Programming, English, Business, Electronics

University Transfer Program

Use Assist (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.

About the Program

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, data base 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 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

Career opportunities exist in numerous businesses and industries. Typical entry-level positions include programmer, quality assurance and systems testing, and frequently involve working on project teams.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: 18 units **Units**

CIS 110	Introduction to Computer and Information Science	3 units

CIS 151	Networks and Digital Communication	3 units
CIS 254	Introduction to Object-Oriented Program Design	4 units
CIS 255	(CS1) Programming Methods: Java	4 units
	OR	
CIS 278	(CS1) Programming Methods: C++	4 units
CIS 256	(CS2) Data Structures: Java	4 units
	OR	
CIS 279	(CS2) Data Structures: C++	4 units

Required Selective Courses: Select 6-8 units from the following courses: **Units**

CIS 255 *	(CS1) Programming Methods: Java	4 units
CIS 256 *	(CS2) Data Structures: Java	4 units
CIS 278 *	(CS1) Programming Methods: C++	4 units
CIS 279 *	(CS2) Data Structures: C++	4 units
CIS 121	UNIX/Linux	3 units
CIS 132	Introduction to Databases	3 units
CIS 133	NoSQL Databases	3 units
CIS 264	Computer Architecture and Assembly Language	3 units
CIS 363	Enterprise Database Management with MySQL	4 units
CIS 364	From Data Warehousing to Big Data	4 units

Required Selective Courses: Select 6-8 units from the following courses: **Units**

CIS 113	Ruby Programming	4 units
CIS 114	JavaScript/Ajax Programming	4 units
CIS 117	Python Programming	4 units
CIS 127	HTML5 and CSS	3 units
CIS 128	Mobile Web App Development	4 units
CIS 129	Frameworks/Server-Side JavaScript	3 units
CIS 135	Android Programming	4 units
CIS 137	iOS/Swift Programming	4 units
CIS 138	Internet of Things	3 units

CIS 379	Introduction to XML	3 units
CIS 380	PHP Programming	3 units

* if not used above

Total Required Major Units: 30 - 34

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AS Computer and Information Science

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

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. Career opportunities include applied scientist, communications technician, computer maintenance technician, computer operator, data base 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.

Program Learning Outcomes

Students completing this program will be able to:

1. Implement, test and debug a medium-size computer program that is stylistically and functionally correct, based on an objectoriented 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.

Major Requirements

Required Core Courses: 21 units		Units
CIS 255	(CS1) Programming Methods: Java	4 units
	OR	
CIS 278	(CS1) Programming Methods: C++	4 units
CIS 256	(CS2) Data Structures: Java	4 units
	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

Required Selective Courses: 4 units	Units
4 or more units from CIS courses numbered 110 or higher	4 units

Required Selective Courses: 6 or more units from the following courses:		Units
MATH 253	Calculus with Analytic Geometry III	5 units
MATH 268	Discrete Mathematics	4 units
MATH 270	Linear Algebra	3 units
MATH 275	Ordinary Differential Equations	3 units
PHYS 250	Physics with Calculus I	4 units

Total Required Major Units: 31

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AS Web and Mobile Application Development

The A.S. degree in Web and Mobile Application Development provides students with the specialized knowledge that is essential in the development of Web and mobile computer applications. Students will study and gain experience with the languages and frameworks that are

most commonly used in developing these applications. They will also learn fundamental principles of Web and mobile development so that they will be prepared to work with current and emerging technologies.

Career Opportunities

Career opportunities exist in numerous businesses and industries. Typical entry-level positions include front-end developer, back-end developer, database administrator, mobile application developer, programmer, Web developer, and software tester.

Program Learning Outcomes

Students completing this program will be able to:

1. Identify, describe and apply best practices of Web application development.
2. Create standards-compliant, accessible Web documents using HTML, HTML5, CSS and JavaScript.
3. Utilize a server-side scripting language and a database to create a dynamic website.
4. Develop Web and mobile applications for a variety of platforms and mobile devices.
5. Demonstrate an ability to work effectively and ethically on teams.
6. Demonstrate professional and effective communication skills.

Major Requirements:

Required Core Courses: 26-27 units		Units
CIS 111	Introduction to Web Programming	3 units
	OR	
CIS 254	Introduction to Object-Oriented Program Design	4 units
CIS 114	JavaScript/Ajax Programming	4 units
CIS 121	UNIX/Linux	3 units
CIS 127	HTML5 and CSS	3 units
CIS 128	Mobile Web App Development	4 units
CIS 135	Android Programming	4 units
	OR	
CIS 137	iOS/Swift Programming	4 units
CIS 200	Capstone Project - CIS	2 units
CIS 380	PHP Programming	3 units

Required Selective Courses: 3-4 units from the following courses:		Units
CIS 132	Introduction to Databases	3 units
CIS 133	NoSQL Databases	3 units
CIS 363	Enterprise Database Management with MySQL	4 units
CIS 364	From Data Warehousing to Big Data	4 units

Required Selective Courses: 3-4 units from the following courses:		Units
CIS 113	Ruby Programming	4 units
CIS 117	Python Programming	4 units
CIS 129	Frameworks/Server-Side JavaScript	3 units
CIS 135 *	Android Programming	4 units
CIS 137 *	iOS/Swift Programming	4 units
CIS 138	Internet of Things	3 units
CIS 379	Introduction to XML	3 units
DGME 168	Web Design II	3 units

* If not used above

Total Required Major Units: 32 - 35

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

CA Computer Science Applications and Development

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/cis-ca-csad.html).

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

Career opportunities exist in numerous businesses and industries. Typical entry-level positions include programmer, quality assurance and systems testing, and frequently involve working on project teams.

Program Learning Outcomes

Students completing this program 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.

Requirements

Required Core Courses: 18 units **Units**

CIS 110	Introduction to Computer and Information Science	3 units
CIS 151	Networks and Digital Communication	3 units
CIS 254	Introduction to Object-Oriented Program Design	4 units
CIS 255	(CS1) Programming Methods: Java	4 units
	OR	
CIS 278	(CS1) Programming Methods: C++	4 units
CIS 256	(CS2) Data Structures: Java	4 units
	OR	
CIS 279	(CS2) Data Structures: C++	4 units

Required Selective Courses: Select 6–8 units from the following courses: **Units**

CIS 255 *	(CS1) Programming Methods: Java	4 units
CIS 256 *	(CS2) Data Structures: Java	4 units
CIS 278 *	(CS1) Programming Methods: C++	4 units
CIS 279 *	(CS2) Data Structures: C++	4 units
CIS 121	UNIX/Linux	3 units
CIS 132	Introduction to Databases	3 units
CIS 133	NoSQL Databases	3 units
CIS 264	Computer Architecture and Assembly Language	3 units
CIS 363	Enterprise Database Management with MySQL	4 units

CIS 364	From Data Warehousing to Big Data	4 units

Required Selective Courses: Select 6-8 units from the following courses: **Units**

CIS 113	Ruby Programming	4 units
CIS 114	JavaScript/Ajax Programming	4 units
CIS 117	Python Programming	4 units
CIS 127	HTML5 and CSS	3 units
CIS 128	Mobile Web App Development	4 units
CIS 129	Frameworks/Server-Side JavaScript	3 units
CIS 135	Android Programming	4 units
CIS 137	iOS/Swift Programming	4 units
CIS 138	Internet of Things	3 units
CIS 379	Introduction to XML	3 units
CIS 380	PHP Programming	3 units

* if not used above

Total Required Units: 30 - 34

CA Web and Mobile Application Development

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/cis-ca-wmad.html).

The Certificate of Achievement in Web and Mobile Application Development provides students with the specialized knowledge that is essential in the development of Web and mobile computer applications. Students will study and gain experience with the languages and frameworks that are most commonly used in developing these applications. They will also learn fundamental principles of Web and mobile development so that they will be prepared to work with current and emerging technologies.

Career Opportunities

Career opportunities exist in numerous businesses and industries. Typical entry-level positions include front-end developer, mobile application developer, programmer, Web developer, and software tester.

Program Learning Outcomes

Students completing this program will be able to:

1. Identify, describe and apply best practices of Web application development.
2. Create standards-compliant, accessible Web documents using HTML, HTML5, CSS and JavaScript.
3. Utilize a server-side scripting language and a database to create a dynamic website.
4. Develop Web and mobile applications for a variety of platforms and mobile devices.
5. Demonstrate an ability to work effectively and ethically on teams.
6. Demonstrate professional and effective communication skills.

Requirements

Required Core Courses: 26-27 units		Units
CIS 111	Introduction to Web Programming	3 units
	OR	
CIS 254	Introduction to Object-Oriented Program Design	4 units
CIS 114	JavaScript/Ajax Programming	4 units
CIS 121	UNIX/Linux	3 units
CIS 127	HTML5 and CSS	3 units
CIS 128	Mobile Web App Development	4 units
CIS 135	Android Programming	4 units
	OR	
CIS 137	iOS/Swift Programming	4 units
CIS 200	Capstone Project - CIS	2 units
CIS 380	PHP Programming	3 units

Required Selective Courses: 3–4 units from the following courses:		Units
CIS 132	Introduction to Databases	3 units
CIS 133	NoSQL Databases	3 units
CIS 363	Enterprise Database Management with MySQL	4 units
CIS 364	From Data Warehousing to Big Data	4 units

Required Selective Courses: 3-4 units from the following courses:		Units
CIS 113	Ruby Programming	4 units
CIS 117	Python Programming	4 units

CIS 129	Frameworks/Server-Side JavaScript	3 units
CIS 135 *	Android Programming	4 units
CIS 137 *	iOS/Swift Programming	4 units
CIS 138	Internet of Things	3 units
CIS 379	Introduction to XML	3 units
DGME 168	Web Design II	3 units

* If not used above

Total Required Units: 32 - 35

CS C++ Programming

Program Learning Outcomes

Students completing this program will be able to:

1. Design and implement reliable, robust, object oriented C++ solutions to medium sized problems which may involve the storage, retrieval and update of large quantities of data;
2. Communicate and contribute code in a team software development project.

Requirements

Required Core Courses: 8 units		Units
CIS 278	(CS1) Programming Methods: C++	4 units
CIS 279	(CS2) Data Structures: C++	4 units

Total Required Units: 8

CS Data Science and Big Data

The Certificate of Specialization is designed to introduce students to Data Science and Big Data fundamentals. Students will learn data warehousing architecture, data extraction, management, and load. They will learn to design, develop and administer SQL and NoSQL databases. They will also learn to develop database applications using various programming languages and statistical methods. They will be introduced to Big Data architecture, technologies and analytics. Other topics covered include Cloud computing, security management, machine learning,

Agile methodology and Big Data tools. Students will learn to display data using graphics and data visualization.

Career Opportunities

Career opportunities exist in numerous businesses and industries. Typical entry-level positions include database administrator, database programmer, Big Data engineer, programmer, software developer.

Program Learning Outcomes

Students completing this program will be able to:

1. Design and implement SQL and NoSQL databases
2. Design and develop a data warehouse, then query and manage it
3. Use the R programming language for descriptive and inferential statistics
4. Manage Big Data in single and distributed computing environments.
5. Display data using graphics and data visualization.

Requirements

Required Core Courses: 11-12 units		Units
CIS 140	R Programming for Big Data	4 units
CIS 364	From Data Warehousing to Big Data	4 units
MATH 200	Elementary Probability and Statistics	4 units
	OR	
PSYC 121	Basic Statistical Concepts	3 units

Required Selective Courses: Select 3-4 units from the following courses:		Units
CIS 133	NoSQL Databases	3 units
	OR	
CIS 363	Enterprise Database Management with MySQL	4 units

Total Required Units: 14 - 16

CS Database Programming

The Certificate of Specialization is designed to introduce students to database fundamentals. Students will learn to design, develop and administer SQL and NoSQL databases. They will also learn to develop database applications using various programming languages. Students will learn to extract data from several databases and transform it for

integration into a data warehouse, which can then be used for business intelligence.

Career Opportunities

This certificate prepares students for entry-level positions such as database developer, database manager, back-end developer, and programmer.

Program Learning Outcomes

Students completing this program will be able to:

1. Use SQL for database creation, manipulation and control.
2. Administer a database, with ability to backup, recover, and protect data.
3. Develop SQL and NoSQL desktop and cloud database solutions using Java, PHP, Python, or Ruby.
4. Design and develop a data warehouse using Oracle or MySQL.
5. Describe different forms of business intelligence that can be extracted from a data warehouse and how that intelligence can be applied toward business decision-making.

Requirements

Required Core Courses: 11 units		Units
CIS 132	Introduction to Databases	3 units
	OR	
CIS 133	NoSQL Databases	3 units
CIS 363	Enterprise Database Management with MySQL	4 units
CIS 364	From Data Warehousing to Big Data	4 units

Required Selective Courses: Select 3-4 units from the following courses:		Units
CIS 113	Ruby Programming	4 units
CIS 117	Python Programming	4 units
CIS 380	PHP Programming	3 units

Total Required Units: 14 - 15

CS DevOps

The Certificate of Specialization is designed to introduce students to DevOps fundamentals, including the core principles of the DevOps methodology. Students will learn to develop, deploy and maintain applications. They will also

learn to use tools and common techniques for configuring and deploying systems. Students will also learn operations, monitoring, testing, security, and Cloud features. Several scripting languages are introduced, as well as UNIX and Linux. In addition, students will learn network services, topologies and protocols.

Career Opportunities

This certificate prepares students for entry-level positions such as DevOps Engineer, Automation Engineer, Cloud Operations Engineer, Software Developer, Programmer, System Administrator

Program Learning Outcomes

Students completing this program will be able to:

1. Design and implement an infrastructure that supports DevOps development projects
2. Deploy the infrastructure necessary to create development, test, and production environments
3. Practice continuous integration, testing, delivery and deployment
4. Employ DevOps tools and technologies to monitor the application and environment in the Cloud
5. Write client and server-side scripts using JavaScript, Python, UNIX and Linux

Requirements

Required Core Courses: 17 units		Units
CIS 114	JavaScript/Ajax Programming	4 units
CIS 117	Python Programming	4 units
CIS 121	UNIX/Linux	3 units
CIS 145	Introduction to DevOps	3 units
CIS 151	Networks and Digital Communication	3 units

Total Required Units: 17

CS Internet of Things (IoT) Programming

The Certificate of Specialization in Internet of Things (IoT) Programming provides students with the basic knowledge for development of cloud-based mobile applications. Students will study and gain experience with sensors and hardware, as well as client- and server-side languages most commonly used to develop IoT applications. They will also learn fundamental principles of IoT development in order to be prepared to work with current and emerging technologies.

Career Opportunities

Career opportunities exist in numerous businesses and industries. Typical entry-level positions include front-end developer, back-end developer, IoT programmer, and mobile developer.

Program Learning Outcomes

Students completing this program will be able to:

1. Identify, describe and apply best practices of IoT application development.
2. Write data acquisition code for sensors and other hardware.
3. Develop Web and mobile IoT applications for a variety of platforms and mobile devices.
4. Demonstrate an ability to work effectively and ethically on teams.

Requirements

Required Core Courses: 15 units		Units
CIS 114	JavaScript/Ajax Programming	4 units
CIS 117	Python Programming	4 units
CIS 128	Mobile Web App Development	4 units
CIS 138	Internet of Things	3 units

Total Required Units: 15

CS Java Programming

Program Learning Outcomes

Students completing this program will be able to:

1. Design and implement reliable, robust, object oriented Java solutions to medium sized problems which may involve the storage, retrieval and update of large quantities of data;
2. Communicate and contribute code in a team software development project.

Requirements

Required Core Courses: 8 units		Units
CIS 255	(CS1) Programming Methods: Java	4 units
CIS 256	(CS2) Data Structures: Java	4 units

Total Required Units: 8

CS Web Programming

The Certificate of Specialization in Web Programming provides students with the basic knowledge that is essential for the development of Web applications. Students will study and gain experience with client- and server-side languages that are most commonly used in developing these applications. They will also learn fundamental principles of Web development in order to be prepared to work with current and emerging technologies.

Career Opportunities

Career opportunities exist in numerous businesses and industries. Typical entry-level positions include front-end developer, back-end developer, programmer and Web developer.

Program Learning Outcomes

Students completing this program will be able to:

1. Identify, describe and apply best practices of Web application development.
2. Create standards-compliant, accessible Web documents using HTML, HTML5, CSS and JavaScript.
3. Utilize a server-side scripting language and a database to create a dynamic website.
4. Review technical considerations and constraints of projects.

Requirements

Required Core Courses: 7 units		Units
CIS 114	JavaScript/Ajax Programming	4 units
CIS 380	PHP Programming	3 units

Required Selective Courses: Select 3-4 units from the following database courses:		Units
CIS 132	Introduction to Databases	3 units
CIS 133	NoSQL Databases	3 units
CIS 363	Enterprise Database Management with MySQL	4 units
CIS 364	From Data Warehousing to Big Data	4 units

Required Selective Courses: Select 4-6 units from the following courses:		Units
CIS 113	Ruby Programming	4 units
CIS 117	Python Programming	4 units
CIS 127	HTML5 and CSS	3 units

CIS 128	Mobile Web App Development	4 units
CIS 129	Frameworks/Server-Side JavaScript	3 units
CIS 379	Introduction to XML	3 units

Total Required Units: 14 - 17

CS Web/Mobile App Development

The Certificate of Specialization in Web/Mobile App Development provides students with the specialized knowledge that is essential in the development of Web and mobile applications. Students will study and gain experience with the fundamental principles, languages, and frameworks used in the development of Web and mobile applications. The certificate will prepare students to work with current and emerging technologies.

Career Opportunities

Career opportunities exist in numerous businesses and industries. Typical entry-level positions include front-end developer, mobile application developer, programmer, and Web developer.

Program Learning Outcomes

Students completing this program will be able to:

1. Identify, describe and apply best practices of Web and mobile application development.
2. Create mobile Web apps using HTML5, CSS, JavaScript and frameworks such as jQuery.
3. Create mobile apps for Android or iOS devices with the Java or Swift programming language.

Requirements

Required Core Courses: 15 units		Units
CIS 114	JavaScript/Ajax Programming	4 units
CIS 127	HTML5 and CSS	3 units
CIS 128	Mobile Web App Development	4 units
CIS 135	Android Programming	4 units
	OR	
CIS 137	iOS/Swift Programming	4 units

Total Required Units: 15

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 Program**

Cosmetology...81 units

CA **Certificate of Achievement**

Cosmetology...57 units

About the Program

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.

Recommended high school preparation

Coursework in Art, Business Mathematics, Accounting, Psychology and Interpersonal Communication.

Qualifications for Cosmetology Licensing

State Law requires that applicants for licensing be at least 17 years of age, have completed the 10th grade or its equivalent, and completed a cosmetology course from a school approved by the board. Additional qualifications apply. Contact the Cosmetology Department for further information.

Cosmetology Applications

Cosmetology Program applications are accepted on a continuous basis. Applications are available in the department and online on the Cosmetology website. Applicants are required to attend a program specific orientation in addition to college orientation workshop. New classes start twice yearly in the fall and spring semesters.

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 **Cosmetology**

The CSM Cosmetology program embraces a student-centered approach to collaborative team teaching and delivers current and comprehensive curriculum via modern technologies, individual training, group projects, and supervised practice on the public; linking theoretical knowledge to hands-on (practical) experiences. An exceptional faculty and staff deliver instruction on hair styling and cutting, chemical applications (hair color, curling, and straightening), nail, facial, and makeup services, specialty classes, and portfolio preparation culminating in a professional photo shoot.

Career Opportunities

Licensees may pursue a myriad of career opportunities including independent salon stylists, estheticians, nail technicians, salon and spa owners/managers, product inventors/educators, movie/television/runway/platform and print work artists, beauty bloggers, writers, and school educators. Emerging and experienced cosmetologists enjoy worldwide opportunities with licensing reciprocity and equivalency accepted in most states and countries. Work opportunities are not limited by demographic indicators such as age, gender, or education level.

Program Learning Outcomes

Students completing this program will be able to:

1. Graduates will articulate and demonstrate theoretical and practical (hands-on) discipline competency that will support entry-level job placement by successfully passing program benchmarks as assessed through earning the credentials required to sit for the state licensing exam.
2. Graduates will pass the National Interstate Council (NIC) California Board of Barbering and Cosmetology theoretical (written) section of the cosmetology licensing exam.
3. Graduates will pass the National Interstate Council (NIC) California Board of Barbering and Cosmetology practical (hands-on) section of the cosmetology licensing exam.

