

PART IV – COURSE DESCRIPTIONS

Each course entry in this catalog includes the course number, title, prerequisite, a brief description, the number of semester units, and the number of hours the course meets based on the 16-18 week semester. The course entries also include information about how the course credit applies to associate degrees and transfer to The California State University and University of California systems.

- Courses numbered from 600 through 699 are non-credit and do not receive any type of college credit.
- Courses numbered from 001 through 099 are generally applicable to certificate and associate degree programs.
- Courses numbered from 100 through 299 are generally applicable for associate degrees and baccalaureate degrees conferred by universities.
 - Courses that are designated CSU transfer to CSU campuses system wide.
 - Courses designated UC are approved by the UC Office of the President as comparable to courses offered at UC. Courses with *UC notation indicate that some credit limitation applies. UC limits credit on courses that are similar in nature or taken after a higher level course(s). To access information on SBVC courses that transfer to UC, go to www.assist.org.
 - Although courses may be indicated in the catalog as transferable to UC and/or CSU, they may or may not meet general education or major preparation. Students who plan to transfer to UC or CSU should consult with a counselor and research the following websites:
www.csumentor.edu
uctransfer.universityofcalifornia.edu
www.assist.org
- Courses numbered from 900-999 are not applicable to associate degrees and generally do not transfer to four-year institutions.
- Certain course entries include a symbol x and a number following the symbol, such as MUS 141x4. This symbol (x) indicates that this is a skill-based course and may be taken for credit more than once; the number following the symbol (x) indicates the number of times the course may be taken for credit.

ACADEMIC ADVANCEMENT

DIVISION:	Library, Learning Resources and Communication Media
DIVISION DEAN:	Marie Mestas, M.L.S.
FACULTY CHAIR:	Odette C. Salvaggio, Ph.D.
OFFICE ASSISTANT:	Robyn Wicklund (909) 384-8588
LIAISON COUNSELOR:	Ailsa Aguilar-Kitibutr, Psy.D. (909) 384-4404

ACAD 100 is required of all students taking 9 or more units a semester. This course must be completed within a student's first two semesters of course work. Students are exempt from this requirement if they have already earned 30 units or more of college credit, or if they have already earned an associate or baccalaureate degree. Students on a career track within vocational disciplines that have articulated programs with four-year institutions may apply for exemption through the Faculty Chair and Division Dean of their area of study. The rest of the courses offered through this department are designed to help students perform well in their other classes and at their place of employment.

COURSES OFFERED BY THE DEPARTMENT OF ACADEMIC ADVANCEMENT:

ACAD 100
STRATEGIES FOR COLLEGE SUCCESS **1 UNIT**
PREREQUISITE: None.

LECTURE: 1 contact hour per week.

Introduces students to college environment, educational opportunities, college services, academic procedures and policies, graduation and transfer requirements. College survival skills such as educational planning, goal-setting, learning styles, time management, and interpersonal skills are key components.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

ACAD 110
TUTOR TRAINING **1 UNIT**

PREREQUISITE: None.

DEPARTMENTAL ADVISORY: Completion of the courses to be tutored with a minimum grade of "B", departmental recommendation, and related experience.

LECTURE: .50 contact hour per week and

LABORATORY: 1.50 contact hours per week.

Techniques and strategies for effective academic peer tutoring in a community college setting. Emphasis on tutoring, study skill techniques and practical skills to use in a variety of tutoring situations. Completion of any college-level course to be tutored with a grade of B or better is required. Graded on Pass/No Pass basis only.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

ACAD 600A-1x4
SUPERVISED TUTORING **Non-Credit**

PREREQUISITE: None.

LECTURE: Contact hours will vary according to student need.

Students enrolling in this non-credit class will receive assistance in understanding course-specific content in areas in which they are having difficulty. Peer tutors will provide examples and supplementary instruction based on course texts and homework exercises. Enrollment in this class is limited to students who have been recommended by an instructor or counselor on the basis of an identified learning need. Call (909) 384-8566 for additional information about tutoring.

**ACAD 900
EMPLOYABILITY SKILLS 1 UNIT
PREREQUISITE: None.**

LECTURE: 1 contact hour per week.
An introduction to the skills necessary to find and maintain a job; with emphasis on learning the appropriate skills to be successful on the job. Topics include information on desirable employee traits, on-the-job communication and the skills needed to conduct a successful job search. Graded on a Pass/No Pass basis only.
Not Applicable to Associate Degree

**ACAD 910x4
VOCATIONAL BASIC SKILLS ENHANCEMENT 3 UNITS
PREREQUISITE: None.**

LECTURE: 3 contact hours per week.
Offers a review and practice of basic skills materials in mathematics, reading, writing, English as a second language, GED materials, and applied computational and verbal skills; a self-paced, open-entry computer-assisted review tailored to meet students' individual academic needs each time the class is taken. Graded on Pass/No Pass basis only.
Not Applicable to Associate Degree

ACCOUNTING

DIVISION: Mathematics, Business and Computer Technology
DIVISION DEAN: Haragewen Kinde, Ed.D.
FACULTY CHAIR: Michael Assumma, M.B.A.
Business 100G
(909) 384-8923
OTHER FACULTY: Janet Courts, M.A.
ADMINISTRATIVE SECRETARY: Chris Williams
DIVISION OFFICE: Business 101
(909) 384-8908
ADMINISTRATIVE SECRETARY: Vivian Marquez
DIVISION OFFICE: Business 100
(909) 384-8520
LIAISON COUNSELORS: Patty Jones, M.A.
(909) 384-4404

Accounting, as the language of business, is concerned with how businesses report their transactions and how they interpret the summaries of those transactions. Accountants record and summarize the economic events within a business. In addition, they interpret financial information and conduct solvency and profitability analyses to serve as a basis for sound business decisions.

Within the mission of the college, the Accounting Department has several objectives:

- 1) Provide high quality accounting and business programs, which will prepare our students for successful careers in business and government;
- 2) Provide students with a broad-base understanding of the concepts of Accounting, Business and Management;
- 3) Provide transfer to four-year institutions.

Students planning to transfer to a four-year institution and major in accounting should consult with a counselor regarding the transfer process and lower division requirements.

ACCOUNTING ASSOCIATE OF ARTS DEGREE
To graduate with a specialization in Accounting, students must complete all requirements for the certificate plus the general breadth requirements for the Associate Degree (minimum total = 60 units).

Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.

ACCOUNTING CERTIFICATE
This certificate is designed to prepare students for entry-level positions updating and maintaining accounting records, tabulating expenditures and receipts, tracking accounts payable and receivable, and tabulating profit and loss.

REQUIRED COURSES:	UNITS
ACCT 200 Principles of Accounting I (or ACCT 100 & 101)	4
ACCT 201 Principles of Accounting II	4
ACCT 204 Computer Accounting: Spreadsheets	1
ACCT 207 Integrated Accounting Software	2
BUSAD 100 Introduction to Business	3
BUSAD 210 Business Law	3
BUSCAL 208 Business and Economics Statistics	4
ECON 200 Introduction to Macroeconomics	3
ECON 201 Principles of Microeconomics	3
MATH 095 Intermediate Algebra	4
BUSCAL 091 Beginning Algebra for Business	4
or	
MATH 090 Elementary Algebra	(4)
Ten Units from the list of RECOMMENDED COURSES	10
TOTAL UNITS:	45

RECOMMENDED COURSES:	UNITS
ACCT 015 Federal Income Tax Return Preparation	1.5
ACCT 130 Federal and State Revenue Tax Accounting	3
ACCT 090 Payroll Accounting	3
ACCT 202 Intermediate Accounting	3
ACCT 206 Cost Accounting	3
ACCT 235 Accounting for Government and Not-For-Profit Organizations I	4
BUSAD 203 Marketing Management	3
BUSCAL 200 Algebra and Finite Methods in Business	3
or	
MATH 102 Introduction to College Algebra	4
CIT 101 Introduction to Computer Literacy	3
REALST 100 Real Estate Principles	3

BOOKKEEPING CERTIFICATE
This certificate is designed to prepare students for entry-level work in payroll, and/or assist in some aspect of the record keeping process.

REQUIRED COURSES:	UNITS
ACCT 010 Bookkeeping	3
or	
ACCT 100 Introduction to Accounting I	(4)
ACCT 090 Payroll Accounting	3
ACCT 204 Computer Accounting Spreadsheet	1
ACCT 207 Integrated Accounting Software	2
BUSCAL 050 Quantitative Methods in Business	3
CIT 033 Machine Calculations	3
TOTAL UNITS:	15-16

GOVERNMENTAL AND NON-PROFIT ACCOUNTING CERTIFICATE

The purpose of this certificate is to prepare students for a successful career in the public sector.

REQUIRED COURSES	UNITS
ACCT 235 Accounting for Government And Not-For-Profit Organizations I	4
ACCT 236 Accounting for Government and Not-For-Profit Organizations II	4
ACCT 237 Budgeting for Governments	4
ACCT 202 Intermediate Accounting	3
TOTAL UNITS:	15

TAX PREPARERS CERTIFICATE

This certificate provides students with the skills to prepare tax returns under the supervision of a CPA or licensed tax preparer in the Volunteer Income Tax Assistance (VITA) Community Programs.

REQUIRED COURSES:	UNITS
ACCT 090 Payroll Accounting	3
ACCT 130 Federal and State Revenue Tax Accounting	3
ACCT 131 California Income Taxation	2
ACCT 132x4 Volunteer Income Tax Assistance I (VITA I)	2
ACCT 133x4 Volunteer Income Tax Assistance II (VITA II)	2
CIT 033 Machine Calculations	3
TOTAL UNITS:	15

COURSES OFFERED BY THE DEPARTMENT OF ACCOUNTING:

ACCT 010 BOOKKEEPING 3 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week.

Fundamentals of bookkeeping, such as recording transactions in journals, posting to ledgers, preparation of the trial balance and use of controlling accounts and related schedules. Practice in opening, adjusting and closing various professional sets of books. Recommended for occupational students and for those who wish preparatory training before entering ACCT 200.

Associate Degree Applicable

ACCT 030 FEDERAL AND STATE TAXATION 4 UNITS
PREREQUISITE: None.

LECTURE: 4 contact hours per week.

A comprehensive course of study and practical application of basic federal and state income taxes. Includes history and objectives of the tax, research and analysis of current tax issues, along with the tax treatment of various types of entities, types of income, types of deductions and types of credits. Emphasis is on the individual as a taxpayer. Actual tax forms are studied and returns prepared.

Associate Degree Applicable

ACCT 047 COMPUTERIZED ACCOUNTING 3 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week.

Provides a comprehensive overview of accounting software. Topics covered include the analysis of source documents and the use of accounting software to prepare, understand, and interpret financial statements for a variety of management purposes. Also includes the solution of accounting problems using spreadsheet software and creating spreadsheets using formulas and graphics.

Associate Degree Applicable

ACCT 090 PAYROLL ACCOUNTING 3 UNITS
PREREQUISITE: None.

DEPARTMENTAL ADVISORY: ACCT 101 or ACCT 200.

LECTURE: 3 contact hours per week.

Accounting aspects of the Social Security Act, the California Unemployment Insurance Act and the California Worker's Compensation Insurance Act.

Associate Degree Applicable

ACCT 100 INTRODUCTION TO ACCOUNTING I 3-4 UNITS
PREREQUISITE: None.

DEPARTMENTAL ADVISORY: BUSCAL 050 or ACCT 010.

LECTURE: 3-4 contact hours per week.

Exploration of the basic principles and practices of the financial accounting process for a sole proprietorship including the sources of financial information, journalizing and posting transactions, and preparing and analyzing financial statements for merchandise. Students completing ACCT 100 and ACCT 101 are eligible to enroll in ACCT 201.

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

ACCT 101 INTRODUCTION TO ACCOUNTING II 4 UNITS
PREREQUISITE: ACCT 100.

LECTURE: 4 contact hours per week.

Exploration of the basic principles and practices of the financial accounting process in a sole proprietorship including accounting for cash, posting receivables and payables, inventories, fixed assets and payroll. Students completing ACCT 100 and ACCT 101 are eligible to enroll in ACCT 201.

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

ACCT 132x4 VITA: VOLUNTEER INCOME TAX ASSISTANCE I (VITA I) 2 UNITS

PREREQUISITE: None.

DEPARTMENTAL ADVISORIES: BUSCAL 050 or MATH 952; ACCT 010; ACCT 090; ACCT 100 or ACCT 200.

LECTURE: 2 contact hours per week.

Combining both - theory and practical application, this course allows the student to research and analyze current state and federal tax issues and to assist lower income and elderly citizens in the preparation of tax returns under the supervision of a CPA or licensed tax preparer. This course may be taken four times.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

ACCT 133x4
VITA: VOLUNTEER INCOME TAX ASSISTANCE II
(VITA II) 2 UNITS

PREREQUISITE: ACCT 132x4.
LECTURE: 1 contact hour per week and
LABORATORY: 3 contact hours per week.

A continuation of ACCT 132x4 (VITA I), this course allows the student to research and analyze current tax issues, to interview real taxpayers, and to prepare and electronically file real tax returns under the supervision of a CPA or licensed tax preparer. NOTE: VITA I & II must be taken consecutively in the same calendar year. This course may be taken four times.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

ACCT 200
PRINCIPLES OF ACCOUNTING I 4 UNITS

PREREQUISITE: None.
DEPARTMENTAL ADVISORY: BUSCAL 050 or
ACCT 010.

LECTURE: 4 contact hours per week.

Development of the basic principles and practices applicable to the general accounting process, primarily in a sole proprietorship including transaction analysis, statement preparation and analysis, internal control, payroll, revenue recognition, and user analysis of accounting information and systems.

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

ACCT 201
PRINCIPLES OF ACCOUNTING II 4 UNITS

PREREQUISITES: ACCT 200 or ACCT 100 and
ACCT 101.

LECTURE: 4 contact hours per week.

Examination of the basic principles and practices of financial and managerial accounting relevant to partnerships and corporations. Application of these concepts in the fields of cost; income tax; department and branch accounting; income projections and decision making; and financial statement preparation and analysis.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ACCT 202
INTERMEDIATE ACCOUNTING 3 UNITS

PREREQUISITE: ACCT 201.
LECTURE: 3 contact hours per week.

Adjustments, working papers, financial statements, cash and receivables, inventories, investments, plant assets, intangibles, liabilities, capital stock and retained earnings, statement analysis and application of funds.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

ACCT 206
COST ACCOUNTING 3 UNITS

PREREQUISITE: ACCT 201.
LECTURE: 3 contact hours per week.

Objectives and procedures of accounting for manufacturing enterprises including job-order and process costing, accounting for manufacturing overhead, joint-product and by-product costing, cost budgeting, standard costs and cost reports.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

ACCT 222
SPECIAL PROBLEMS IN ACCOUNTING I 1 UNIT
PREREQUISITE: ACCT 200.

INDEPENDENT STUDY: 3 contact hours per week.

Assigned problems involving library and field work for selected students who are interested in furthering their knowledge of accounting on an independent study basis. Students are required to devote three contact hours per week to their project throughout the semester. Prior to registration, a contract must be prepared. See instructor for details.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

ACCT 235
ACCOUNTING FOR GOVERNMENT AND NOT-FOR-PROFIT ORGANIZATIONS I 4 UNITS

PREREQUISITE: ACCT 201.
LECTURE: 4 contact hours per week.

Fund accounting as applied to governmental operations and nonprofit institutions including problems of budgeting tax levies, appropriations and accounting for revenues and expenditures. Includes general funds, special revenue, bond sinking, working capital, special assessment, trust, agency, and utility.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

ACCT 236
ACCOUNTING FOR GOVERNMENT AND NOT-FOR-PROFIT ORGANIZATIONS II 4 UNITS

PREREQUISITE: ACCT 235.
LECTURE: 4 contact hours per week.

This course is intended to continue the topics introduced in ACCT 235. Emphasis is on budgeting operations and managerial control of budgets in nonprofit organizations such as school districts, health care facilities and charitable organizations.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

ACCT 237
BUDGETING FOR GOVERNMENTS 4 UNITS
PREREQUISITE: ACCT 235.

LECTURE: 4 contact hours per week.

An introduction to the concepts and practices of budgeting in the public sector at the federal, state and local government levels including how budgeting operates in the political arena as well as budgeting as a process of public administration.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

ADMINISTRATION OF JUSTICE

DIVISION: Criminal Justice
 ADMINISTRATIVE DEAN: Gloria M. Fisher, J.D.
 FACULTY CHAIR: Patrick Buckley, B.S.
 ADMINISTRATIVE SECRETARY: To Be Announced
 DIVISION OFFICE: Planetarium, 2nd Floor
 (909) 384-4431
 LIAISON COUNSELOR: Frank Dunn, M.A.
 (909) 384-4404

The Administration of Justice Department strives to provide our students with the legal, ethical and educational background necessary to pursue a career in a criminal justice-related field and to successfully transition into a 4-year academic program.

The Administration of Justice discipline involves the study of the theory and practice of law, law enforcement, the courts, and corrections systems. Law enforcement specializes in police activities including effective investigation and patrol services to the public. The courts specialize in responsibilities to the public through the trial system. The corrections systems specialize in the punishment and incarceration process as well as rehabilitation of the offender. Private security services explore private protection through private agencies.

Administration of Justice offers a wide range of career opportunities. Students interested in careers as peace officers should refer to the Department of Police Science in this catalog. Students planning to transfer to a four-year institution and major in Administration of Justice should consult with a counselor regarding the transfer process and lower division requirements.

The Administration of Justice courses listed may not be offered every semester due to instructor availability. Please refer to the college semester class schedule offerings.

ANY FELONY OR DOMESTIC VIOLENCE CONVICTION, OR ANY SIGNIFICANT PRIOR OR CURRENT DRUG USE WILL DISQUALIFY MOST PEOPLE SEEKING JOBS IN LAW ENFORCEMENT, CORRECTIONS, PROBATION/PAROLE, OR FORENSICS.

ADMINISTRATION OF JUSTICE ASSOCIATE OF ARTS DEGREE

To graduate with a specialization in Administration of Justice, students must complete all requirements for the certificate plus the general breadth requirements for the Associate Degree (minimum total = 60 units).

REQUIRED COURSES:	UNITS
ADJUS 101 Introduction to Administration of Justice	3
ADJUS 102 Principles and Procedures of the Justice System	3
ADJUS 103 Concepts of Criminal Law	3
ADJUS 104 Legal Aspects of Evidence	3
ADJUS 105 Community Relations	3

Six (6) units of electives chosen from the following list:		UNITS
ADJUS 106	Principles of Investigation	3
ADJUS 107	Concepts of Enforcement Services	3
ADJUS 108	Juvenile Procedures	3
CORREC 101	Introduction to Corrections	3
CORREC 102	Correctional Interviewing and Counseling	3
CORREC 103	Gangs and Corrections	3
CORREC 104	Control and Supervision in Corrections	3
CORREC 105	Legal Aspects of Corrections	3
CORREC 106	Probation and Parole	3
TOTAL UNITS:		21

ADMINISTRATION OF JUSTICE CERTIFICATE

The Administration of Justice certificate is designed to prepare students for entry-level positions in a wide range of law enforcement services, including the courts, corrections, law enforcement, and private security.

Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.

REQUIRED COURSES:	UNITS
ADJUS 101 Introduction to Administration of Justice	3
ADJUS 102 Principles and Procedures of the Justice System	3
ADJUS 103 Concepts of Criminal Law	3
ADJUS 104 Legal Aspects of Evidence	3
ADJUS 105 Community Relations	3

Six (6) units of electives chosen from the following list:		UNITS
ADJUS 106	Principles of Investigation	3
ADJUS 107	Concepts of Enforcement Services	3
ADJUS 108	Juvenile Procedures	3
CORREC 101	Introduction to Corrections	3
CORREC 102	Correctional Interviewing and Counseling	3
CORREC 103	Gangs and Corrections	3
CORREC 104	Control and Supervision in Corrections	3
CORREC 105	Legal Aspects of Corrections	3
CORREC 106	Probation and Parole	3
TOTAL UNITS:		21

COURSES OFFERED BY THE DEPARTMENT OF ADMINISTRATION OF JUSTICE:

**ADJUS 101
INTRODUCTION TO ADMINISTRATION OF JUSTICE
3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

This course is an introduction to the philosophy and history of the criminal justice system including the roles, function of the local, state, and federal jurisdictions. Additional discussion topics will include the roles, functions and interrelationships among law enforcement agencies, courts and corrections as well as crime causation, correctional theory, analysis, and the social impact of crime.

Associate Degree Applicable

Course credit transfers to CSU and UC.

**ADJUS 102
PRINCIPLES AND PROCEDURES OF THE JUSTICE SYSTEM
3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

This is a study of the role and responsibilities of each segment within the administration of justice system, law enforcement, judicial, and corrections. It includes a past and present exposure to each sub-system, procedures from initial entry to final disposition and the relationship each segment maintains with its system members.

Associate Degree Applicable

Course credit transfers to CSU.

**ADJUS 103
CONCEPTS OF CRIMINAL LAW
3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

This course is an introduction to common law, legal concepts, codes, and their history, and the philosophy and development of U.S. criminal law.

Associate Degree Applicable

Course credit transfers to CSU and UC.

**ADJUS 104
LEGAL ASPECTS OF EVIDENCE
3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

This course is about the origin, development, philosophy, and constitutional basis of the use of evidence. It also incorporates constitutional and procedural considerations affecting arrest, search and seizure, types of evidence, and rules governing admissibility, judicial decisions, and interpretation of individual rights. Case studies will also be covered in this class.

Associate Degree Applicable

Course credit transfers to CSU.

**ADJUS 105
COMMUNITY RELATIONS
3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

Relationship and awareness of criminal justice agencies to diverse populations such as gender, racial, and sexual orientation: including discrimination and hate crimes.

Associate Degree Applicable

Course credit transfers to CSU and UC.

**ADJUS 106
PRINCIPLES OF INVESTIGATION
3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

Principles of various types of investigations utilized in the justice system, including concepts of investigation, and the analysis, evaluation, preservation and documentation of evidence. Includes dealing with the public, techniques for handling crime scenes, interviews, evidence, surveillance, follow-up, technical resources, and case preparation.

Associate Degree Applicable

Course credit transfers to CSU.

**ADJUS 107
CONCEPTS OF ENFORCEMENT SERVICES
3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

Exploration of theories, philosophies, and concepts related to the role expectations of the line enforcement officer. Emphasis on patrol, traffic and public service responsibilities and their relationships to the administration of justice.

Associate Degree Applicable

Course credit transfers to CSU.