Major Requirements

Required Core Courses: 57 units		Units
COSM 712	Fundamental Cosmetology I	10 units
COSM 722	Fundamental Cosmetology II	10 units
COSM 732	Intermediate Cosmetology III	10 units
COSM 742	Intermediate Cosmetology IV	10 units
COSM 746	Advanced Cosmetology V	5 units
COSM 749	Advanced Cosmetology VI	5 units
COSM 758	Advanced Techniques/Photo Shoot	3.5 units
COSM 759	Advanced Techniques/Hair Specialties	3.5 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.

Total Required Major Units: 57

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

CA Cosmetology

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/cosm-ca-cosmetology.html).

The CSM Cosmetology program embraces a student-centered approach to collaborative team teaching and delivers current and comprehensive curriculum via modern technologies, individual training, group projects, and supervised practice on the public; linking theoretical knowledge to hands-on (practical) experiences. An exceptional faculty and staff deliver instruction on hair styling and cutting, chemical applications (hair color, curling, and straightening), nail, facial, and makeup services, specialty classes, and portfolio preparation culminating in a professional photo shoot.

Career Opportunities

Licensees may pursue a myriad of career opportunities, including but not limited to: independent salon stylists, estheticians, nail technicians, salon and spa owners/managers, product inventors/educators, movie/television/runway/platform and print work artists, beauty bloggers, writers, and school educators. Emerging and experienced cosmetologists enjoy worldwide opportunities with licensing reciprocity and equivalency accepted in most states and countries. Work opportunities are not limited by demographic indicators such as age, gender, or education level.

Program Learning Outcomes

Students completing this program will be able to:

1. Graduates will articulate and demonstrate theoretical and practical (hands-on) discipline competency that will support entry-level job placement by successfully passing program benchmarks as assessed through earning the credentials required to sit for the state licensing exam.
2. Graduates will pass the National-Interstate Council (NIC) California Board of Barbering and Cosmetology theoretical (written) section of the cosmetology licensing exam.
3. Graduates will pass the National-Interstate Council (NIC) California Board of Barbering and Cosmetology practical (hands-on) section of the cosmetology licensing exam.

Requirements

Required Core Courses: 57 units		Units
COSM 712	Fundamental Cosmetology I	10 units
COSM 722	Fundamental Cosmetology II	10 units
COSM 732	Intermediate Cosmetology III	10 units
COSM 742	Intermediate Cosmetology IV	10 units
COSM 746	Advanced Cosmetology V	5 units
COSM 749	Advanced Cosmetology VI	5 units
COSM 758	Advanced Techniques/Photo Shoot	3.5 units
COSM 759	Advanced Techniques/Hair Specialties	3.5 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.

Total Required Units: 57

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 Program

Dental Assisting.. 60 units

CA Certificate of Achievement

Dental Assisting.. 33 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.

Dental Assisting Applications

Dental Assisting Program applications will be accepted from February 1, thru March 15, 2018. Acceptance into the Dental Assisting Program requires students to be eligible for English 100, and have a minimum overall GPA of 2.0. Applications will be available online (collegeofsanmateo.edu/dentalassisting).

AS Dental Assisting

CSM's Dental Assisting program is a two semester program, accredited by the Commission on Dental Accreditation. The program provides a comprehensive education in clinical dental assisting as preparation to sit for both the State (Registered Dental Assistant) and National (Certified Dental Assisting) examinations. Clinical experience is arranged at the Schools of Dentistry of the University of the Pacific, and in various dental offices in local area.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: 33 units		Units
DENT 701	Dental Science I	3 units
DENT 702	Dental Science II	3 units
DENT 703	Allied Health Communication	1 unit
DENT 721	Dental Materials I	3 units
DENT 722	Dental Materials II	2 units
DENT 740	Chairside Assisting I	3 units
DENT 742	Chairside Assisting II	3 units
DENT 749	Preclinical Dental Science Laboratory	1 unit
DENT 751	Dental Clinic	1.5 units
DENT 753	Dental Assisting Clinical Practice	5 units
DENT 763	Dental Radiology	2 units
DENT 770	Dental Office Procedures	2.5 units
COMM 110	Public Speaking	3 units
	OR	
COMM 130	Interpersonal Communication	3 units

Required Selective Courses: 3 units from the following courses:		Units
PSYC 100	General Psychology	3 units
SOCI 100	Introduction to Sociology	3 units

Requirements:	Units
Prior to enrolling in the program, students need to show a minimum placement of eligibility for ENGL 100 or ESL 400 or equivalent, through multiple measures placement. 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.	

Total Required Major Units: 36

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

CA Dental Assisting

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/dent-ca-dentalassisting.html).

CSM's Dental Assisting program is a two semester program, accredited by the Commission on Dental Accreditation. The program provides a comprehensive education in clinical dental assisting as preparation to sit for both the State (Registered Dental Assistant) and National (Certified Dental Assisting) examinations. Clinical experience is arranged at the University of California San Francisco, School of Dentistry, and in various dental offices in local area.

Career Opportunities

For gainful employment information, see the program's website: collegeofsanmateo.edu/gedi/docs/dent-ca-dentalassisting.pdf

Program Learning Outcomes

Students completing this program 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).

Requirements

Required Core Courses: 33 units		**Units**
DENT 701	Dental Science I	3 units
DENT 702	Dental Science II	3 units
DENT 703	Allied Health Communication	1 unit
DENT 721 *	Dental Materials I	3 units
DENT 722 **	Dental Materials II	2 units
DENT 740 *	Chairside Assisting I	3 units
DENT 742 **	Chairside Assisting II	3 units
DENT 749	Preclinical Dental Science Laboratory	1 unit
DENT 751 *	Dental Clinic	1.5 units
DENT 753	Dental Assisting Clinical Practice	5 units
DENT 763	Dental Radiology	2 units
DENT 770	Dental Office Procedures	2.5 units

COMM 110	Public Speaking	3 units
	OR	
PSYC 100	General Psychology	3 units
	OR	
COMM 130	Interpersonal Communication	3 units

* Fall
** Spring

Total Required Units: 33

DIGITAL MEDIA

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 Program

Digital Media: Broadcast and Electronic Media..........60 units

Digital Media: Graphic Design......................................60 units

Digital Media: Web Design/Multimedia.......................60 units

AS-T Associate in Science Degree for Transfer

Film, Television, and Electronic Media.........................60 units

CA Certificate of Achievement

Digital Media: Graphic Production...............................21 units

Digital Media: Web Design/Multimedia.......................18 units

CS Certificate of Specialization

Digital Media: Applied Audio and Video Production..12 units

Digital Media: Broadcast and Electronic Media..........12 units

Digital Media: Web Design/Multimedia.......................12 units

Other Film Programs

For CSM's Film program please see the AA Degree for Film.

University Transfer Program

Use Assist (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 colleges and universities use

their catalogs to locate this information. Transfer Services can assist you to gather this information.

AA Digital Media: Broadcast and Electronic Media

The Broadcast and Electronic Media 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.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program will be able to:

1. Produce television segments that serve target viewers
2. Identify possible effects of media productions on audiences

Major Requirements

Required Core Courses: 18 units		Units
DGME 100	Media in Society	3 units
DGME 101	Writing Across the Media	3 units
DGME 112	TV Studio Production	3 units
DGME 113	Digital Video Production	3 units
DGME 128	On-Air Talent	3 units
DGME 118	Digital Audio Production	3 units

Total Required Major Units: 18

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AA Digital Media: Graphic Design

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.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: 27 units		Units
ART 200	Portfolio Preparation	3 units
DGME 103	Fundamentals of Two-Dimensional Design	3 units
DGME 168	Web Design II	3 units
DGME 211	Introduction to Graphic Design	3 units
DGME 215	History of Graphic Design	3 units
DGME 216	Intermediate Graphic Design	3 units
DGME 220	Typography	3 units
DGME 230	Production Design for Print and Screen	3 units
DGME 250	Internship	3 units

Total Required Major Units: 27

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AA Digital Media: Web Design/Multimedia

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.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program 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

Major Requirements

Required Core Courses: 21 units		Units
DGME 102	Media Law and Ethics	3 units
DGME 164	User Interface/User Experience Design	3 units
DGME 165	Digital Animation	3 units
DGME 167	Web Design I	3 units
DGME 168	Web Design II	3 units
DGME 169	Web Design III: HTML, CSS	3 units
DGME 170	Digital Advertising	3 units

Total Required Major Units: 21

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AS-T Film, Television, and Electronic Media

The Associate in Science in Film, TV, and Electronic Media for Transfer (AS-T) will prepare students for transfer into bachelor's degree programs in broadcast, film, TV, and similar majors.

The Associate in Science for Transfer (AS-T) is intended for students who plan to complete a bachelor's degree in a similar major at a CSU campus. Students completing these degrees (AA-T or AS-T) are guaranteed admission to the CSU system, but not to a particular campus or major.

Career opportunities include TV and video producing, directing, camera operation, video editing, script-writing, audio recording and mixing, and radio programming.

Career Opportunities

Career opportunities include TV and video producing, directing, camera operation, video editing, script-writing, audio recording and mixing, and radio programming.

Program Learning Outcomes

Students completing this program will be able to:

1. Produce television and video segments that serve target viewers
2. Identify possible effects of media productions on audiences
3. Demonstrate an understanding of the critical and technical language of film studies, including genres, narrative forms, cinematography, editing, and sound editing.

Major Requirements

Required Core Courses: 6 units, select 2 courses from the following:

		Units
DGME 100	Media in Society	3 units
FILM 100	Introduction to Film	3 units
DGME 101	Writing for Mass Media	3 units
	OR	
FILM 153	Screenwriting	3 units

Required Selective Courses: 6 units, select 3 units from A1 and 3 units from A2:
LIST A:
A1 Options: 3 units

		Units
DGME 118	Digital Audio Production	3 units

A2 Options: 3 units

		Units
DGME 112	TV Studio Production	3 units
DGME 113	Digital Video Production	3 units

Required Selective Courses: 3-4 units, select 1 course from the following, OR any List A course not used above:
LIST B:

		Units
FILM 120	Film History I	4 units
FILM 121	Film History II	4 units

Required Selective Courses: 3-4 units, select 1 course from the following or any course from List A or B not used above:
LIST C:

		Units
FILM 122	Film History Focus	4 units
FILM 130	Film Directors	4 units
FILM 135	Film Genres	4 units
FILM 140	Contemporary World Cinema	4 units
FILM 145	Watching Quality Television	4 units

Total Required Major Units: 18 - 20

General Education - certified completion of one of the following:

- California State University General Education-Breadth pattern (CSU GE Breadth),
- **OR**
- Intersegmental General Education Transfer Curriculum (IGETC/CSU) pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more information.

CA Digital Media: Graphic Production

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/dgme-ca-graphicproduction.html).

The Graphic Production certificate prepares students for entry-level work in the visual media industry. The curriculum includes basic visual literacy and visual communication skills, the complete software package necessary for employment, typography, graphic design theory and application, and production classes that provide real-world hands-on learning experiences.

Graphic production is required in print media such as publishing, advertising and package design and in three-dimensional media such as environmental graphics, exhibit or display design, or signage. Graphic production is also a part of electronic media such as television, the web, or multimedia including motion graphics and titling for film and video.

Career Opportunities

Graphic Artist, Junior Graphic Designer, Production Artist, Entry Level Graphic Designer, Visual Artist.

Program Learning Outcomes

Students completing this program 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.

Requirements

Required Core Courses: 21 units		Units
ART 200	Portfolio Preparation	3 units
DGME 211	Introduction to Graphic Design	3 units
DGME 216	Intermediate Graphic Design	3 units
DGME 168	Web Design II	3 units
DGME 220	Typography	3 units
DGME 230	Production Design for Print and Screen	3 units
DGME 250	Internship	3 units

Total Required Units: 21

CA Digital Media: Web Design/ Multimedia

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/dgme-ca-webmult.html).

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.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program 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.
5. Develop and evaluate student project-based learning activities.
6. Demonstrate proficiency with design processes and software tools.

Requirements

Required Core Courses: 18 units		Units
DGME 102	Media Law and Ethics	3 units
DGME 164	User Interface/User Experience Design	3 units
DGME 167	Web Design I	3 units
DGME 168	Web Design II	3 units
DGME 169	Web Design III: HTML, CSS	3 units
DGME 170	Digital Advertising	3 units

Total Required Units: 18

CS Digital Media: Applied Audio and Video Production

This Certificate of Specialization prepares students to work in entry-level audio and video production.

Career Opportunities

Audio engineer, A/V Tech, Camera Operator, Editor, Producer, Director

Program Learning Outcomes

Students completing this program will be able to:

1. Properly frame an on-camera interview
2. Record and edit audio

Requirements

Required Core Courses: 12 Units		Units
DGME 112	TV Studio Production	3 units
DGME 113	Digital Video Production	3 units
DGME 118	Digital Audio Production	3 units
DGME 119	Radio Production Lab	3 units

Total Required Units: 12

CS Digital Media: Broadcast and Electronic Media

The Certificate of Specialization in Broadcast and Electronic Media prepares students for transfer to a Bachelors program in Broadcasting or Digital Media, and includes articulated courses. This Certificate is also for any student wanting to develop the basic hands-on skills (or Career and Technical Education) required to work in broadcasting, audio, and video production.

Career opportunities include TV and video producing, directing, lighting, camera operation, video editing, audio recording and mixing.

Career Opportunities

Students who achieve this Certificate will have the necessary knowledge and skills to apply for jobs in media, such as TV and video production, camera operation, and audio engineering.

Program Learning Outcomes

Students completing this program will be able to:

1. Demonstrate studio camera operation in response to the most-common director's commands.
2. Provide examples of media's influence on society and culture.
3. Demonstrate proper microphone selection and set-up for studio and field recording.

Requirements

Required Core Courses: 12 Units		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

Total Required Units: 12

CS Digital Media: Web Design/ Multimedia

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.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program 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.
5. Demonstrate proficiency with developer processes and software tools.

Requirements

Required Core Courses: 12 units		Units
DGME 164	User Interface/User Experience Design	3 units
DGME 167	Web Design I	3 units
DGME 168	Web Design II	3 units
DGME 170	Digital Advertising	3 units

Total Required Units: 12

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

AS **Associate in Science Degree Program**

CAD/Drafting Technology...60 units

CA **Certificate of Achievement**

CAD/Drafting Technology...18 units

CS **Certificate of Specialization**

Computer-Aided Design... 16.5 units

Recommended high school preparation

Coursework in Mechanical Drawing, Art, Computers, Mathematics

University Transfer Program

Use Assist (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.

AS **CAD/Drafting Technology**

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 computeraided drafting (CAD) stations.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program will be able to:

1. Apply and integrate computer technology in the form of 2D and 3D CAD software applications to create drafting drawings, presentation graphics and 3D design image models for project solutions which are skills necessary for entry-level employment in the drafting industry.
2. Use engineering organization standards, technical vocabulary and industry conventions of working drawings for mechanical, structural, architectural and industrial project types.
3. Communicate effectively in a professional environment and continue growth in professional knowledge and skills.

Major Requirements

Required Core Courses: 15 units		Units
DRAF 121	Computer-Aided Drafting I	3 units
DRAF 130	Mechanical Design with CAD	3 units
DRAF 110	SolidWorks I	3 units
DRAF 111	Solidworks II	3 units
DRAF 113	REVIT	3 units

Required Selective Courses: 3 units, one course from the following:	Units
One course from any of the following disciplines: ARCH (Architecture)	3 units
BUSW (Business Applications Windows Platform)	3 units

DGME (Digital Media)		3 units
ELEC (Electronics)		3 units
OR		
ENGR 100	Introduction to Engineering	3 units

Total Required Major Units: 18

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

CA CAD/Drafting Technology

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/draf-ca-cad-drafting.html).

Drafting is common to all industrial design, 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.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program will be able to:

1. Apply and integrate computer technology in the form of 2D and 3D CAD software applications to create drafting drawings, presentation graphics and 3D design image models for project solutions which are skills necessary for entry-level employment in the drafting industry.
2. Use engineering organization standards, technical vocabulary and industry conventions of working drawings for mechanical, structural, architectural and industrial project types.
3. Communicate effectively in a professional environment and continue growth in professional knowledge and skills.

Requirements

Required Core Courses: 15 units		**Units**
DRAF 121	Computer-Aided Drafting I	3 units
DRAF 130	Mechanical Design with Computer-Aided Drafting (CAD)	3 units
DRAF 110	SolidWorks I	3 units
DRAF 111	Solidworks II	3 units
DRAF 113	REVIT	3 units

Required Selective Courses: 3 units, one course from the following:		**Units**
One course from any of the following disciplines: ARCH (Architecture)		3 units
BUSW (Business Applications Windows Platform)		3 units
DGME (Digital Media)		3 units
ELEC (Electronics)		3 units
OR		
ENGR 100	Introduction to Engineering	3 units

Total Required Units: 18

CS Computer-Aided Design

Program Learning Outcomes

Students completing this program will be able to:

1. Apply and integrate computer technology in the form of 2D and 3D CAD software applications to create drafting drawings, presentation graphics and 3D design image models for project solutions which are skills necessary for entry-level employment in the drafting industry.
2. Use engineering organization standards, technical vocabulary and industry conventions of working drawings for mechanical, structural, architectural and industrial project types.
3. Communicate effectively in a professional environment and continue growth in professional knowledge and skills.

Required Core Courses: 16.5 units		**Units**
DRAF 121	Computer-Aided Drafting I	3 units
DRAF 122	Computer-Aided Drafting II	3 units
DRAF 110	SolidWorks I	3 units

DRAF 111	Solidworks II	3 units
CRER 127	Career Choices II: Job Search	0.5 units
ENGL 848	Introduction to Composition and Reading	4 units

Total Required Units: 16.5

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

AA-T **Associate in Arts Degree for Transfer**

Economics..60 units

University Transfer Program

Use Assist 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 **Economics**

The Associate in Arts in Economics for Transfer will prepare students for transfer into bachelor's degree programs in economics and similar majors. Most careers in teaching, government, and large corporations deriving from the study of Economics require a graduate degree in the field, while a Bachelor's degree in Economics generally qualifies the student for the same types of employment available to those who hold general business or liberal arts degrees. The Student Transfer Achievement Reform Act (Senate Bill 1440, now codified in California Education Code sections 66746-66749) guarantees admission to a California State University (CSU) campus for any community college student who completes an "associate degree for transfer," a newly established variation of the associate degrees traditionally offered at a California community college. The Associate in Arts for Transfer (AA-T) or the Associate in Science for Transfer (AS-T) is intended for students who plan to complete a bachelor's degree in a similar major at a CSU

campus. Students completing these degrees (AA-T or AS-T) are guaranteed admission to the CSU system, but not to a particular campus or major.

Upon transferring students will be required to complete no more than 60 units to complete the bachelor's degree. This may not be the best option for students planning on transferring to a non-CSU institution. All students are encouraged to meet with a counselor to discuss the transfer options and requirements. Upon completion, students will have an understanding of the fundamental theories of microeconomics and macroeconomics, how to apply them to real-world scenarios and evaluate diverse viewpoints.

Career Opportunities

In addition to a career as an economist, those who possess advanced degrees choose from careers such as accountants, attorneys, auditors, computer systems engineers, credit analysts, financial planners, statisticians, and treasurers. Other fields in which economists are employed include arbitration, budget analysis, business/market analysis, business/economic forecasting, commodities, industrial relations, investment analysis, labor relations, manpower, transportation, international business, marketing, natural resources, and operations research.

Program Learning Outcomes

Students completing this program will be able to:

1. Understand concepts and theories related to Macroeconomics and Microeconomics.
2. Apply theory and models to real world scenarios.
3. Evaluate diverse viewpoints as related to economic topics.

Major Requirements

Required Core Courses: 15 units		Units
ECON 100	Principles of Macroeconomics	3 units
ECON 102	Principles of Microeconomics	3 units
MATH 200	Elementary Probability and Statistics	4 units
MATH 241	Applied Calculus I	5 units
	OR	
MATH 251	Calculus with Analytic Geometry I	5 units

Required Selective Courses: List A: Select one course 3-5 units		Units
MATH 125	Elementary Finite Mathematics	3 units
MATH 252	Calculus with Analytic Geometry II	5 units
ACTG 121	Financial Accounting	4 units

ACTG 131	Managerial Accounting	4 units
BUS. 295	Computer Systems in Business	4 units

Required Selective Courses: List B: Select one course 3-5 units		**Units**
Any List A course not already used		3 - 5 units
MATH 253	Calculus with Analytic Geometry III	5 units
MATH 270	Linear Algebra	3 units

Total Required Major Units: 21 - 25

General Education - certified completion of one of the following:

- California State University General Education-Breadth pattern (CSU GE Breadth),
- **OR**
- Intersegmental General Education Transfer Curriculum (IGETC/CSU) pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more information.

ELECTRICAL APPRENTICESHIP

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 Program

Apprenticeship: Electrical Technology: Inside Wireman..60 units

CA Certificate of Achievement

Apprenticeship: Electrical Technology: Inside Wireman..35 units

Additional Program Information

The courses in this program are administered by College of San Mateo in conjunction with the appropriate joint apprenticeship training committees (JATC). Registration is limited to those students fulfilling the related requirements of the State of California as indentured apprentices. Apprentices are trained through the union and work throughout the five-year training program, assigned to job sites just as journeyman electricians are through the union hall.

Prerequisite: indenture in the Electrical Apprenticeship Program, approved by the California State Division of Apprenticeship Standards.

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

For more information, you can contact the San Mateo County Electrical JATC at (650) 591-5217 or smjatc617.org, or the Apprenticeship Training Office at CSM.

AS Apprenticeship: Electrical Technology: Inside Wireman

Five-year training program for apprentices to become journeyman electricians through the local union.

Career Opportunities

Apprentices are trained through the union and work throughout the five-year training program, assigned to job sites just as journeyman electricians are through the union hall.

Program Learning Outcomes

Students completing this program will be able to:

1. Recognize and apply electrical safety and awareness of electrical hazards
2. Recognize, discuss and apply NEC articles to practical wiring applications
3. Recognize, discuss and apply the concepts used by an Inside Wireman
4. Recognize, discuss and apply the tools, materials and parts used by an Inside Wireman

Major Requirements

Required Core Courses: 35 units		**Units**
ELEL 741	Electrical Apprenticeship I	3.5 units
ELEL 742	Electrical Apprenticeship II	3.5 units
ELEL 743	Electrical Apprenticeship III	3.5 units
ELEL 744	Electrical Apprenticeship IV	3.5 units
ELEL 745	Electrical Apprenticeship V	3.5 units
ELEL 746	Electrical Apprenticeship VI	3.5 units
ELEL 747	Electrical Apprenticeship VII	3.5 units
ELEL 748	Electrical Apprenticeship VIII	3.5 units
ELEL 749	Electrical Apprenticeship IX	3.5 units
ELEL 750	Electrical Apprenticeship X	3.5 units

Total Required Major Units: 35

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

CA Apprenticeship: Electrical Technology: Inside Wireman

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/elel-ca-inwire.html).

Five-year training program for apprentices to become journeyman electricians through the local union.

Career Opportunities

Apprentices are trained through the union and work throughout the five-year training program, assigned to job sites just as journeyman electricians are through the union hall.

Program Learning Outcomes

Students completing this program will be able to:

1. Recognize and apply electrical safety and awareness of electrical hazards
2. Recognize, discuss and apply NEC articles to practical wiring applications
3. Recognize, discuss and apply the concepts used by an Inside Wireman
4. Recognize, discuss and apply the tools, materials and parts used by an Inside Wireman

Requirements

Required Core Courses: 35 units		Units
ELEL 741	Electrical Apprenticeship I	3.5 units
ELEL 742	Electrical Apprenticeship II	3.5 units
ELEL 743	Electrical Apprenticeship III	3.5 units
ELEL 744	Electrical Apprenticeship IV	3.5 units
ELEL 745	Electrical Apprenticeship V	3.5 units
ELEL 746	Electrical Apprenticeship VI	3.5 units
ELEL 747	Electrical Apprenticeship VII	3.5 units
ELEL 748	Electrical Apprenticeship VIII	3.5 units
ELEL 749	Electrical Apprenticeship IX	3.5 units
ELEL 750	Electrical Apprenticeship X	3.5 units

Total Required Units: 35

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

AS Associate in Science Degree Program

Industrial Electronics Technology............................... 60 units

CA Certificate of Achievement

Electrical Technology: Electrical Power Systems and Instrumentation.. 19 units

CS Certificate of Specialization

Advanced Electrical Power Systems and Instrumentation.. 16 units

Electrical Technology: Electrical Power Systems and Instrumentation.. 16 units

Fundamentals of Smart Building Systems................... 15 units

Telecommunications Fundamentals.............................. 8 units

Recommended high school preparation

Coursework in Electronics, Science, Mathematics, English

About the Program

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.

AS **Industrial Electronics Technology**

The Industrial Electronics Technology program at CSM prepares a student for entry-level employment as an electronics technician. Entry-level employment opportunities exist in many segments of the electronics industry in the greater Bay Area. Companies involved with circuit assembly and fabrication; installation, and support for food and pharmaceuticals processing, public utilities; component manufacturing; high-technology transportation; aerospace systems; automated process control; alternative energy and bio-tech all offer program graduates opportunities for entry-level employment.

Career Opportunities

Career opportunities in Electronics include work as an engineering aide, a technician, or a system operator. These individuals are involved with manufacturing, assembly, repair, upgrades, and service of a wide range of products or electrical systems. Electronics is the pathway to the future in Northern California, with increasing demands to modify and update the current infrastructure of the electrical generation and transmission capabilities, integration of alternative energy sources and future technical needs of society, job growth is expected over the next decade.

Program Learning Outcomes

Students completing this program will be able to:

1. Demonstrate basic and advanced electronic fundamentals.
2. Demonstrate the use and operation of test equipment (DVM's, Frequency Generators, Oscilloscopes) when analyzing both AC and DC circuits.
3. Understand power systems and power factor as it relates to AC power transmission and generation.
4. Demonstrate the ability to program and operate a programmable logic controller.
5. Demonstrate an understanding of environmental measurement and sensory read back data to control and operate power or mechanical systems.
6. Demonstrate and understand remote and direct Industrial data communications.
7. Demonstrate and utilize hydraulic, pneumatic and vacuum systems in an industrial setting.

Major Requirements

Required Core Courses: 35 units		Units
ELEC 111	Introduction to Electronics Fundamentals	3 units
ELEC 112	Advanced Electronics Fundamentals	3 units
ELEC 231	Basic Applied Electronics Mathematics	2 units
ELEC 232	Advanced Electronics Mathematics	1 unit
ELEC 405	Transformers and Rotating Machinery	2 units
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 445	Industrial Data Communications Systems	4 units

Total Required Major Units: 35

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

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

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/elec-ca-epsi.html).

Career Opportunities

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.

Program Learning Outcomes

Students completing this program will be able to:

1. Demonstrate basic and advanced electronic fundamentals.
2. Demonstrate the use and operation of test equipment (DVM's, Frequency Generators, Oscilloscopes) when analyzing both AC and DC circuits.
3. Understand power systems and power factor as it relates to AC power transmission and generation.
4. Demonstrate an understanding of environmental measurement and sensory read back data to control and operate.

Requirements

Required Core Courses: 19 units		Units
ELEC 111	Introduction to Electronics Fundamentals	3 units
ELEC 112	Advanced Electronics Fundamentals	3 units
ELEC 231	Basic Applied Electronics Mathematics	2 units
ELEC 232	Advanced Electronics Mathematics	1 unit
ELEC 405	Transformers and Rotating Machinery	2 units
ELEC 421	Fundamentals of Electric Motor Control	4 units
ELEC 441	Sensors and Data Transmission Systems	4 units

Total Required Units: 19

CS Advanced Electrical Power Systems and Instrumentation

This advanced certificate adds to the skills accrued through the Certificate of Achievement in Electrical Power Systems and Instrumentation. It prepares students to advance their careers to a level with greater responsiblity and demands a higher level of technical knowledge.

Career Opportunities

Our students in the current 19 unit certificate readily find employment in a variety of industries (e.g., utilities, transportation, aerospace, bio-tech, etc.) as electronics technicians. The demand for employees with this background has been consistent over the last 15 years and according to data from Economic Modeling Systems, Inc. the projected need for these skills remains strong through the next ten years. The program overall provides entry into positions as electronics technicians, maintenance technicians and other positions where calibration and instrumentation of devices for motor-controlled equipment comprise the critical skills/knowledge for employment. Activities in the work environment would include operation and maintenance of robots in manufacturing, precise control management in pharmaceutical manufacturing and control/delivery of electrical power across the utility owned grid and into homes and business. The skills in this certificate are at an advanced level and prepare students for a move to either a supervisory/lead position or one requiring they pass a high-level technical certification (employer administered) for their next assignment.

Program Learning Outcomes

Students completing this program will be able to:

1. Demonstrate the ability to design and maintain industrial communication systems.
2. Demonstrate the ability to calibrate transmitters, sensors, indicators, controllers and final control elements.
3. Demonstrate an understanding of of the theory, construction, installation and operation of hydraulic, pneumatic and vacuum power systems in an automated controls environment.
4. Demonstrate an understanding of component parts of a Programmable Logic Controller, their function and the interrelationship of the two.

Requirements

Required Core Courses: 16 units		Units
ELEC 422	Introduction to Programmable Logic Controllers	4 units
ELEC 424	Hydraulic, Pneumatic and Vacuum Power Systems	4 units
ELEC 442	Electronic and Pneumatic Process Control Systems	4 units
ELEC 445	Industrial Data Communications Systems	4 units

Total Required Units: 16

CS Electrical Technology: Electrical Power Systems and Instrumentation

Program Learning Outcomes

Students completing this program will be able to:

1. Demonstrate basic and advanced electronic fundamentals.
2. Demonstrate the use and operation of test equipment (DVM's, Frequency Generators, Oscilloscopes) when analyzing both AC and DC circuits.
3. Understand power systems and power factor as it relates to AC power transmission and generation.
4. Demonstrate an understanding of environmental measurement and sensory read back data to control and operate.

Requirements

Required Core Courses: 16 units		Units
ELEC 111	Introduction to Electronics Fundamentals	3 units
ELEC 231	Basic Applied Electronics Mathematics	2 units
ELEC 232	Advanced Electronics Mathematics	1 unit
ELEC 405	Transformers and Rotating Machinery	2 units
ELEC 421	Fundamentals of Electric Motor Control	4 units
ELEC 441	Sensors and Data Transmission Systems	4 units

Total Required Units: 16

CS Fundamentals of Smart Building Systems

Program Learning Outcomes

Students completing this program will be able to:

1. Develop the skills and knowledge required for entry-level positions within the field of Smart Building Systems and related fields.
2. Describe the basics of electricity and electrical generation systems as applies to home and business applications.

3. Identify and describe the function of all components necessary to design both off-grid and grid-intertie photovoltaic and thermal solar energy systems.
4. Prepare a solar photovoltaic or thermal system plan for an intended site that will satisfy the energy needs of the site, including the incorporation of component inefficiencies and derating factors.
5. Describe the California rebate process and provisions as they apply to solar grid-interactive systems, either as a thermal or photovoltaic system.
6. Qualify to sit for the NABCEP entry level solar certification exam.

Requirements

Required Core Courses: 15 units		Units
ELEC 231	Basic Applied Electronics Mathematics	2 units
ELEC 111	Introduction to Electronics Fundamentals	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

Total Required Units: 15

CS Telecommunications Fundamentals

Program Learning Outcomes

Students completing this program will be able to:

1. Develop the skills and knowledge required for entry-level positions within the telecommunications field and related fields.
2. Expand skills and knowledge for possible advancement within this field for those currently employed in the industry.
3. Prepare for industry-recognized certifications.

Requirements

Required Core Courses: 8 units		Units
ELEC 111	Introduction to Electronics Fundamentals	3 units
ELEC 231	Basic Applied Electronics Mathematics	2 units

CIS 110	Introduction to Computer and Information Science	3 units

Total Required Units: 8

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

AS Associate in Science Degree Program

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 (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.

AS Engineering

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

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.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: Select at least 2 courses from the engineering core 7-8 units		Units
ENGR 210	Engineering Graphics	4 units
ENGR 230	Engineering Statics	3 units
ENGR 260	Circuits and Devices	4 units
ENGR 270	Materials Science	4 units

Required Selective Courses: Select at least one programming course 3-4 units		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

Required Selective Courses: Select the remaining units from the engineering core and the following list: 7-10 units. ENGR 100 is strongly recommended.		Units
CHEM 220	General Chemistry II	5 units
CHEM 231	Organic Chemistry I	5 units
ECON 100	Principles of Macroeconomics	3 units
	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

Total Required Major Units: 19

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AS 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

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.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: 20 units		Units
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

Required Selective Courses: Plus, select 6 units from an area of technology specialization. Suggested Electives:		Units
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		

Total Required Major Units: 26

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

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

California State University
University of California
Independent Colleges and Universities

AA Associate in Arts Degree Program

English...60 units

AA-T Associate in Arts Degree for Transfer

English...60 units

Recommended high school preparation

Coursework in English, Literature, Journalism

University Transfer Program

Use Assist (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 English

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

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.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: Select 3 units from the following:

		Units
ENGL 110	Composition, Literature, and Critical Thinking	3 units
ENGL 165	Composition, Argument, and Critical Thinking	3 units

Required Selective Courses: completion of 15 units from either Group A or Group B

	Units
Group A	
Literature courses in the 100 series, the 200 series, and/or LIT. 430	15 units

OR

	Units
Group B	
9-12 units from Literature courses in the 100 series, the 200 series, and/or LIT. 430	9 - 12 units
Plus 3-6 units from Creative Writing courses:	
ENGL 161 Creative Writing I	3 units
ENGL 162 Creative Writing II	3 units
ENGL 163 Creative Writing III	3 units

Total Required Major Units: 18

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AA-T English

Career Opportunities

The AA-T major in English prepares students for transfer into bachelor's degree programs in English and similar areas. With a bachelor's degree or advanced degree, careers include positions as 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.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: 6 units

		Units
ENGL 110	Composition, Literature, and Critical Thinking	3 units
ENGL 165	Composition, Argument, and Critical Thinking	3 units

Required Selective Courses: 6 units
List A: Two courses from the following:

		Units
LIT. 201	American Literature I	3 units
LIT. 202	American Literature II	3 units
LIT. 231	Survey of English Literature I	3 units
LIT. 232	Survey of English Literature II	3 units

Required Selective Courses: 3 units
List B: Any one course from the following, or any List A course not used above, or any English course articulated for preparation for the English major at any CSU

		Units
Any List A course not used above		3 units
ENGL 161	Creative Writing I	3 units
LIT. 101	Twentieth-Century Literature	3 units
LIT. 105	The Bible as Literature	3 units
LIT. 113	The Novel	3 units
LIT. 151	Shakespeare	3 units
LIT. 430	Greek Mythology and Classical Literature	3 units

Required Selective Courses: 3 units
List C: Any one course from the following or any course from List A or B not used above or any CSU transferable English course

		Units
Any List A or List B course not used above		3 units
BUS. 401	Business Communications	3 units
CHIN 111	Elementary Chinese I	3 units
CHIN 112	Elementary Chinese II	3 units
CHIN 121	Advanced Elementary Chinese I	3 units
CHIN 122	Advanced Elementary Chinese II	3 units
CHIN 131	Intermediate Chinese I	3 units
CHIN 132	Intermediate Chinese II	3 units
COMM 170	Oral Interpretation I	3 units
COMM 171	Oral Interpretation II	3 units
ENGL 100	Composition and Reading	3 units
ENGL 162	Creative Writing II	3 units
ENGL 163	Creative Writing III	3 units
LIT. 115	The Short Poem in English: A Survey	3 units
LIT. 220	Introduction to World Literature	3 units
SPAN 110	Elementary Spanish	5 units
SPAN 112	Elementary Spanish II	3 units
SPAN 120	Advanced Elementary Spanish	5 units
SPAN 122	Advanced Elementary Spanish II	3 units
SPAN 131	Intermediate Spanish I	3 units
SPAN 132	Intermediate Spanish II	3 units
SPAN 140	Advanced Intermediate Spanish	3 units

Total Required Major Units: 18 - 20

General Education - certified completion of one of the following:

- California State University General Education-Breadth pattern (CSU GE Breadth),
- **OR**
- Intersegmental General Education Transfer Curriculum (IGETC/CSU) pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more information.

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

AA Associate in Arts Degree Program

Ethnic Studies...60 units

CA Certificate of Achievement

Critical Pacific Islands and Oceania Studies........ 18 - 20 units

CS Certificate of Specialization

Critical Pacific Islands and Oceania Studies........ 15 - 16 units

Recommended high school preparation

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

University Transfer Program

Use Assist (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 Ethnic Studies

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.

Career Opportunities

Students who transfer and complete and 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.

Program Learning Outcomes

Students completing this program will be able to:

1. Describe the historical development and contributions of various ethnic groups to the United States and to California in particular.
2. Analyze the role in the political process played by various ethnic groups in the United Stated and in California particularly.
3. Discuss public policies involving various ethnic groups in the United Stated and in California particularly.

Major Requirements

Required Core Courses: 6 units		Units
ETHN 108	Rethinking Race, Gender, and Nation	3 units
ETHN 109	Borders and Crossings	3 units

Required Selective Courses: 12 units from the following courses:		Units
ETHN 101	Latin American and Indigenous Peoples History and Culture	3 units

ETHN 103	Asian Pacific American History and Cultural Experience	3 units
ETHN 104	Asian Pacific Islanders in United States History and Culture	3 units
ETHN 105	African American History and Culture	3 units
ETHN 106	Oceania & the Arts	3 units
ETHN 107	Introduction to Native American Studies	3 units
ETHN 265	Evolution of Hip Hop Culture: A Socio-Economic And Political Perspective	3 units
ETHN 288	African-American Cinema	3 units
ETHN 300	Introduction to La Raza Studies	3 units
ETHN 585	Ethnicity in Cinema	3 units

Total Required Major Units: 18

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

CA Critical Pacific Islands and Oceania Studies

The Critical Pacific Islands & Oceania Studies Certificate of Achievement is an 18-20 unit certificate that introduces students to a critical analysis of Pacific peoples and cultures in the U.S. diaspora and beyond. Privileging the voices of native Pacific Islanders, the interdisciplinary curriculum explores historical and contemporary topics such as colonization, militarization, social movements, and immigration, through the use of academic and community-based scholarship. All required courses are University of California (UC) and California State University (CSU)-transferable and meet College of San Mateo General Education (GE) area requirements. Although the certificate is ideal for those whose careers involve working with native Pacific Islanders and other communities of color such as service providers, health practitioners, law enforcement, researchers, teachers, and other professionals, the primary goal is to encourage students to further their educational aspirations through the completion of an associate's degree and successful transfer to a four-year university.

Career Opportunities

Non-profit organizations, teacher, athletic coach, counselor, social services, law enforcement, public health, marine biology, oceanography, and government.

Program Learning Outcomes

Students completing this program will be able to:

1. Critically evaluate behavioral, social, and indigenous theories and methodologies used in the study of Pacific Islander communities in relation to their cultural, economic, educational, health, immigration, political, and social conditions.
2. Compare and contrast the expression of the ocean aesthetic across Pacific Islander cultural practices including architecture, arts, dance, film, language, literature, music, poetry, sports, and theater.
3. Apply critical and analytical skills through problem-solving techniques and study strategies in preparation for educational and career outcomes.
4. Demonstrate effective communication through listening, reading, writing, and speaking to strengthen individual, community, and public engagement
5. Assess the expression of the ocean across Pacific Islander communities through film, media, digital stories, and cinema in shaping social and cultural issues important to Oceania.