**ADJUS 108
JUVENILE PROCEDURES
3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

Organization, function and jurisdiction of juvenile agencies, processing and detention of juvenile status and court procedures.

Associate Degree Applicable

Course credit transfers to CSU.

**ADJUS 198
ADMINISTRATION OF JUSTICE WORK EXPERIENCE
1-4 UNITS**

PREREQUISITE: None.

Supervised training in the form of on the job employment that will enhance the student's educational goals. The student's major and job must match. Students work 5-20 contact hours per week to earn units using the following formula: For paid work, 75 hours = 1 unit; for volunteer work, 60 hours = 1 unit. Students may earn a total of 16 units toward graduation in Work Experience 198 courses. Students MUST be working for pay or volunteer before registering for a Work Experience class. NOTE: Only one section of Work Experience may be taken during a semester.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

AERONAUTICS

DIVISION: Applied Technology,
Transportation and Culinary Arts

DIVISION DEAN: Gary Kelly, M.S.

FACULTY CHAIR: Kevin Kammer, M.S.
Technical 108
(909) 384-8503

OTHER FACULTY: Allen Moore, A.A.

ADMINISTRATIVE SECRETARY: Cecile Smith

DIVISION OFFICE: Technical 108
(909) 384-8902

LIAISON COUNSELOR: Frank Dunn, M.A.
(909) 384-4404

The Aeronautics Department curriculum offers students several ways to qualify for employment in the aviation industry. Students may pursue either Associate of Science degrees or certificates in Flight Operations and Management or Airframe and Powerplant Technology. Students desiring specific ratings or licenses should consult with faculty in the Aeronautics Department and/or the Federal Aviation Administration.

Students planning to transfer to a four-year institution and major in aeronautics should consult with a counselor regarding the transfer process and lower division requirements.

AERONAUTICS ASSOCIATE OF SCIENCE DEGREE

The Aeronautics Department offers these area of specialization for the Associate of Science Degree: Aviation Maintenance Technician, Flight Operations and Management. To graduate with a specialization in these areas, students must complete all requirements plus the general breadth requirements exceeding the usual 60 units required for the Associate Degree.

REQUIRED COURSES:	UNITS
AERO 100.1 Airframe and Powerplant General Curriculum-Calculations	2.5
AERO 100.2 Airframe and Powerplant General Curriculum-Publications	2.5
AERO 101.1 Airframe and Powerplant General Curriculum-Materials	2.5
AERO 101.2 Airframe and Powerplant General Curriculum-Servicing	2.5
AERO 102 Airframe Maintenance Lecture-Structures	6
AERO 103 Airframe Maintenance Lecture-Systems and Components	6
AERO 104 Powerplant Maintenance Lecture-Reciprocating Engine Overhaul	6
AERO 105 Powerplant Maintenance Lecture Accessory Overhaul	6
AERO 106.1 Airframe and Powerplant General Laboratory-Calculations	1
AERO 106.2 Airframe and Powerplant General Laboratory-Publications	1
AERO 107.1 Airframe and Powerplant General Laboratory-Materials	1
AERO 107.2 Airframe and Powerplant General Laboratory-Servicing	1
AERO 108 Airframe Maintenance Laboratory-Structures	5

AERO 109	Airframe Maintenance Laboratory-Systems and Components	5
AERO 110	Powerplant Maintenance Laboratory-Reciprocating Engine Overhaul	5
AERO 111	Powerplant Maintenance Laboratory-Accessory Overhaul	5
TOTAL UNITS:		58

FLIGHT OPERATIONS AND MANAGEMENT

The college offers a two year program in Flight Operations Management for students who are interested in a career as a Commercial pilot either in general aviation or the airlines, or in the area of aviation management. This certificate prepares students for immediate employment or for transfer to other colleges, and includes Federal Aviation Administration approved curricula in Private Pilot Ground School and Instrument Ground School.

REQUIRED COURSES:	UNITS
AERO 121 Aviation Fundamentals	3
*AERO 122D FAA Private Pilot Ground School	6
AERO 124 Aircraft Power Plants	3
AERO 125 Flight Safety	2
AERO 126 Aircraft Structures	3
AERO 134 Civil Aviation Management and Laws	3
AERO140D Instrument Ground School and Flight Simulators	4
AERO 144 Aviation Weather	3
BUSAD 100 Introduction to Business	3
PHYSIC 101 Basic Physics	4
TOTAL UNITS:	34

**Will be waived if students have taken equivalent course.*

AERONAUTICS CERTIFICATES

Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.

1. AVIATION MAINTENANCE TECHNICIAN CERTIFICATE

This certificate is designed to prepare students to qualify for the airframe and powerplant certificate issued by the Federal Aviation Administration, which enables the holder to perform 100 hours and annual inspections on aircraft ranging from small aircraft used in general aviation through jets utilized by commercial airlines. The written examinations are administered by the Federal Aviation Administration through computer testing centers. The practical portion of the certificate is administered here at San Bernardino Valley College. The total program requires 1,900 hours of lecture and laboratory.

REQUIRED COURSES:	UNITS
AERO 100.1 Airframe and Powerplant General Curriculum-Calculations	2.5
AERO 100.2 Airframe and Powerplant General Curriculum-Publications	2.5
AERO 101.1 Airframe and Powerplant General Curriculum-Materials	2.5
AERO 101.2 Airframe and Powerplant General Curriculum-Servicing	2.5
AERO 102 Airframe Maintenance Lecture-Structures	6
AERO 103 Airframe Maintenance Lecture-Systems and Components	6
AERO 104 Powerplant Maintenance Lecture-Reciprocating Engine Overhaul	6

AERO 105	Powerplant Maintenance Lecture Accessory Overhaul	6
AERO 106.1	Airframe and Powerplant General Laboratory-Calculations	1
AERO106.2	Airframe and Powerplant General Laboratory-Publications	1
AERO 107.1	Airframe and Powerplant General Laboratory-Materials	1
AERO 107.2	Airframe and Powerplant General Laboratory-Servicing	1
AERO 108	Airframe Maintenance Laboratory- Structures	5
AERO 109	Airframe Maintenance Laboratory- Systems and Components	5
AERO 110	Powerplant Maintenance Laboratory- Reciprocating Engine Overhaul	5
AERO 111	Powerplant Maintenance Laboratory- Accessory Overhaul	5
TOTAL UNITS:		58

2. FLIGHT OPERATIONS AND MANAGEMENT CERTIFICATE

The certificate program in Flight Operations is designed for students interested in careers as a pilot in general aviation, commercial aviation, or military aviation. This certificate prepares students for immediate employment or for transfer to other colleges, and includes Federal Aviation Administration approved curricula in basic ground school, advanced ground school, and instrument ground school. Through San Bernardino Valley College Flying Club, students have the opportunity to gain additional flight experience at a nominal cost as they prepare for the private pilot, commercial pilot, or instrument pilot ratings.

REQUIRED COURSES:		UNITS
AERO 121	Aviation Fundamentals	3
*AERO 122D	FAA Private Pilot Ground School	6
AERO 124	Aircraft Power Plants	3
AERO 125	Flight Safety	2
AERO 126	Aircraft Structures	3
AERO 134	Civil Aviation Management and Laws	3
AERO140D	Instrument Ground School and Flight Simulators	4
AERO 144	Aviation Weather	3
BUSAD 100	Introduction to Business	3
PHYSIC 101	Basic Physics	4
TOTAL UNITS:		34

**Will be waived if students have taken equivalent course.*

3. POWERPLANT MAINTENANCE TECHNICIAN CERTIFICATE

This certificate is designed to prepare students to qualify for the Powerplant Certificate issued by the Federal Aviation Administration, which enables the holder to perform 100-hour inspections on aircraft ranging from small aircraft used in general aviation through jets utilized by commercial airlines. The written examinations are administered by the Federal Aviation Administration through computer testing centers. The practical portion of the certificate is administered here at San Bernardino Valley College. The total program requires 1,150 hours of lecture and laboratory.

REQUIRED COURSES:		UNITS
AERO 100.1	Airframe and Powerplant General Curriculum-Calculations	2.5
AERO 100.2	Airframe and Powerplant General Curriculum-Publications	2.5
AERO 101.1	Airframe and Powerplant General Curriculum-Materials	2.5
AERO 101.2	Airframe and Powerplant General Curriculum-Servicing	2.5
AERO 104	Powerplant Maintenance Lecture- Reciprocating Engine Overhaul	6
AERO 105	Powerplant Maintenance Lecture Accessory Overhaul	6
AERO 106.1	Airframe and Powerplant General Laboratory-Calculations	1
AERO106.2	Airframe and Powerplant General Laboratory-Publications	1
AERO 107.1	Airframe and Powerplant General Laboratory-Materials	1
AERO 107.2	Airframe and Powerplant General Laboratory-Servicing	1
AERO 110	Powerplant Maintenance Laboratory- Reciprocating Engine Overhaul	5
AERO 111	Powerplant Maintenance Laboratory- Accessory Overhaul	5
TOTAL UNITS:		36

4. AIRFRAME MAINTENANCE TECHNICIAN CERTIFICATE

This certificate is designed to prepare students to qualify for the airframe certificate issued by the Federal Aviation Administration, which enables the holder to perform 100-hour inspections on aircraft ranging from small aircraft used in general aviation through jets utilized by commercial airlines. The written examinations are administered by the Federal Aviation Administration through computer testing centers. The practical portion of the certificate is administered here at San Bernardino Valley College. The total program requires 1,150 hours of lecture and laboratory.

REQUIRED COURSES:		UNITS
AERO 100.1	Airframe and Powerplant General Curriculum-Calculations	2.5
AERO 100.2	Airframe and Powerplant General Curriculum-Publications	2.5
AERO 101.1	Airframe and Powerplant General Curriculum-Materials	2.5
AERO 101.2	Airframe and Powerplant General Curriculum-Servicing	2.5
AERO 102	Airframe Maintenance Lecture- Structures	6
AERO 103	Airframe Maintenance Lecture- Systems and Components	6
AERO 106.1	Airframe and Powerplant General Laboratory-Calculations	1
AERO106.2	Airframe and Powerplant General Laboratory-Publications	1
AERO 107.1	Airframe and Powerplant General Laboratory-Materials	1
AERO 107.2	Airframe and Powerplant General Laboratory-Servicing	1
AERO 108	Airframe Maintenance Laboratory- Structures	5
AERO 109	Airframe Maintenance Laboratory- Systems and Components	5
TOTAL UNITS:		36

5. AVIONICS TECHNOLOGY CERTIFICATE

Complete the CORE REQUIRED COURSES for the ELECTRONICS TECHNOLOGY CERTIFICATE, plus:

REQUIRED COURSES:	UNITS
AERO 121* Aviation Fundamentals	3
AERO 140C* Instrument Ground School & Flight Simulator	4
ELECTR 220A FCC Rules and Regulations	3
ELECTR 250A Radio Transmitters, Receivers, & Antennas	4
ELECTR 257A Navigation & Communication Systems	4
TOTAL UNITS:	52

* AERO 102 & 103 can be substituted for AERO 121 & 140

COURSES OFFERED BY THE DEPARTMENT OF AERONAUTICS:

AERO 015 BASIC FUNDAMENTALS OF AIRCRAFT COMPOSITE STRUCTURES 2 UNITS

PREREQUISITE: None.

LECTURE: 2 contact hours per week.

This course is an introduction to aircraft composite structures including the manufacturing, uniqueness, strength and repair methods.

Associate Degree Applicable

AERO 100.1 AIRFRAME AND POWERPLANT GENERAL CALCULATIONS 2.5 UNITS

PREREQUISITE: None.

COREQUISITES: AERO 106.1 and either AERO 102 and AERO 108 or AERO 104 and AERO 110.

LECTURE: 2.5 contact hours per week.

This Federal Aviation Administration approved curriculum provides training for the general requirements in aviation maintenance. The areas covered will be familiarization with basic hand tool, applications of mathematics, basic physics and Federal Aviation Regulations.

Associate Degree Applicable

Course credit transfers to CSU.

AERO 100.2 AIRFRAME AND POWERPLANT GENERAL PUBLICATIONS 2.5 UNITS

PREREQUISITE: None.

COREQUISITES: AERO 106.2 and either AERO 102 and AERO 108 or AERO 104 and AERO 110.

LECTURE: 2.5 contact hours per week.

This Federal Aviation Administration (FAA) approved curriculum provides training for the general requirements in aviation maintenance. The areas covered will be familiarization with aircraft forms and records, FAA Publications, basic electricity including application of Ohm's law, use of a volt/ohm meter, read and interpret electrical circuit diagrams, service and inspection of batteries.

Associate Degree Applicable

Course credit transfers to CSU.

AERO 101.1 AIRFRAME AND POWER PLANT GENERAL - MATERIALS 2.5 UNITS

PREREQUISITE: None.

COREQUISITES: AERO 107.1, AERO 103, and AERO 109 or AERO 105 and AERO 111.

LECTURE: 2.5 contact hours per week.

This Federal Aviation Administration (FAA) approved curriculum provides training for the general requirements in maintenance mandated by the FAA. Focus will be on aircraft weight and balance control, basic drafting, and aircraft fluid lines and fittings.

Associate Degree Applicable

Course credit transfers to CSU.

AERO 101.2 AIRFRAME AND POWER PLANT GENERAL - SERVICING 2.5 UNITS

PREREQUISITE: None.

COREQUISITES: AERO 107.2, AERO 103, and AERO 109 or AERO 105 and AERO 111.

LECTURE: 2.5 contact hours per week.

This Federal Aviation Administration (FAA) approved curriculum provides training for the general requirements in maintenance mandated by the FAA. Focus will be on aircraft hardware, materials, non-destructive testing processes, corrosion control, aircraft cleaning and ground operations and handling.

Associate Degree Applicable

Course credit transfers to CSU.

AERO 102 AIRFRAME MAINTENANCE LECTURE - STRUCTURES 6 UNITS

PREREQUISITES/COREQUISITES: AERO 100.1, AERO 100.2, AERO 106.1 and AERO 106.2

COREQUISITE: AERO 108.

LECTURE: 6 contact hours per week.

This Federal Aviation Administration approved curriculum provides training in airframe structures and airframe systems and components. Satisfactory completion qualifies students to take the FAA examination for airframe certification. Topics include shop safety; aircraft covering; aircraft finishing; theory of flight; assembly and rigging; structural repair; aircraft inspection; and aircraft fuel systems.

Associate Degree Applicable

Course credit transfers to CSU.

AERO 103 AIRFRAME MAINTENANCE LECTURE - SYSTEMS AND COMPONENTS 6 UNITS

PREREQUISITES/COREQUISITES: AERO 101.1, AERO 101.2, AERO 107.1 and AERO 107.2.

COREQUISITE: AERO 109.

LECTURE: 6 contact hours per week.

This Federal Aviation Administration approved curriculum provides training in airframe structures and airframe systems and components. Satisfactory completion qualifies students to take the FAA examination for airframe certification. Topics include aircraft welding; electrical circuits; and basic aircraft systems for power, landing, brakes warning instrumentation, auto pilot, cabin atmosphere control, ice and rain control, fire protection and communications.

Associate Degree Applicable

Course credit transfers to CSU.

AERO 104
POWER PLANT MAINTENANCE LECTURE -
RECIPROCATING ENGINE OVERHAUL **6 UNITS**

PREREQUISITES/COREQUISITES: AERO 100.1,
AERO 100.2, AERO 106.1 and AERO 106.2.
COREQUISITE: AERO 110.

LECTURE: 6 contact hours per week.

This Federal Aviation Administration approved curriculum provides training in powerplant engines and components. Satisfactory completion qualifies students to take the FAA examination for the powerplant certificate. Topics include reciprocating engine, engine inspections, engine lubrication systems, engine instruments, engine fire protection systems, and engine fuel systems.

Associate Degree Applicable
Course credit transfers to CSU.

AERO 105
POWER PLANT MAINTENANCE LECTURE –
ACCESSORY OVERHAUL **6 UNITS**

PREREQUISITES/COREQUISITES: AERO 101.1, AERO
101.2, AERO 107.1 and AERO 107.2.

COREQUISITE: AERO 111.

LECTURE: 6 contact hours per week.

This Federal Aviation Administration approved curriculum provides training in powerplant system and components. Satisfactory completion qualifies students to take the FAA examination for the powerplant certificate. Topics include basic systems for electricity, ignition, and fuel and fuel metering, induction, cooling, exhaust, propellers, turbine engines and auxiliary power units.

Associate Degree Applicable
Course credit transfers to CSU.

AERO 106.1
AIRFRAME AND POWER PLANT GENERAL
LABORATORY – CALCULATIONS **1 UNIT**

PREREQUISITE: None.

COREQUISITES: AERO 100.1 and either AERO 102
and AERO 108 or AERO 104 and AERO 110.

LABORATORY: 3 contact hours per week.

This Federal Aviation Administration (FAA) approved curriculum provides training for the general requirements in maintenance mandated by the FAA. Focus will be on aircraft weight and balance control, basic drafting, and aircraft fluid lines and fittings.

Associate Degree Applicable
Course credit transfers to CSU.

AERO 106.2
AIRFRAME AND POWER PLANT GENERAL
LABORATORY – PUBLICATIONS **1 UNIT**

PREREQUISITE: None.

COREQUISITES: AERO 100.2 and either AERO 102
and AERO 108 or AERO 104 and AERO 110.

LABORATORY: 3 contact hours per week.

This Federal Aviation Administration (FAA) approved curriculum provides training for the general requirements in aviation maintenance. The areas covered will be familiarization with aircraft forms and records, FAA Publications, basic electricity including application of Ohm's law, use of a volt/ohm meter, read and interpret electrical circuit diagrams, service and inspection of batteries.

Associate Degree Applicable
Course credit transfers to CSU.

AERO 107.1
AIRFRAME AND POWER PLANT GENERAL
LABORATORY - MATERIALS **1 UNIT**

PREREQUISITE: None.

COREQUISITES: AERO 101.1, AERO 103, and AERO
109 or AERO 105 and AERO 111.

LABORATORY: 3 contact hours per week.

This Federal Aviation Administration (FAA) approved curriculum provides training for the general requirements in maintenance mandated by the FAA. Focus will be on aircraft weight and balance control, basic drafting, aircraft fluid lines and fittings.

Associate Degree Applicable
Course credit transfers to CSU.

AERO 107.2
AIRFRAME AND POWER PLANT GENERAL
LABORATORY - SERVICING **1 UNIT**

PREREQUISITE: None.

COREQUISITES: AERO 101.2, AERO 103, and AERO
109 or AERO 105 and AERO 111.

LABORATORY: 3 contact hours per week.

This Federal Aviation Administration (FAA) approved curriculum provides training for the general requirements in maintenance mandated by the FAA. Focus will be on aircraft hardware, materials, non-destructive testing processes, corrosion control, aircraft cleaning, and ground operations and handling.

Associate Degree Applicable
Course credit transfers to CSU.

AERO 108
AIRFRAME MAINTENANCE LABORATORY -
STRUCTURES **5 UNITS**

PREREQUISITES/COREQUISITES: AERO 100.1 AERO
100.2, AERO 106.1, and AERO 106.2.

COREQUISITE: AERO 102.

LABORATORY: 15 contact hours per week.

This Federal Aviation Administration approved curriculum provides training in airframe structures and airframe systems and components. Satisfactory completion qualifies students to take the FAA examination for airframe certification. Topics include shop safety; aircraft covering; aircraft finishing; theory of flight; assembly and rigging; structural repair; aircraft inspection; and aircraft fuel systems.

Associate Degree Applicable
Course credit transfers to CSU.

AERO 109
AIRFRAME MAINTENANCE LABORATORY -
SYSTEMS AND COMPONENTS **5 UNITS**

PREREQUISITES/COREQUISITES: AERO 101.1, AERO
101.2, AERO 107.1, and AERO 107.2

COREQUISITE: AERO 103.

LABORATORY: 15 contact hours per week.

This Federal Aviation Administration approved curriculum provides training in airframe structures and airframe systems and components. Satisfactory completion qualifies students to take the FAA examination for airframe certification. Topics include aircraft welding; electrical circuits; and basic aircraft systems for hydraulics, landing gear, brakes, warning, instruments, autopilot, cabin atmosphere control, ice and rain control, fire protection and communications.

Associate Degree Applicable
Course credit transfers to CSU.

AERO 110
POWER PLANT MAINTENANCE LABORATORY -
RECIPROCATING ENGINE OVERHAUL 5 UNITS
PREREQUISITES/COREQUISITES: AERO 100.1, AERO
100.2, AERO 106.1 and AERO 106.2.
COREQUISITE: AERO 104.
LABORATORY: 15 contact hours per week.
This Federal Aviation Administration approved curriculum provides training in powerplant engines and components. Satisfactory completion qualifies students to take the FAA examination for the powerplant certificate. Topics include reciprocating engine, engine inspections, engine lubrication systems, engine instruments, engine fire protection systems, and engine fuel systems.
Associate Degree Applicable
Course credit transfers to CSU.

AERO 111
POWER PLANT MAINTENANCE LABORATORY -
ACCESSORY OVERHAUL 5 UNITS
PREREQUISITES/COREQUISITES: AERO 101.1, AERO
102.2, AERO 107.1 and AERO 107.2.
COREQUISITE: AERO 105.
LABORATORY: 15 contact hours per week.
This Federal Aviation Administration approved curriculum provides training in powerplant system and components. Satisfactory completion qualifies students to take the FAA examination for the powerplant certificate. Topics include basic systems for electricity, ignition, fuel and fuel metering, induction, cooling, exhaust, propellers, turbine engines and auxiliary power units.
Associate Degree Applicable
Course credit transfers to CSU.

AERO 121
AVIATION FUNDAMENTALS 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
This course is an introduction to the basic principles of aeronautics, aircraft structure and operations. It provides an orientation to the aviation industry aeronautical occupations. The history of aviation is presented with an outlook for the future of the aviation and aerospace industries.
Associate Degree Applicable
Course credit transfers to CSU.

AERO 122D
F.A.A. PRIVATE PILOT GROUND SCHOOL 6 UNITS
PREREQUISITE: None.
LECTURE: 6 contact hours per week.
Complete preparation for the F.A.A. private pilot written examination including aerodynamics, weight and balance, flight computer, navigation, meteorology and federal air regulations.
Associate Degree Applicable
Course credit transfers to CSU.

AERO 124
AIRCRAFT POWER PLANTS 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
Familiarizes the aviator or prospective pilot with the operating principles and construction highlights of both reciprocating and jet aircraft engines.
Associate Degree Applicable
Course credit transfers to CSU.