Requirements

Required Core Courses: 15-16 units — **Units**

COMM 110	Public Speaking	3 units
ETHN 104	Asian Pacific Islanders in United States History and Culture	3 units
ETHN 106	Oceania & the Arts	3 units
FILM 100	Introduction to Film	3 units
	OR	
FILM 140	Contemporary World Cinema	4 units
LCTR 240	College and Academic Success	3 units

Required Selective Courses: Science Option: select one course 3-4 units — **Units**

ANTH 125 *	Physical Anthropology	3 units
ASTR 100 **	Introduction to Astronomy	3 units
ASTR 115 **	The Solar System	3 units
ASTR 125 **	Stars, Galaxies, and Cosmology	3 units
BIOL 100	Introduction to the Life Sciences	3 units
BIOL 110	General Principles of Biology	4 units

GEOG 100	Physical Geography	3 units
GEOL 100	Survey of Geology	3 units
OCEN 100	Oceanography	3 units

* Students who take ANTH 125 should also consider ANTH 127 Physical Anthropology Laboratory
** Students who take ASTR 100, 115, or 125 should also consider ASTR 101 Astronomy Laboratory

Total Required Units: 18 - 20

CS Critical Pacific Islands and Oceania Studies

The Certificate of Specialization in Critical Pacific Islands and Oceania Studies provides students with knowledge of Pacific Islander art, culture, and history along with study and communication skills that support success in education and employment.

Career Opportunities

The primary purpose of this certificate is to promote transfer in conjunction with the Mana learning community. In addition, the certificate provides cultural context that would be helpful to service providers, health practitioners, law enforcement, researchers, teachers, and other professionals working with the Pacific Islander community.

Program Learning Outcomes

Students completing this program will be able to:

1. Describe the impact of the ocean aesthetic across Pacific Islander cultural practices.
2. Demonstrate effective communication through listening, reading, writing, and speaking to strengthen individual, community, and public engagement.

Requirements

Required Core Courses: 15-16 units — **Units**

LCTR 240	College and Academic Success	3 units
COMM 110	Public Speaking	3 units
ETHN 104	Asian Pacific Islanders in United States History and Culture	3 units
ETHN 106	Oceania & the Arts	3 units
FILM 100	Introduction to Film	3 units
	OR	
FILM 140	Contemporary World Cinema	4 units

Total Required Units: 15 - 16

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 Program

Film...60 units

Other Film Programs

For CSM's Digital Media Film program, please see AS-T degree for Film, Television and Electronic Media

University Transfer Program

Use Assist (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 Film

Our Film program specializes in film and media studies, film history and criticism, and the new global media culture. Individuals may obtain an A.A. in Film, which trains them in the history, theory and craft of diverse styles of film art. Many graduates continue their education at a four-year university, majoring in subjects such as film, television, digital media or theater.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: 15 units		Units
FILM 100	Introduction to Film	3 units
FILM 120	Film History I	4 units
FILM 121	Film History II	4 units
FILM 215	Film and New Digital Media	4 units

Required Selective Courses: 3 courses for a total of 9-12 units		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
ENGL 161	Creative Writing I	3 units
ENGL 162	Creative Writing II	3 units
ENGL 163	Creative Writing III	3 units
ETHN 288	African-American Cinema	3 units
ETHN 585	Ethnicity in Cinema	3 units
FILM 122	Film History Focus	4 units
FILM 123	Documentary Film: Studies and Practice	4 units
FILM 130	Film Directors	4 units
FILM 135	Film Genres	4 units
FILM 140	Contemporary World Cinema	4 units
FILM 145	Watching Quality Television	4 units
FILM 153	Screenwriting	3 units
FILM 200	Film in Focus	4 units

Total Required Major Units: 24 - 27

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

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 Program

Fire Technology...60 units

CA Certificate of Achievement

Fire Technology...33 - 35 units

Recommended high school preparation

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

University Transfer Program

Use Assist (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.

About the Program

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 Fire Technology

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.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program 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 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.

Major Requirements:

Required Core Courses: 18 units		Units
FIRE 715	Principles of Emergency Services	3 units
FIRE 720	Fire Prevention	3 units

FIRE 730	Fire Behavior and Combustion	3 units
FIRE 740	Building Construction for Fire Protection	3 units
FIRE 745	Fire Protection Systems	3 units
FIRE 748	Firefighter Safety & Survival	3 units

Required Selective Courses: 12 units from the following courses: **Units**

FIRE 714	Wildland Fire Control	3 units
FIRE 725	Fire Apparatus and Equipment	3 units
FIRE 770	Fire Service Career Prep	3 units
FIRE 793	Firefighter I Academy	12 units
FIRE 796	Emergency Medical Technician: Basic	10 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.

Total Required Major Units: 30

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

CA Fire Technology

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/fire-ca-firetechnology.html).

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.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program 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 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.

Requirements

Required Core Courses: 21 - 23 units **Units**

FIRE 715	Principles of Emergency Services	3 units
FIRE 720	Fire Prevention	3 units
FIRE 730	Fire Behavior and Combustion	3 units
FIRE 740	Building Construction for Fire Protection	3 units
FIRE 745	Fire Protection Systems	3 units
FIRE 748	Firefighter Safety & Survival	3 units
Plus, completion of the General Education English requirement as outlined in Section C (2) of the Associate in Arts/Science Degree Requirements.		3 - 5 units

Required Selective Courses: 12 units from the following courses: **Units**

FIRE 714	Wildland Fire Control	3 units
FIRE 725	Fire Apparatus and Equipment	3 units
FIRE 770	Fire Service Career Prep	3 units
FIRE 793	Firefighter I Academy	12 units
FIRE 796	Emergency Medical Technician: Basic	10 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.

Total Required Units: 33 - 35

GEOLOGY

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 Program

Geological Science..60 units

AS-T Associate in Science Degree for Transfer

Geology..60 units

Recommended high school preparation

Coursework in Chemistry, Biology, Mathematics

University Transfer Program

Use Assist (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.

About the Program

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 Geological Science

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.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: 18 units		Units
GEOL 100	Survey of Geology	3 units
GEOL 101	Geology Laboratory	1 unit
PALN 110	General Paleontology	3 units
PALN 111	Paleontology Laboratory/Field Studies	1 unit
CHEM 210	General Chemistry I	5 units
CHEM 220	General Chemistry II	5 units

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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 History

The Associate in Arts in History for Transfer degree prepares students for transfer into bachelor's degree programs in History and similar programs at a CSU campus and guarantees admission to the CSU system. History course work in general is helpful to the student who intends to eventually pursue graduate studies in such diverse fields as history, education, and law. Most career opportunities associated with this discipline require the minimum of a B.A. degree. Some business firms and government agencies seek persons with a broad overview and perspective of historical phases and processes of change.

Career Opportunities

In addition to a career as a historian, career possibilities include anthropologist, antique dealer, archivist, attorney, book dealer, correspondent, customs inspector, college administrator/professor, foreign service officer, fund raiser, librarian, museum curator/technician, news editor, researcher/ research analyst, theologian/clergy member, title examiner, and writer.

Program Learning Outcomes

Students completing this program will be able to:

1. Evaluate the evidence, ideas, and models needed to perceive how people(s) have related to each other in specific historical contexts and over discrete periods of time.
2. Read, write, and speak critically, mastering how to make informed historical judgments based on existing evidence.
3. Comprehend the historical and social context of major political, intellectual, religious, economic, and cultural developments in the area/time relevant to the course.

Major requirements:

Required Core Courses: 12 units		Units
HIST 100	History of Western Civilization I	3 units
HIST 101	History of Western Civilization II	3 units
HIST 201	United States History I	3 units
HIST 202	United States History II	3 units

**Required Selective Courses: 6 units
(One course from Group A and one course from Group B)**

Group A: Any diversity course defined as:		Units
CHIN 111	Elementary Chinese I	3 units
CHIN 112	Elementary Chinese II	3 units
CHIN 121	Advanced Elementary Chinese I	3 units
CHIN 122	Advanced Elementary Chinese II	3 units
CHIN 131	Intermediate Chinese I	3 units
CHIN 132	Intermediate Chinese II	3 units
ETHN 101	Latin American and Indigenous Peoples History and Culture	3 units
ETHN 103	Asian Pacific American History and Cultural Experience	3 units
ETHN 104	Asian Pacific Islanders in United States History and Culture	3 units
ETHN 105	African American History and Culture	3 units
HIST 260	Women In American History	3 units
SPAN 110	Elementary Spanish	5 units
SPAN 112	Elementary Spanish II	3 units
SPAN 120	Advanced Elementary Spanish	5 units
SPAN 122	Advanced Elementary Spanish II	3 units

Group B: Any history course or any non-history course from the humanities or social sciences related to history articulated as fulfilling CSU GE Area C or D or any introductory level social science course articulated as fulfilling CSU GE Area D

		Units
ADMJ 100	Introduction to the Criminal Justice System	3 units
ANTH 110	Cultural Anthropology	3 units
ANTH 180	Magic, Science and Religion	3 units
BUS. 125	International Business	3 units
COMM 130	Interpersonal Communication	3 units
DGME 100	Media in Society	3 units
DGME 102	Media Law and Ethics	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
HIST 260	Women In American History	3 units
HIST 310	California History	3 units
PLSC 100	Introduction to Political Science	3 units
PSYC 100	General Psychology	3 units
PSYC 105	Experimental Psychology	3 units
PSYC 110	Courtship, Marriage and the Family	3 units
PSYC 200	Developmental Psychology	3 units
PSYC 201	Child Development	3 units
PSYC 220	Introduction to Psychobiology	3 units
PSYC 225	Theories of Personality	3 units
PSYC 300	Social Psychology	3 units
PSYC 410	Abnormal Psychology	3 units
SOCI 100	Introduction to Sociology	3 units
SOCI 105	Social Problems	3 units
SOCI 110	Courtship, Marriage and the Family	3 units
SOCI 141	Race and Ethnic Relations	3 units

Total Required Major Units: 18

General Education - certified completion of one of the following:

- California State University General Education-Breadth pattern (CSU GE Breadth),
- **OR**
- Intersegmental General Education Transfer Curriculum (IGETC/CSU) pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more 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 Program

Interdisciplinary Studies, Option 1: Intercultural Studies...60 units

Interdisciplinary Studies, Option 2: Contemporary Issues...60 units

Interdisciplinary Studies, Option 3: Science and Society...60 units

University Transfer Program

Use Assist (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 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.

Program Learning Outcomes

Students completing this program will be able to:

1. Read, write, speak and listen to communicate effectively.
2. Perform quantitative analysis using appropriate resources.
3. Analyze information, reason critically and creatively and formulate ideas logically.
4. Understand and appreciate the diversity of the human experience.
5. Recognize ethical principles and behave responsibly.

Major Requirements

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

		Units
ANTH 110	Cultural Anthropology	3 units
ANTH 180	Magic, Science and Religion	3 units
COMM 150	Intercultural Communication	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

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

		Units
ETHN 288	African-American Cinema	3 units
LIT. 232	Survey of English Literature II	3 units
LIT. 430	Greek Mythology and Classical Literature	3 units

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

		Units
ETHN 101	Latin American and Indigenous Peoples History and Culture	3 units
ETHN 300	Introduction to La Raza Studies	3 units
HIST 100	History of Western Civilization I	3 units
HIST 101	History of Western Civilization II	3 units
HIST 260	Women In American History	3 units

Total Required Major Units: 18

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AA 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.

Program Learning Outcomes

Students completing this program will be able to:

1. Read, write, speak and listen to communicate effectively.
2. Perform quantitative analysis using appropriate resources.
3. Analyze information, reason critically and creatively and formulate ideas logically.
4. Understand and appreciate the diversity of the human experience.
5. Recognize ethical principles and behave responsibly.

Major Requirements

Required Core Courses: 6 units. 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:

		Units
BUS. 100	Introduction to Business	3 units
COMM 110	Public Speaking	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
PSYC 300	Social Psychology	3 units
SOCI 100	Introduction to Sociology	3 units

Required Selective Courses: 3 units. At least 3 units of courses in statistics or critical thinking, selected from the following:

		Units
ENGL 165	Composition, Argument, and Critical Thinking	3 units
MATH 200	Elementary Probability and Statistics	4 units
PHIL 103	Critical Thinking	3 units
PSYC 121	Basic Statistical Concepts	3 units

Required Selective Courses: 9 units. At least 9 units of courses that explore particular issues facing contemporary society. The 9 units of courses must be selected from the following options and include at least two different discipline areas:

		Units
ARCH 100	Survey of Modern Architecture	3 units
BIOL 102	Environmental Science and Conservation	3 units
BIOL 195	Biology Field Laboratory	1 unit
DGME 100	Media in Society	3 units
DGME 102	Media Law and Ethics	3 units
PHIL 244	Introduction to Ethics: Contemporary Social and Moral Issues	3 units
PLSC 130	International Relations	3 units
PLSC 215	Contemporary Issues In American Politics	3 units
SOCI 105	Social Problems	3 units
SOCI 141	Race and Ethnic Relations	3 units

Total Required Major Units: 18

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AA 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.

Program Learning Outcomes

Students completing this program will be able to:

1. Read, write, speak and listen to communicate effectively.
2. Perform quantitative analysis using appropriate resources.
3. Analyze information, reason critically and creatively and formulate ideas logically.
4. Understand and appreciate the diversity of the human experience.
5. Recognize ethical principles and behave responsibly.

Major Requirements

Required Core Courses: 3 units. At least 3 units of courses that link science with society, to be selected from:

		Units
PHIL 244	Introduction to Ethics: Contemporary Social and Moral Issues	3 units

Required Selective Courses: 7 units. At least 7 units of courses in the sciences to be selected from the following options:

		Units
BIOL 100	Introduction to the Life Sciences	3 units
BIOL 102	Environmental Science and 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

Required Selective Courses: 9 units. At least 9 units of courses in the social sciences to be selected from the following options: **Units**

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

Total Required Major Units: 19

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

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 Associate in Arts Degree Program

Dance.. 60 units

Kinesiology..60 units

AA-T Associate in Arts Degree for Transfer

Kinesiology..60 units

CA Certificate of Achievement

Specialized Pilates Instructor................................18 - 21 units

CS Certificate of Specialization

Athletic Coaching.. 9.5 - 11 units

Comprehensive Pilates Instructor............................... 13 units

Group Fitness Instructor..6 units

Pilates Mat Instructor..7 units

Pilates Mat and Reformer Instructor......................... 10 units

Yoga Instructor..8 units

Yoga Teacher Training - 300 Hour............................... 14 units

University Transfer Program

Use Assist (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 Dance

The Associate of Arts Degree (AA) in Dance is designed for students planning to transfer to a four-year university to major or minor in dance. A comprehensive dance education will develop skills required to create, perform, communicate and understand dance. These skills are acquired through the study of modern dance, ballet technique, jazz technique, performance, as well as production, dance appreciation, music appreciation, and composition.

Career Opportunities

Employment opportunities in the field are numerous and include areas such as: 1. Performance: Dance or performance artist 2. Education: Dance instructor, dance studio owner, somatic educator (i.e., Yoga, Pilates, Alexander Technique, Feldenkrais) 3. Administration/Management: Artistic director, rehearsal director, dance company manager, arts administration/management 4. Dance Medicine: Dance and physical therapist, dance kinesiology 5. Specializations: Choreographer, dance notator, dance critic, dance historian, dance researcher

Program Learning Outcomes

Students completing this program will be able to:

1. Demonstrate a working knowledge of production techniques, including backstage, and show management.
2. Compose a dance demonstrating knowledge of the choreography process.
3. Demonstrate an understanding and appreciation for the principal historical, theoretical, and critical approaches to dance as a performing art.
4. Demonstrate the skills required to perform at a proficient level in a variety of dance styles including ballet, jazz, modern.

Major Requirements

Required Core Courses: 14-16 units

		Units
DANC 100	Dance Appreciation	3 units
DANC 121.1	Modern Dance I	1 unit
DANC 130.1	Jazz Dance I	1 unit
DANC 140.1	Ballet I	1 unit
DANC 390	Dance Composition/Theory/ Choreography	3 units
DANC 400.1	Dance Performance & Production I	1 - 2 units
DANC 400.2	Dance Performance & Production II	1 - 2 units
MUS. 202	Music Listening and Enjoyment **OR**	3 units
MUS. 275	History of Jazz	3 units

Required Selective Courses: Select 6 units from the following courses:

		Units
DANC 116.1	Waltz I	0.5 or 1 units
DANC 116.2	Waltz II	0.5 or 1 units
DANC 116.3	Waltz III	0.5 or 1 units
DANC 116.4	Waltz IV	0.5 or 1 units
DANC 117.1	Tap Dance I	0.5 or 1 units
DANC 117.2	Tap Dance II	0.5 or 1 units
DANC 117.3	Tap Dance III	0.5 or 1 units
DANC 117.4	Tap Dance IV	0.5 or 1 units
DANC 121.2	Modern Dance II	0.5 or 1 units
DANC 121.3	Modern Dance III	0.5 or 1 units
DANC 121.4	Modern Dance IV	0.5 or 1 units
DANC 128.1	Latin Dance I	0.5 or 1 units
DANC 128.2	Latin Dance II	0.5 or 1 units
DANC 128.3	Latin Dance III	0.5 or 1 units
DANC 128.4	Latin Dance IV	0.5 or 1 units
DANC 130.2	Jazz Dance II	0.5 or 1 units
DANC 130.3	Jazz Dance III	0.5 or 1 units
DANC 130.4	Jazz Dance IV	0.5 or 1 units
DANC 140.2	Ballet II	0.5 or 1 units
DANC 140.3	Ballet III	0.5 or 1 units
DANC 140.4	Ballet IV	0.5 or 1 units
DANC 151.1	Social Dance I	0.5 or 1 units
DANC 151.2	Social Dance II	0.5 or 1 units
DANC 151.3	Social Dance III	0.5 or 1 units
DANC 151.4	Social Dance IV	0.5 or 1 units
DANC 167.1	Swing Dance I	0.5 or 1 units
DANC 167.2	Swing Dance II	0.5 or 1 units
DANC 167.3	Swing Dance III	0.5 or 1 units
DANC 167.4	Swing Dance IV	0.5 or 1 units
DANC 330.1	Creative Dance I	0.5 or 1 units
DANC 330.2	Creative Dance II	0.5 or 1 units
DANC 330.3	Creative Dance III	0.5 or 1 units
DANC 330.4	Creative Dance IV	0.5 or 1 units
DANC 391	Dance Composition - Theory and Choreography	3 units
DANC 400.3	Dance Performance & Production III	0.5 - 2 units

DANC 400.4	Dance Performance & Production IV	0.5 - 2 units

Total Required Major Units: 20 - 22

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AA Kinesiology

Careers in the discipline of Kinesiology are broad and include such areas as teaching, coaching, Sports Management/Marketing, Sports Journalism, Exercise Science, Occupational Therapy, Athletic Training, Physicians Assistant, and various careers in the Fitness Industry. Students intending to earn a Bachelor's Degree in Kinesiology should consult early with a counselor and the current catalogue of the college/university in which they plan to transfer. Specific requirements vary; however four-year institutions usually require that students complete a core of basic sciences and Kinesiology courses as well as general education requirements prior to transfer.

Career Opportunities

Athletic Trainer, Coach, Teacher, Occupational Therapist, Registered Nurse, Sports Information Director, Sports journalist, Sports Marketing, Strength and Conditioning Coach, Physician Assistant, Massage Therapist, Exercise Physiologist, Nutritionist, Respiration Therapist, Fitness Instructor, Epidemiologist, Biomechanist, Athletic Administrator, Aquatics Director, Adapted Physical Activity, Recreational Therapist, Sports Director, Cardiac Rehabilitation Specialist.

Program Learning Outcomes

Students completing this program will be able to:

1. Identify career opportunities offered in Kinesiology and distinguish the basic educational requirements for various fields.
2. Demonstrate an understanding of various scientific principles in the academic study of Kinesiology.
3. Identify and demonstrate the skills or strategies utilized in various movement-based activity courses.

Major Requirements

Required Core Courses: 13 units		Units
BIOL 130	Human Biology	3 units
BIOL 250	Human Anatomy	4 units
KINE 101	Introduction to Kinesiology	3 units

KINE 119	First Aid/Adult & Pediatric CPR	3 units

Required Selective Courses: Select 2 courses from the following - 6 units		Units
KINE 102	Introduction to Coaching Principles	3 units
KINE 103	Social Issues in Sport	3 units
KINE 104	Sports Psychology	3 units
KINE 106	Introduction to Sports Management	3 units
KINE 110	Care and Prevention of Athletic Injuries	3 units
KINE 300	Anatomy of Motion	3 units
DANC 100	Dance Appreciation	3 units

Required Selective Courses: Movement Based Courses: Select 3 units from the following with a maximum of one unit from any one area		Units
ADAP 100	Adapted Aquatics	0.5 or 1 units
ADAP 110	Adapted General Conditioning	0.5 or 1 units
ADAP 140	Adapted Weight Training	0.5 or 1 units
ADAP 155	Adapted Back Care	0.5 or 1 units
AQUA 109.1	Water Polo I	0.5 or 1 units
AQUA 109.2	Water Polo II	0.5 or 1 units
AQUA 109.3	Water Polo III	0.5 or 1 units
AQUA 109.4	Water Polo IV	0.5 or 1 units
AQUA 127.1	Swim Stroke Development I	0.5 or 1 units
AQUA 127.2	Swim Stroke Development II	0.5 or 1 units
AQUA 127.3	Swim Stroke Development III	0.5 or 1 units
AQUA 127.4	Swim Stroke Development IV	0.5 or 1 units
AQUA 133.1	Individual Swim Conditioning I	0.5 or 1 units

AQUA 133.2	Individual Swim Conditioning II	0.5 or 1 units
AQUA 133.3	Individual Swim Conditioning III	0.5 or 1 units
AQUA 133.4	Individual Swim Conditioning IV	0.5 or 1 units
DANC 117.1	Tap Dance I	0.5 or 1 units
DANC 117.2	Tap Dance II	0.5 or 1 units
DANC 117.3	Tap Dance III	0.5 or 1 units
DANC 117.4	Tap Dance IV	0.5 or 1 units
DANC 121.1	Modern Dance I	0.5 or 1 units
DANC 121.2	Modern Dance II	0.5 or 1 units
DANC 121.3	Modern Dance III	0.5 or 1 units
DANC 121.4	Modern Dance IV	0.5 or 1 units
DANC 130.1	Jazz Dance I	0.5 or 1 units
DANC 130.2	Jazz Dance II	0.5 or 1 units
DANC 130.3	Jazz Dance III	0.5 or 1 units
DANC 130.4	Jazz Dance IV	0.5 or 1 units
DANC 140.1	Ballet I	0.5 or 1 units
DANC 140.2	Ballet II	0.5 or 1 units
DANC 140.3	Ballet III	0.5 or 1 units
DANC 140.4	Ballet IV	0.5 or 1 units
DANC 330.1	Creative Dance I	0.5 or 1 units
DANC 330.2	Creative Dance II	0.5 or 1 units
DANC 330.3	Creative Dance III	0.5 or 1 units
DANC 330.4	Creative Dance IV	0.5 or 1 units

FITN 112.1	Cross Training I	0.5 or 1 units
FITN 112.2	Cross Training II	0.5 or 1 units
FITN 112.3	Cross Training III	0.5 or 1 units
FITN 112.4	Cross Training IV	0.5 or 1 units
FITN 116.1	Body Conditioning I	0.5 or 1 units
FITN 116.2	Body Conditioning II	0.5 or 1 units
FITN 116.3	Body Conditioning III	0.5 or 1 units
FITN 116.4	Body Conditioning IV	0.5 or 1 units
FITN 134	Track and Trail Aerobics	0.5 or 1 units
FITN 201.1	Weight Training I	0.5 or 1 units
FITN 201.2	Weight Training II	0.5 or 1 units
FITN 201.3	Weight Training III	0.5 or 1 units
FITN 201.4	Weight Training IV	0.5 or 1 units
FITN 226	Plyometric Conditioning	0.5 or 1 units
FITN 235.1	Boot Camp I	0.5 or 1 units
FITN 235.2	Boot Camp II	0.5 or 1 units
FITN 235.3	Boot Camp III	0.5 or 1 units
FITN 235.4	Boot Camp IV	0.5 or 1 units
FITN 237	Total Core Training	0.5 or 1 units
FITN 301.1	Indoor Cycling I	0.5 or 1 units
FITN 301.2	Indoor Cycling II	0.5 or 1 units
FITN 301.3	Indoor Cycling III	0.5 or 1 units
FITN 301.4	Indoor Cycling IV	0.5 or 1 units

FITN 334.1	Yoga I	0.5 or 1 units
FITN 334.2	Yoga II	0.5 or 1 units
FITN 334.3	Yoga III	0.5 or 1 units
FITN 334.4	Yoga IV	0.5 or 1 units
FITN 335.1	Pilates I	0.5 or 1 units
FITN 335.2	Pilates II	0.5 or 1 units
FITN 335.3	Pilates III	0.5 or 1 units
FITN 335.4	Pilates IV	0.5 or 1 units
FITN 336	Restorative Yoga	0.5 or 1 units
INDV 121.1	Badminton I	0.5 or 1 units
INDV 121.2	Badminton II	0.5 or 1 units
INDV 121.3	Badminton III	0.5 or 1 units
INDV 121.4	Badminton IV	0.5 or 1 units
INDV 251.1	Tennis I	0.5 or 1 units
INDV 251.2	Tennis II	0.5 or 1 units
INDV 251.3	Tennis III	0.5 or 1 units
INDV 251.4	Tennis IV	0.5 or 1 units
TEAM 111.1	Basketball I	0.5 or 1 units
TEAM 111.2	Basketball II	0.5 or 1 units
TEAM 111.3	Basketball III	0.5 or 1 units
TEAM 111.4	Basketball IV	0.5 or 1 units
TEAM 148.1	Indoor Soccer I	0.5 or 1 units
TEAM 148.2	Indoor Soccer II	0.5 or 1 units

TEAM 148.3	Indoor Soccer III	0.5 or 1 units
TEAM 148.4	Indoor Soccer IV	0.5 or 1 units
TEAM 150	Softball	0.5 or 1 units
TEAM 171.1	Volleyball I	0.5 or 1 units
TEAM 171.2	Volleyball II	0.5 or 1 units
TEAM 171.3	Volleyball III	0.5 or 1 units
TEAM 171.4	Volleyball IV	0.5 or 1 units
TEAM 180	Volleyball - Applications in Team Tactics	0.5 or 1 units
TEAM 182	Individual Volleyball Training	0.5 or 1 units

Note: Summer courses are only offered for .5 units.

Total Required Major Units: 22

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AA-T Kinesiology

Kinesiology is an academic area of study concerned with the art and science of human movement. The Kinesiology Program offers students an opportunity to enrich their education with emphasis on improved individual physical well-being and prepares students for transfer to bachelor's degree programs in Kinesiology, Exercise Science, Physical Education, Physical Therapy, Athletic Training, Coaching and Fitness Management. Students may obtain an AA-T in Kinesiology and optimize preparation for advanced degrees in Kinesiology at four-year institutions.

Career Opportunities

Typical employment opportunities in the field are in the areas of coaching, personal or group training, fitness instruction, fitness specialists, physical therapy assistants, recreation, as well as managerial positions in athletics and recreation centers.

Program Learning Outcomes

Students completing this program will be able to:

1. Demonstrate a working knowledge of body mechanics as it relates to physical activity, fitness and health.
2. Explain the impact of physical activity and inactivity on fitness and health.

Major Requirements

Required Core Courses: 12 units

Group A: Complete the following courses:

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

Required Selective Courses: Select 3 units from the following with a maximum of one unit from any one area:

Aquatics:

		Units
AQUA 109.1	Water Polo I	0.5 or 1 units
AQUA 109.2	Water Polo II	0.5 or 1 units
AQUA 109.3	Water Polo III	0.5 or 1 units
AQUA 109.4	Water Polo IV	0.5 or 1 units
AQUA 127.1	Swim Stroke Development I	0.5 or 1 units
AQUA 127.2	Swim Stroke Development II	0.5 or 1 units
AQUA 127.3	Swim Stroke Development III	0.5 or 1 units
AQUA 127.4	Swim Stroke Development IV	0.5 or 1 units
AQUA 133.1	Individual Swim Conditioning I	0.5 or 1 units
AQUA 133.2	Individual Swim Conditioning II	0.5 or 1 units
AQUA 133.3	Individual Swim Conditioning III	0.5 or 1 units
AQUA 133.4	Individual Swim Conditioning IV	0.5 or 1 units
AQUA 135.1	Aqua Exercise I	0.5 or 1 units
AQUA 135.2	Aqua Exercise II	0.5 or 1 units
AQUA 135.3	Aqua Exercise III	0.5 or 1 units
AQUA 135.4	Aqua Exercise IV	0.5 or 1 units

Dance:

		Units
DANC 117.1	Tap Dance I	0.5 or 1 units
DANC 117.2	Tap Dance II	0.5 or 1 units
DANC 117.3	Tap Dance III	0.5 or 1 units
DANC 117.4	Tap Dance IV	0.5 or 1 units
DANC 121.1	Modern Dance I	0.5 or 1 units
DANC 121.2	Modern Dance II	0.5 or 1 units
DANC 121.3	Modern Dance III	0.5 or 1 units
DANC 121.4	Modern Dance IV	0.5 or 1 units
DANC 130.1	Jazz Dance I	0.5 or 1 units
DANC 130.2	Jazz Dance II	0.5 or 1 units
DANC 130.3	Jazz Dance III	0.5 or 1 units
DANC 130.4	Jazz Dance IV	0.5 or 1 units
DANC 140.1	Ballet I	0.5 or 1 units
DANC 140.2	Ballet II	0.5 or 1 units
DANC 140.3	Ballet III	0.5 or 1 units
DANC 140.4	Ballet IV	0.5 or 1 units
DANC 128.1	Latin Dance I	0.5 or 1 units
DANC 128.2	Latin Dance II	0.5 or 1 units
DANC 128.3	Latin Dance III	0.5 or 1 units
DANC 128.4	Latin Dance IV	0.5 or 1 units

DANC 116.1	Waltz I	0.5 or 1 units
DANC 116.2	Waltz II	0.5 or 1 units
DANC 116.3	Waltz III	0.5 or 1 units
DANC 116.4	Waltz IV	0.5 or 1 units
DANC 151.1	Social Dance I	0.5 or 1 units
DANC 151.2	Social Dance II	0.5 or 1 units
DANC 151.3	Social Dance III	0.5 or 1 units
DANC 151.4	Social Dance IV	0.5 or 1 units
DANC 167.1	Swing Dance I	0.5 or 1 units
DANC 167.2	Swing Dance II	0.5 or 1 units
DANC 167.3	Swing Dance III	0.5 or 1 units
DANC 167.4	Swing Dance IV	0.5 or 1 units
DANC 330.1	Creative Dance I	0.5 or 1 units
DANC 330.2	Creative Dance II	0.5 or 1 units
DANC 330.3	Creative Dance III	0.5 or 1 units
DANC 330.4	Creative Dance IV	0.5 or 1 units
DANC 400.1	Dance Performance & Production I	0.5 - 2 units
DANC 400.2	Dance Performance & Production II	0.5 - 2 units
DANC 400.3	Dance Performance & Production III	0.5 - 2 units
DANC 400.4	Dance Performance & Production IV	0.5 - 2 units

Fitness:		Units
FITN 112.1	Cross Training I	0.5 or 1 units
FITN 112.2	Cross Training II	0.5 or 1 units

FITN 112.3	Cross Training III	0.5 or 1 units
FITN 112.4	Cross Training IV	0.5 or 1 units
FITN 116.1	Body Conditioning I	0.5 or 1 units
FITN 116.2	Body Conditioning II	0.5 or 1 units
FITN 116.3	Body Conditioning III	0.5 or 1 units
FITN 116.4	Body Conditioning IV	0.5 or 1 units
FITN 134	Track and Trail Aerobics	0.5 or 1 units
FITN 201.1	Weight Training I	0.5 or 1 units
FITN 201.2	Weight Training II	0.5 or 1 units
FITN 201.3	Weight Training III	0.5 or 1 units
FITN 201.4	Weight Training IV	0.5 or 1 units
FITN 220	Weight Conditioning for Varsity Football	0.5 - 2 units
FITN 225	Athletic Conditioning	.5 - 1 units
FITN 226	Plyometric Conditioning	0.5 or 1 units
FITN 235.1	Boot Camp I	0.5 or 1 units
FITN 235.2	Boot Camp II	0.5 or 1 units
FITN 235.3	Boot Camp III	0.5 or 1 units
FITN 235.4	Boot Camp IV	0.5 or 1 units
FITN 237	Total Core Training	0.5 or 1 units
FITN 301.1	Indoor Cycling I	0.5 or 1 units
FITN 301.2	Indoor Cycling II	0.5 or 1 units
FITN 301.3	Indoor Cycling III	0.5 or 1 units
FITN 301.4	Indoor Cycling IV	0.5 or 1 units

FITN 334.1	Yoga I	0.5 or 1 units
FITN 334.2	Yoga II	0.5 or 1 units
FITN 334.3	Yoga III	0.5 or 1 units
FITN 334.4	Yoga IV	0.5 or 1 units
FITN 335.1	Pilates I	0.5 or 1 units
FITN 335.2	Pilates II	0.5 or 1 units
FITN 335.3	Pilates III	0.5 or 1 units
FITN 335.4	Pilates IV	0.5 or 1 units
FITN 336.1	Restorative Yoga I	0.5 or 1 units
FITN 336.2	Restorative Yoga II	0.5 or 1 units
FITN 336.3	Restorative Yoga III	0.5 or 1 units
FITN 336.4	Restorative Yoga IV	0.5 or 1 units
FITN 339	Pilates Circuit Training	0.5 or 1 units

Individual Sports:		Units
INDV 121.1	Badminton I	0.5 or 1 units
INDV 121.2	Badminton II	0.5 or 1 units
INDV 121.3	Badminton III	0.5 or 1 units
INDV 121.4	Badminton IV	0.5 or 1 units
INDV 251.1	Tennis I	0.5 or 1 units
INDV 251.2	Tennis II	0.5 or 1 units
INDV 251.3	Tennis III	0.5 or 1 units
INDV 251.4	Tennis IV	0.5 or 1 units

Team Sports:		Units
TEAM 111.1	Basketball I	0.5 or 1 units
TEAM 111.2	Basketball II	0.5 or 1 units
TEAM 111.3	Basketball III	0.5 or 1 units
TEAM 111.4	Basketball IV	0.5 or 1 units
TEAM 148.1	Indoor Soccer I	0.5 or 1 units
TEAM 148.2	Indoor Soccer II	0.5 or 1 units
TEAM 148.3	Indoor Soccer III	0.5 or 1 units
TEAM 148.4	Indoor Soccer IV	0.5 or 1 units
TEAM 150	Softball	0.5 or 1 units
TEAM 158	Advanced Softball: Women	0.5 - 2 units
TEAM 165	Advanced Track and Field	0.5 - 2 units

Required Selective Courses: 6-9 units
Group B: Select two courses from the following:

		Units
BIOL 100	Introduction to the Life Sciences	3 units
	AND	
BIOL 195	Biology Field Laboratory	1 unit
CHEM 210	General Chemistry I	5 units
PHYS 210	General Physics I	4 units
MATH 200	Elementary Probability and Statistics	4 units
PSYC 121	Basic Statistical Concepts	3 units
KINE 119	First Aid/Adult & Pediatric CPR	3 units

Total Required Major Units: 21 - 24

General Education - certified completion of one of the following:

- California State University General Education-Breadth pattern (CSU GE Breadth),
- **OR**
- Intersegmental General Education Transfer Curriculum (IGETC/CSU) pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more information.

CA Specialized Pilates Instructor

Pilates is a mind-body method of exercise using a floor mat and variety of equipment to improve ones strength, flexibility, agility and performance. Pilates increases core strength and teaches body awareness, good posture and efficient movement patterns. The Specialized Pilates Instructor Certificate prepares students to teach at a health club, fitness center, privately owned studio, or as an independent contractor. The program includes instruction in the technique, pedagogy, history and theory behind Pilates. Students procure personal sessions, observation hours, and student teaching hours in each of the program's core courses. In addition, students choose 2-3 elective courses to create an individualized program that suits their career goals.

Career Opportunities

The goal of the Certificate of Achievement in Pilates is to provide training to prepare students for a career in fitness and/or Pilates. The program is also focused on providing continuing education for professionals already working in the fields of fitness, health, kinesiology, physical therapy, sports medicine/athletic training, and massage. Pilates develops students physically as well as academically. The Pilates Certificate program includes instruction in the technique, pedagogy, history and theory behind Pilates. Students procure personal sessions, observation hours, and student teaching hours in each of the program's core courses. Upon completion of the certificate program, students will be prepared to teach at a health club, fitness center, privately owned studio, or as an independent contractor.

Program Learning Outcomes

Students completing this program will be able to:

1. Demonstrate a holistic understanding of particular area(s) of specialization and how it/they can be applied to one's teaching.
2. Plan and teach a safe and effective Pilates mixed-apparatus class

Requirements

Required Core Courses: 13 units **Units**

FITN 335.1	Pilates I	1 unit
	OR	
FITN 335.2	Pilates II	1 unit
	OR	
FITN 335.3	Pilates III	1 unit
	OR	
FITN 335.4	Pilates IV	1 unit
KINE 125	Pilates Mat Instructor Training	3 units
KINE 126	Pilates Reformer Instructor Training	3 units
KINE 127	Pilates Apparatus Instructor Training	3 units
KINE 300	Anatomy of Motion	3 units

Required Selective Courses: 5-8 units **Units**

ACTG 100	Accounting Procedures	3 units
AQUA 135.1	Aqua Exercise I	1 unit
AQUA 135.2	Aqua Exercise II	1 unit
AQUA 135.3	Aqua Exercise III	1 unit
AQUA 135.4	Aqua Exercise IV	1 unit
BIOL 130	Human Biology	3 units
BIOL 250	Human Anatomy	4 units
BIOL 310	Nutrition	3 units
BUS. 100	Introduction to Business	3 units
BUS. 150	Entrepreneurship - Small Business Management	3 units
COMM 130	Interpersonal Communication	3 units
COMM 150	Intercultural Communication	3 units
FITN 201.1	Weight Training I	0.5 or 1 units
FITN 201.2	Weight Training II	0.5 or 1 units
FITN 201.3	Weight Training III	0.5 or 1 units
FITN 201.4	Weight Training IV	0.5 or 1 units

FITN 225	Athletic Conditioning	0.5 - 2 units
FITN 226	Plyometric Conditioning	0.5 or 1 units
FITN 301.1	Indoor Cycling I	0.5 or 1 units
FITN 301.2	Indoor Cycling II	0.5 or 1 units
FITN 301.3	Indoor Cycling III	0.5 or 1 units
FITN 301.4	Indoor Cycling IV	0.5 or 1 units
FITN 334.1	Yoga I	0.5 or 1 units
FITN 334.2	Yoga II	0.5 or 1 units
FITN 334.3	Yoga III	0.5 or 1 units
FITN 334.4	Yoga IV	0.5 or 1 units
KINE 101	Introduction to Kinesiology	3 units
KINE 119	First Aid/Adult & Pediatric CPR	3 units
PSYC 100	General Psychology	3 units
PSYC 200	Developmental Psychology	3 units
PSYC 220	Introduction to Psychobiology	3 units

Total Required Units: 18 - 21

CS Athletic Coaching

A Certificate in Sports Coaching will provide students with fundamental principles to enhance their coaching knowledge and abilities. The program is designed for all coaches at any level. The certificate can serve to make a coaching candidate more qualified for a position, or if already coaching, enhance one's coaching abilities. The program will serve to expose students to Principles of Coaching, Sports Psychology, First Aid/CPR, and some basic movement activities. The entire certificate can be done online.

Career Opportunities

Sports coaching at the grammar school, recreational, or high school level.

Program Learning Outcomes

Students completing this program will be able to:

1. Select a coaching philosophy that is compatible with one's values and beliefs.
2. Apply the learned theories and techniques of optimal performance.
3. Earn the American Red Cross certification in Adult/Child/Infant CPR, Adult & Child AED, and Standard first aid.