AERO 125
FLIGHT SAFETY 2 UNITS
PREREQUISITE: None.
LECTURE: 2 contact hours per week.
An in-depth study of flight safety including flight safety records, aircraft accident prevention, causal cause factors, agencies and organizations contributing to flight safety, pilot and command responsibilities, liability and litigation.
Associate Degree Applicable
Course credit transfers to CSU.

AERO 126
AIRCRAFT STRUCTURES 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
This course covers the fundamentals of aircraft design and construction including the types of construction; reasons for variances in construction from aircraft to aircraft; manufacturing processes and the basic working principles of major aircraft systems.
Associate Degree Applicable
Course credit transfers to CSU.

AERO 134
CIVIL AVIATION MANAGEMENT AND LAWS 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
This course covers the history of civil aviation in the United States including: federal legislation, international treaties and agreements, and regulations pertaining to the management of airports and airplane companies.
Associate Degree Applicable
Course credit transfers to CSU.

AERO 140D
INSTRUMENT GROUND SCHOOL AND FLIGHT
SIMULATORS 4 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.
An instrument ground school which provides academic and practical training in the fundamentals of instrument flying. Includes aerodynamic factors, flight instruments and techniques, electronic navigational aids, flight planning, communication, air traffic control, and procedures such as departures, enroute, arrival, approach, missed approach, and emergencies. The subject matter is reinforced by flying the various procedures in the flight simulators. This is an excellent refresher course for students who currently possess an Instrument Rating or an Airline Transport Rating. **COMPLETION OF BASIC F.A.A. GROUND SCHOOL OR ENROLLMENT IN GROUND SCHOOL OR COMMERCIAL AERONAUTICAL COURSES IS REQUIRED.**
Associate Degree Applicable
Course credit transfers to CSU.

AERO 144
AVIATION WEATHER 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
Aviation weather includes basic and hazardous weather and interpretation of weather reports, forecasts, and charts as they relate to aircraft operation and flight safety.
Associate Degree Applicable
Course credit transfers to CSU.

AERO 198
AERONAUTICS WORK EXPERIENCE 1-4 UNITS
PREREQUISITE: None.

Supervised training in the form of on the job employment that will enhance the student's educational goals. The student's major and job must match. Students work 5-20 contact hours per week to earn units using the following formula: For paid work, 75 hours = 1 unit; for volunteer work, 60 hours = 1 unit. Students may earn a total of 16 units toward graduation in Work Experience 198 courses. Students MUST be working for pay or volunteer before registering for a Work Experience class. NOTE: Only one section of Work Experience may be taken during a semester.

Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

ALCOHOL/DRUG STUDIES
See courses within the
HUMAN SERVICES DEPARTMENT

AMERICAN SIGN LANGUAGE

DIVISION: Humanities and The Arts
DIVISION DEAN: Kathryn Weiss, Ed.D.
FACULTY CHAIR: Lydia Barajas-Zapata, M.A.
Liberal Arts 237
(909) 384-8237
OTHER FACULTY: Bert Reins, B.A.
Nori Sogomonian, M.A.
ADMINISTRATIVE SECRETARY: Linda Tymchek
DIVISION OFFICE: Liberal Arts 217
(909) 384-8633
LIAISON COUNSELOR: Laura Gomez, M.A.
(909) 384-4404

**COURSES OFFERED BY THE DEPARTMENT OF
AMERICAN SIGN LANGUAGE:**

ASL 109
AMERICAN SIGN LANGUAGE I 4 UNITS
PREREQUISITE: None.

LECTURE: 4 contact hours per week.
Develops communication skills in American Sign Language. Presents basic vocabulary and grammar of ASL with a review of the characteristics of the deaf community. Primary emphasis is on comprehension abilities.

Associate Degree Applicable
Course credit transfers to CSU and UC.

ASL 110
AMERICAN SIGN LANGUAGE II 4 UNITS
PREREQUISITE: ASL 109.

LECTURE: 4 contact hours per week.
As part of the American Sign Language course sequence, ASL 110 is second in a series of four ASL courses designed for the student to develop proficiency in ASL usage. The course continues to stress the development of basic conversational skills with emphasis on expanding vocabulary and comprehension/production skills. Course content for ASL 110 is comprised of four basic categories: cultural awareness, grammatical features, vocabulary development, and conversational skills.

Associate Degree Applicable
Course credit transfers to CSU and UC.

ASL 111
AMERICAN SIGN LANGUAGE III 4 UNITS
PREREQUISITE: ASL 110.

LECTURE: 4 contact hours per week.
Develops conversational skills in American Sign Language. Presents expanded vocabulary and grammar of ASL with a review of primary issues in deaf culture. Emphasis is on idiomatic constructions as well as comprehension and production skills.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ASL 112
AMERICAN SIGN LANGUAGE IV 4 UNITS
PREREQUISITE: ASL 111.

LECTURE: 4 contact hours per week.
The fourth course in a series designed to help students acquire communicative competency in American Sign Language, both comprehension and production skills within the contexts of literature and story telling. Emphasis is on cultural awareness, grammatical features, vocabulary development, and conversational skills.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ANATOMY

See courses within the BIOLOGY DEPARTMENT

ANTHROPOLOGY

DIVISION: Social Science, Human
Development and Physical
Education
DIVISION DEAN: Corene Schwartz, Ed.D.
FACULTY CHAIR: Romona Pires, M.A., M.S.
Liberal Arts 144
(909) 384-8602
ADMINISTRATIVE SECRETARY: Karen Deck
DIVISION OFFICE: Liberal Arts 114
(909) 384-8603
ADMINISTRATIVE SECRETARY: Anita Moore
DIVISION OFFICE: Liberal Arts 111
(909) 384-8514
LIAISON COUNSELOR: Rutina Taylor, M.A.
(909) 384-4404

Anthropology is the study of humanity in all times and places. As such, it has the broadest scope of any of the social sciences.

The Anthropology Department includes basic introductory courses in cultural and physical anthropology as well as archaeology. In addition, courses are offered which focus on selected areas, such as religion, art, and North American Indians.

With the goal of understanding people in all parts of the world, anthropology is useful to anyone living or working in a multicultural environment, such as the business world, health sciences, or any other profession which involves working with people from diverse backgrounds. The courses within this department are designed to provide students with survival skills for the global community in which we live, a community in which all of the world's people are interdependent. Students planning to transfer to a four-year institution and major in anthropology should consult with a counselor regarding the transfer process and lower division requirements.

COURSES OFFERED BY THE DEPARTMENT OF ANTHROPOLOGY:

ANTHRO 100
INTRODUCTION TO ARCHAEOLOGY 3 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week.
The study of material remains, usually from the past, to describe and explain human behavior. Includes the methods, objectives, and history of archeology; a survey of the biological and cultural development of humanity as revealed by archaeological discoveries from around the world; and the contribution of archeology to an understanding of the present and the future.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ANTHRO 102
CULTURAL ANTHROPOLOGY 3 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week.
The focus is on human behavior, studied through the approaches of archaeology, linguistics, and ethnology. Selected topics cover the range of cultural phenomena including material culture, social organization, and religion. This course qualifies for continuing education credit for nurses.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ANTHRO 106
PHYSICAL ANTHROPOLOGY 3 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week.
The systematic study of humans as biological organisms including the origin and antiquity of humanity, our place in nature, modern biological diversity including race, and the future prospects for the human species.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ANTHRO 106H
PHYSICAL ANTHROPOLOGY – HONORS 3 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week.
The systematic study of humans as biological organisms including the origin and antiquity of humanity, our place in nature, modern biological diversity including race, and the future prospects for the human species. **Enrollment is limited to students eligible for the Honors Program.**
Associate Degree Applicable
*Course credit transfers to CSU and *UC.*

ANTHRO 107
THE NORTH AMERICAN INDIANS 3 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week.
A systematic survey of North American Indian groups, from their prehistoric roots to the present. Includes their place in American history, U.S. Government policies and regulation, and future prospects for North American Indians.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ANTHRO 109
TRIBAL AND ETHNIC ART 3 UNITS
PREREQUISITE: None.

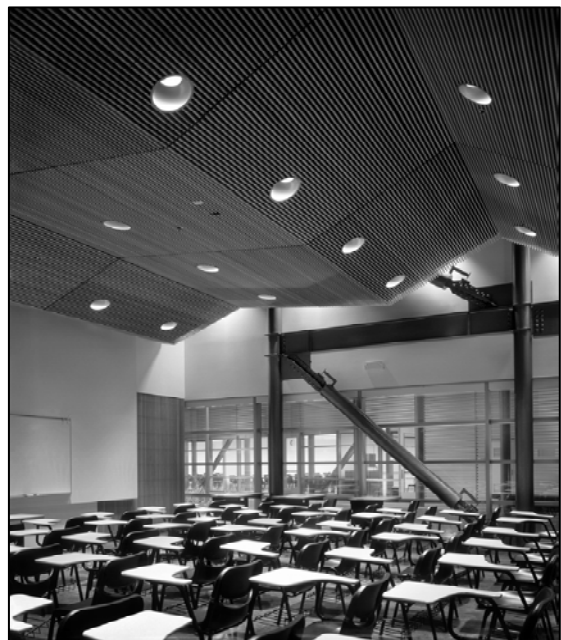
LECTURE: 3 contact hours per week.
A world-wide survey of the artistic achievement of past and present tribal peoples with an emphasis on the meaning of art in each society. Art works are surveyed through films, slides, field trips and examination of actual art works and include cultures of North American Indians, ancient America, the Pacific, Africa and Australia.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ANTHRO 110
TRIBAL AND ETHNIC RELIGIONS 3 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week.
A comparative study of supernaturalism in tribal societies, both past and present including witchcraft, magic, totemism, mythology and ritual, nativistic movements, and the religious context of drug usage. Prehistoric religion will be examined, as well as the belief systems of selected tribal peoples. This course is also offered as RELIG 110.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ANTHRO 222
INDEPENDENT STUDY IN ANTHROPOLOGY 1-3 UNITS

PREREQUISITE: ANTHRO 100 or ANTHRO 102 or ANTHRO 106.
INDEPENDENT STUDY: 3-9 contact hours per week.
Assigned projects involving research and analysis of selected topics or directed study for students who are interested in furthering their knowledge of Anthropology on an independent study basis. For each unit earned, students are required to devote three contact hours per week throughout the semester. Enrollment limited to those who meet independent study criteria. Prior to registration, a contract must be prepared. See instructor for details.
Associate Degree Applicable
Course credit transfers to CSU.
Limited transfer to UC; credit determined after transfer to UC.



ARCHITECTURE and ENVIRONMENTAL DESIGN

DIVISION: Science and Health Science
 DIVISION DEAN: Susan Bangasser, Ph.D.
 FACULTY CHAIR: John Stanskas, Ph.D.
 Chemistry 114
 (909) 384-8268
 OTHER FACULTY: Judy Jorgensen, B.S.
 ADMINISTRATIVE SECRETARY: Rose Garcia
 DIVISION OFFICE: Chemistry 121
 (909) 384-8645
 ADMINISTRATIVE SECRETARY: Dorothy N. Fierro
 DIVISION OFFICE: Health and Life Science 101
 (909) 384-8550
 LIAISON COUNSELOR: Jennifer Mendoza, M.S.
 (909) 384-4404

The Architecture curriculum is designed to provide students with the following understanding and skills:

- 1) Verbal and graphic methods of communication;
- 2) An understanding of the social and environmental problems in the United States and other countries;
- 3) Creative solutions to existing and future problems in the United States and other countries; and
- 4) How to implement new ideas in a reasonable time frame.

The areas of study include how to develop a better quality of life through efficient housing, new building material development, new construction methods, new work methods, solar and wind power, efficient use of resources, and a reduction of waste in materials and time. A learning-by-doing approach is stressed in preparation for the job market or transfer to a university for further study in architecture, architectural engineering, city planning, or landscape architecture. Students planning to transfer to a four-year institution and major in one of these fields should consult with a counselor regarding the transfer process and lower division requirements.

ARCHITECTURAL DESIGN ASSOCIATE OF ARTS DEGREE

To graduate with a specialization in Architectural Design Studies, a student must complete the following courses in addition to the general breadth requirements for an Associate's Degree. For transfer students, these courses will provide students with the tools needed to construct a portfolio that will be required to transfer into Architecture Programs at 4-year institutions. Along with a successful portfolio, these courses should also constitute the first two years of an Architecture Program. In addition, these courses should help students interested in transferring to 4-year institutions as Environmental Design, Landscape Architecture, Interior Design and Urban Planning majors.

REQUIRED COURSES:	UNITS
ARCH 100 Environmental Design I	3
ARCH 101 Environmental Design II	3
ARCH 145 History of Architecture: Ancient to Gothic	3
ARCH 146 History of Architecture: Renaissance to Modern	3
ARCH 200 Architectural Design I	4
ARCH 201 Architectural Design II	4
ARCH 220 Architectural CAD I	4
ARCH 250 Materials and Construction	4
ARCH 270 Portfolio Design	1

PHYSIC 150A or PHYSIC 200 General Physics	5-6
ART 132x4 Life Drawing	3
TOTAL UNITS:	37-38

RECOMMENDED COURSES:	UNITS
<i>Students are encouraged to take these courses as part of their General Education program:</i>	
CS 110 Fundamentals of Computer Science	3
ART 120 Two-Dimensional Design	3
ART 145 Graphic Design	3
MATH 093 Plane Geometry	3
MATH 103 Trigonometry	4

ARCHITECTURE CERTIFICATES

Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.

COMPUTER-AIDED DRAFTING TECHNICIAN CERTIFICATE

This certificate is designed to prepare students for entry-level work in the fields of architecture, urban planning, interior design, electronics design and manufacturing design. Computer Aided Drafting, CAD, is the primary tool used to produce and present work completed in these fields. Students completing this certificate will most likely work for a licensed architect, structural engineer, mechanical engineer or for local, state or federal governmental agencies or urban planning commissions.

REQUIRED COURSES:	UNITS
ARCH 120 Intro to Computer-Aided Drafting	4
ARCH 146 History of Architecture: Renaissance to Modern	3
ARCH 220 Architectural CAD I	4
ARCH 221 Architectural CAD II	4
ARCH 250 Materials and Construction	4
MATH 093 Plane Geometry	3
ENGL 015 Preparation for College Writing	4
ART 132x4 Life Drawing	3
TOTAL UNITS:	29

RECOMMENDED COURSES:	UNITS
<i>Students are encouraged, but not required, to enroll in the following:</i>	
CS 110 Fundamentals of Computer Science	3
INSPEC 010A Funds. of Construction Inspection I	3
INSPEC 011A Funds. of Construction Inspection II	3
INSPEC 012A Funds. of Construction Inspection III	3

COURSES OFFERED BY THE DEPARTMENT OF ARCHITECTURE and ENVIRONMENTAL DESIGN:

ARCH 100 ENVIRONMENTAL DESIGN I	3 UNITS
PREREQUISITE: None.	
LECTURE: 2 contact hours per week and LABORATORY: 3 contact hours per week.	
An introduction to the design process, to the vocabulary of design and the basic principles of environmental design, landscape design, and urban planning.	
<i>Associate Degree Applicable</i>	
<i>Course credit transfers to CSU.</i>	

ARCH 101
ENVIRONMENTAL DESIGN II 3 UNITS
PREREQUISITE: ARCH 100.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.

A continuation of ARCH 100, with an emphasis on composition and basic design as applied to both architecture and art. A series of projects will introduce students to the use of line, color, form and materials, and will promote awareness of environmental concerns.

Associate Degree Applicable
Course credit transfers to CSU.

ARCH 120
INTRODUCTION TO COMPUTER AIDED DRAFTING 4 UNITS

PREREQUISITE: None.
DEPARTMENTAL ADVISORY: CS 110.
LECTURE: 2 contact hours per week and
LABORATORY: 6 contact hours per week.

An introduction to the theories and principles of computer-aided design/drafting (CAD) using AutoCAD and to its principal applications in the fields of architecture, design, manufacturing, construction, and planning are explored. The technical aspects of generating, evaluating, modeling, drafting, and rendering design solutions will be introduced.

Associate Degree Applicable
Course credit transfers to CSU.

ARCH 145
HISTORY OF ARCHITECTURE: EARLY DESIGN
TO GOTHIC 3 UNITS

PREREQUISITE: None.
LECTURE: 3 contact hours per week.

A survey of Western architectural history from the early Egyptians to the Gothic Period, including a comparative study of architecture and architects with emphasis on the people, locations, structures, materials, and methods of construction.

Associate Degree Applicable
Course credit transfers to CSU and UC.

ARCH 146
HISTORY OF ARCHITECTURE: RENAISSANCE
TO MODERN 3 UNITS

PREREQUISITE: None.
LECTURE: 3 contact hours per week.

Survey of Western architectural history, including a comparative study of architecture and architects, with emphasis on the people, locations, structures, materials, and methods of construction. Includes Renaissance, Mannerist, Baroque, Rococo, Native American, American Colonial, Neoclassicism, Romantic Revival, 19th Century Industrialization, Ecole des Beaux Arts, Late 19th Century, Chicago School, Sullivan-esque, Arts and Crafts, International Style, Art Nouveau, Art Deco, Art Moderne, German Expressionism, Neo-Expressionism, Late Modernism, and Postmodernism.

Associate Degree Applicable
Course credit transfers to CSU and UC.

ARCH 200
ARCHITECTURAL DESIGN I 4 UNITS
PREREQUISITE: ARCH 101.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

An Introduction to design skills and problem-solving techniques as they apply to the architectural profession.

Associate Degree Applicable
*Course credit transfers to CSU and *UC.*

ARCH 201
ARCHITECTURAL DESIGN II 4 UNITS
PREREQUISITE: ARCH 200.

LECTURE: 1 contact hour per week and
LABORATORY: 8 contact hours per week.

A continuation of ARCH 200. Architectural design processes are explored, including advanced problem-solving in spatial relationships, structures and human requirements. Includes advanced model building.

Associate Degree Applicable
*Course credit transfers to CSU and *UC.*

ARCH 220
ARCHITECTURAL COMPUTER AIDED DRAFTING I 4 UNITS

PREREQUISITE: ARCH 120.
LECTURE: 2 contact hours per week and
LABORATORY: 6 contact hours per week.

An introduction to the theories and principles of computer aided design/drafting (CAD) using AutoCAD and to its principal applications in the field of architecture by generating, evaluating, modeling, drafting and rendering design solutions.

Associate Degree Applicable
Course credit transfers to CSU.

ARCH 221
ARCHITECTURAL COMPUTER AIDED DRAFTING II 4 UNITS

PREREQUISITES: ARCH 220.
LECTURE: 2 contact hours per week and
LABORATORY: 6 contact hours per week.

A continuation of ARCH 220 and continues to familiarize students with the preparation of preliminary studies, construction drawings, detail drawing and building code applications. This includes complete construction drawings of light wood frame and heavy timber construction and utilizes computer aided design drafting (CAD).

Associate Degree Applicable
Course credit transfers to CSU.

ARCH 250
MATERIALS AND CONSTRUCTION 4 UNITS
PREREQUISITE: ARCH 146.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

A survey of sources, properties and production of the common materials used in construction such as steel, iron, non-ferrous metals and their alloys, concrete, brick and wood. Construction projects will give students knowledge and experience in building construction as it relates to architecture.

Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

ARCH 270
PORTFOLIO DESIGN **1 UNIT**
PREREQUISITE: ARCH 200.
LABORATORY: 3 contact hours per week.

This course is designed to assist architecture students in the preparation of their portfolio. The design portfolio is required to transfer to most four-year/five-year Architecture programs. Students should be enrolled in their last semester at San Bernardino Valley College before enrolling in this course.

Associate Degree Applicable
Course credit transfers to CSU.

ART 120 Two Dimensional Design	3
or	
ART 175x4 Sculpture	(3)
or	
ART 212x4 Ceramics	(3)
ART 124x4 Drawing	3
ART 126x4 Painting	3
or	
ART 132x4 Life Drawing	(3)
ART 148 Beginning Computer Graphics	3
ART 164x4 Creative Filmmaking	3
TOTAL UNITS:	21

ART

DIVISION:	Humanities and The Arts
DIVISION DEAN:	Kathryn Weiss, Ed.D.
FACULTY CHAIR:	Mandi Batalo, M.A.
DEPARTMENT OFFICE:	Art Gallery (909) 384-8937
OTHER FACULTY:	Gary Calote, M.A. David Rosales, M.F.A. James Stewart, M.F.A.
ADMINISTRATIVE SECRETARY:	Linda Tymchek
DIVISION OFFICE:	Liberal Arts 217 (909) 384-8633
DEPARTMENT ASS'T:	Emily McNichols (909) 384-8939
LIAISON COUNSELOR:	Laura Gomez, M.A. (909) 384-4404

The study of art involves both an appreciation of the cultural heritage of art and the development of skills. Consequently, the Art Department offers courses in art history as well as studio courses in drawing, design, ceramics, painting, filmmaking, life drawing, computer graphics, graphic design, computer animation, web & multimedia design, digital photography, basic photography design in glass, sculpture, and glassblowing. In addition to an associate degree in fine arts, the department offers two certificates in graphic design and web+multimedia design, designed for students seeking employment in the design, advertising, and entertainment fields.

A baccalaureate degree in art qualifies students for employment in the fine arts, industry, and education. Students planning to transfer to a four-year institution and major in art should consult with a counselor regarding the transfer process and lower division requirements.

Many of the courses in this department are activity courses that may be taken more than once. These courses are indicated by (x) following the three-digit course number; the number following the (x) indicates the number of times the course may be repeated.

ART ASSOCIATE OF ARTS DEGREES

1. ART

To graduate with a specialization in Art, students must complete the following required courses plus the general breadth requirements for the Associate Degree (total = 60 units). The art courses chosen should reflect the individual student's interests.

REQUIRED COURSES:	UNITS
ART 100 Art History: The Stone Age to the Middle Ages	3
ART 102 Art History: The Renaissance to the Present	3

2. GRAPHIC DESIGN

REQUIRED COURSES:	UNITS
ART 100 Art History: The Stone Age to the Middle Ages	3
ART 102 Art History: The Renaissance to the Present	3
ART 120 Two-Dimensional Design	3
ART 124x4 Drawing	3
ART 145 Graphic Design	3
ART 148 Beginning Computer Graphics	3
ART 158x4 Basic Photography	3
Three units from the list of RECOMMENDED COURSES	3
TOTAL UNITS:	24

RECOMMENDED COURSES:	UNITS
ART 126x4 Painting	3
ART 132x4 Life Drawing	3
ART 149 Intermediate Computer Graphics	3
ART 150 Advanced Computer Graphics	3
ART 164x4 Creative Filmmaking	3
ART 180 Beginning Computer Animation	3

ART CERTIFICATES

Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.