Requirements

Required Core Courses: 9 units		Units
KINE 102	Introduction to Coaching Principles	3 units
KINE 119	First Aid/Adult & Pediatric CPR	3 units
KINE 103	Social Issues in Sport	3 units

Required Selective Courses: .5-2 units, one course from the following:		Units
FITN 112.1	Cross Training I	0.5 or 1 units
FITN 112.2	Cross Training II	0.5 or 1 units
FITN 112.3	Cross Training III	0.5 or 1 units
FITN 112.4	Cross Training IV	0.5 or 1 units
FITN 116.1	Body Conditioning I	0.5 or 1 units
FITN 116.2	Body Conditioning II	0.5 or 1 units
FITN 116.3	Body Conditioning III	0.5 or 1 units
FITN 116.4	Body Conditioning IV	0.5 or 1 units
FITN 201.1	Weight Training I	0.5 or 1 units
FITN 201.2	Weight Training II	0.5 or 1 units
FITN 201.3	Weight Training III	0.5 or 1 units
FITN 201.4	Weight Training IV	0.5 or 1 units
FITN 235.1	Boot Camp I	0.5 or 1 units
FITN 235.2	Boot Camp II	0.5 or 1 units

FITN 235.3	Boot Camp III	0.5 or 1 units
FITN 235.4	Boot Camp IV	0.5 or 1 units
FITN 332.1	Stretching and Flexibility I	0.5 or 1 units
FITN 332.2	Stretching and Flexibility II	0.5 or 1 units
FITN 332.3	Stretching and Flexibility III	0.5 or 1 units
FITN 332.4	Stretching and Flexibility IV	0.5 or 1 units
FITN 334.1	Yoga I	0.5 or 1 units
FITN 334.2	Yoga II	0.5 or 1 units
FITN 334.3	Yoga III	0.5 or 1 units
FITN 334.4	Yoga IV	0.5 or 1 units
FITN 335.1	Pilates I	0.5 or 1 units
FITN 335.2	Pilates II	0.5 or 1 units
FITN 335.3	Pilates III	0.5 or 1 units
FITN 335.4	Pilates IV	0.5 or 1 units
TEAM 111.1	Basketball I	0.5 or 1 units
TEAM 111.2	Basketball II	0.5 or 1 units
TEAM 111.3	Basketball III	0.5 or 1 units
TEAM 111.4	Basketball IV	0.5 or 1 units
TEAM 116	Basketball: Individual Skill Development	0.5 or 1 units
TEAM 118	Advanced Basketball: Women	0.5 - 3 units
TEAM 119	Tournament Basketball for Women	0.5 or 1 units
TEAM 171.1	Volleyball I	0.5 or 1 units
TEAM 171.2	Volleyball II	0.5 or 1 units

TEAM 171.3	Volleyball III	0.5 or 1 units
TEAM 171.4	Volleyball IV	0.5 or 1 units
TEAM 186	Men's Basketball: Individual Skill Development	2 units

Total Required Units: 9.5 - 11

CS Comprehensive Pilates Instructor

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

Program Learning Outcomes

Students completing this program will be able to:

1. Design original Pilates mixed-apparatus programs for students of various levels and abilities
2. Teach a safe and effective Pilates mixed-apparatus class

Requirements

Required Core Courses: 12 units		Units
KINE 125	Pilates Mat Instructor Training	3 units
KINE 126	Pilates Reformer Instructor Training	3 units
KINE 127	Pilates Apparatus Instructor Training	3 units
KINE 300	Anatomy of Motion	3 units

Required Selective Courses: Complete a minimum of one unit from the following courses:		Units
FITN 335.1	Pilates I	0.5 or 1 units
FITN 335.2	Pilates II	0.5 or 1 units
FITN 335.3	Pilates III	0.5 or 1 units
FITN 335.4	Pilates IV	0.5 or 1 units

Total Required Units: 13

CS Group Fitness Instructor

The Group Fitness Instructor Certificate Program at College of San Mateo prepares students to teach group exercise classes. Students who complete the program will have the knowledge and experience to pass a Group Fitness Certification test. Upon completing the program and passing this test students will be able to teach at health clubs, fitness centers, and privately owned fitness studios.

Students in this program will learn the foundations of knowledge and skills necessary to teach a safe and effective group fitness class, no matter the type of modality. This includes:

- Anatomy
- Kinesiology
- Exercise Physiology
- Instructional Techniques
- Class Design
- Injury Prevention

Career Opportunities

Upon completing the program and passing the Group Fitness test students will be able to teach group fitness classes at health clubs, fitness centers, and privately owned fitness studios.

Program Learning Outcomes

Students completing this program will be able to:

1. Design and teach a safe and effective group exercise class.
2. Demonstrate foundation knowledge of human anatomy, kinesiology and exercise physiology.

Requirements

Required Core Courses: 4 units

		Units
KINE 130	Group Fitness Instructor Lecture	3 units
KINE 131	Group Fitness Instructor Lab	1 unit

Required Selective Courses: Choose 2 units from the following:

		Units
FITN 134	Track and Trail Aerobics	0.5 or 1 units
FITN 116.1	Body Conditioning I	0.5 or 1 units
FITN 116.2	Body Conditioning II	0.5 or 1 units
FITN 116.3	Body Conditioning III	0.5 or 1 units

FITN 116.4	Body Conditioning IV	0.5 or 1 units
FITN 235.1	Boot Camp I	0.5 or 1 units
FITN 235.2	Boot Camp II	0.5 or 1 units
FITN 235.3	Boot Camp III	0.5 or 1 units
FITN 235.4	Boot Camp IV	0.5 or 1 units
FITN 237	Total Core Training	0.5 or 1 units
FITN 334.1	Yoga I	0.5 or 1 units
FITN 334.2	Yoga II	0.5 or 1 units
FITN 334.3	Yoga III	0.5 or 1 units
FITN 334.4	Yoga IV	0.5 or 1 units
FITN 335.1	Pilates I	0.5 or 1 units
FITN 335.2	Pilates II	0.5 or 1 units
FITN 335.3	Pilates III	0.5 or 1 units
FITN 335.4	Pilates IV	0.5 or 1 units
FITN 301.1	Indoor Cycling I	0.5 or 1 units
FITN 301.2	Indoor Cycling II	0.5 or 1 units
FITN 301.3	Indoor Cycling III	0.5 or 1 units
FITN 301.4	Indoor Cycling IV	0.5 or 1 units

Total Required Units: 6

CS Pilates Mat Instructor

Prepares students to teach group mat classes and mat personal training sessions.

Career Opportunities

Pilates is a fast growing industry with approximately 8.6 million participants. It is also one of the fastest growing physical activities in the US currently. Jobs are available in fitness clubs, privately owned studios, wellness centers, spas, schools, community centers, medical facilities, physical therapy clinics, corporate settings, and more.

Program Learning Outcomes

Students completing this program will be able to:

1. Design original Pilates mat programs for students of various levels and abilities
2. Plan and teach a safe and effective Pilates Mat class

Requirements

Required Core Courses: 6 units		Units
KINE 125	Pilates Mat Instructor Training	3 units
KINE 300	Anatomy of Motion	3 units

Required Selective Courses: Plus complete a minimum of 1 unit from the following courses:		Units
FITN 335.1	Pilates I	0.5 or 1 units
FITN 335.2	Pilates II	0.5 or 1 units
FITN 335.3	Pilates III	0.5 or 1 units
FITN 335.4	Pilates IV	0.5 or 1 units

Total Required Units: 7

CS Pilates Mat and Reformer Instructor

Prepares students to teach group mat and reformer classes as well as private training sessions.

Program Learning Outcomes

Students completing this program will be able to:

1. Design original Pilates mat and reformer programs for students of various levels and abilities
2. Plan and teach a safe and effective Pilates mat and reformer class

Requirements

Required Core Courses: 9 units		Units
KINE 125	Pilates Mat Instructor Training	3 units
KINE 126	Pilates Reformer Instructor Training	3 units
KINE 300	Anatomy of Motion	3 units

Required Selective Courses: Plus complete a minimum of 1 unit from the following courses:		Units
FITN 335.1	Pilates I	0.5 or 1 units
FITN 335.2	Pilates II	0.5 or 1 units
FITN 335.3	Pilates III	0.5 or 1 units
FITN 335.4	Pilates IV	0.5 or 1 units

Total Required Units: 10

CS Yoga Instructor

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.

Program Learning Outcomes

Students completing this program will be able to:

1. Teach a safe and effective yoga class
2. Demonstrate a basic understanding of yoga history and culture
3. Demonstrate basic understanding of anatomy as it pertains to yoga

Requirements

Required Core Courses: 8 units		Units
KINE 200	Yoga History and Culture	3 units
KINE 201	Yoga Pedagogy Lecture	3 units
KINE 202	Yoga Pedagogy Lab	1 unit
FITN 334.1	Yoga I	1 unit
	OR	
FITN 334.2	Yoga II	1 unit
	OR	
FITN 334.3	Yoga III	1 unit
	OR	
FITN 334.4	Yoga IV	1 unit

Additional recommended course:		Units
KINE 119	First Aid/Adult & Pediatric CPR	3 units

Total Required Units: 8

CS Yoga Teacher Training - 300 Hour

The Yoga Teacher Training - 300 hour certificate (YTT-300) is an advanced study of yoga practice, technique, teaching methodology, anatomy, philosophy and ethics. It is intended for students who are already a Registered Yoga Teacher with 200 hours of training (RYT-200). Students who complete the 300-hour training in addition to completing a Registered Yoga School 200 Hour Training (RYS-200) training AND teach for 100 hours after the completion of the 200-hour training may register to become a Registered Yoga Teacher with 500 hours of training (RYT 500).

The YTT-300 advanced training is designed to build upon and deepen the student's understanding of topics taught in the 200-hour certificate. It prepares students to teach principles and techniques of yoga that are more advanced, detailed, and subtle. This training enables them to teach with greater skill than could reasonably be expected of a RYT-200. Focus is placed upon teaching flow-based yoga, choreographing flow-based yoga sequences, teaching from an anatomically sound point of view, developing a strong personal practice, articulating an educational layer while teaching yoga asana classes, and finding stillness through restorative yoga.

This certificate program is intended to fulfill the requirements of the Yoga Alliance 300-hour Yoga Teacher Training. Yoga Alliance is the nationally recognized organization that regulates yoga teaching standards. Students who complete their training at CSM may register online with Yoga Alliance upon fulfillment of their certificate.

Career Opportunities

Upon completion of the Yoga Teacher Training 300 hour certificate, graduates will be prepared to teach beginning, intermediate and advanced level yoga classes. Specialization in creative flow-based yoga, anatomically-based yoga, restorative yoga, and yoga pedagogy. Graduates will also gain a broad knowledge of teaching theories, yoga philosophy, and anatomical sciences, thus making them coveted employees at yoga studios, health clubs, corporate yoga ventures, and other locations that offer yoga classes.

Program Learning Outcomes

Students completing this program will be able to:

1. Demonstrate advanced competence in teaching flow-based yoga classes.
2. Demonstrate advanced competence in teaching restorative yoga classes.
3. Demonstrate a deep understanding of human anatomy and kinesiology as it relates to yoga and fitness.
4. Demonstrate the ability to educate students about anatomy and yoga philosophy while teaching a hatha yoga class.
5. Demonstrate the ability to incorporate pedagogical theories into hatha yoga classes.
6. Demonstrate expertise in a yoga topic of their choosing.

Requirements

Required Core Courses: 14 units		Units
KINE 203	Yoga Pedagogy Research 1	3 units
KINE 204	Advanced Yoga Pedagogy & Philosophy	3 units
KINE 205	Advanced Yoga Asana	2 units
KINE 206	Yoga Pedagogy Research 2	2 units
KINE 300	Anatomy of Motion	3 units
FITN 336.1	Restorative Yoga I	1 unit

Total Required Units: 14

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 Program

Management: Business Management......................... 60 units

Management: Marketing Management...................... 60 units

Management: Retail Management............................. 60 units

CA Certificate of Achievement

Business Management..24 units

Marketing Management... 24 units

Retail Management... 25 - 26 units

CS Certificate of Specialization

Facility Management.. 16 - 17 units

Human Resources Management.................................. 9 units

Project Management..12 units

University Transfer Program

Use Assist (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.

About the Program

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 supervisorial, 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 Management: Business Management

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.

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.

Career Opportunities

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 supervisorial, 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.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: 12 units		Units
BUS. 100	Introduction to Business	3 units
MGMT 100	Introduction to Business Management	3 units
MGMT 235	Supervisory Management	3 units
ACTG 100	Accounting Procedures	3 units
	OR	
3 units from BUSW series		3 units

Required Selective Courses: Plus select 12 units from the following courses:		Units
BUS. 150	Entrepreneurship - Small Business Management	3 units
BUS. 180	Marketing	3 units
CIS 110	Introduction to Computer and Information Science	3 units
MGMT 215	Management of Human Resources	3 units
MGMT 220	Organizational Behavior	3 units
MGMT 265	Project Management	3 units

Total Required Major Units: 24

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AA Management: Marketing Management

Career Opportunities

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; importexport 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.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: 12 units		Units
BUS. 100	Introduction to Business	3 units
BUS. 180	Marketing	3 units
MGMT 100	Introduction to Business Management	3 units
MGMT 235	Supervisory Management	3 units

Required Selective Courses: Select 12 units from the following courses:		Units
BUSW series		1.5 - 3 units
CIS 110	Introduction to Computer and Information Science	3 units

MGMT 215	Management of Human Resources	3 units
MGMT 220	Organizational Behavior	3 units
MGMT 265	Project Management	3 units

Total Required Major Units: 24

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

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.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: 25-26 units		Units
ACTG 100	Accounting Procedures	3 units
	OR	
ACTG 121	Financial Accounting	4 units
BUS. 115	Business Mathematics	3 units
BUS. 180	Marketing	3 units
BUS. 295	Computer Systems in Business	4 units
BUS. 401	Business Communications	3 units
COMM 130	Interpersonal Communication	3 units
MGMT 100	Introduction to Business Management	3 units
	OR	

MGMT 235	Supervisory Management	3 units
MGMT 215	Management of Human Resources	3 units

Total Required Major Units: 25 - 26

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

CA Business Management

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/mgmt-ca-businessmanagement.html).

Program Learning Outcomes

Students completing this program 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.

Requirements

Required Core Courses: 12 units		Units
BUS. 100	Introduction to Business	3 units
MGMT 100	Introduction to Business Management	3 units
MGMT 235	Supervisory Management	3 units
ACTG 100	Accounting Procedures	3 units
	OR	
3 units from BUSW series		3 units

Required Selective Courses: Select 12 units from the following courses:		Units
BUS. 150	Entrepreneurship - Small Business Management	3 units
BUS. 180	Marketing	3 units
CIS 110	Introduction to Computer and Information Science	3 units
MGMT 215	Management of Human Resources	3 units

MGMT 220	Organizational Behavior	3 units
MGMT 265	Project Management	3 units

Total Required Units: 24

CA Marketing Management

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/mgmt-ca-marketingmanagement.html).

Program Learning Outcomes

Students completing this program 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.

Requirements

Required Core Courses: 12 units		Units
BUS. 100	Introduction to Business	3 units
BUS. 180	Marketing	3 units
MGMT 100	Introduction to Business Management	3 units
MGMT 235	Supervisory Management	3 units

Required Selective Courses: Select 12 units from the following courses:		Units
BUSW series		1.5 - 3 units
CIS 110	Introduction to Computer and Information Science	3 units
MGMT 215	Management of Human Resources	3 units
MGMT 220	Organizational Behavior	3 units
MGMT 265	Project Management	3 units

Total Required Units: 24

CA Retail Management

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/mgmt-ca-retailmanagement.html).

Program Learning Outcomes

Students completing this program 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.

Requirements

Required Core Courses: 25-26 units		Units
ACTG 100	Accounting Procedures	3 units
	OR	
ACTG 121	Financial Accounting	4 units
BUS. 115	Business Mathematics	3 units
BUS. 180	Marketing	3 units
BUS. 295	Computer Systems in Business	4 units
BUS. 401	Business Communications	3 units
COMM 130	Interpersonal Communication	3 units
MGMT 100	Introduction to Business Management	3 units
	OR	
MGMT 235	Supervisory Management	3 units
MGMT 215	Management of Human Resources	3 units

Total Required Units: 25 - 26

CS Facility Management

The Facility Management Certificate of Achievement provides an overview of information that is vital to running an efficient facility. This program provides a comprehensive understanding of how to design and manage facilities,

from concept to installation, to long-term efficient use, maintaining cost-effectiveness and operations at peak performance levels.

Career Opportunities

A career pathways survey (based on 100 employers surveyed) on current recruitment showed demand for facility management office and administration; financial; housekeeping/janitorial; construction and extraction; mechanics, installers, and repairers; landscaping grounds keeping; production and operations; transportation; and, material moving. There were some 790 job postings in 2016. Enrolled students are prepared in a broad range of entry-level and mid-management facility management positions. This certification facilitates the upward mobility of lower-wage facility workers to higher-wage positions, and helps address the regional under-supply of such workers. Average facility manager for the Bay Area is $91,000.

Program Learning Outcomes

Students completing this program will be able to:

1. Effectively maintain an organization's buildings and equipment.
2. Effectively manage and lead employees by communicating, solving problems, and making decisions.

Requirements

Required Core Courses: 7 units		Units
MGMT 306	Essentials of Facility Management	3 units
MGMT 265	Project Management	3 units
BUS. 672	Cooperative Education: Internship	1 unit

Required Selective Courses: 9-10		Units
ACTG 100	Accounting Procedures	3 units
ARCH 120	Architecture + Design Drawing I: Drawing and Visual Thinking	2 units
ARCH 140	Architecture + Design Drawing II: Design Communication	2 units
ARCH 666	Introduction to Architecture	1 unit
BLDG 700	Introduction to the Building Code	3 units
BLDG 760	Energy Regulations	3 units
BUS. 100	Introduction to Business	3 units
BUS. 317	Keyboarding Skill building	1.5 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 383	Business Presentations I Using PowerPoint for Windows	1.5 units
ELEC 111	Introduction to Electronics Fundamentals	3 units
ELEC 112	Advanced Electronics Fundamentals	3 units
MGMT 100	Introduction to Business Management	3 units
MGMT 235	Supervisory Management	3 units
R.E. 220	Real Estate Property Management	3 units

Total Required Units: 16 - 17

CS Human Resources Management

Program Learning Outcomes

Students completing this program will be able to:

1. Demonstrate understanding of the core functions of the Human Resource profession as practiced in a contemporary business setting.
2. Demonstrate understanding of critical Federal, State, or local laws implemented by the Human Resource team.
3. Apply practical Human Resource tools and methods in one's own work environment.
4. Demonstrate professional business communication skills appropriate for Human Resources personnel.

Requirements

Required Core Courses: 6 units		Units
MGMT 100	Introduction to Business Management	3 units
MGMT 215	Management of Human Resources	3 units

Required Selective Courses: Select 3 units from the following courses: **Units**

MGMT 220	Organizational Behavior	3 units
MGMT 235	Supervisory Management	3 units

Total Required Units: 9

CS Project Management

Program Learning Outcomes

Students completing this program will be able to:

1. Identify and define project needs.
2. Identify, analyze, and resolve project problems.
3. Plan project schedules and budgets.
4. Manage effectively in a variety of project organizational structures.
5. Communicate effectively among various project personnel and stakeholders.

Requirements

Required Core Courses: 12 units   **Units**

MGMT 100	Introduction to Business Management	3 units
MGMT 220	Organizational Behavior	3 units
MGMT 265	Project Management	3 units
BUSW 450	Microsoft Project Fundamentals I	1.5 units
BUSW 451	Microsoft Project Fundamentals II	1.5 units

Total Required Units: 12

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 Program

Mathematics..60 units

AS-T Associate in Science Degree for Transfer

Mathematics..60 units

Recommended high school preparation

Four years of Mathematics

University Transfer Program

Use Assist (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.

About the Program

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 problemsolving 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.

AS Mathematics

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 problemsolving skills are widely applicable.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program 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

Required Core Courses: 15 units		Units
MATH 251	Calculus with Analytic Geometry I	5 units
MATH 252	Calculus with Analytic Geometry II	5 units
MATH 253	Calculus with Analytic Geometry III	5 units

Required Selective Courses: List A: One 3 unit course from the following:		Units
MATH 270	Linear Algebra	3 units
MATH 275	Ordinary Differential Equations	3 units

Required Selective Courses: List B: One 3-4 unit course from the following:		Units
MATH 270 *	Linear Algebra	3 units
MATH 275 *	Ordinary Differential Equations	3 units
MATH 268	Discrete Mathematics	4 units
CIS 278	(CS1) Programming Methods: C++	4 units
PHYS 250	Physics with Calculus I	4 units

* if not selected in List A

Total Required Major Units: 21 - 22

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AS-T Mathematics

The AS-T major in Mathematics prepares students for transfer into bachelor's degree programs in mathematics and similar areas.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program 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

Required Core Courses: 15 units		Units
MATH 251	Calculus with Analytic Geometry I	5 units
MATH 252	Calculus with Analytic Geometry II	5 units
MATH 253	Calculus with Analytic Geometry III	5 units

Required Selective Courses: List A: One 3 unit course from the following:		Units
MATH 270	Linear Algebra	3 units
MATH 275	Ordinary Differential Equations	3 units

Required Selective Courses: List B: One 3-4 unit course from the following:		Units
MATH 270 *	Linear Algebra	3 units
MATH 275 *	Ordinary Differential Equations	3 units
MATH 268	Discrete Mathematics	4 units
CIS 278	(CS1) Programming Methods: C++	4 units
PHYS 250	Physics with Calculus I	4 units

* if not selected in List A

Total Required Major Units: 21 - 22

General Education - certified completion of one of the following:

- California State University General Education-Breadth pattern (CSU GE Breadth),
- **OR**
- Intersegmental General Education Transfer Curriculum (IGETC/CSU) pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more information.

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 Program

Electronic Music...60 units

Music...60 units

AA-T Associate in Arts Degree for Transfer

Music...60 units

CA Certificate of Achievement

Electronic Music...21 units

University Transfer Program

Use Assist (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.

About the Program

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 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.

Career Opportunities

Career opportunities include performer, producer, recording engineer, sound designer and sound engineer.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: 12 units — **Units**

MUS. 290	Electronic Music I	3 units
MUS. 291	Electronic Music II	3 units
MUS. 292	Sound Creation: Sampling and Synthesis	3 units
MUS. 293	Audio for Visual Media	3 units

Required Selective Courses: 4 units from the following courses: — **Units**

MUS. 111 *	Musicianship I	1 unit
	AND	
MUS. 131 *	Harmony I	3 units
	OR	
MUS. 112	Musicianship II	1 unit
	AND	
MUS. 132	Harmony II	3 units
	OR	
MUS. 113	Musicianship III	1 unit
	AND	
MUS. 133	Harmony III	3 units
	OR	
MUS. 114	Musicianship IV	1 unit
	AND	
MUS. 134	Harmony IV	3 units

Required Selective Courses: 2 units from the following courses: — **Units**

MUS. 301	Piano I	2 units
MUS. 302	Piano II	2 units
MUS. 303	Piano III	2 units
MUS. 304	Piano IV	2 units

Required Selective Courses: 3 units from the following courses: — **Units**

MUS. 202	Music Listening and Enjoyment	3 units
MUS. 210	From Blues to Hip Hop: A History of American Popular Music	3 units
MUS. 250	World Music	3 units

MUS. 275	History of Jazz	3 units

Additional Recommended Courses:		**Units**
MUS. 296	Electronic Music Composition Portfolio I	1.5 units

* Recommended preparation for students who do not read music: MUS 100 Fundamentals of Music

Total Required Major Units: 21

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AA Music

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

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.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: 16 units Theory and Musicianship

Keyboard Proficiency Requirement for the major. See information below.

1st Semester (Fall Only):		**Units**
MUS. 131	Harmony I	3 units
MUS. 111	Musicianship I	1 unit

2nd Semester (Spring Only):		**Units**
MUS. 132	Harmony II	3 units
MUS. 112	Musicianship II	1 unit

3rd Semester (Fall Only):		**Units**
MUS. 133	Harmony III	3 units
MUS. 113	Musicianship III	1 unit

4th Semester (Spring Only):		**Units**
MUS. 134	Harmony IV	3 units
MUS. 114	Musicianship IV	1 unit

Required Selective Courses: Ensemble Requirements, a minimum of four semesters of ensemble; 4-8 units, select from the following courses: Units

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 unit
MUS. 430	Symphonic Band	1 unit
MUS. 454	Jazz Workshop Big Band	1 unit
MUS. 470	Concert Choir	1 unit

Required Selective Units: History Requirements, 3 units, select one from the following:

		Units
MUS. 202	Music Listening and Enjoyment	3 units
MUS. 210	From Blues to Hip Hop: A History of American Popular Music	3 units
MUS. 250	World Music	3 units
MUS. 275	History of Jazz	3 units

Required Selective Courses: Applied Lessons Requirement: Four Semesters, 1 unit each

		Units
MUS. 501	Studio Lessons I (Applied Music I)	1 unit
MUS. 502	Studio Lessons II (Applied Music II)	1 unit
MUS. 503	Studio Lessons III (Applied Music III)	1 unit
MUS. 504	Studio Lessons IV (Applied Music IV)	1 unit

Keyboard Proficiency Requirement:
Completion of MUS. 301 and 302. Students with piano experience may wish to use CSM's "Credit by Exam (CBE)" to satisfy this requirement, or complete a prerequisite challenge form for MUS. 303.

Recommended additional courses:

Music Technology:

		Units
MUS. 290	Electronic Music I	3 units

Piano (dependent on level), select from the following:

		Units
MUS. 301	Piano I	2 units
MUS. 302	Piano II	2 units
MUS. 303	Piano III	2 units
MUS. 304	Piano IV	2 units

MUS. 314	Piano Literature & Performance - The Baroque Era	2 units
MUS. 315	Piano Literature & Performance: The Classical Era	2 units
MUS. 316	Piano Literature & Performance: The Romantic Era	2 units
MUS. 317	Piano Literature & Performance: The 20th Century & Beyond	2 units

History, select from the following:

		Units
MUS. 202	Music Listening and Enjoyment	3 units
MUS. 210	From Blues to Hip Hop: A History of American Popular Music	3 units
MUS. 250	World Music	3 units
MUS. 275	History of Jazz	3 units

Theory

		Units
MUS. 124	Jazz Improvisation I	2 units

Total Required Major Units: 27 - 31

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AA-T Music

The College of San Mateo Music Department 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 places strong emphasis upon performance as well as harmony, ear training, and composition, thus providing students with a strong musical foundation.

The Associate in Arts in Music for Transfer offers students the opportunity to attain the basic skills and knowledge required for further undergraduate study and careers in music. It is intended to provide an expedited path for transfer into the CSU system for students who plan to complete a bachelor's degree in a similar major at a CSU campus. Students completing an Associate in Arts in Music for Transfer are guaranteed admission to the CSU system, but not to a particular campus or major.

Students transferring to a CSU campus that accepts the Associate in Arts in Music for Transfer will be required to complete no more than 60 units after transfer to earn a bachelor's degree. This degree may not be the best option

for students intending to transfer to a particular CSU campus, or a college or university that is not part of the CSU system, or those who do not intend to transfer. Students should consult with a College of San Mateo counselor when planning to complete the degree for further information on university admissions and transfer requirements.

To earn an AA-T degree, students must meet the following requirements:

1. Complete a minimum of 60 CSU transferable units;
2. Earn a minimum grade point average (GPA) of at least a 2.0 in all CSU transferable coursework;
3. Complete a minimum of 18 units in an "AA-T" major. Note: All courses in the major must be completed with a grade of "C" or better. A "P" (Pass) grade is not an acceptable grade for the courses in the major.
4. Completion of the California State University General Education-Breadth (CSU GE Breadth) or the Intersegmental General Education Curriculum (IGETC) pattern.

Career Opportunities

Career opportunities include: accompanist; arranger; composer; conductor; critic; band, orchestra or recording musician; lyricist; performing instrumentalist; music director; private music instructor; music producer; music publisher; music therapist; recording engineer; and teacher/professor. Additional career possibilities include choir director, music librarian, music minister, piano tuner, professional manager, recreation specialist, and soloist.

Program Learning Outcomes

Students completing this program will be able to:

1. Gain basic technical proficiency and demonstrate artistic growth in musical performance on a given instrument and/or voice in both a solo and ensemble context, enabling self expression and musical communication.
2. Demonstrate practical knowledge of the underlying structures of voice leading and harmony throughout the common practice period in western music through written composition and analysis.
3. Demonstrate fluency in audiation such as sight singing, rhythmic execution, and harmonic, melodic and rhythmic dictation.

Major Requirements

Required Core Courses: 20 units		Units
MUS. 111	Musicianship I	1 unit
MUS. 112	Musicianship II	1 unit
MUS. 113	Musicianship III	1 unit
MUS. 114	Musicianship IV	1 unit

MUS. 131 *	Harmony I	3 units
MUS. 132	Harmony II	3 units
MUS. 133	Harmony III	3 units
MUS. 134	Harmony IV	3 units
MUS. 501	Studio Lessons I (Applied Music I)	1 unit
MUS. 502	Studio Lessons II (Applied Music II)	1 unit
MUS. 503	Studio Lessons III (Applied Music III)	1 unit
MUS. 504	Studio Lessons IV (Applied Music IV)	1 unit

Required Selective Courses: 4 units from the following: (Ensemble courses may be taken four times)		Units
MUS. 430	Symphonic Band	1 unit
MUS. 452	Repertory Jazz Band	1 unit
MUS. 470	Concert Choir	1 unit

* Mus. 131 will be double counted to apply to meet general education requirement C1.

Total Required Major Units: 24

General Education - certified completion of one of the following:

- California State University General Education-Breadth pattern (CSU GE Breadth),
- **OR**
- Intersegmental General Education Transfer Curriculum (IGETC/CSU) pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more information.

CA Electronic Music

For gainful employment information, see the program's website (collegeofsanmateo.edu/gedi/docs/mus-ca-electronicmusic.html).

The Electronic Music Program combines the areas of music, electronics and computer science, with a primary emphasis on music. The Electronic Music Certificate is designed for students who intend to start their own electronic music

studios where they may record music for videos, films, or individual artists, as well as compose and produce their own music on electronic instruments. Completion of a Certificate in Electronic Music expands career opportunities to include performer, producer, recording engineer, sound designer and sound engineer.

Career Opportunities

Career opportunities include performer, producer, recording engineer, sound designer and sound engineer.

Program Learning Outcomes

Students completing this program 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.

Requirements

Required Core Courses: 12 units		Units
MUS. 290	Electronic Music I	3 units
MUS. 291	Electronic Music II	3 units
MUS. 292	Sound Creation: Sampling and Synthesis	3 units
MUS. 293	Audio for Visual Media	3 units

Required Selective Courses: 4 units from the following courses:		Units
MUS. 111 *	Musicianship I	1 unit
	AND	
MUS. 131 *	Harmony I	3 units
	OR	
MUS. 112	Musicianship II	1 unit
	AND	
MUS. 132	Harmony II	3 units
	OR	
MUS. 113	Musicianship III	1 unit
	AND	
MUS. 133	Harmony III	3 units

	OR	
MUS. 114	Musicianship IV	1 unit
	AND	
MUS. 134	Harmony IV	3 units

Required Selective Courses: 2 units from the following courses:		Units
MUS. 301	Piano I	2 units
MUS. 302	Piano II	2 units
MUS. 303	Piano III	2 units
MUS. 304	Piano IV	2 units

Required Selective Courses: 3 units from the following courses:		Units
MUS. 202	Music Listening and Enjoyment	3 units
MUS. 210	From Blues to Hip Hop: A History of American Popular Music	3 units
MUS. 250	World Music	3 units
MUS. 275	History of Jazz	3 units

Recommended Additional Courses:		Units
MUS. 296	Electronic Music Composition Portfolio I	1.5 units

* Recommended preparation for students who do not read music: MUS 100 Fundamentals of Music

Total Required Units: 21

NURSING

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 Program

Nursing...78.5-79.5 units

Recommended high school preparation

Coursework in Biology, Chemistry, Anatomy, English, Mathematics, Psychology

University Transfer Program

Use Assist (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.

Nursing Program Admission Requirements

Go to the CSM Nursing Program (collegeofsanmateo.edu/nursing) website for the current admissions information. 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.

AS Nursing

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

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.

Program Learning Outcomes

Students completing this program will 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
4. Identify and assess the healthcare needs of patients/clients using the tools/framework appropriate to the clinical setting
5. Document and evaluate the outcome of nursing and other interventions and communicate to team members
6. Prioritize care-delivery on an ongoing basis
7. Work in partnership with patients, clients, and caregivers
8. Engage in and disengage from therapeutic relationships through the use of effective interpersonal and counseling skills
9. Provide compassionate, culturally sensitive care to clients in a variety of settings
10. Adhere to the ANA Code of Ethics for nurses, treating patients as unique whole individuals with specific needs, desires, and abilities
11. Describe current legal and professional standards for nurses in relation to common clinical problems
12. Practice in a manner that respects patient confidentiality and adheres to HIPAA
13. Appraise own professional performance accurately. Evaluate their professional learning needs and take steps to meet them

Major Requirements

Core Required Courses: 78.5-79.5 units		Units
NURS 211	Introduction to Nursing	4.5 units
NURS 212	Concepts of Homeostasis in Nursing	4.5 units
NURS 221	Pediatric Nursing	4.5 units
NURS 222	Maternity Nursing	4.5 units
NURS 225	Nursing Skills Lab II	0.5 units
NURS 231	Psychiatric Nursing	5 units
NURS 232	Medical/Surgical Nursing	5 units
NURS 235	Nursing Skills Lab III	0.5 units
NURS 241	Advanced Medical/Surgical Nursing	5 units
NURS 242	Leadership/Management in Nursing	5 units
NURS 245	Nursing Skills Lab IV	0.5 units
NURS 816	Open Lab for Nursing 211/212	0.5 units
NURS 817	Open Lab for Nursing 221/222	0.5 units
NURS 818	Open Lab for Nursing 231/232	0.5 units
NURS 819	Open Lab for Nursing 241/242	0.5 units
MATH 120	Intermediate Algebra	5 units
	OR	
MATH 122	Intermediate Algebra I	3 units

	AND	
MATH 123	Intermediate Algebra II	3 units
CHEM 410	Health Science Chemistry I	4 units
BIOL 240	General Microbiology	4 units
BIOL 250	Human Anatomy	4 units
BIOL 260	Human Physiology	5 units
PSYC 100	General Psychology	3 units
PSYC 200	Developmental Psychology	3 units
SOCI 100	Introduction to Sociology	3 units
	OR	
ANTH 110	Cultural Anthropology	3 units
COMM 110	Public Speaking	3 units
	OR	
COMM 130	Interpersonal Communication	3 units
	OR	
COMM 140	Small Group Communication	3 units
	OR	
COMM 150	Intercultural Communication	3 units
ENGL 100	Composition and Reading	3 units

Pre-admissions Major requirements 37–38 units

		Units
MATH 120	Intermediate Algebra	5 units
	OR	
MATH 122	Intermediate Algebra I	3 units
	AND	
MATH 123	Intermediate Algebra II	3 units
CHEM 410	Health Science Chemistry I	4 units
BIOL 240	General Microbiology	4 units
BIOL 250	Human Anatomy	4 units
BIOL 260	Human Physiology	5 units
ENGL 100	Composition and Reading	3 units
PSYC 100	General Psychology	3 units
PSYC 200	Developmental Psychology	3 units
SOCI 100	Introduction to Sociology	3 units
	OR	
ANTH 110	Cultural Anthropology	3 units

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

Other Major requirements once accepted into the program 41.5 units

		Units
NURS 211	Introduction to Nursing	4.5 units
NURS 212	Concepts of Homeostasis in Nursing	4.5 units
NURS 221	Pediatric Nursing	4.5 units
NURS 222	Maternity Nursing	4.5 units
NURS 225	Nursing Skills Lab II	0.5 units
NURS 231	Psychiatric Nursing	5 units
NURS 232	Medical/Surgical Nursing	5 units
NURS 235	Nursing Skills Lab III	0.5 units
NURS 241	Advanced Medical/Surgical Nursing	5 units
NURS 242	Leadership/Management in Nursing	5 units
NURS 245	Nursing Skills Lab IV	0.5 units
NURS 816	Open Lab for Nursing 211/212	0.5 units
NURS 817	Open Lab for Nursing 221/222	0.5 units
NURS 818	Open Lab for Nursing 231/232	0.5 units
NURS 819	Open Lab for Nursing 241/242	0.5 units

Students interested in an LVN upgrade must attend an in person information session on one of the dates noted on the nursing department website.
Students who wish to transfer into the nursing program or challenge nursing courses should call the Nursing Department.

To comply with SB 139, 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.

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.

Total Required Major Units: 78.5 - 79.5

And required General Education coursework required for the Associate degree.

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

AA-T Associate in Arts Degree for Transfer

Philosophy... 60 units

University Transfer Program

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

AA-T Philosophy

Philosophy is a disciplined reflection on the human condition. It can be an analysis and criticism of ideas and statements, or an attempt to synthesize all experience and knowledge, or an exploration of the meaning of life and how best to live it. Critical thinking is developed while examining peoples' responses to fundamental questions. This degree prepares students for transfer to the CSU system for further study in philosophy.

Career Opportunities

Philosophy is the ultimate "transferable work skill." With its emphasis on reason and argumentation, philosophy is an excellent preparation for a post-baccalaureate career in law, religion, business, international diplomacy, social work,

medical management or writing as well as post-graduate education.

Program Learning Outcomes

Students completing this program will be able to:

1. Analyze social science concepts and theories
2. Evaluate diverse viewpoints related to the human experience
3. Produce evidence-based arguments

Major Requirements

Required Core Courses: 6 units selected from the following:		Units
PHIL 200	Introduction to Logic	3 units
PHIL 100	Introduction to Philosophy	3 units
	OR	
PHIL 244	Introduction to Ethics: Contemporary Social and Moral Issues	3 units

Required Selective Courses: 3 units from List A: select one course		Units
Any course from core courses not already used		3 units
PHIL 103	Critical Thinking	3 units
PHIL 160	History of Ancient Philosophy	3 units
PHIL 175	History of Modern Philosophy	3 units

Required Selective Courses: 6 units from List B: select two courses		Units
Any course from List A not already used		3 units
HIST 100	History of Western Civilization I	3 units
HIST 101	History of Western Civilization II	3 units
PHIL 300	Introduction to World Religions	3 units

Required Selective Courses: 3 units from List C: select one course		Units
Any course from List A or B not already used		3 units
ASL 100	American Sign Language I	5 units
ASL 110	American Sign Language II	5 units
ANTH 180	Magic, Science and Religion	3 units
CHIN 111	Elementary Chinese I	3 units
CHIN 112	Elementary Chinese II	3 units

CHIN 121	Advanced Elementary Chinese I	3 units
CHIN 122	Advanced Elementary Chinese II	3 units
CHIN 131	Intermediate Chinese I	3 units
CHIN 132	Intermediate Chinese II	3 units
COMM 170	Oral Interpretation I	3 units
COMM 171	Oral Interpretation II	3 units
ENGL 110	Composition, Literature, and Critical Thinking	3 units
ENGL 161	Creative Writing I	3 units
ENGL 162	Creative Writing II	3 units
ENGL 163	Creative Writing III	3 units
ETHN 104	Asian Pacific Islanders in United States History and Culture	3 units
ETHN 105	African American History and Culture	3 units
ETHN 265	Evolution of Hip Hop Culture: A Socio-Economic And Political Perspective	3 units
FILM 153	Screenwriting	3 units
HIST 100	History of Western Civilization I	3 units
HIST 101	History of Western Civilization II	3 units
HIST 201	United States History I	3 units
HIST 202	United States History II	3 units
HIST 260	Women In American History	3 units
HIST 310	California History	3 units
LIT. 101	Twentieth-Century Literature	3 units
LIT. 105	The Bible as Literature	3 units
LIT. 113	The Novel	3 units
LIT. 115	The Short Poem in English: A Survey	3 units
LIT. 151	Shakespeare	3 units
LIT. 201	American Literature I	3 units
LIT. 202	American Literature II	3 units
LIT. 220	Introduction to World Literature	3 units
LIT. 231	Survey of English Literature I	3 units
LIT. 232	Survey of English Literature II	3 units
LIT. 251	Women in Literature	3 units
LIT. 430	Greek Mythology and Classical Literature	3 units
SPAN 110	Elementary Spanish	5 units

SPAN 112	Elementary Spanish II	3 units
SPAN 120	Advanced Elementary Spanish	5 units
SPAN 122	Advanced Elementary Spanish II	3 units
SPAN 131	Intermediate Spanish I	3 units
SPAN 132	Intermediate Spanish II	3 units
SPAN 140	Advanced Intermediate Spanish	3 units

Total Required Major Units: 18

General Education - certified completion of one of the following:

- California State University General Education-Breadth pattern (CSU GE Breadth),
- **OR**
- Intersegmental General Education Transfer Curriculum (IGETC/CSU) pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more information.

PHYSICAL SCIENCE

AS Associate in Science Degree Program

Physical Science..60 units

AS Physical Science

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

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.