1. GRAPHIC DESIGN CERTIFICATE

This certificate is designed to prepare students for entry-level work using a variety of print, electronic, and film media to create designs that meet clients' commercial needs.

REQUIRED COURSES:	UNITS
ENGL 015 Preparation for College Writing	4
or	
ENGL 101 Freshman Composition	(4)
ART 100 Art History: The Stone Age to the Middle Ages	3
or	
ART 102 Art History: The Renaissance to the Present	(3)
or	
ART 105 History of Modern Art	(3)
ART 120 Two-Dimensional Design	3
ART 145 Graphic Design	3
ART 148 Beginning Computer Graphics	3
ART 149 Intermediate Computer Graphics	3
ART 161 Digital Photography	3
ART 185 Beginning Web and Multimedia Design	3
TOTAL UNITS:	25

2. WEB AND MULTIMEDIA DESIGN CERTIFICATE

This certificate is designed to prepare students for entry-level work in a variety of occupations related to web site design, development, creation, and maintenance.

REQUIRED COURSES:	UNITS
ENGL 015 Preparation for College Writing or	4
ENGL 101 Freshman Composition	(4)
ART 100 Art History: The Stone Age to the Middle Ages	3
or	
ART 102 Art History: The Renaissance to the Present	(3)
or	
ART 105 History of Modern Art	(3)
ART 120 Two-Dimensional Design	3
ART 148 Beginning Computer Graphics	3
ART 161 Digital Photography	3
ART 180 Beginning Computer Animation	3
ART 185 Beginning Web and Multimedia Design	3
ART 186 Intermediate Web and Multimedia Design	3
TOTAL UNITS:	25

COURSES OFFERED BY THE DEPARTMENT OF ART:

ART 100
ART HISTORY: THE STONE AGE TO THE MIDDLE AGES 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.

A survey of Western art from the Stone Age to the Middle Ages including the art of Egypt, Greece, and the Aegean; and Etruscan, Roman, early Christian, Byzantine, Islamic, early Medieval, Romanesque and Gothic art.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 102
ART HISTORY: THE RENAISSANCE TO PRESENT 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.

Presents a survey of Western art from the Renaissance through the 20th Century. Topics covered include 15th and 16th century Italian art; Renaissance and Baroque art; the Rococo movement; Romanticism; Realism; Impressionism; Cubism; Surrealism and other styles of the 19th and 20th centuries.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 103
ART APPRECIATION 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.

A multicultural exploration of the form and content of two- and three-dimensional art. Topics include: function of art in a society; the artists language; techniques employed in creating painting, sculpture and other media; overview of the history of art.
Associate Degree Applicable
*Course credit transfers to CSU and *UC.*

ART 105
HISTORY OF MODERN ART 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.

Survey of Western modern art from 1900 to the present, including cubism, fauvism, futurism, totalitarianism, constructivism, impressionism, surrealism, post-impressionism, pop art, and architectural movements of the 20th century.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 107
ART HISTORY: AFRICA, ASIA, THE AMERICAS, AND OCEANIA 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.

The survey of art from Africa, Asia, the Americas, and Oceania. Includes examination of the religious and social factors influencing art, artifacts, and architecture.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 108
MEXICAN ART HISTORY 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.

Survey of Mexican art from pre-columbian times through the 20th century muralists.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 110
HISTORY OF AMERICAN CINEMA 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.

Covers the history and cultural influences of the American Cinema, including the origins of the motion picture, the rise and dominance of Hollywood, the decline of the Studio Era, and the emergence of the independent film. Topics include the historical context of the motion picture industry and its relevance to the contemporary viewer, the aesthetics of film, the director, and the studio system.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 111
STUDIES IN FILM APPRECIATION 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.

A study of script, directing, editing and other aspects of film making, aimed at providing a critical awareness of film technique and construction, and an understanding of what a successful film must possess.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 120
TWO-DIMENSIONAL DESIGN 3 UNITS
PREREQUISITE: None.
LECTURE: 2 contact hours per week and LABORATORY: 3 contact hours per week.

A progressive study of the elements and principles of two-dimensional design. Focus on the concepts, tools, and techniques intrinsic to visual communication. Included are color theory and the use of color to manipulate the illusion of space on a two-dimensional plane.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 124x4
DRAWING **3 UNITS**
PREREQUISITE: None.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
A progressive study of the analysis and investigation of form, space, and concept using a variety of materials, such as charcoal, ink, pencil, tempera, collage, and mixed media. Includes the theory and analysis of perspective in two- and three-dimensional compositions, such as the various means of representing three-dimensional forms in space through aerial and linear perspective. Content and creativity are emphasized as students' skills develop. This course may be taken four times.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 126x4
PAINTING **3 UNITS**
PREREQUISITE: None.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
A progressive study of the fundamentals of painting including techniques of composition, color mixing, spatial relationships, and imagery. This course may be taken four times.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 132x4
LIFE DRAWING **3 UNITS**
PREREQUISITE: None.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
A progressive study of anatomy in figure drawing and an examination of the creative uses of human figures in art. Includes basic studies in contour, proportion, gesture, volume, and the functional qualities of the human form and the graphic interpretations of human figures with charcoal, pencil, pastel, colored pencil, paint, and mixed media. This course may be taken four times.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 145
GRAPHIC DESIGN **3 UNITS**
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
Focus on the technical skills necessary to enter the graphic design field and the impact of artwork on different audiences. Including the development of a personal style, increased facility with graphic software and analysis of content for a client's strategies and goals. Through reading and discussion, students will learn how to analyze, design, discuss and present work in a professional manner.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 148
BEGINNING COMPUTER GRAPHICS **3 UNITS**
PREREQUISITE: None.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
Focuses on desktop publishing and photographic digital imaging. Skills such as layout, page design and scanning and photographic are practiced.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 149
INTERMEDIATE COMPUTER GRAPHICS **3 UNITS**
PREREQUISITE: ART 148.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
Focus is on photographic digital imaging and manipulation. Skills such as scanning, photographic correction and combining photographic images are practiced. Projects will involve creating computer-generated images, integrating type, and inserting objects and a variety of materials into photographs.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 150
ADVANCED COMPUTER GRAPHICS **3 UNITS**
PREREQUISITE: ART 149.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
Focuses on layout, imaging and illustration skills. Methods of presentation portfolios will be examined. Skills such as optimizing finished artwork for print media and for screen presentation will be practiced.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 158x4
BASIC PHOTOGRAPHY **3 UNITS**
PREREQUISITE: None.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
A basic course in photography designed for both art majors and non-art majors, including photographic terminology such as composition, tonality, color relationships and elements of balance; hands-on experience with cameras and studio equipment; analyses of great photographs; the development of visual literacy; and the development of an understanding of photography's relationship to the world of visual imagery. This course may be taken four times.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 161
DIGITAL PHOTOGRAPHY **3 UNITS**
PREREQUISITE: None.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
Focuses on visual communication and producing expressive images. Skills included are correcting and enhancing images using computers. This course is designed both for Art Department certificate majors and the general public. Students will supply their own film or digital camera and output media supplies.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 164x4
CREATIVE FILMMAKING 1.5-3 UNITS
PREREQUISITE: None.
LECTURE: 1 - 2 contact hours per week and
LABORATORY: 1.5 - 3 contact hours per week.
A progressive study of the fundamentals of filmmaking including researching and writing treatments; drawing storyboards; producing films in 8mm, video, and 16mm formats; titling; and editing. Students work in crews and participate in all facets of filmmaking, such as operating camera and sound equipment; directing; set building; lighting; and casting. This course may be taken four times.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 175x4
SCULPTURE 3 UNITS
PREREQUISITE: None.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
A progressive study of the fundamentals of sculpture with a focus on techniques of three-dimensional composition, spatial relationships, and imagery. Includes armature building, plaster mold making, and experiments with various materials, such as clay, wood, plaster, and styrofoam. This course may be taken four times.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 180
BEGINNING COMPUTER ANIMATION 3 UNITS
PREREQUISITE: None.
DEPARTMENTAL ADVISORY: ART 148.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
Focuses on computer animation, rendering and modeling. The introduction semester emphasizes the construction of space environments and objects in motion. Included are the principles and skills for building objects in a landscape, and changing environmental over time, such as clouds, atmospheric conditions and reflections.
Associate Degree Applicable
Course credit transfers to CSU.

ART 181
INTERMEDIATE COMPUTER ANIMATION 3 UNITS
PREREQUISITE: ART 180.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
Focus on computer animation, rendering and modeling. Included are such skills as complex construction of 3-dimensional models and complex movement control of multiple moving parts.
Associate Degree Applicable
Course credit transfers to CSU.

ART 182
BEGINNING DIGITAL VIDEO EDITING 3 UNITS
PREREQUISITE: ART 181.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
Focuses on rendering animated movies. Instruction emphasizes combining and integrating animations with still images and created footage. Students will work with video editing and special effects software to create QuickTime movies.
Associate Degree Applicable
Course credit transfers to CSU.

ART 183
INTERMEDIATE DIGITAL VIDEO EDITING 3 UNITS
PREREQUISITE: ART 182.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
Focuses on making multi-layer video compositions. Included are such skills as motion control and time-varying special effects.
Associate Degree Applicable
Course credit transfers to CSU.

ART 185
BEGINNING WEB AND MULTIMEDIA DESIGN 3 UNITS
PREREQUISITE: None.
DEPARTMENTAL ADVISORY: ART 148.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
Focus on elements of Web page and CD-ROM production. The course will emphasize preparing material and designing for interactive projects. Practical and theoretical understanding of problems relating to digital technologies will be stressed.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

ART 186
INTERMEDIATE WEB AND MULTIMEDIA DESIGN: FLASH 3 UNITS
PREREQUISITE: None.
DEPARTMENTAL ADVISORY: ART 185.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
Focus on interactive motion graphics for web site and disk distribution, using applications such as Macromedia Flash. Emphasis will be given to design concept well as an understanding of structure and impact web media and CD-ROM.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

ART 187
ADVANCED WEB AND MULTIMEDIA DESIGN 3 UNITS
PREREQUISITE: ART 186.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
Focus is on the elements of CD-ROM design and production. Practical experience in using programs such as MacroMedia Director, sound editing, and animation software will be emphasized. Conceptualization, research and the design of large projects will be stressed.
Associate Degree Applicable
Course credit transfers to CSU.

ART 188
PORTFOLIO WEB AND MULTIMEDIA DESIGN 3 UNITS
PREREQUISITE: ART 187.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
Focus is on multimedia project planning and design production. This course emphasizes planning, research and client communications skills as preparation for designing and executing a multimedia project.
Associate Degree Applicable
Course credit transfers to CSU.

ART 198
ART WORK EXPERIENCE 1-4 UNITS
PREREQUISITE: None.

Supervised training in the form of on the job employment that will enhance the student's educational goals. The student's major and job must match. Students work 5-20 contact hours per week to earn units using the following formula: For paid work, 75 hours = 1 unit; for volunteer work, 60 hours = 1 unit. Students may earn a total of 16 units toward graduation in Work Experience 198 courses. Students MUST be working for pay or volunteer before registering for a Work Experience class. NOTE: Only one section of Work Experience may be taken during a semester.

Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

ART 212x4
CERAMICS 3 UNITS
PREREQUISITE: None.

LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.

A progressive study of the fundamentals of ceramics including hand-building techniques, use of the potter's wheel, and methods of decorating and glazing. Students produce cylinders, bottles, vases, bowls, plates, lids, and vessels with handles, such as mugs, pitchers, and tea pots. This course may be taken four times.

Associate Degree Applicable
Course credit transfers to CSU and UC.

ART 240x4
GLASSBLOWING 3 UNITS
PREREQUISITE: None.

LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.

A progressive study of glass working techniques including designing and producing vessel and sculptural forms in hot glass. Emphasis on exploration of color, hot applications, team work, repeatable forms, sandblasting, cold working/fabrications, and non-conventional methods. This course may be taken four times.

Associate Degree Applicable
Course credit transfers to CSU.

ART 270x4
DESIGN IN GLASS 3 UNITS
PREREQUISITE: None.

LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.

A progressive study of glass-working techniques including designing and producing functional, decorative, and sculptural forms in kiln-fired glass; composition in two dimensions using fusion/lamination of colored glass elements; shallow relief slumping; three-dimensional relief using molds; and solid glass casting, such as pate de verre, lost wax, and sand casting. This course may be taken four times.

Associate Degree Applicable
Course credit transfers to CSU.

ART 285
HONORS IN ART 3 UNITS
PREREQUISITE: Complete ART 102 or ART 120x4 or

ART 124x4 or ART 126x4 with an A or B, or
COREQUISITE: ART 102 or ART 120x4 or ART 124x4
Or ART 126x4 and an overall GPA of 3.0 or higher.

LECTURE: 3 contact hours per week.

A study of contemporary movements in art and the way these ideas are manifest in the work of artists. Includes an overview of the major innovations of Modernism and how those led to Postmodernist concerns, such as deconstructionism, appropriationism, and semiotics, as well as the impact of language, politics, and the mass media on contemporary art.

Associate Degree Applicable
Course credit transfers to CSU and UC.

ASTRONOMY

See the Department of PHYSICS/ASTRONOMY



AUTOMOTIVE TECHNOLOGY

DIVISION: Applied Technology,
Transportation and Culinary Arts
 DIVISION DEAN: Gary Kelly, M.S.
 FACULTY CHAIR: Guy M. Hinrichs, Sr., B.S.
(909) 384-5450
 OTHER FACULTY: Richard Jaramillo, A.A.
Manuel Loera, A.S.
Mark Williams, A.S.
Donald Wilson
 ADMINISTRATIVE SECRETARY: Cecile Smith
 DIVISION OFFICE: Technical 108
(909) 384-8902
 LIAISON COUNSELOR: Frank Dunn, M.A.
(909) 384-4404

The Automotive Department offers courses designed to provide the skills and knowledge required for immediate employment as well as for students with a personal interest in automotive technology.

The course of study in automotive technology may lead to an Associate of Science Degree or a vocational certificate.

AUTOMOTIVE TECHNOLOGY ASSOCIATE OF SCIENCE DEGREE

To graduate with a specialization in Automotive Technician, students must complete all requirements for the certificate with a grade of C or better plus the general breadth requirements for the Associate of Science Degree (minimum total = 60 units).

REQUIRED COURSES:	UNITS
AUTO 050 Automotive Brakes	4
AUTO 052 Automotive Suspension and Steering	4
AUTO 056 Automotive Heating and Air Conditioning	4
AUTO 063 Emission Systems	4
AUTO 064 Automotive Electrical: Battery, Starting & Charging Systems	5
AUTO 065 Electrical Accessory Diagnostic	5
AUTO 068 Engine Performance - Ignition Systems	5
AUTO 069 Engine Performance - Fuel and Exhaust Systems	5
AUTO 075X3 Automatic Transmissions Rear Wheel Drive or	2 - 6
AUTO 076X3 Automatic Transaxles Front Wheel Drive	2 - 6
AUTO 077 Manual Transmissions and Transaxles	4
AUTO 084 General Automotive Technology	4
AUTO 090X3 Engine Repair	6
TOTAL UNITS:	52 - 56

ADVANCED AUTOMOTIVE COLLISION REPAIR AND REFINISHING ASSOCIATE OF SCIENCE DEGREE

To graduate with a specialization in Advanced Automotive Collision Repair and Refinishing, students must complete all requirements for the certificate with a grade of C or better plus the general breadth requirements for the Associate of Science Degree (minimum total = 60 units).

REQUIRED COURSES:	UNITS
AUTO 038x3 Non-structural Analysis and Damage Repair	9
AUTO 039x3 Structural Analysis and Damage Repair	9
AUTO 048x3 Auto Collision Refinishing	9
AUTO 050 Automotive Brakes or	4
AUTO 52 Automotive Suspension and Steering	4
AUTO 084 General Automotive Technology	4
RECOMMENDED COURSES:	UNITS
AUTO 056 Automotive Heating and Air Conditioning	4
AUTO 064 Automotive Electrical: Battery, Starting & Charging Systems or	5
AUTO 065 Electrical Accessory Diagnostic	5
TOTAL UNITS:	35

BASIC AUTOMOTIVE COLLISION REPAIR AND REFINISHING ASSOCIATE OF SCIENCE DEGREE

To graduate with a specialization in Basic Automotive Collision Repair and Refinishing, students must complete all requirements for the certificate with a grade of C or better plus the general breadth requirements for the Associate of Science Degree (minimum total = 60 units).

REQUIRED COURSES:	UNITS
AUTO0 38x3 Non-structural Analysis and Damage Repair	9
AUTO0 39x3 Structural Analysis and Damage Repair	9
AUTO0 48x3 Auto Collision Refinishing	9
TOTAL UNITS:	27

AUTO 038x3 may be waived through the Articulation 2+2+2 program with prior agreement with the auto collision and refinishing instructor.

**AUTOMATIC AND MANUAL TRANSMISSION
ASSOCIATE OF SCIENCE DEGREE**

To graduate with a specialization in Automatic Transmission, students must complete all requirements for the certificate with a grade of C or better plus the general breadth requirements for the Associate of Science Degree (minimum total = 60 units).

REQUIRED COURSES:		UNITS
AUTO 064	Automotive Electrical: Battery, Starting & Charging Systems or	5
AUTO 065	Electrical Accessory Diagnostic	5
AUTO 075X3	Automatic Transmissions Rear Wheel Drive	4 - 6
AUTO 076X3	Automatic Transaxles Front Wheel Drive	4 - 6
AUTO 077	Manual Transmissions and Transaxles	4
AUTO 084	General Automotive Technology	4
AUTO 090X3	Engine Repair	6
TOTAL UNITS:		27 - 31

**ENGINE PERFORMANCE
ASSOCIATE OF SCIENCE DEGREE**

To graduate with a specialization in Engine Performance, students must complete all requirements for the certificate with a grade of C or better plus the general breadth requirements for the Associate Degree (minimum total = 60 units).

REQUIRED COURSES:		UNITS
AUTO 063	Emission Systems	4
AUTO 064	Automotive Electrical: Battery, Starting & Charging Systems	5
AUTO 065	Electrical Accessory Diagnostic	5
AUTO 066	ASE Alternative A-6, A-8, L-1 Prep or Certificate	4
AUTO 067	Basic and Advanced Clean Air Car Course	4
AUTO 068	Engine Performance - Ignition Systems	5
AUTO 069	Engine Performance - Fuel and Exhaust Systems	5
AUTO 084	General Automotive Technology	4
AUTO 090X3	Engine Repair	6
TOTAL UNITS:		42

**WHEEL ALIGNMENT AND BRAKES
ASSOCIATE OF SCIENCE DEGREE**

To graduate with a specialization in Wheel Alignment and Brakes, students must complete all requirements for the certificate with a grade of C or better plus the general breadth requirements for the Associate of Science Degree (minimum total = 60 units).

REQUIRED COURSES:		UNITS
AUTO 050	Automotive Brakes	4
AUTO 051	Advanced Automotive Brakes	4
AUTO 052	Automotive Suspension and Steering	4
AUTO 053	Advanced Automotive Suspension and Steering	4
AUTO 064	Automotive Electrical: Battery, Starting & Charging Systems	5
AUTO 084	General Automotive Technology	4
TECALC 087	Technical Calculations or	4
MATH 942	Arithmetic or	3
Eligibility for Math 952 as determined by the SBVC assessment process		
TOTAL UNITS:		28 - 29

AUTOMOTIVE TECHNOLOGY CERTIFICATES

Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.

**1. AUTOMATIC AND MANUAL TRANSMISSION
CERTIFICATE**

This certificate is designed to prepare students for entry-level work as an automatic transmission specialist.

REQUIRED COURSES:		UNITS
AUTO 064	Automotive Electrical: Battery, Starting & Charging Systems or	5
AUTO 065	Electrical Accessory Diagnostic	5
AUTO 075X3	Automatic Transmissions Rear Wheel Drive	4 - 6
AUTO 076X3	Automatic Transaxles Front Wheel Drive	4 - 6
AUTO 077	Manual Transmissions and Transaxles	4
AUTO 084	General Automotive Technology	4
AUTO 090X3	Engine Repair	6
TECALC 087	Technical Calculations or	4
MATH 942	Arithmetic or	3
Eligibility for MATH 952 as determined by the SBVC assessment process		
TOTAL UNITS:		27 - 35

2. BASIC AUTOMOTIVE COLLISION REPAIR AND REFINISHING CERTIFICATE

This certificate is designed to prepare students for entry-level work as an auto collision repair and painter apprentice, or in related areas of an automotive dealership or shop, such as chassis, front end, brake, or frame repair, and parts counter clerk.

REQUIRED COURSES:		UNITS
AUTO 038x3	Non-structural Analysis and Damage Repair	9
AUTO 039x3	Structural Analysis and Damage Repair	9
AUTO 048x3	Auto Collision Refinishing	9
TOTAL UNITS:		27

Auto 038x3 may be waived through the Articulation 2+2+2 program with prior agreement with the Auto Body and Refinishing instructor.

3. ADVANCED AUTOMOTIVE COLLISION REPAIR AND REFINISHING CERTIFICATE

This certificate is designed to prepare students for entry-level work as an auto collision repair and painter apprentice beyond the Basic Automotive Collision Repair and Refinishing Certificate and to prepare students for the Automotive Service Excellence (ASE) certification test.

REQUIRED COURSES:		UNITS
AUTO 038x3	Non-structural Analysis and Damage Repair	9
AUTO 039x3	Structural Analysis and Damage Repair	9
AUTO 048x3	Auto Collision Refinishing	9
AUTO 050	Automotive Brakes or	4
AUTO 052	Automotive Suspension and Steering	4
AUTO 084	General Automotive Technology	4

RECOMMENDED COURSES:		UNITS
AUTO 056	Automotive Heating and Air Conditioning	4
AUTO 064	Automotive Electrical: Battery, Starting & Charging Systems or	5
AUTO 065	Electrical Accessory Diagnostic	5
TOTAL UNITS:		35

4. AUTOMOTIVE TECHNICIAN CERTIFICATE

This certificate is designed to prepare students for entry-level work as automotive technicians working in areas such as new car preps, engine performance diagnoses, automotive maintenance, and automotive service.