Program Learning Outcomes

Students completing this program will be able to:

1. Analyze relationships between force, mass, and motion of objects.
2. Explain the significant role of energy in understanding the structure of matter and the universe. Differentiate between various forms of energy and the roles they play in motion and transformations of matter (physical, chemical and nuclear).
3. Proficiently use scientific terms in describing phenomena.
4. Perform quantitative analysis relating graphical and numerical data obtained from laboratory experiments to test hypotheses and verify physical concepts, principles and laws.

Major Requirements

Required Core Courses: 18 units with one or more courses selected from each group.

Group 1		Units
ASTR 100	Introduction to Astronomy	3 units
ASTR 101	Astronomy Laboratory	1 unit

Group 2		Units
CHEM 210	General Chemistry I	5 units
CHEM 410	Health Science Chemistry I	4 units

Group 3		Units
GEOL 100	Survey of Geology	3 units
GEOL 101	Geology Laboratory	1 unit

Group 4		Units
PHYS 100	Conceptual Physics	3 units
PHYS 210	General Physics I	4 units
PHYS 250	Physics with Calculus I	4 units

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.

		Units
CHEM 231	Organic Chemistry I	5 units
CIS 255	(CS1) Programming Methods: Java	4 units
CIS 278	(CS1) Programming Methods: C++	4 units
MATH 251	Calculus with Analytic Geometry I	5 units
MATH 252	Calculus with Analytic Geometry II	5 units
MATH 253	Calculus with Analytic Geometry III	5 units
MATH 275	Ordinary Differential Equations	3 units
PHYS 220	General Physics II	4 units
PHYS 260	Physics with Calculus II	4 units
PHYS 270	Physics with Calculus III	4 units

Total Required Major Units: 18

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

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

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 Program

Physics...60 units

AS-T Associate in Science Degree for Transfer

Physics...60 units

Recommended high school preparation

Coursework in Mathematics (four years), Physics, Chemistry, English

University Transfer Program

Use Assist (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.

About the Program

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.

Recommended high school preparations

Coursework in Mathematics, Chemistry, Physics, English

University Transfer Program

Use Assist (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.

AS Physics

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.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program will be able to:

1. Students will be able to apply the Laws of Physics to real-world problems.
2. Students will be able to collect and analyze data to verify physical principles.
3. Students will be prepared for upper division course at a 4-year college.

Major Requirements

Required Core Courses: 12 units		Units
PHYS 250	Physics with Calculus I	4 units
PHYS 260	Physics with Calculus II	4 units
PHYS 270	Physics with Calculus III	4 units

Required Selective Courses: 6 units selected from the following courses:		Units
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	(CS1) Programming Methods: Java	4 units
CIS 278	(CS1) Programming Methods: C++	4 units
MATH 200	Elementary Probability and Statistics	4 units
MATH 251	Calculus with Analytic Geometry I	5 units
MATH 252	Calculus with Analytic Geometry II	5 units
MATH 253	Calculus with Analytic Geometry III	5 units
MATH 270	Linear Algebra	3 units

MATH 275	Ordinary Differential Equations	3 units

Total Required Major Units: 18

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

AS-T Physics

Career Opportunities

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.

Program Learning Outcomes

Students completing this program will be able to:

1. Students will be able to apply the Laws of Physics to real-world problems.
2. Students will be able to collect and analyze data to verify physical principles.
3. Students will be prepared for upper division course at a 4-year college.

Major Requirements

Required Core Courses: 27 units		Units
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 Analytic Geometry I	5 units
MATH 252	Calculus with Analytic Geometry II	5 units
MATH 253	Calculus with Analytic Geometry III	5 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): **Units**

MATH 270	Linear Algebra	3 units
MATH 275	Ordinary Differential Equations	3 units
CHEM 210	General Chemistry I	5 units
	AND	
CHEM 220	General Chemistry II	5 units
One course in computer programming		4 units

Total Required Major Units: 27

General Education - certified completion of one of the following:

- California State University General Education-Breadth pattern (CSU GE Breadth),
- **OR**
- Intersegmental General Education Transfer Curriculum (IGETC/CSU) pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more information.

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

AA-T Associate in Arts Degree for Transfer

Political Science..60 units

University Transfer Program

Use Assist (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 Political Science

The Associate in Arts in Political Science for Transfer degree (AA-T) prepares students for transfer into bachelor's degree programs in Political Science and similar programs at a CSU campus and guarantees admission to the CSU system. Political Science coursework in general is helpful to the student who intends to eventually pursue graduate studies in such diverse fields as political science, education, journalism, business and law.

Career Opportunities

Career opportunities associated with this discipline require the minimum of a B.A. degree. Some business firms and government agencies seek persons with a broad overview and perspective of the operation of government. In addition to a career as a political scientist, career possibilities include employment with the federal, state and local governments; law; business; international organizations; nonprofit associations and organizations; campaign management and polling; journalism; pre-collegiate education; electoral politics; research; and university and college teaching.

Program Learning Outcomes

Students completing this program will be able to:

1. Effectively communicate the impact of state and non-state actors on the development and implementation of policy.
2. Critically analyze political theories and ideologies.
3. Discuss the impact of ethnic, cultural and economic diversity on political issues and policy.
4. Evaluate ethical issues and conflicts inherent to political issues.

Major Requirements

Required Core Courses: 3 units	**Units**
PLSC 200 *	National, State and Local Governments	3 units

Required Selective Courses: 9-10 units from List A: select three courses		**Units**
PLSC 110	Contemporary Foreign Governments	3 units
PLSC 130	International Relations	3 units
PLSC 150	Introduction to Political Thought	3 units
Any one of the following: (3-4)	
MATH 200	Elementary Probability and Statistics	4 units
PSYC 120	Introduction to Research Methods	3 units

PSYC 121	Basic Statistical Concepts	3 units
SOCI 121	Introduction to Research Methods	3 units

Required Selective Courses: 6 units from List B: select two courses		**Units**
Any List A course not selected above		3 units
PLSC 100	Introduction to Political Science	3 units
PLSC 210	American Politics	3 units
PLSC 215	Contemporary Issues In American Politics	3 units
PLSC 310	California State and Local Government	3 units

Note: Upon transfer to a U.C. campus, students who have completed both PLSC 200 and PLSC 210 will receive transfer credit for only one 3-unit course.

* PLSC 210 completed at CSM Fall 2011 through Spring 2016 may be substituted for PLSC 200.
\+ Only one course from MATH 200, PSYC 120, PSYC 121, or SOCI 121 may be used to satisfy major requirements.

Total Required Major Units: 18 - 19

General Education - certified completion of one of the following:

- California State University General Education-Breadth pattern (CSU GE Breadth),
- **OR**
- Intersegmental General Education Transfer Curriculum (IGETC/CSU) pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more information.

Note for List A Courses

Only one course from MATH 200, PSYC 120, PSYC 121, or SOCI 121 may be used to satisfy major requirements.

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

Psychology...60 units

CS Certificate of Specialization

Psychology: Pre-Counseling..6 units

University Transfer Program

Use Assist (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 Psychology

The Associate in Arts in Psychology for Transfer degree prepares students for transfer into bachelor's degree programs in Psychology and similar programs at a CSU campus and guarantees admission to the CSU system. Psychology is a broad discipline which employs both pure science and practical application to everyday living.

Career Opportunities

Career opportunities include administrator, community college instructor or academic counselor, drug abuse counselor, employment counselor, human factors specialist, mental health professional, outreach specialist, personnel analyst, personnel management specialist, probation officer, psychiatric aide, psychiatrist, psychologist, psychometrist, research director, social services director, survey designer, student affairs officer, therapist, training officer, and Marriage, Family, Child Counselor.

Program Learning Outcomes

Students completing this program will be able to:

1. Define main problems and the main focus of study in Psychology, including theoretical approaches to biological, cognitive, behavioral and developmental psychology.
2. Demonstrate understanding of strength and weakness of scientific and research methods in biological, physiological and psychological sciences and how they relate to models of learning, perception, cognition and their application to contemporary medical and social problems.
3. Understanding of testing and measurement problems in psychological fields of study.
4. Display understanding of how these items relate to science and the goals of science: characterize, predict and change phenomena by being able to identify and formulate a testable hypotheses, examine the design and examine ethical issues in the field.
5. Identify and distinguish primary models describing topics examined in psychology.
6. Apply theory and models in psychology to real world concerns.

Major Requirements

Required Core Courses: 9-10 units		Units
PSYC 100	General Psychology	3 units
MATH 200	Elementary Probability and Statistics	4 units
	OR	
PSYC 121	Basic Statistical Concepts	3 units
PSYC 120	Introduction to Research Methods	3 units

Required Selective Courses: 3-4 units from List A: select one course		Units
PSYC 220	Introduction to Psychobiology	3 units
BIOL 110	General Principles of Biology	4 units

Required Selective Courses: 3 units from List B: select one course		Units
Any List A course not used above		3 - 4 units
PSYC 200	Developmental Psychology	3 units
PSYC 201	Child Development	3 units

Required Selective Courses: 3 units from List C: select one course		Units
Any List A or List B course not used above		3 - 4 units
PSYC 105	Experimental Psychology	3 units
PSYC 110	Courtship, Marriage and the Family	3 units
PSYC 225	Theories of Personality	3 units
PSYC 300	Social Psychology	3 units
PSYC 410	Abnormal Psychology	3 units

Total Required Major Units: 18 - 20

General Education - certified completion of one of the following:

• California State University General Education-Breadth pattern (CSU GE Breadth),

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- **OR**
- Intersegmental General Education Transfer Curriculum (IGETC/CSU) pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more information.

CS Psychology: Pre-Counseling

This certificate provides an understanding of the constructs of personality as well as the study of abnormal psychology, mental health, and treatment. This increases understanding of human behavior that may be applied to enhance job skills in a variety of fields as well as to support preparation for future pathways of study at both the undergraduate and graduate levels.

Career Opportunities

Career opportunities supported by this certificate include administrator, community college instructor or academic counselor, drug abuse counselor, employment counselor, human factors specialist, mental health professional, outreach specialist, personnel analyst, personnel management specialist, probation officer, psychiatric aide, psychiatrist, psychologist, psychometrist, research director, social services director, survey designer, student affairs officer, therapist, training officer, and Marriage, Family, Child Counselor.

Program Learning Outcomes

Students completing this program will be able to:

1. Identify the key concepts in abnormal psychology, including historical and current perspectives of identifying, assessing, and treating psychological conditions.
2. Identify and distinguish key constructs of personality of self and others, demonstrating an understanding of core theories of personality.
3. Demonstrate understanding of scientific research regarding the development of psychological health and illness in personality.

Requirements

Required Core Courses: 6 units		Units
PSYC 225	Theories of Personality	3 units
PSYC 410	Abnormal Psychology	3 units

Total Required Units: 6

REAL ESTATE

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 Program

Real Estate...60 units

CS Certificate of Specialization

Real Estate Salesperson..9 units

Recommended high school preparation

Coursework in Mathematics, Business, Accounting, english

Prerequisite Requirements

For licensed Real Estate Agents, R.E. 100 and 105 may be waived as prerequisites for all real estate courses.

AA Real Estate

Career Opportunities

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.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: 21 units		Units
BUS. 100	Introduction to Business	3 units
	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 I	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

Total Required Major Units: 21

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

CS Real Estate Salesperson

The purpose of this certificate is to prepare a student to take the Real Estate Salesperson licensing examination. The license is required of individuals who conduct licensed real estate activities as described by Real Estate Law in California. Licensed Real Estate Salespersons work under the supervision of a licensed broker.

Career Opportunities

Salespersons in real estate are generally employed in real estate offices serving the general public. However, some agents secure employment with commercial enterprises operating in the real estate industry (e.g., developers, government agencies, escrow companies, loan officer, mortgage banker, property manager, etc.)

Program Learning Outcomes

Students completing this program will be able to:

1. Meet the requirements set by the State of California to qualify to take the Real Estate Sales licensing exam.
2. Prepare the student to successfully pass the State of California Real Estate Sales licensing exam.
3. Define the role, responsibility and ethical conduct of a licensed sales agent in California.
4. Properly analyze how to acquire and hold real estate in California.

Requirements

Required Core Courses: 6 units		Units
R.E. 100	Real Estate Principles	3 units
R.E. 110	Real Estate Practice	3 units

Required Selective Courses: 3 units select one course from the following:		Units
ACTG 100	Accounting Procedures	3 units
BUS. 201	Business Law	3 units

R.E. 121	Legal Aspects of Real Estate I	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
R.E. 220	Real Estate Property Management	3 units

Total Required Units: 9

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 Program

Social Science..60 units

University Transfer Program

Use Assist (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 Social Science

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

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.

Program Learning Outcomes

Students completing this program will be able to:

1. Analyze relevant contemporary social issues using concepts and evidence from the social sciences.
2. Evaluate social/behavioral research with regard to research methods, evidence and scientific reasoning.
3. Describe how the social context can affect individual behavior and perspectives.

Major Requirements

Required Core Courses: 18 units
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. **Units**

Anthropology	
Economics	
Ethnic Studies (excluding ETHN 288, 585)	
Geography (excluding GEOG 100)	
History	
Political Science	
Psychology (excluding PSYC 121)	
Social Science	
Sociology	

Total Required Major Units: 18

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

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

Sociology...60 units

University Transfer Program

Use Assist (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 Sociology

Courses in Sociology prepare students to transfer to baccalaureate institutions for a degree in Sociology or a related discipline.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program 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.

Major Requirements

Required Core Courses: 3 units **Units**

SOCI 100	Introduction to Sociology	3 units

Required Selective Courses: 6-7 units from Group A: select two courses from the following: **Units**

SOCI 105	Social Problems	3 units
SOCI 121	Introduction to Research Methods	3 units
	OR	
PSYC 120	Introduction to Research Methods	3 units
PSYC 121	Basic Statistical Concepts	3 units

OR

MATH 200	Elementary Probability and Statistics	4 units

Required Selective Courses: 6-7 units from Group B: select two courses from the following:

		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

Required Selective Courses: 3-4 units from Group C: select one course from the following:

	Units
Any Group A or Group B course not used above	3 - 4 units

Total Required Major Units: 18 - 19

General Education - certified completion of one of the following:

- California State University General Education-Breadth pattern (CSU GE Breadth),
- **OR**
- Intersegmental General Education Transfer Curriculum (IGETC/CSU) pattern

Elective courses: If applicable, additional courses to meet the minimum 60 CSU transferable units requirement.

Please refer to Associate Degree for Transfer (ADT) Requirements for more information.

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

CS Certificate of Specialization

Spanish..12 units

University Transfer Program

Use Assist (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.

About the Program

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 multi-national 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.

CS Spanish

In addition to providing skills in understanding, speaking, reading, and writing Spanish, the certificate 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.

Career Opportunities

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.

Program Learning Outcomes

Students completing this program will be able to:

1. Understand native speech at average speed on a variety of common topics.

2. Utilize appropriate vocabulary, grammar, and pronunciation to express verbal communication covering a broad spectrum of common interpersonal interactions.
3. Decode written Spanish in a variety of formats.
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.
5. Identify aspects of Hispanic culture throughout the world, and compare and contrast them with aspects of non-Hispanic cultures.

Requirements

Required Core Courses: 12 units selected from the following courses:

		Units
SPAN 110	Elementary Spanish	5 units
SPAN 112	Elementary Spanish II	3 units
SPAN 120	Advanced Elementary Spanish	5 units
SPAN 122	Advanced Elementary Spanish II	3 units
SPAN 131	Intermediate Spanish I	3 units
SPAN 132	Intermediate Spanish II	3 units
SPAN 140	Advanced Intermediate Spanish	3 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 Cañada Colleges). In rare circumstances, the Dean may approve using a course in another discipline if its content is closely related to the language studied.

Total Required Units: 12

UNIVERSITY TRANSFER

CA Certificate of Achievement

University Transfer Option 1: California State University General Education Certification (CSUGE)....................39 units

University Transfer Option 2: Intersegmental General Education Transfer Curriculum Certification for CSU (IGETC/CSU).. 37 units

University Transfer Option 3: Intersegmental General Education Transfer Curriculum Certification for UC (IGETC/UC)... 34 units

CA University Transfer Option 1: California State University General Education Certification (CSUGE)

Program Learning Outcomes

Students completing this program will be able to:

1. Read, write, speak and listen to communicate effectively.
2. Perform quantitative analysis using appropriate resources.
3. Analyze information, reason critically and creatively and formulate ideas logically.
4. Understand and appreciate the diversity of the human experience.
5. Recognize ethical principles and behave responsibly.

Complete 39 units of coursework to meet the California State University General Education Certification requirements as listed below.

Requirements

Required Core Courses: 9 units
Complete 9 units of Area A: Communications in the English Language and Critical Thinking. Select a course from each area below.

	Units
A1: Oral Communication	3 units
A2: Written Composition	3 units
A3: Critical Thinking	3 units

Required Core Courses: 9 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.

	Units
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

1. Read, write, speak and listen to communicate effectively.
2. Perform quantitative analysis using appropriate resources.
3. Analyze information, reason critically and creatively and formulate ideas logically.
4. Understand and appreciate the diversity of the human experience.
5. Recognize ethical principles and behave responsibly.

Complete 37 units of coursework to meet the IGETC/CSU Certification requirements as listed below.

Requirements

Required Core Courses: 9 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. The third course can be selected from either Arts or Humanities. **Units**

C1: Arts	3 units
C2: Humanities	3 units
C1 or C2	3 units

Required Core Courses: 9 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 AHandI/CA State). (CSU Chico does not allow double counting of courses in Area D to meet AHANDI/CA State.) **Units**

Area D	9 units

Required Core Courses: 3 units
Complete 3 units in Area E: Lifelong Understanding and Self Development. **Units**

Area E	3 units

Total Required Units: 39

CA University Transfer Option 2: Intersegmental General Education Transfer Curriculum Certification for CSU (IGETC/CSU)

Program Learning Outcomes

Students completing this program will be able to:

Required Core Courses: 9 units
Area 1: English Communication. **Units**

Area A1: English Composition	3 units
Area 1B: Critical Thinking	3 units
Area 1C: Oral Communication	3 units

Required Core Courses: 3 units
Area 2: Mathematical Concepts and Quantitative Reasoning. **Units**

Area 2	3 units

Required Core Courses: 9 units
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. **Units**

Area 3A: Arts	3 units
Area 3B: Humanities	3 units
Area 3A or 3B	3 units

Required Core Courses: 9 units
Area 4: Social and Behavioral Sciences. Must complete coursework in at least two different disciplines. **Units**

Area 4	9 units

Required Core Courses: 7 units
Area 5: Physical and Biological Sciences. At least one course must include a laboratory component. **Units**

Area 5A: Physical Science	3 - 4 units

Area 5B: Biological Science	3 - 4 units
Area 5C: Science Laboratory	1 unit

Total Required Units: 37

CA University Transfer Option 3: Intersegmental General Education Transfer Curriculum Certification for UC (IGETC/UC)

Program Learning Outcomes

Students completing this program will be able to:

1. Read, write, speak and listen to communicate effectively.
2. Perform quantitative analysis using appropriate resources.
3. Analyze information, reason critically and creatively and formulate ideas logically.
4. Understand and appreciate the diversity of the human experience.
5. Recognize ethical principles and behave responsibly.

Complete 34-39 units of coursework to meet the IGETC/ UC Certification requirements as listed below.

Requirements

Required Core Courses: 6 units
Area 1: English Composition. **Units**

Area A1: English Composition	3 units
Area 1B: Critical Thinking	3 units

Required Core Courses: 3 units
Area 2: Mathematical Concepts and Quantitative Reasoning. **Units**

Area 2	3 units

Required Core Courses: 9 units
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. **Units**

Area 3A: Arts	3 units

Area 3B: Humanities	3 units
Area 3A or 3B	3 units

Required Core Courses: 9 units
Area 4: Social and Behavioral Sciences. Must complete coursework in at least two disciplines. **Units**

Area 4	9 units

Required Core Courses: 7 units
Area 5: Physical and Biological Sciences. At least one course must include a laboratory component. **Units**

Area 5A: Physical Science	3 - 4 units
Area 5B: Biological Science	3 - 4 units
Area 5C: Science Laboratory	1 unit

Required Core Courses:
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 the Intersegmental General Education Transfer Curriculum (IGETC) Worksheet is required to complete certification.

Total Required Units: 34