REQUIRED COURSES:		UNITS
AUTO 050	Automotive Brakes	4
AUTO 052	Automotive Suspension and Steering	4
AUTO 056	Automotive Heating and Air Conditioning	4

AUTO 063	Emission Systems	4
AUTO 064	Automotive Electrical: Battery, Starting & Charging Systems	5
AUTO 065	Electrical Accessory Diagnostic	5
AUTO 068	Engine Performance - Ignition Systems	5
AUTO 069	Engine Performance - Fuel and Exhaust Systems	5
AUTO 075X3	Automatic Transmissions Rear Wheel Drive or	2 - 6
AUTO 076X3	Automatic Transaxles Front Wheel Drive	2 - 6
AUTO 077	Manual Transmissions and Transaxles	4
AUTO 084	General Automotive Technology	4
AUTO 090X3	Engine Repair	6
TECALC 087	Technical Calculations or	4
MATH 942	Arithmetic or	3
Eligibility for MATH 952 as determined by the SBVC assessment process		0 - 4
TOTAL UNITS:		52 - 60

5. ENGINE PERFORMANCE CERTIFICATE

This certificate is designed to prepare students for entry-level work as engine performance specialists in areas such as computer systems, electrical systems, engine fuel and exhaust systems, and basic engine diagnosis.

REQUIRED COURSES:		UNITS
AUTO 063	Emission Systems	4
AUTO 064	Automotive Electrical: Battery, Starting & Charging Systems	5
AUTO 065	Electrical Accessory Diagnostic	5
AUTO 066	ASE Alternative A-6, A-8, L-1 Prep or Certificate	4
AUTO 067	Basic and Advanced Clean Air Car Course	4
AUTO 068	Engine Performance - Ignition Systems	5
AUTO 069	Engine Performance - Fuel and Exhaust Systems	5
AUTO 084	General Automotive Technology	4
AUTO 090X3	Engine Repair	6
TECALC 087	Technical Calculations or	4
MATH 942	Arithmetic or	3
Eligibility for MATH 952 as determined by the SBVC assessment process		0 - 4
TOTAL UNITS:		42 - 46

6. WHEEL ALIGNMENT AND BRAKES CERTIFICATE

This certificate is designed to prepare students for entry-level work as an automotive technician working in the area of wheel alignment and brake repair.

REQUIRED COURSES:		UNITS
AUTO 050	Automotive Brakes	4
AUTO 051	Advanced Automotive Brakes	4
AUTO 052	Automotive Suspension and Steering	4
AUTO 053	Advanced Automotive Suspension and Steering	4
AUTO 064	Automotive Electrical: Battery, Starting & Charging Systems	5
AUTO 084	General Automotive Technology	4
TECALC 087	Technical Calculations	or 4
MATH 942	Arithmetic	or 3
Eligibility for Math 952 as determined by the SBVC assessment process		0 - 4
TOTAL UNITS:		28 - 29

COURSES OFFERED BY THE DEPARTMENT OF AUTOMOTIVE TECHNOLOGY:

AUTO 038x3 NON-STRUCTURAL ANALYSIS AND DAMAGE REPAIR 9 UNITS

PREREQUISITE: None.

LECTURE: 6 contact hours per week and
LABORATORY: 9 contact hours per week.

This course covers theory and practical experience in automotive collision repair and refinishing and shop safety practices. Topics include Oxy-acetylene welding fundamentals, metal finishing, and South Coast Air Quality Management District (SCAQMD) rules and regulations. This course may be used in preparation for the Automotive Service Excellence (ASE) National Test. Students are advised to take AUTO 038 Non-structural Analysis and Damage Repair first in this series of auto collision repair and refinishing courses.

This course may be taken three times.
Associate Degree Applicable

AUTO 039x3 STRUCTURAL ANALYSIS AND DAMAGE REPAIR 9 UNITS

PREREQUISITE: AUTO 038x3.

LECTURE: 6 contact hours per week and
LABORATORY: 9 contact hours per week.

This course covers theory and practical experience in auto collision repair and shop safety, with a focus on Metal Inert Gas (MIG) welding, panel replacement, theory and practical experience in minor unibody frame repair, painting equipment and refinishing materials, Environmental Protection Agency (EPA) and South Coast Air Quality Management District (SCAQMD) requirements. Students are advised to take AUTO 038 Non-structural Analysis and Damage Repair first in this series of auto collision repair and refinishing courses.

This course may be taken three times.
Associate Degree Applicable

AUTO 044x3 AUTOMOTIVE BODY REPAIRING AND REFINISHING 4 UNITS

PREREQUISITE: None.

LECTURE: 2 contact hours per week and
LABORATORY: 4 contact hours per week.

Theory and practical experience in auto collision damage repair and shop safety, with a focus on automotive construction; hand and power tools; laws and regulations, surface preparation, masking, basic spray painting on complete vehicles, and detailing with an introduction to oxyacetylene welding and brazing. This course may be taken three times.

Associate Degree Applicable

AUTO 048x3 AUTO COLLISION REFINISHING 9 UNITS

PREREQUISITE: AUTO 039x3.

LECTURE: 6 contact hours per week and
LABORATORY: 9 contact hours per week.

This course covers theory and practical experience in automotive collision repair and refinishing, shop safety practices, personal safety, and health protection as outlined by Environmental Protection Agency (EPA) and South Coast Air Quality Management District (SCAQMD). Topics include Metal Inert Gas (MIG) welding/aluminum; major frame repair; measuring and analyzing collision damage; operating electronic measuring systems; Sheet Molded Compound (SMC) panel replacement; heat reshaping plastic parts; electrical and electronic systems; single-, two-, and three-stage refinishing systems; spot repairing/blending; polishing; detailing; estimating; and custom painting. This course may be used in preparation for the Automotive Service Excellence (ASE) National Test B2. Students are advised to take AUTO 039 Structural Analysis and Damage Repair second in this series of auto collision repair and refinishing courses.

This course may be taken three times.

Associate Degree Applicable

AUTO 049 SHOP MANAGEMENT AND ESTIMATING 4 UNITS

PREREQUISITE: AUTO 038x3 or equivalent experience.

LECTURE: 2 contact hours per week and
LABORATORY: 6 contact hours per week.

Theory and practical experience in shop management, estimating, inventory control and sales techniques.

Associate Degree Applicable

AUTO 050 AUTOMOTIVE BRAKES 4 UNITS

PREREQUISITE: None.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This course is based upon NATEF standards and designed for students and current technicians to gain knowledge and skills in automotive brakes (standard and anti-lock) systems. Included but not limited to disc, drum, hydraulics, power boosters, and traction control. Emphasis on diagnosing, trouble-shooting, repairing, replacing, and adjusting. This course may be used in preparation for the Automotive Service Excellence (ASE) National Test (A-5). Theory and practical work in the repair of brake system. Shop instruction to include safety, machinery, procedures for trouble-shooting and reconditioning of brake systems.

Associate Degree Applicable

AUTO 051
ADVANCED AUTOMOTIVE BRAKES 4 UNITS
PREREQUISITE: AUTO 050.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This course is based on NATEF standards and is designed for students and current technicians to gain advanced knowledge and skills in automotive brakes. Advanced study of disc, drum, hydraulics, and power boosters systems. Emphasis on antilock brakes, traction control, and machining. Advanced theory and practical work in the repair of brake system. Shop instruction to include safety, reconditioning, machinery, procedures for trouble-shooting and recondition brake systems.

Associate Degree Applicable

AUTO 052
AUTOMOTIVE SUSPENSION AND STEERING 4 UNITS

PREREQUISITE: None.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This course is based upon NATEF standards and designed for students and current technicians to gain knowledge and skills in automotive chassis and suspension systems. Included but not limited to suspension types, basic geometry, alignment angles, two-wheel alignment and four-wheel alignment using both computerized and mechanical methods. Emphasis on diagnosing, trouble-shooting, repairing, replacing, and adjusting. This course may be used in preparation for the Automotive Service Excellence (ASE) National Test (A-4).

Associate Degree Applicable

AUTO 053
ADVANCED AUTOMOTIVE SUSPENSION AND STEERING 4 UNITS

PREREQUISITE: AUTO 052.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This course is designed for students and current technicians to gain advanced knowledge and skills in automotive chassis and suspension systems. Included but not limited to suspension design, advanced geometry, alignment angles, four-wheel alignment using computerized methods. Emphasis on diagnosing, trouble-shooting, repairing, replacing, and adjusting. Advanced theory and practical work in the repair of chassis and suspension systems. Shop instruction to include safety, rebuilding, replacing, and alignment procedures for trouble-shooting of suspension systems.

Associate Degree Applicable

AUTO 055
ADVANCED AUTO BODY 5 UNITS
PREREQUISITE: AUTO 039x3.

LECTURE: 1 contact hour per week and
LABORATORY: 12 contact hours per week.

Theory and practical experience in plastic welding, SMC (sheet molded compounds), fiberglass and lead applications, urethane bumper repair and refinishing, headlight adjustment, spot repairing/ blending, polishing and detailing, pre-delivery servicing, fine-line masking and pin striping.

Associate Degree Applicable

AUTO 056
AUTOMOTIVE HEATING AND AIR CONDITIONING 4 UNITS

PREREQUISITE: None.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This course is an in-depth study of the design and operation of contemporary, domestic and import air conditioning/heating systems. Air conditioning and heating related parts will be disassembled, inspected and a determination made of the serviceability of existing parts. Emphasis is placed on problem diagnosis of and repair procedures for these systems. This course also offers an introduction to Automatic A/C and Comfort Control Systems, and recovery and recycling of refrigerants.

Associate Degree Applicable

AUTO 063
EMISSION SYSTEMS 4 UNITS
PREREQUISITE: None

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This course covers design and operation of domestic and import emission control on automobiles and light trucks. Subject areas include emission control systems, computerized engine controls, emissions testing, and engine related services. Emphasis is placed on the correct diagnosis of and repair procedures for those systems. The use of current diagnostic test equipment used in today's industry and strategies necessary to determine needed repairs are covered.

Associate Degree Applicable

AUTO 064
AUTOMOTIVE ELECTRICAL: BATTERY, STARTING & CHARGING SYSTEMS 5 UNITS

PREREQUISITE: None.

LECTURE: 4 contact hours per week and
LABORATORY: 3 contact hours per week.

This course covers the theory of electricity, use of meters, test equipment, wiring diagrams, diagnosis and repair/replacement of major electrical components of automobiles and light trucks. Major areas of study include batteries, starting and charging systems. Emphasis is placed on problem diagnosis of and repair procedures for these systems.

Associate Degree Applicable

AUTO 065
ELECTRICAL ACCESSORY DIAGNOSTIC 5 UNITS
PREREQUISITE: None.

LECTURE: 4 contact hours per week and
LABORATORY: 3 contact hours per week.

This course provides students with the knowledge necessary to diagnose and repair automotive electrical malfunctions. Topics include lighting systems, electrical instruments and accessories, electrical door components, air bags, wiring diagrams, and alarm systems. Emphasis is placed on problem diagnosis of and repair procedures for these systems.

Associate Degree Applicable

AUTO 066
ASE ALTERNATIVE A-6, A-8, L-1 PREP
OR CERTIFICATE 4 UNITS

PREREQUISITE: None.
LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

Automotive Service Excellence (ASE) alternative course is designed for students wishing to meet the Bureau of Automotive Repair (BAR) requirements to become a Smog Technician in lieu of ASE certificates or as a preparation for ASE testing. Subject areas include reviewing of A-6 Electrical and Electronics, A-8 Engine Performance, and L-1 Advanced Engine Performance. Students wishing alternative certificate will be asked to pay for testing services for each test; certificate expires at the end of five years.

Associate Degree Applicable

AUTO 067
BASIC AND ADVANCED CLEAN AIR CAR COURSE 4 UNITS

PREREQUISITE: None.
LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This Bureau of Automotive Repair (BAR) course provides students with the knowledge necessary to perform a smog inspection in a basic and enhanced inspection area according to BAR guidelines. Information covered will include preconditioning procedures, proper use of smog test equipment, current laws and regulations, consumer waiver and extension procedures, generic On-Board Diagnostic (OBD) II information. This class satisfies BAR requirements for all current updates, including 2007. Students will receive three state certificates, 68 hours, 28 hours and 2007 Update.

Associate Degree Applicable

AUTO 068
ENGINE PERFORMANCE – IGNITION SYSTEMS 5 UNITS

PREREQUISITE: None.
LECTURE: 4 contact hours per week and
LABORATORY: 3 contact hours per week.

This course provides an in-depth study of the design and operation of domestic and import ignition systems. Major areas of study include point type, electronic, and computer control ignition systems. Emphasis is placed on the correct diagnosis of and repair procedures for these systems. The use of current diagnostic test equipment used in today's industry and strategies necessary to determine needed repairs are covered.

Associate Degree Applicable



AUTO 069
ENGINE PERFORMANCE – FUEL AND EXHAUST
SYSTEMS 5 UNITS

PREREQUISITE: None.
LECTURE: 4 contact hours per week and
LABORATORY: 3 contact hours per week.

This course is an in-depth study of the design and operation of fuel management systems including domestic and import feedback carburetor, fuel injection and computer control fuel management systems. This course covers the diagnosis and repair/replacement of major components: all sensors, injectors, fuel pumps, and interpretation of computer related malfunctions. The use of current diagnostic test equipment used in today's industry and strategies necessary to determine needed repairs are covered.

Associate Degree Applicable

AUTO 075x3
AUTOMATIC TRANSMISSIONS REAR WHEEL DRIVE 4-6 UNITS

PREREQUISITE: None.
LECTURE: 3 contact hours per week and
LABORATORY: 3-9 contact hours per week.

This course covers theory and practical work on rear wheel drive automatic transmissions in automobile and light truck applications. Course offers training to prepare for the Automotive Service Excellence (ASE) A2 certification test.

This course may be taken three times.

Associate Degree Applicable

AUTO 076x3
AUTOMATIC TRANSAXLES FRONT WHEEL DRIVE 4-6 UNITS

PREREQUISITE: None.
LECTURE: 3 contact hours per week and
LABORATORY: 3-9 contact hours per week.

This course covers theory and practical work on front wheel drive automatic transaxles in automobile applications. Course offers training to prepare for the Automotive Service Excellence (ASE) A2 certification test.

This course may be taken three times.

Associate Degree Applicable

AUTO 077
MANUAL TRANSMISSIONS AND TRANSAXLES 4 UNITS

PREREQUISITE: None.
LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This course covers theory and practical work on front wheel drive manual transaxles and rear wheel drive manual transmissions in automobile and light truck applications including transfer cases, axle assemblies, and clutches.

Associate Degree Applicable

AUTO 084
GENERAL AUTOMOTIVE TECHNOLOGY 4 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This course covers general theory, principles, and service procedures relating to an introduction to automotive maintenance with emphasis on component identification, basic functions, minor maintenance, and service.

Associate Degree Applicable

AUTO 090x3
ENGINE REPAIR 6 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week
LABORATORY: 9 contact hours per week.

This course is based on NATEF standards and designed for students and current technicians to gain knowledge and skills in automotive engine repair. Instruction in removal, disassembly, inspection, reconditioning and reassembling of engines; rebuilding of components using automotive machine shop equipment; study progressing to the operation of automotive machine shop equipment; theory and instruction of gasoline, diesel and rotary engines; theory and practical work in the repair and rebuilding of automotive gasoline, diesel, and rotary engines. Shop instruction to include safety, engine reconditioning, auto shop machinery, and failure analysis of components. This course may be used in preparation for the Automotive Service Excellence (ASE) National Test A-1. This course may be taken three times.

Associate Degree Applicable

AUTO 198
AUTOMOTIVE-DIESEL TECHNOLOGY
WORK EXPERIENCE 1-4 UNITS
PREREQUISITE: None.

Supervised training in the form of on the job employment that will enhance the student's educational goals. The student's major and job must match. Students work 5-20 contact hours per week to earn units using the following formula: For paid work, 75 hours = 1 unit; for volunteer work, 60 hours = 1 unit. Students may earn a total of 16 units toward graduation in Work Experience 198 courses. Students MUST be working for pay or volunteer before registering for a Work Experience class. NOTE: Only one section of Work Experience may be taken during a semester.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

AUTOIN 010
BASIC CUSTOM AUTO INTERIORS 4 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

Basic information and practical experience in design, creation and installation of complete custom and hot rod automotive interiors. Includes instruction in safe work practices, using trimmers, hand and power tools and common covering materials. Cut, sew and fit techniques are stressed.

Associate Degree Applicable

AUTOIN 011x3
BASIC CUSTOM AUTO INTERIORS LABORATORY 1 UNIT

PREREQUISITE: AUTOIN 010.
LABORATORY: 3 contact hours per week.

Basic practical experience in design, creation and installation of complete custom and hot rod automotive interiors. Includes instruction in safe work practices, using trimmers, hand and power tools and common covering materials. Cut, sew and fit techniques are stressed.

Associate Degree Applicable

AUTOIN 012
ADVANCED CUSTOM AUTO INTERIORS 4 UNITS
PREREQUISITE: AUTOIN 010.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

Information and practical experience in design, creation and installation of complex custom and hot rod automotive interiors. Instruction builds on prior basic skills in safe work practices, pattern making, using trimmers, working with hand and power tools and applying common covering materials.

Associate Degree Applicable

AUTOIN 013x3
ADVANCED CUSTOM AUTO INTERIORS
LABORATORY 1 UNIT

PREREQUISITE: AUTOIN 012.
LABORATORY: 3 contact hours per week.

Practical experience in design, creation and installation of complex custom and hot rod automotive interiors. Instruction builds on prior basic skills in safe work practices, pattern making, using trimmers, working with hand and power tools and applying common covering materials. Cut, sew and fit techniques on elaborate designs are stressed.

Associate Degree Applicable

AUTORS 010
BASIC VEHICLE RESTORATION 4 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

Theory and practical experience in restoring a vehicle to appropriate and safe running conditions which includes instruction in safe work practices, disassembly, cleaning, refinishing of vehicle parts. Design and construction of frame and chassis components will be covered. Body repair and welding will also be included.

Associate Degree Applicable

AUTORS 011x3
BASIC VEHICLE RESTORATION LABORATORY 1 UNIT

PREREQUISITE: AUTORS 010.
LABORATORY: 3 contact hours per week.

Practical experience in restoring a vehicle to appropriate and safe running condition. Includes instruction in safe work practices, disassembly, cleaning, refinishing of vehicle parts. Design and construction of frame and chassis components will be covered.

Associate Degree Applicable

AUTOST 010
BEGINNING STREET ROD CONSTRUCTION **4 UNITS**

PREREQUISITE: None.
DEPARTMENTAL ADVISORY: AUTO 084x4 or AUTORS 010.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.
 Theory and practical experience in building a street rod vehicle, includes instruction in safe work practices, design and construction of frame and chassis systems and components. Body repair, paint preparation, refinishing and welding are also included.
Associate Degree Applicable

AUTOST 011x3
STREET ROD CONSTRUCTION LABORATORY **1 UNIT**

PREREQUISITE: AUTOST 010.
LABORATORY: 3 contact hours per week.
 Practical experience in building a street rod vehicle. Includes instruction in safe work practices, design and construction of frame and chassis systems and components. Body repair, paint, preparation, refinishing and welding are also included.
Associate Degree Applicable

AVIATION

See courses within the AERONAUTICS DEPARTMENT

BIOLOGY

DIVISION: Science and Health Science
 DIVISION DEAN: Susan Bangasser, Ph.D.
 FACULTY CHAIR: David Bastedo, M.S.
 Health & Life Science 210
 (909) 384-8564
 OTHER FACULTY: Algie Au, M.S.
 Carol Cook, M.S.
 Glenn Drewes, M.A.
 Darlene Gamboa, Ph.D.
 Mark Ikeda, M.S.
 Ken Michaelis, M.A.
 Roger Sadler, M.S.
 Tatiana Vasquez, M.S.
 ADMINISTRATIVE SECRETARY: Rose Garcia
 DIVISION OFFICE: Chemistry 121
 (909) 384-8645
 ADMINISTRATIVE SECRETARY: Dorothy N. Fierro
 DIVISION OFFICE: Health and Life Science 101
 (909) 384-8550
 LIAISON COUNSELOR: Jennifer Mendoza, M.S.
 (909) 384-4404

The courses offered in the Biology Department are designed to meet the demands of science and non-science majors. For non-majors, the department's goal is to educate students so they can make informed choices about key environmental and personal issues. Public awakening to environmental issues emphasizes the increasing need to appreciate various life forms, their interactions with each other, and the human impact on our finite resources. This public is increasingly asked to make decisions on issues concerning the environment and to make choices about personal habits in their daily lives that effect the earth and future generations.

For majors, the courses provide a strong background in the biological sciences for students transferring to four-year institutions who are interested in careers such as teaching, biological research, or the health sciences. Students planning to transfer to a four-year institution and major in biology or a related field should consult with a counselor regarding the transfer process and lower division requirements.

BIOLOGY ASSOCIATE OF SCIENCE DEGREE

An Associate of Science degree with a specialization in the Biological Sciences can be earned by completing the following required courses in addition to fulfilling the breadth requirements for the associate degree (minimum 60 semester units.)

REQUIRED COURSES:		UNITS
BIOL 201	Cell and Molecular Biology	4
BIOL 202	Organismal Biology and Ecology	4
CHEM 150 or 150H	General Chemistry I	5
CHEM 151 or 151H	General Chemistry II	5
Twelve Units from the RECOMMENDED COURSES:		12
TOTAL UNITS:		30

RECOMMENDED COURSES:		UNITS
MATH 250	Calculus I	4
MATH 251	Calculus II	4
CHEM 212 or 212H	Organic Chemistry	4
CHEM 213 or 213H	Organic Chemistry	4
PHYSIC 150A	General Physics I	5
and		
PHYSIC 150B	General Physics II	5
or		
PHYSIC 200	General Physics I	6
and		
PHYSIC 201	General Physics II	6

BIOTECHNOLOGY ASSOCIATE OF SCIENCE DEGREE

This degree has been designed to meet the increasing need for entry-level laboratory technicians in biotechnology. Technicians in this field must be proficient in the application of scientific methodology to solve problems. They must learn/implement laboratory procedures and use specialized laboratory equipment. Much of the technician's work involves repetitive routines that must be done precisely, quickly and safely. Upon completion of this degree students will be eligible for positions such as lab assistant, and laboratory support worker. In addition, competency in organizational, computational and communications skills is essential. Students must complete the following required courses plus the general breadth requirements for the Associate Degree for a total of 60 units.
 NOTE: BIOL 270 has a prerequisite of a Biology course (BIOL 250 or BIOL 260 or BIOL 261 or BIOL 201) and CHEM 101. MATH 102 and 108 have a prerequisite of MATH 095 or eligibility for MATH 102 as determined through the SBVC assessment process.

REQUIRED COURSES:		UNITS
BIOL 201	Cell and Molecular Biology	4
BIOL 270	Microbiology	5
BIOL 290	Biotechnology I	5
BIOL 291	Biotechnology II	5
CHEM 150	General Chemistry I or	5
CHEM 150H	General Chemistry I - Honors	5
CHEM 151	General Chemistry II or	5
CHEM 151H	General Chemistry II - Honors	5
CHEM 212	Organic Chemistry I or	4
CHEM 212H	Organic Chemistry I - Honors	4
CHEM 213	Organic Chemistry II or	4
CHEM 213H	Organic Chemistry II - Honors	4
CIT 101	Introduction to Computer Literacy	3
MATH 102	College Algebra	4
MATH 108	Introduction to Probability and Statistics	4
PHIL 105	Introduction to Ethics	3
TOTAL UNITS:		51

BIOTECHNOLOGY CERTIFICATE

The certificate has been designed to meet the increasing need for entry-level laboratory technicians in biotechnology. Technicians in this field must be proficient in the application of scientific methodology. They must implement laboratory procedures and use specialized laboratory equipment. Much of the technician's work involves repetitive routines that must be done precisely, quickly and safely. Upon completion of this certificate students will be eligible for positions such as lab assistant, and laboratory support worker. Competency in organizational, computational and communication skills are essential. NOTE: BIOL 270 has a prerequisite of a Biology course (BIOL 250 or BIOL 260 or BIOL 261 or BIOL 201) and CHEM 101

REQUIRED COURSES:		UNITS
BIOL 270	Microbiology	5
BIOL 290	Biotechnology I	5
BIOL 291	Biotechnology II	5
CHEM 104	Introduction to Organic and Biochemistry	4
CIT 101	Introduction to Computer Literacy	3
ENGL 101	Freshman Composition or	4
ENGL 101H	Freshman Composition-Honors	4
PHIL 105	Introduction to Ethics	3
TOTAL UNITS:		29

COURSES OFFERED BY THE DEPARTMENT OF BIOLOGY:

BIOL 010 FOUNDATIONAL SKILLS FOR BIOLOGY MAJORS .25 UNIT

PREREQUISITE: None.

COREQUISITE: BIOL 201, 202, 203, 251, 261, or 270.

LECTURE: None.

LABORATORY: 13.5 contact hours per semester.

This course enables students to develop and strengthen foundational science skills during enrollment in major's-level science coursework. Workshops emphasize skill-building in the analytical and communication skills necessary for success in major's-level science classes and professional-level science careers. Topics include applied math, word problems, data manipulation, graphing, scientific writing, critical thinking, scientific method, and the use of technology. Graded on Pass/No Pass basis only.

Associate Degree Applicable

BIOL 050 ANATOMY AND PHYSIOLOGY 4 UNITS

PREREQUISITE: None.

LECTURE: 4 contact hours per week.

Introduction to the elementary principles of human anatomy and physiology. The course is specifically designed for non-majors and students entering the Psychiatric Technology Certificate Program.

Associate Degree Applicable

BIOL 100 GENERAL BIOLOGY 4 UNITS

PREREQUISITE: None.

LECTURE: 3 contact hours per week and

LABORATORY: 3 contact hours per week.

This is an introductory course for non-majors emphasizing scientific method in investigating the origins, physiology, ecological roles, and comparative characteristics of living organisms.

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

BIOL 104 HUMAN ECOLOGY 3 UNITS

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

Discussion of the ecological consequences of human resource use and population growth. Emphasis is on earth's life support systems and current environmental problems threatening human health and species survival.

Associate Degree Applicable

Course credit transfers to CSU and UC.

BIOL 109 HISTORY OF LIFE 4 UNITS

PREREQUISITE: None.

LECTURE: 3 contact hours per week and

LABORATORY: 3 contact hours per week.

An introductory course exploring the history of life on Earth. The role of natural selection and evidence from geology, biogeography, and paleontology will be combined with fossils and recent organisms to interpret the clues of life's history on Earth.

Associate Degree Applicable

Course credit transfers to CSU and UC.

BIOL 109H **4 UNITS**
HISTORY OF LIFE - HONORS
PREREQUISITE: None.
LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.
An introductory course exploring the history of life on earth. The role of natural selection and evidence from geology, biogeography, and paleontology will be combined with fossils and recent organisms to interpret the clues of life's history on earth. **Enrollment is limited to students eligible for the Honors Program.**
Associate Degree Applicable
Course credit transfers to CSU and UC.

BIOL 123 **3 UNITS**
ECOLOGY AND ENVIRONMENT
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
Study of the basic concepts of ecology including the physical environment, ecosystems, energy production and transfer, and the impact of humans on ecosystems. Environmental considerations include renewable and non-renewable energy, food resources, pest control, waste management, maintenance of air and water quality, sustaining the biodiversity of ecosystems, global climate, and political and economic considerations.
Associate Degree Applicable
Course credit transfers to CSU and UC.

BIOL 140 **2 UNITS**
BIOLOGY OF SEXUALLY TRANSMITTED DISEASES
PREREQUISITE: None.
LECTURE: 2 contact hours per week.
Social, economic, psychological, medical and legal issues surrounding the sexually transmitted diseases. The pathogenesis, diagnosis and treatment of prominent sexually transmitted diseases including the impact of current biotechnology on vaccine development, treatment and diagnostics. Historical coverage of changing attitudes and measures toward control of the sexually transmitted diseases.
Associate Degree Applicable
Course credit transfers to CSU and UC.

BIOL 201 **4 UNITS**
CELL AND MOLECULAR BIOLOGY
PREREQUISITE: CHEM 150 or CHEM 150H.
LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.
This course is an introduction to cellular and molecular aspects of biology emphasizing principles of prokaryotic and eukaryotic cell structure and function, classic and modern genetics, and concepts that integrate cellular with organismal activities. Experimental design concepts and application are emphasized in the laboratory. It is the first semester of a two-semester sequence in introductory biology for the pre-professional, biology major, or others interested in an in-depth study of biology.
Associate Degree Applicable
Course credit transfers to CSU, and UC.

BIOL 202 **4 UNITS**
ORGANISMAL BIOLOGY AND ECOLOGY
PREREQUISITE: BIOL 201.
LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.
This course is an introduction to ecological and organismal aspects of biology intended for the pre-professional or biology major or others interested in an in-depth study of biology. The course requires participation in and completion of a field project and participation in several weekend field trips. It is the second semester of a two-semester sequence in introductory biology.
Associate Degree Applicable
Course credit transfers to CSU and UC.

BIOL 204 **4 UNITS**
GENERAL BOTANY
PREREQUISITE: BIOL 100 or BIOL 201.
LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.
Introduction to the development and comparative morphology, function, heredity, physiology, and evolution of algae, bryophytes and vascular plants.
Associate Degree Applicable
Course credit transfers to CSU and UC.

BIOL 222 **1-3 UNITS**
INDEPENDENT STUDY IN BIOLOGY
PREREQUISITE: None.
INDEPENDENT STUDY: 3-9 contact hours per week.
Students with previous course work in biology may do assigned projects involving research and analysis of selected topics. This independent study is for students who are interested in furthering their knowledge of Biology. Prior to registration, a contract must be prepared. See instructor for details.
Associate Degree Applicable
Course credit transfers to CSU and UC.
Limited transfer to UC; credit determined after transfer to UC.

BIOL 250 **4 UNITS**
HUMAN ANATOMY AND PHYSIOLOGY I
PREREQUISITE: None.
DEPARTMENTAL ADVISORY: A high-school course in chemistry.
LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.
BIOL 250 is the first semester of a two-semester presentation of anatomy and physiology. Introductory topics include cytology, histology, and basic and organic chemistry. Includes the structure, function, and homeostatic interrelationships of the following organ systems: integumentary, skeletal, cardio-vascular, lymphatic, immune, and respiratory.
Associate Degree Applicable
*Course credit transfers to CSU and *UC.*

BIOL 251
HUMAN ANATOMY AND PHYSIOLOGY II 4 UNITS

PREREQUISITE: BIOL 250.
LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

BIOL 251 is the second semester of a two-semester presentation of anatomy and physiology. Topics include the urinary system, nerve and muscle physiology, muscular system, nervous system, endocrine regulation, digestion, metabolism and reproduction. Emphasis is on body homeostasis, human musculature, and gross anatomy, using the cat as a dissection model.
Associate Degree Applicable
*Course credit transfers to CSU and *UC.*

BIOL 252
INDEPENDENT STUDY IN ANATOMY AND
PHYSIOLOGY 1-3 UNITS

PREREQUISITE: BIOL 250 or BIOL 260.
INDEPENDENT STUDY: 3-9 contact hours per week.

Assigned projects involving research, laboratory work, or directed study for selected students who are interested in furthering their knowledge of anatomy and physiology on an independent study basis. For each unit earned, students are required to devote three contact hours per week throughout the semester. Enrollment limited to those who meet independent study criteria. Prior to registration, a contract must be prepared. See instructor for details.
Associate Degree Applicable
Course credit transfers to CSU.
Limited transfer to UC; credit determined after transfer to UC.

BIOL 256
LABORATORY PREPARATION IN ANATOMY AND
PHYSIOLOGY 2 UNITS

PREREQUISITE: BIOL 250 or BIOL 260.
LABORATORY: 6 contact hours per week.

Practical laboratory techniques designed to acquaint students with the methods of preserving and preparing anatomic materials used in the anatomy laboratory. Students are required to devote six contact hours per week to the laboratory throughout the semester. Prior to registration, a contract must be prepared. See instructor for details.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

BIOL 260
HUMAN ANATOMY 4 UNITS

PREREQUISITE: None.
LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This is a comprehensive lecture/laboratory course in human anatomy. It is organized to explore the body both regionally and systemically. The course is primarily gross anatomy with an extensive dissection of the cat and other significant organs. Histological and cellular anatomy are included as they apply to various structures and systems.
Associate Degree Applicable
*Course credit transfers to CSU and *UC.*

BIOL 261
HUMAN PHYSIOLOGY 4 UNITS

PREREQUISITES: BIOL 260 and CHEM 101.
LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

Introductory study of the vital processes and functions of the human body. Emphasis is on control mechanisms, maintenance of homeostasis and selected examples of pathophysiology of the major organ systems. Includes a laboratory which involves observations, physiological recordings, and analysis of body functions.
Associate Degree Applicable
*Course credit transfers to CSU and *UC.*

BIOL 270
MICROBIOLOGY 5 UNITS

PREREQUISITES: BIOL 250 or BIOL 260 or
BIOL 261 or BIOL 201 and CHEM 101.
DEPARTMENTAL ADVISORY: ENGL 101 or
ENGL 101H.

LECTURE: 3 contact hours per week and
LABORATORY: 6 contact hours per week.

This course is a formal introduction to the fundamental principles of microbiology and immunology. Attention is given to the morphology, control, metabolism and genetics of microorganisms. Emphasis is placed on the pathogenesis of and immunity to infectious diseases.
Associate Degree Applicable
Course credit transfers to CSU and UC.

BIOL 272
INDEPENDENT STUDY IN MICROBIOLOGY 1-3 UNITS

PREREQUISITE: BIOL 270.
INDEPENDENT STUDY: 3-9 contact hours per week.

Assigned problems involving research, laboratory work, or directed study for selected students who are interested in furthering their knowledge of microbiology on an independent study basis. For each unit earned, students are required to devote three contact hours per week throughout the semester. Enrollment limited to those who meet independent study criteria. Prior to registration, a contract must be prepared. See instructor for details.
Associate Degree Applicable
Course credit transfers to CSU.
Limited transfer to UC; credit determined after transfer to UC.

BIOL 276
LABORATORY PREPARATION IN MICROBIOLOGY 2 UNITS

PREREQUISITE: BIOL 270.
INDEPENDENT STUDY: 6 contact hours per week.

Practical laboratory techniques designed to acquaint students with the methods of preserving and preparing materials used in the microbiology laboratory. Students are required to devote six contact hours per week to the laboratory throughout the semester. Prior to registration, a contract must be prepared. See instructor for details.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

**BIOL 290
BIOTECHNOLOGY I** **5 UNITS**

PREREQUISITE: BIOL 201 or BIOL 270.
COREQUISITE: CHEM 104 or CHEM 212 or CHEM 212H.

**LECTURE: 4 contact hours per week and
LABORATORY: 3 contact hours per week.**

This course will focus on basic principles of cellular and molecular biology and laboratory methods utilized in the biotechnology industry. Students will learn the foundations of lab safety and documentation, skills in the maintenance and calibration of basic lab equipment, calculation and preparation of laboratory solutions and principles of separation of cellular components and macromolecules.

Associate Degree Applicable
Course credit transfers to CSU and UC.

**BIOL 291
BIOTECHNOLOGY II** **5 UNITS**

PREREQUISITE: BIOL 290.

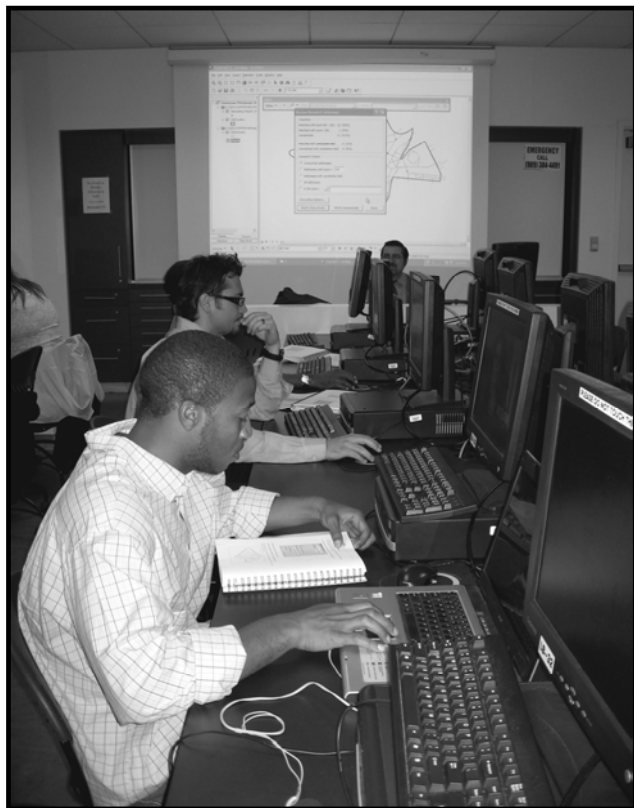
**LECTURE: 3 contact hours per week and
LABORATORY: 6 contact hours per week.**

This course will expand on the principles of cellular and molecular biology as applied in the biotechnology laboratory. Laboratory work will include DNA & RNA isolations, DNA amplification and sequencing, recombinant techniques, restriction analysis of DNA and protein purification and analysis.

Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

**BUILDING INSPECTION
TECHNOLOGY**

See the Department of
INSPECTION TECHNOLOGY



BUSINESS ADMINISTRATION

DIVISION: Mathematics, Business and
Computer Technology
DIVISION DEAN: Haragewen Kinde, Ed.D.
FACULTY CHAIR: Michael Assumma, M.B.A.
Business, 100G
(909) 384-8923
OTHER FACULTY: Vernon Stauble, Ph.D.
ADMINISTRATIVE SECRETARY: Chris Williams
DIVISION OFFICE: Business 101
(909) 384-8908
ADMINISTRATIVE SECRETARY: Vivian Marquez
DIVISION OFFICE: Business 100
(909) 384-8520
LIAISON COUNSELOR: Patty Jones, M.A.
(909) 384-4404

The Business Administration Department offers courses in the fundamentals of business organization and management as well as in marketing and business law.

For non-business majors, these courses offer a general view of the world of business and finance. For business majors, these courses provide a solid foundation in preparation for transfer to a four-year institution. Students planning to transfer to a four-year institution and major in business administration or a related field should consult with a counselor regarding the transfer process and lower division requirements.

**BUSINESS ADMINISTRATION
ASSOCIATE OF ARTS DEGREE**

To graduate with a specialization in Business Administration, students must complete the following required courses plus the general breadth requirements for the Associate Degree (total = 60 units).

REQUIRED COURSES:		UNITS
ACCT 200	Principles of Accounting I	4
ACCT 201	Principles of Accounting II	4
BUSAD 103	Marketing Principles	3
BUSAD 210	Business Law	3
ECON 200	Introduction to Macroeconomics	3
ECON 201	Principles of Economics (Micro)	3
CIT 101	Introduction to Computer Literacy	3
TOTAL UNITS:		23

BUSINESS ADMINISTRATION CERTIFICATES

Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.

BUSINESS ADMINISTRATION CERTIFICATE

This certificate is designed to prepare students for entry-level work in the business field by providing the fundamentals of business organization and management as well as in marketing and business law.

REQUIRED COURSES:	UNITS
BUSAD 100 Introduction to Business	3
BUSAD 103 Marketing Principles	3
BUSCAL 050 Quantitative Methods in Business	3
CIT 101 Introduction to Computer Literacy	3
ACCT 100 Introduction to Accounting I	4
or	
BUSAD 108 Personal Finance and Investments	(3)
or	
ECON 100 Introduction to Economics	(3)
CIT 031 Business English	3
or	
ENGL 015 Preparation for College Writing	(4)
or	
ENGL 101 Freshman Composition	(4)
SPEECH 100 Elements of Public Speaking	3
ELECTIVES - Choose from the list of RECOMMENDED COURSES:	6
TOTAL UNITS:	28

RECOMMENDED COURSES:	UNITS
BUSAD 105 Small Business Management	3
BUSAD 106 Principles of Selling	3
BUSAD 110 Human Resource Management	3
BUSAD 121 International Business	3
BUSAD 153 Introduction to Supervision	3
BUSAD 198 Business Administration Work Exp	3
BUSAD 200 Business Management	3
BUSAD 203 Marketing Management	3

RETAIL MANAGEMENT CERTIFICATE

This certificate is designed to prepare students for entry-level work in the retail management field. Beginning as a clerk or cashier, the student can advance to assistant manager, manager, and upper management. There is no required sequence of courses, but it is recommended that students structure their schedule to move through three general levels of training and experiences. In the foundational courses the students gain exposure to foundational courses in writing, speaking, math applications, and computer literacy. The second component of course offering covers specific business and management content. Lastly, the advanced topics include the retail specific courses.

FOUNDATIONAL COURSES:	UNITS
BUSAD 207 Business Communication	3
BUSCAL 050 Quantitative Methods in Business	3
CIT 101 Introduction to Computer Literacy	3

Choose one of the following:	
SPEECH 100 Elements of Public Speaking	3
SPEECH 111 Interpersonal Communication	(3)
SPEECH 140 Small Group Discussion	(3)

INTERMEDIATE COURSES:	
BUSAD 103 Marketing Principles	3
BUSAD 200 Business Management	3

Choose one of the following:

ACCT 010 Bookkeeping	3
ACCT 100 Introduction to Accounting I	(4)
ACCT 200 Principles of Accounting	(4)

ADVANCED COURSES:

BUSAD 110 Human Resource Management	3
BUSAD 112 Principles of Retailing	3
BUSAD 151 Human Relations	3
TOTAL UNITS:	30-31

COURSES OFFERED BY THE DEPARTMENT OF BUSINESS ADMINISTRATION:

BUSAD 039 STRATEGIES FOR SUCCESSFUL EMPLOYMENT 3 UNITS

PREREQUISITE: None.

DEPARTMENTAL ADVISORY: CIT 008 or CIT 009 or CIT 010.

LECTURE: 3 contact hours per week.

This course is designed to help students develop the skills needed to successfully seek employment, including job search strategies, career paths, cover letter and resume writing, mock interviews, job applications, and positive workplace attitudes.

Associate Degree Applicable

BUSAD 080-099 SPECIAL SEMINARS IN BUSINESS .25-3 UNITS **PREREQUISITE:** None.

LECTURE: 4 contact hours per semester per .25 unit.

Seminars on selected topics in the field of business developed to address current issues. Seminars vary from .25 to 3.0 units and will be offered as requests are made in the business community.

Associate Degree Applicable

BUSAD 100 INTRODUCTION TO BUSINESS 3 UNITS **PREREQUISITE:** None.

LECTURE: 3 contact hours per week.

Introduction to the fundamental concepts of business in a changing world. Includes an overview of such areas as economic systems, management, marketing, accounting, finance, ethics, ownership, organization of business, the legal aspects and regulation of business, as well as globalization.

Associate Degree Applicable

Course credit transfers to CSU and UC.

BUSAD 103 MARKETING PRINCIPLES 3 UNITS **PREREQUISITE:** None.

LECTURE: 3 contact hours per week.

Principles and methods of marketing as practiced by all successfully managed business firms. Course is management-oriented, covering demand analysis, forecasting, product development, price determination, distribution channels, material handling, advertising and personal selling.

Associate Degree Applicable

Course credit transfers to CSU.

BUSAD 105
SMALL BUSINESS MANAGEMENT 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
For business majors and non-business majors who desire a greater knowledge of the fundamentals specifically related to the opening and operating of a small business firm. Designed to provide a working knowledge of the pitfalls associated with small business operations and how to recognize and solve these problems before they happen.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

BUSAD 106
PRINCIPLES OF SELLING 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
Problems of analyzing the sales talk, making an adequate approach, meeting objections and excuses and techniques of closing the sale, and the psychology involved in selling services, goods, ideas, and one's own personality.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

BUSAD 108
PERSONAL FINANCE AND INVESTMENTS 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
Preparation for managing personal finances including budgeting, borrowing, insurance, investments and home ownership.
Associate Degree Applicable
Course credit transfers to CSU.

BUSAD 109
ADVERTISING 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
Principles, purposes and practices of advertising, analysis of the channels of trade, the importance of the correct appeal, style, trademarks, headlines, typography, color, layout, ethics and other problems involved in effective advertising. No artistic abilities required.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

BUSAD 110
HUMAN RESOURCE MANAGEMENT 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
A survey of the objectives, functions and practices in the management of employee relations, and the impact of employee relations on the effective achievement of the organization's goals.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

BUSAD 112
PRINCIPLES OF RETAILING 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
The role of retailing in serving the needs of the community with analysis of consumer needs, store locations, financial requirements and legal processes of starting a retail operation. Planning for store layout, merchandise mix, vendor negotiation, pricing, displaying, advertising, selling and controlling of merchandise.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

BUSAD 121
INTERNATIONAL BUSINESS 3 UNITS
PREREQUISITE: None.
DEPARTMENTAL ADVISORY: BUSAD 100.
LECTURE: 3 contact hours per week.
An analysis of international trade and economic development in modern times, with an examination of business practices and emerging trends in overseas markets. Case studies illustrate methods and strategies for international operations.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

BUSAD 151
HUMAN RELATIONS 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
This course provides a basic understanding of human interactions in the workplace, focusing on the roles of the individual, the group, and the organization as a whole.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

BUSAD 153
INTRODUCTION TO SUPERVISION 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
This survey course introduces the major responsibilities of supervisory personnel with an emphasis on the importance of understanding employees' needs and motivations.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

BUSAD 198
BUSINESS ADMINISTRATION WORK EXPERIENCE 1-4 UNITS
PREREQUISITE: None.
Supervised training in the form of on the job employment that will enhance the student's educational goals. The student's major and job must match. Students work 5-20 contact hours per week to earn units using the following formula: For paid work, 75 hours = 1 unit; for volunteer work, 60 hours = 1 unit. Students may earn a total of 16 units toward graduation in Work Experience 198 courses. Students MUST be working for pay or volunteer before registering for a Work Experience class. NOTE: Only one section of Work Experience may be taken during a semester.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

BUSAD 200
BUSINESS MANAGEMENT **3 UNITS**
PREREQUISITE: BUSAD 100.
LECTURE: 3 contact hours per week.
 Designed for business majors, this course examines the primary dimensions of the management process including planning, organizing, decision-making and controlling organizational activity.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

BUSAD 203
MARKETING MANAGEMENT **3 UNITS**
PREREQUISITE: BUSAD 103.
LECTURE: 3 contact hours per week.
 Actual marketing management practices are carefully reviewed and evaluated. Alternative principles and methods of effective marketing management are closely examined. Marketing management decision-making skills are developed via management simulation exercises.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

BUSAD 207
BUSINESS COMMUNICATION **3 UNITS**
PREREQUISITE: None.
DEPARTMENTAL ADVISORY: CIT 031.
LECTURE: 3 contact hours per week.
 Studies the principles and role of business communication and the need for communication skills in a global marketplace. Emphasizes written communications such as standard and persuasive business letters, memorandums, and informational as well as analytical reports. Studies effective proposals, resumes, and other employment-related documents. Develops planning, organizing, and outlining skills, as well as editing proficiency. Evaluates grammar skills and improves writing style.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

BUSAD 210
BUSINESS LAW **3 UNITS**
PREREQUISITE: None.
DEPARTMENTAL ADVISORY: Pass a standardized test of reading comprehension at or above the twelfth grade level; Eligibility for ENGL 101.
LECTURE: 3 contact hours per week.
 Exploration of the legal environment, in which, business operates. Includes an introduction to law and legal reasoning, ethics, torts, strict and products liability, criminal law and contracts. Special emphasis is placed on acquiring a working knowledge of the rules for contracting in general and the modifications applicable under the Uniform Commercial Code for the sale of goods.
Associate Degree Applicable
*Course credit transfers to CSU and *UC.*

BUSAD 211
THE LEGAL ENVIRONMENT OF BUSINESS **3 UNITS**
PREREQUISITE: None.
DEPARTMENTAL ADVISORY: Pass a standardized test of reading comprehension at or above the twelfth grade level; Eligibility for ENGL 101.
LECTURE: 3 contact hours per week.

A broad investigation of the legal environment in which business is required to operate in today's world. Includes an investigation of the different governmental entities and their jurisdictions, including the forums provided by each for conflict resolution. Focuses on the regulations in the employment, consumer protection, environmental, land-use control and real property, sole proprietorships, partnerships, corporations, antitrust, securities regulation, comparative and international law areas.
Associate Degree Applicable
*Course credit transfers to CSU and *UC.*

BUSAD 222
INDEPENDENT STUDY IN BUSINESS ADMINISTRATION **1-3 UNITS**
PREREQUISITE: None.
INDEPENDENT STUDY: 3-9 contact hours per week.
 Assigned projects involving research and analysis of selected topics or directed study for students who are interested in furthering their knowledge of business administration on an independent study basis. For each unit earned, students are required to devote three contact hours per week throughout the semester. Enrollment limited to those who meet independent study criteria. Prior to registration, a contract must be prepared. See instructor for details.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

BUSINESS CALCULATIONS

DIVISION:	Mathematics, Business and Computer Technology
DIVISION DEAN:	Haragewen Kinde, Ed.D.
FACULTY CHAIR:	Michael Assumma, M.B.A. Business, 100G (909) 384-8923
ADMINISTRATIVE SECRETARY:	Chris Williams
DIVISION OFFICE:	Business 101 (909) 384-8908
ADMINISTRATIVE SECRETARY:	Vivian Marquez
DIVISION OFFICE:	Business 100 (909) 384-8520
LIAISON COUNSELOR:	Patty Jones, M.A. (909) 384-4404

Courses in Business Calculations are designed to present the fundamentals of mathematics within the context of the field of business. These courses are an important complement to courses in accounting, economics and business.

COURSES OFFERED BY THE DEPARTMENT OF BUSINESS CALCULATIONS:

**BUSCAL 050
QUANTITATIVE METHODS IN BUSINESS**

3 UNITS

PREREQUISITE: None.

DEPARTMENTAL ADVISORY: MATH 952.

LECTURE: 3 contact hours per week.

This introductory course includes business applications of fractions, decimals, and percents; the use of pocket calculator to solve business applications, such as markups, payroll, discounts, simple interest, compound interest, consumer loans; and an introduction to solving one-variable linear equations.

Associate Degree Applicable

**BUSCAL 091
BEGINNING ALGEBRA FOR BUSINESS**

4 UNITS

PREREQUISITE: MATH 952 or BUSCAL 050.

LECTURE: 4 contact hours per week.

Review of operations on integers and properties of real numbers including solving linear equations and inequalities; ratio, proportion and percent, and the applications of these operations; exponents and polynomials; factoring; an introduction to quadratic equations; rational expressions; graphing linear equations; and applications in business such as markdowns, simple and compound interest, break-even analysis, and supply and demand.

Associate Degree Applicable

**BUSCAL 208
BUSINESS AND ECONOMICS STATISTICS**

4 UNITS

PREREQUISITE: MATH 095.

LECTURE: 4 contact hours per week.

A review of statistical methods commonly used in business and economics including measures of central tendency; measures of dispersion and skewness; probability concepts and distributions; statistical inferences; parametric and non-parametric hypothesis testing; index numbers time series analysis, simple regression, and correlation analysis. This course is also offered as ECON 208.

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

CHEMISTRY

DIVISION: Science and Health Science
 DIVISION DEAN: Susan Bangasser, Ph.D.
 FACULTY CHAIR: John Stankas, Ph.D.
 Chemistry 114
 (909) 384-8268
 OTHER FACULTY: Amy Avelar, M.S.
 Denise Bailey, Ph.D.
 Sheri Lillard, Ph.D.
 Michael Torrez, M.S.
 ADMINISTRATIVE SECRETARY: Rose Garcia
 DIVISION OFFICE: Chemistry 121
 (909) 384-8645
 ADMINISTRATIVE SECRETARY: Dorothy N. Fierro
 DIVISION OFFICE: Health and Life Science 101
 (909) 384-8550
 LIAISON COUNSELOR: Jennifer Mendoza, M.S.
 (909) 384-4404

The Chemistry program is designed to meet the diverse needs of students served by the community college: (a) students majoring in chemistry or related sciences, (b) students majoring in one of the health sciences, and (c) students fulfilling the general education science requirement.

Courses in the Chemistry Department are taught with a strong emphasis on the laboratory. In the advanced classes, students receive hands-on experience with a wide variety of instruments.

Students planning to transfer to a four-year institution and major in chemistry should consult with a counselor regarding the transfer process and lower division requirements.

**CHEMISTRY
ASSOCIATE OF SCIENCE DEGREE**

Students planning to transfer to a four-year institution and major in chemistry or biochemistry should consult with a counselor regarding the transfer process and lower division requirements because additional courses may be required at some institutions.

To graduate with a specialization in Chemistry, students must complete the following required courses plus the general breadth requirements for the Associate's Degree. The A.S. in Chemistry is designed to prepare students who wish to pursue a Bachelor's Degree from a four-year institution. At the four-year institution, students may choose to specialize in one particular aspect of chemistry, such as Environmental Chemistry, Organic Chemistry, Atmospheric Chemistry, or Physical Chemistry.

REQUIRED COURSES:			UNITS
CHEM 150	General Chemistry I	or	5
CHEM 150H	General Chemistry I - Honors		5
CHEM 151	General Chemistry II	or	5
CHEM 151H	General Chemistry II - Honors		5
CHEM 212	Organic Chemistry I	or	4
CHEM 212H	Organic Chemistry I - Honors		4
CHEM 213	Organic Chemistry	or	4
CHEM 213H	Organic Chemistry II - Honors		4
MATH 250	Single Variable Calculus I		4
MATH 251	Single Variable Calculus II		4

*RECOMMENDED COURSES:			UNITS
PHYSIC 200	Physics I	or	6
PHYSIC 150A	General Physics for the Life Sciences I		5
PHYSIC 201	Physics II	or	6
PHYSIC 150B	General Physics for the Life Sciences II		5
CHEM 205	Quantitative Chemical Analysis		5

**These courses are typically prerequisites for third year chemistry majors. Students are encouraged to complete the recommended courses to prevent the postponement of continued coursework in this major.*

TOTAL UNITS: 26

BIOCHEMISTRY ASSOCIATE OF SCIENCE DEGREE

Students planning to transfer to a four-year institution and major in chemistry or biochemistry should consult with a counselor regarding the transfer process and lower division requirements because additional courses may be required by some institutions.

To graduate with a specialization in Biochemistry, students must complete the following required courses plus the general breadth requirements for the Associate's Degree. The A.S. in Biochemistry is designed to prepare students who wish to pursue a Bachelor's Degree in Biochemistry from a four-year institution and specialize in the chemical interactions that pertain to biological systems.

REQUIRED COURSES:			UNITS
CHEM 150	General Chemistry I	or	5
CHEM 150H	General Chemistry I - Honors		5
CHEM 151	General Chemistry II	or	5
CHEM 151H	General Chemistry II - Honors		5
CHEM 212	Organic Chemistry I	or	4
CHEM 212H	Organic Chemistry I - Honors		4
CHEM 213	Organic Chemistry	or	4
CHEM 213H	Organic Chemistry II - Honors		4
BIOL 201	Cell and Molecular Biology		4
BIOL 202	Organismal Biology and Ecology		4
MATH 250	Single Variable Calculus I		4
MATH 251	Single Variable Calculus II		4

*RECOMMENDED COURSES:			UNITS
PHYSIC 200	Physics I	or	6
PHYSIC 150A	General Physics for the Life Sciences I		5
PHYSIC 201	Physics II	or	6
PHYSIC 150B	General Physics for the Life Sciences II		5
CHEM 205	Quantitative Chemical Analysis		5

**These courses are typically prerequisites for third year biochemistry majors. Students are encouraged to complete the recommended courses to prevent the postponement of continued coursework in this major.*

TOTAL UNITS: 34



COURSES OFFERED BY THE DEPARTMENT OF CHEMISTRY:

CHEM 010 FOUNDATIONAL SKILLS FOR CHEMISTRY MAJORS .25 UNIT

PREREQUISITE: None.

COREQUISITE: CHEM 150, 151, 212, or 213.

LECTURE: None.

LABORATORY: 13.5 contact hours per semester.

This course enables students to develop and strengthen foundational science skills during enrollment in major's-level science coursework. Workshops emphasize skill-building in the analytical and communication skills necessary for success in major's-level science classes and professional-level science careers. Topics include applied math, word problems, data manipulation, graphing, scientific writing, critical thinking, scientific method, and the use of technology. Graded on Pass/No Pass basis only.

Associate Degree Applicable

CHEM 085 ALGEBRA REVIEW WORKSHOP FOR CHEMISTRY .50 UNIT

PREREQUISITE: MATH 090.

COREQUISITE: CHEM 101.

LECTURE: .50 contact hour per week.

An algebra review workshop for students in CHEM 101 with an emphasis on how to use mathematics and algebra to solve chemistry problems. Graded on Pass/No Pass basis only.

Associate Degree Applicable

CHEM 101 INTRODUCTORY CHEMISTRY 4 UNITS **PREREQUISITE:** MATH 090 or SBVC assessment into MATH 095 or higher.

LECTURE: 3 contact hours per week and

LABORATORY: 3 contact hours per week.

This comprehensive course provides a foundation for the concepts of chemistry. Some of the areas studied include the physical and chemical properties of common elements and compounds, the metric system, measurements and conversions, atomic structure, the periodic table, chemical equations and calculations, gases, solutions, ionization, and an introduction to organic and biochemistry.

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

CHEM 104 INTRODUCTION TO ORGANIC CHEMISTRY AND BIOCHEMISTRY 4 UNITS

PREREQUISITE: CHEM 101.

LECTURE: 3 contact hours per week and

LABORATORY: 3 contact hours per week.

An introduction to the structure, bonding and typical chemical properties of the different classes of organic compounds and biomolecules.

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

CHEM 110
ENVIRONMENTAL AND CONSUMER CHEMISTRY 3 UNITS

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

This course fulfills a general education requirement and explores the role of chemistry in society. The topics included are: physical and chemical properties of common elements and compounds (including household substances); gases; reactions; atomic structure; energy; simple organic and biochemical compounds; and air and water pollution.

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

CHEM 150
GENERAL CHEMISTRY I 5 UNITS

PREREQUISITES: CHEM 101 and MATH 095 or SBVC assessment into MATH 102 or higher.

LECTURE: 3 contact hours per week and

LABORATORY: 6 contact hours per week.

General Chemistry I is an introduction to college level chemistry with an emphasis on the mole concept, thermochemistry, atomic and molecular structure, the relationships of intramolecular and intermolecular forces to chemical and physical properties, the periodic chart, organic chemistry, and solids, liquids and gases.

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

CHEM 150H
GENERAL CHEMISTRY I – HONORS 5 UNITS

PREREQUISITES: CHEM 101 and MATH 095 or SBVC assessment into MATH 102 or higher.

LECTURE: 3 contact hours per week and

LABORATORY: 6 contact hours per week.

General Chemistry I - Honors is an introduction to college level chemistry with an emphasis on the mole concept, thermochemistry, atomic and molecular structure, the relationships of intramolecular and intermolecular forces to chemical and physical properties, the periodic chart, organic chemistry, and solids, liquids and gases. **Enrollment is limited to students eligible for the Honors Program.**

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

CHEM 151
GENERAL CHEMISTRY II 5 UNITS

PREREQUISITE: CHEM 150 or CHEM 150H, and MATH 102 or SBVC assessment higher than MATH 102.

LECTURE: 3 contact hours per week and

LABORATORY: 6 contact hours per week.

General Chemistry II is the second half of a two-part sequence in chemistry with an emphasis on thermodynamics, chemical equilibrium, chemical kinetics, nuclear and electrochemistry. This course prepares students for future courses and careers in chemistry, physics, biology, health, and the earth sciences.

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

CHEM 151H
GENERAL CHEMISTRY II – HONORS 5 UNITS

PREREQUISITE: CHEM 150 or CHEM 150H, and MATH 102 or SBVC assessment higher than MATH 102.

LECTURE: 3 contact hours per week and

LABORATORY: 6 contact hours per week.

General Chemistry II-Honors is the second half of a two-part sequence in chemistry with an emphasis on thermodynamics, chemical equilibrium, chemical kinetics, nuclear and electrochemistry. This course prepares students for future courses and careers in chemistry, physics, biology, health, and the earth sciences. **Enrollment is limited to students eligible for the Honors Program.**

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

CHEM 205
QUANTITATIVE CHEMICAL ANALYSIS 5 UNITS

PREREQUISITE: CHEM 151 or CHEM 151H.

LECTURE: 3 contact hours per week and

LABORATORY: 6 contact hours per week.

This course explores the principles, calculations, and applications of volumetric, gravimetric, and instrumental analysis as well as practical experience in standardizing reagents and determining the composition of various mixtures pertaining to the chemical laboratory setting. It is designed for second year Chemistry and Biology majors and students pursuing professional careers.

Associate Degree Applicable

Course credit transfers to CSU and UC.

CHEM 212
ORGANIC CHEMISTRY I 4 UNITS

PREREQUISITE: CHEM 150 or CHEM 150H.

LECTURE: 3 contact hours per week and

LABORATORY: 3 contact hours per week.

The first semester of organic chemistry examines carbon compounds including aliphatic, aromatic, and heterocyclic series, and modern theoretical concepts are studied. Students identify properties, synthesis, and reactions of functional groups. Mechanisms are examined in detail. Laboratory includes preparation, identification and the study of properties of organic compounds.

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

CHEM 212H
ORGANIC CHEMISTRY I – HONORS 4 UNITS

PREREQUISITES: CHEM 150 or CHEM 150H.

LECTURE: 3 contact hours per week and

LABORATORY: 3 contact hours per week.

The first semester of organic chemistry examines carbon compounds including aliphatic, aromatic, and heterocyclic series, and modern theoretical concepts are studied. Students identify properties, synthesis, and reactions of functional groups. Mechanisms are examined in detail. Laboratory includes preparation, identification and the study of properties of organic compounds. **Enrollment is limited to students eligible for the Honors Program.**

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

CHEM 213
ORGANIC CHEMISTRY II **4 UNITS**

PREREQUISITE: CHEM 212 or CHEM 212H.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

Second semester of organic chemistry, continuing the study of carbon compounds including aliphatic, aromatic and heterocyclic series, and modern theoretical concepts. Includes modern instrumentation, mechanisms, synthesis and functional groups. Laboratory includes preparation, study of the properties, and extensive identification of organic compounds.

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

CHEM 213H
ORGANIC CHEMISTRY II – HONORS **4 UNITS**

PREREQUISITE: CHEM 212 or CHEM 212H.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

Second semester of organic chemistry. A study of carbon compounds including aliphatic, aromatic and heterocyclic series, and modern theoretical concepts. Includes modern instrumentation, mechanisms, synthesis and functional groups. Laboratory includes preparation and study of properties, and extensive identification of organic compounds. **Enrollment is limited to students eligible for the Honors Program.**

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

CHEM 222
INDEPENDENT STUDY IN CHEMISTRY **1-3 UNITS**

PREREQUISITE/COREQUISITE: CHEM 151 or
CHEM 151H.

INDEPENDENT STUDY: 3-9 contact hours per week.

Students with previous work in Chemistry may complete assigned projects involving research and analysis of selected topics. This independent study is for students who are interested in furthering their knowledge of Physical, Analytical, Environmental, Nuclear or Inorganic Chemistry. Prior to registration, a written contract must be prepared. See the instructor for details.

Associate Degree Applicable

Course credit transfers to CSU.

Limited transfer to UC; credit determined after transfer to UC.

CHEM 223
INDEPENDENT STUDY IN CHEMISTRY **1-3 UNITS**

PREREQUISITE: CHEM 212 or CHEM 212H or
CHEM 104.

COREQUISITE: CHEM 212 or CHEM 212H.

INDEPENDENT STUDY: 3-9 contact hours per week.

Students with previous course work in Organic or Biochemistry may do assigned projects involving research and analysis of selected topics. This independent study is for students who are interested in furthering their knowledge of Organic or Biochemistry. Prior to registration, a written contract must be prepared. See the instructor for details.

Associate Degree Applicable

Course credit transfers to CSU.

Limited transfer to UC; credit determined after transfer to UC.

CHILD DEVELOPMENT

DIVISION: Social Science, Human
Development and Physical
Education

DIVISION DEAN: Corene Schwartz, Ed.D.

FACULTY CHAIRS: Kathryn Adams, M.S.

North Hall 301

(909) 384-8549

Denise Knight, B.A.

North Hall 305

(909) 384-8547

OTHER FACULTY: Kellie Barnett, M.S.

ADMINISTRATIVE SECRETARY: Karen Deck

DIVISION OFFICE: Liberal Arts 114

(909) 384-8603

ADMINISTRATIVE SECRETARY: Anita Moore

DIVISION OFFICE: Liberal Arts 111

(909) 384-8514

LIAISON COUNSELOR: Mary Beth Barrios, M.S.

(909) 384-4404

The Child Development Department has both an academic and vocational orientation. The academic program leads students along a path toward an Associate of Arts degree that articulates with higher education and transfers into continued study suitable for a baccalaureate degree. Students planning to transfer to a four-year institution and major in child development or a related field should consult with a counselor regarding the transfer process and lower division requirements.

The vocational program, which interfaces with the academic program, prepares students for immediate employment. Certificates offered by the Child Development Department prepare students for work with specific age groups: Infant and School Age. The Family Child Care Provider Certificate provides a curriculum to prepare students to establish quality family child care centers in their homes.

GENERAL EDUCATION COURSES AND ELECTIVES:

The Child Development Department advises scheduling an appointment with a counselor to create an education plan to include the general breadth requirements and elective units. Please note that CD205, Child Growth and Development Laboratory, is articulated with CSUSB.

CHILD DEVELOPMENT ASSOCIATE OF ARTS DEGREE

To graduate with a specialization in Child Development students must complete the required child development courses (28 units) plus the general breadth course requirements for an Associate of Arts Degree.

REQUIRED COURSES		UNITS
(State Alignment Project Courses):		
CD 105	Child Growth and Development or	3
CD 105H	Child Growth and Development - Honors	3
CD 111	Observation and Assessment in Child Development	3
CD 113	Principles and Practices of Teaching Children	3
CD 114	Introduction to Curriculum	3
CD 115	Health, Safety and Nutrition for Young Children	3
CD 126	Child, Family, and the Community	3

CD 138	Teaching in a Diverse Society	3	
ONE COURSE FROM THE FOLLOWING:		UNITS	
Specialized Curriculum Classes:			
CD 130	Creative Music and Movement for Children	3	
CD 133	Creative Science and Math Activities for Children	3	
CD 134	Language, Listening and Literature for Children	3	
CD 136	Creative Art Experiences for Children	3	
CD 168	Early Literacy for Young Children	3	or
Electives Articulated with CSUSB:			
CD 127	Guidance of Children	3	
CD 185	Infant/Toddler Growth and Development	3	
CD 186	Infant and Toddler Curriculum	3	or
Other Elective:			
CD 244	Children with Special Needs	3	
EXPERIENCE WORKING WITH CHILDREN (State Alignment Project Course):		UNITS	
CD 198	Child Development Work Experience	4	or
CD 205	Child Development Practicum / Field Experience	4	
		Units	
GENERAL EDUCATION COURSES:		32	
TOTAL UNITS:		60	

CHILD DEVELOPMENT-EARLY INTERVENTION AND INCLUSION ASSOCIATE OF ARTS DEGREE

To graduate with a specialization in Child Development-Early Childhood Intervention and Inclusion students must complete the required child development courses (32 units) plus the general breadth course requirements for an Associate of Arts Degree. This degree prepares individuals to work as early childhood paraprofessionals with expertise in special education and early intervention. The Child Development courses meet the State's new competencies for early childhood intervention/early childhood special education paraprofessionals. *The Child Development-Early Intervention and Inclusion A.A. Degree meets California Title 5 requirements for the Child Development Teacher Permit. Upon completion of all the courses contact the Child Development Department Chair for an application for the Teacher Permit.*

REQUIRED COURSES:		UNITS
CD 105	Child Growth and Development	or 3
CD 105H	Child Growth and Development-Honors	3
CD 111	Observation and Assessment in Child Development	3
CD 126	Child, Family, and the Community	3
CD 127	Guidance of Children	3
CD 185	Infant/Toddler Growth and Development	3

CD 186	Infant and Toddler Curriculum	3
CD 244	Children with Special Needs	3
CD 245	Early Intervention and Inclusion	3
EXPERIENCE WORKING WITH CHILDREN (REQUIRED):		UNITS
CD 215	Early Intervention and Inclusion Internship	4
CD 198	Child Development Work Experience	or 4
CD 205	Child Development Practicum / Field Experience	4
CD 210	Infant and Toddler Growth and Development Laboratory	4
GENERAL EDUCATION COURSES:		UNITS
		28
TOTAL UNITS:		60

CHILD DEVELOPMENT-SITE SUPERVISOR ASSOCIATE OF ARTS DEGREE

To graduate with a specialization in Child Development-Site Supervisor, students must complete the required child development courses (43 units) plus the general breadth course requirements for an Associate of Arts Degree.

REQUIRED COURSES:		UNITS
CD 105	Child Growth and Development	or 3
CD 105H	Child Growth and Development-Honors	3
CD 111	Observation and Assessment in Child Development	3
CD 113	Principles and Practices of Teaching Children	3
CD 114	Introduction to Curriculum	3
CD 115	Health, Safety and Nutrition for Young Children	3
CD 126	Child, Family, and the Community	3
CD 127	Guidance of Children	3
CD 270	The Mentor Teacher / Adult Supervision	3
CD 271	Administration of Early Childhood Education Programs	3
CD 272	Advanced Administration of Early Childhood Education Programs	3

TWO COURSES FROM THE FOLLOWING LIST:		UNITS
CD 130	Creative Music and Movement for Children	3
CD 133	Creative Science and Math Activities for Children	3
CD 134	Language, Listening and Literature for Children	3
CD 136	Creative Art Experiences for Children	3

ONE COURSE FROM THE FOLLOWING LIST:		UNITS
CD 138	Teaching in a Diverse Society	3
CD 160	Understanding School-Age Children	3
CD 161	Activities for School-Age Children	3
CD 168	Early Literacy for Young Children	3

CD 185	Infant/Toddler Growth and Development	3
CD 186	Infant and Toddler Curriculum	3
CD 244	Children with Special Needs	3
EXPERIENCE WORKING WITH CHILDREN:		UNITS
CD 198	Child Development Work Experience	4
CD 205	Child Development Practicum / Field Experience	4
CD 210	Infant and Toddler Growth and Development Laboratory	4
GENERAL EDUCATION COURSES:		UNITS
		24 - 26
TOTAL UNITS:		67 - 69

CHILD DEVELOPMENT - ASSOCIATE TEACHER CERTIFICATE

REQUIRED COURSES:		UNITS
CD 101	Parent-Child Interaction	3
CD 105	Child Growth and Development	3
CD 105H	Child Growth and Development-Honors	3
CD 113	Principles and Practices of Teaching Children	3
CD 114	Introduction to Curriculum	3
CD 126	Child, Family, and the Community	3
EXPERIENCE WORKING WITH CHILDREN:		UNITS
CD 205	Child Development Practicum / Field Experience	4
CD 198	Child Development Work Experience	4
TOTAL UNITS:		19

ADDITIONAL RECOMMENDED COURSE:
 CD 116 Pediatric CPR, First Aid & Safety
**Pending approval from the California Community College Chancellor's Office*

CHILD DEVELOPMENT - TEACHER CERTIFICATE

The Teacher Certificate is designed for individuals working with children in a preschool or child care setting. The certificate focuses on developing age appropriate lesson plans for the classroom and observation/assessment of children. The Teacher Certificate requires 31 CD units which includes 4 units of laboratory or work experience with young children plus 16 general education units.

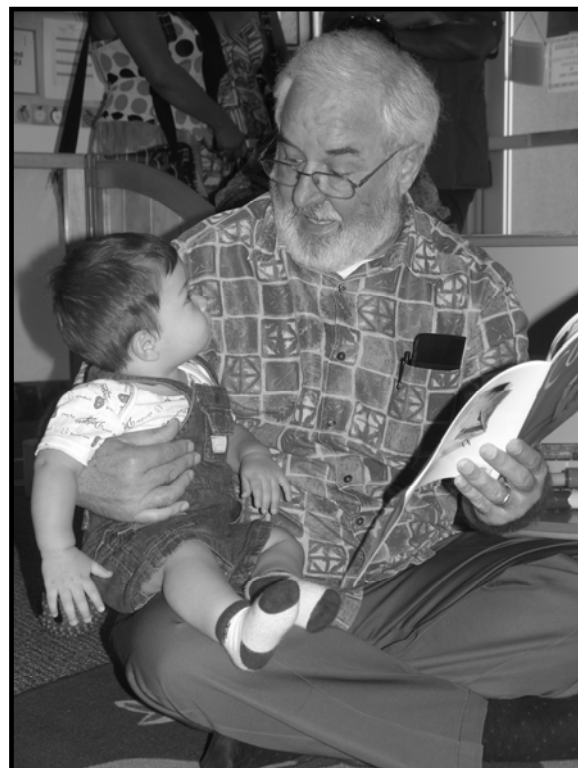
REQUIRED COURSES:		UNITS
CD 105	Child Growth and Development	3
CD 105H	Child Growth and Development-Honors	3
CD 111	Observation and Assessment in Child Development	3
CD 113	Principles and Practices of Teaching Children	3
CD 114	Introduction to Curriculum	3
CD 126	Child, Family, and the Community	3
TWO CURRICULUM COURSES FROM THE FOLLOWING LIST:		UNITS

CD 130	Creative Music and Movement for Children	3
CD 133	Creative Science and Math Activities for Children	3
CD 134	Language, Listening and Literature for Children	3
CD 136	Creative Art Experiences for Children	3
CD 168	Early Literacy for Young Children	3
TWO COURSES FROM THE FOLLOWING LIST:		UNITS

CD 115	Health, Safety and Nutrition for Young Children	3
CD 127	Guidance of Children	3
CD 138	Teaching in a Diverse Society	3
CD 185	Infant/Toddler Growth and Development	3

EXPERIENCE WORKING WITH CHILDREN (REQUIRED):		UNITS
CD 198	Child Development Work Experience	4
CD 205	Child Development Practicum / Field Experience	4

TOTAL UNITS:	34
GENERAL EDUCATION COURSES:	UNITS
	16
TOTAL UNITS:	60



CHILD DEVELOPMENT - MASTER TEACHER CERTIFICATE

The Master Teacher Certificate is designed to prepare students to supervise, mentor and assist other teachers and aides in a preschool or child care setting. The Master Teacher Certificate requires 37 CD units which includes six specialization units and 4 units of laboratory or work experience with children preschool-12 years of age plus a minimum of 16 general education units.

REQUIRED COURSES: UNITS

CD 105	Child Growth and Development	or	3
CD 105H	Child Growth and Development-Honors		3
CD 111	Observation and Assessment in Child Development		3
CD 113	Principles and Practices of Teaching Children		3
CD 114	Introduction to Curriculum		3
CD 115	Health, Safety and Nutrition for Young Children		3
CD 126	Child, Family, and the Community		3
CD 127	Guidance of Children		3
CD 270	The Mentor Teacher / Adult Supervision		3

CHILD DEVELOPMENT SPECIALIZATION: UNITS

CREATIVE CURRICULUM SPECIALIZATION

CD 130	Creative Music and Movement for Children	and	3
CD 136	Creative Art Experiences for Children	or	3

LITERACY SPECIALIZATION

CD 134	Language, Listening and Literature for Children	and	3
CD 168	Early Literacy for Young Children	or	3

SCHOOL-AGE SPECIALIZATION

CD 160	Understanding School-Age Children	and	3
CD 161	Activities for School-Age Children	or	3

INFANT/TODDLER SPECIALIZATION

CD 185	Infant/Toddler Growth and Development	and	3
CD 186	Infant and Toddler Curriculum	or	3

SPECIAL NEEDS SPECIALIZATION

CD 244	Children with Special Needs	and	3
CD 245	Early Intervention and Inclusion		3

ONE COURSE FROM THE FOLLOWING LIST: UNITS

COURSE MUST BE DIFFERENT FROM YOUR CHOSEN SPECIALIZATION

CD 040	Spanish for Early Childhood Settings	3
CD 130	Creative Music and Movement for Children	3
CD 133	Creative Science and Math Activities for Children	3

CD 134	Language, Listening and Literature for Children	3
CD 136	Creative Art Experiences for Children	3
CD 138	Teaching in a Diverse Society	3
CD 160	Understanding School-Age Children	3
CD 161	Activities for School-Age Children	3
CD 168	Early Literacy for Young Children	3
CD 185	Infant/Toddler Growth and Development	3
CD 186	Infant and Toddler Curriculum	3
CD 244	Children with Special Needs	3

EXPERIENCE WORKING WITH CHILDREN: UNITS

CD 198	Child Development Work Experience	or	4
CD 205	Child Development Practicum / Field Experience		4

TOTAL UNITS: 40

CHILD DEVELOPMENT - SITE SUPERVISOR CERTIFICATE

The Site Supervisor Certificate is designed to prepare students with the necessary knowledge and skills to be qualified as a preschool or child care center site supervisor. The Site Supervisor Certificate requires 60 units or an Associate of Arts Degree both of which includes 43 child development (CD) units. (30 CD units, six CD Administration units, three CD Adult Supervision units and four units of laboratory or work experience with young children).

REQUIRED COURSES: UNITS

CD 105	Child Growth and Development	or	3
CD 105H	Child Growth and Development-Honors		3
CD 111	Observation and Assessment in Child Development		3
CD 113	Principles and Practices of Teaching Children		3
CD 114	Introduction to Curriculum		3
CD 115	Health, Safety and Nutrition for Young Children		3
CD 126	Child, Family, and the Community		3
CD 127	Guidance of Children		3
CD 270	The Mentor Teacher / Adult Supervision		3
CD 271	Administration of Early Childhood Education Programs		3
CD 272	Advanced Administration of Early Childhood Education Programs		3

TWO COURSES FROM THE FOLLOWING LIST: UNITS

CD 130	Creative Music and Movement for Children	3
CD 133	Creative Science and Math Activities for Children	3
CD 134	Language, Listening and Literature for Children	3

CD 136	Creative Art Experiences for Children	3	
ONE COURSE FROM THE FOLLOWING LIST:		UNITS	
CD 138	Teaching in a Diverse Society	3	
CD 160	Understanding School-Age Children	3	
CD 161	Activities for School-Age Children	3	
CD 168	Early Literacy for Young Children	3	
CD 185	Infant/Toddler Growth and Development	3	
CD 186	Infant and Toddler Curriculum	3	
CD 244	Children with Special Needs	3	
EXPERIENCE WORKING WITH CHILDREN:		UNITS	
CD 198	Child Development Work Experience or	4	
CD 205	Child Development Practicum / Field Experience or	4	
CD 210	Infant and Toddler Growth and Development Laboratory	4	
TOTAL UNITS:		46	

CHILD DEVELOPMENT - INFANT DEVELOPMENT CERTIFICATE

The Infant Development Certificate is designed to be the first step toward obtaining entry-level employment specializing in infant care. Students will be prepared to work with infants (0-36 months) enabling the student to assist a teacher in a child care or infant care setting. The Infant Development Certificate requires 28 CD units which includes four units of laboratory or work experience with infants.

REQUIRED COURSES:		UNITS
CD 105	Child Growth and Development or	3
CD 105H	Child Growth and Development-Honors	3
CD 126	Child, Family, and the Community	3
CD 127	Guidance of Children	3
CD 185	Infant/Toddler Growth and Development	3
CD 186	Infant and Toddler Curriculum	3

THREE COURSES FROM THE FOLLOWING LIST:

CD 111	Observation and Assessment in Child Development	3
CD 115	Health, Safety and Nutrition for Young Children	3
CD 168	Early Literacy for Young Children	3
CD 244	Children with Special Needs	3
EXPERIENCE WORKING WITH CHILDREN Ages Birth-24 Months:		UNITS
CD 198	Child Development Work Experience or	4
CD 210	Infant and Toddler Growth and Development Laboratory	4
TOTAL UNITS:		28

CHILD DEVELOPMENT - SCHOOL-AGE CERTIFICATE

The School-Age Certificate is designed to be the first step toward entry level employment specializing in the care of children from 6-12 years. It prepares students for working in after-school programs or child care facilities that serve older children. The School-Age Certificate requires 31 CD units which includes four units of work experience with school-age children.

This Certificate meets California Title 5 requirements for the Child Development Associate Teacher Permit with a School-Age Emphasis and the Child Development Associate Teacher Permit. Upon completion of all the courses contact the Child Development Department Chair for an application for the Associate Teacher Permit.

REQUIRED COURSES:		UNITS
CD 105	Child Growth and Development or	3
CD 105H	Child Growth and Development-Honors	3
CD 113	Principles and Practices of Teaching Children	3
CD 114	Introduction to Curriculum	3
CD 126	Child, Family, and the Community	3
CD 127	Guidance of Children	3
CD 160	Understanding School-Age Children	3
CD 161	Activities for School-Age Children	3

TWO COURSES FROM THE FOLLOWING LIST:

CD 111	Observation and Assessment in Child Development	3
CD 115	Health, Safety and Nutrition for Young Children	3
CD 133	Creative Science and Math Activities for Children	3
CD 134	Language, Listening and Literature for Children	3
CD 136	Creative Art Experiences for Children	3
CD 138	Teaching in a Diverse Society	3

EXPERIENCE WORKING WITH CHILDREN Age 6-12 years:

CD 205	Child Development Practicum / Field Experience	4
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TOTAL UNITS: 31

CHILD DEVELOPMENT - FAMILY CHILD CARE PROVIDER CERTIFICATE

The Family Child Care Provider Certificate specializes in the care of children in a family child care setting and prepares students for working in family child care or home day care programs and facilities. The Family Child Care Certificate requires 24 CD units which includes work experience in a licensed family child care setting.

REQUIRED COURSES:		UNITS
CD 072	Family Child Care	1
CD 073	Family Child Care Business Practices	1
CD 074	Family Child Care Children's Programs	1
CD 101	Parent-Child Interaction	3
CD 105	Child Growth and Development or	3
CD 105H	Child Growth and Development-Honors	3

CD 115	Health, Safety and Nutrition for Young Children	3
CD 116	Pediatric CPR, First Aid and Safety	2
CD 126	Child, Family, and the Community	3
ONE COURSE FROM THE FOLLOWING LIST:		UNITS
CD 161	Activities for School-Age Children or	3
CD 186	Infant and Toddler Activities	3
EXPERIENCE WORKING WITH CHILDREN in a licensed, family child care setting:		UNITS
CD 198	Child Development Work Experience	4
ADDITIONAL RECOMMENDED COURSES:		
BUSAD 105	Small Business Management (3 units)	
TOTAL UNITS:		24

CHILD DEVELOPMENT-EARLY INTERVENTION AND INCLUSION CERTIFICATE

The Early Intervention and Inclusion Certificate prepares individuals to work as early childhood paraprofessionals with expertise in special education and early intervention. The program's perspective is culturally sensitive and family-focused which emphasizes the value of individual differences in young children. This certificate meets the State's new competencies for early childhood intervention/early childhood special education paraprofessionals.

This Certificate meets California Title 5 requirements for the Child Development Associate Teacher Permit. Upon completion of all the courses contact the Child Development Department Chair for an application for the Associate Teacher Permit.

REQUIRED COURSES:		UNITS
CD 105	Child Growth and Development or	3
CD 105H	Child Growth and Development-Honors	3
CD 111	Observation and Assessment in Child Development	3
CD 126	Child, Family, and the Community	3
CD 127	Guidance of Children	3
CD 185	Infant/Toddler Growth and Development	3
CD 186	Infant and Toddler Curriculum	3
CD 244	Children with Special Needs	3
CD 245	Early Intervention and Inclusion	3
EXPERIENCE WORKING WITH CHILDREN (REQUIRED):		UNITS
CD 215	Early Intervention and Inclusion Internship	4
CD 198	Child Development Work Experience or	4
CD 205	Child Development Practicum / Field Experience or	4
CD 210	Infant and Toddler Growth and Development Laboratory	4
TOTAL UNITS:		32

COURSES OFFERED BY THE DEPARTMENT OF CHILD DEVELOPMENT:

**CD 040
SPANISH FOR EARLY CHILDHOOD SETTINGS 3 UNITS**

PREREQUISITE: None.
LECTURE: 3 contact hours per week.
This course focuses on language and listening experiences in Spanish with an emphasis on the acquisition of basic communication skills appropriate for students teaching or planning to teach in early childhood bilingual-bicultural learning environments. Children's activities in Spanish music, literature, movement and dramatic play will be highlighted.
Associate Degree Applicable

**CD 050 A-Z
SPECIAL TOPICS ON PARENTING 2 UNITS**

PREREQUISITE: None.
LECTURE: 1 contact hour per week and LABORATORY: 3 contact hours per week.
These courses cover relevant and current parenting issues such as children's developmental milestones; health needs; self-esteem; communication techniques; guidance protocol; and educational issues that emerge while working with children at the Child Development Center. Enrollment of the student's child(ren) at the Child Development Center is required.
Associate Degree Applicable

**CD 072
FAMILY CHILD CARE 1 UNIT**
PREREQUISITE: None.
LECTURE: 1 contact hour per week.

This course is an introduction to family child care businesses and licensing practices and a general overview of the growth and development of children.
Associate Degree Applicable

**CD 073
FAMILY CHILD CARE BUSINESS PRACTICES 1 UNIT**
PREREQUISITE: None.
LECTURE: 1 contact hour per week.

This course contains information needed by small child care businesses to make sound business decisions and raise the level of professionalism in the family child care field. Providers learn to design effective forms, policies and contracts; keep essential records and market their business.
Associate Degree Applicable

**CD 074
FAMILY CHILD CARE CHILDREN'S PROGRAMS 1 UNIT**

PREREQUISITE: None.
DEPARTMENTAL ADVISORY: CD 072.
LECTURE: 1 contact hour per week.
This course covers strategies for planning a child's day and organizing the environment in family day care settings. It includes safety and health issues, creating indoor and outdoor environments, guiding cognitive and physical development, and promoting social and communication skills.
Associate Degree Applicable

CD 100
INTRODUCTION TO CHILD DEVELOPMENT **3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

Introduction to the field of children's studies designed to familiarize students with the broad aspects of the profession, philosophy and principles of caring for children in a variety of settings.

Associate Degree Applicable
Course credit transfers to CSU.

CD 101
PARENT-CHILD INTERACTION **3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

Course covers general concepts, goals and strategies of parenting through the life span in varying life circumstances and diverse family types. Emphasis is placed on establishing and maintaining close emotional relationships through bonding, attachment, and effective communication techniques with children at all developmental stages. The importance of effective guidance skills, shaping and modifying children's behavior is also explored.

Associate Degree Applicable
Course credit transfers to CSU.

CD 105
CHILD GROWTH AND DEVELOPMENT **3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

Growth and development of children from the prenatal period through adolescence; with an emphasis on individual, physical, cognitive, and socioemotional needs of children. Practical experience observing and interacting with children.

Associate Degree Applicable
*Course credit transfers to CSU and *UC.*

CD 105H
CHILD GROWTH AND DEVELOPMENT – HONORS **3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

Study of the growth and development of children from the prenatal period through adolescence with an emphasis on the physical, cognitive, social and emotional needs of children. Practical experience observing and recording children's behavior is included. **Enrollment is limited to students eligible for the Honors Program.**

Associate Degree Applicable
*Course credit transfers to CSU and *UC.*

CD 111 **3 UNITS**
OBSERVATION AND ASSESSMENT IN CHILD DEVELOPMENT

PREREQUISITE/COREQUISITE: CD 105 or CD 105H.

LECTURE: 2 contact hour per week and

LABORATORY: 3 contact hours per week.

This course focuses on the appropriate use of assessment and observation strategies to document development, growth, play and learning to join with families and professionals in promoting children's success. Recording strategies, rating systems, portfolios, and multiple assessment tools are explored.

Associate Degree Applicable
Course credit transfers to CSU.

CD 113
PRINCIPLES AND PRACTICES OF TEACHING CHILDREN **3 UNITS**

PREREQUISITE: None

LECTURE: 3 contact hours per week.

This course is an examination of underlying theoretical principles of developmentally appropriate practices applied to programs, environments, emphasizing the key role of relationships, constructive adult-child interactions, and teaching strategies in supporting physical, social, creative and intellectual development of all children. This course includes a review of historical roots of early childhood programs and the evolution of the professional practices promoting advocacy, ethics and professional identity.

Applicable to Associate Degree
Course credit transfers to CSU.

CD 114
INTRODUCTION TO CURRICULUM **3 UNITS**

PREREQUISITE: None

LECTURE: 3 contact hours per week.

This course presents an overview of knowledge and skills related to providing appropriate curriculum and environments for young children from birth to age six. Students will examine a teacher's role in supporting development and fostering the joy of learning for all young children using observation and assessment strategies emphasizing the essential role of play. An overview of content areas will include but not be limited to: Language and literacy, social and emotional learning, sensory learning, art and creativity, math and science.

Applicable to Associate Degree
Course credit transfers to CSU.



CD 115
HEALTH, SAFETY AND NUTRITION FOR
YOUNG CHILDREN **3 UNITS**

PREREQUISITE: None

LECTURE: 3 contact hours per week.

This course concentrates on the essential aspects of the health, safety and nutritional concerns for children in early education programs. It examines preventive health care policies and basic care procedures; safety measures for secure, high quality environments and educational experiences; and it underscores children's nutritional needs for optimal physical and cognitive development.

Applicable to Associate Degree
Course credit transfers to CSU.

CD 116
PEDIATRIC CPR, FIRST AID AND SAFETY **1 UNIT**

PREREQUISITE: None.

LECTURE: 1.5 contact hours per week and

LABORATORY: 1.5 contact hours per week.

Course includes certification of pediatric CPR, pediatric first aid, prevention of the spread of infectious disease, immunizations, child safety and injury prevention. (Meets community and state licensing recommendations for child care workers.)

Applicable to Associate Degree
Course credit transfers to CSU for elective credit only.

CD 126
CHILD, FAMILY AND COMMUNITY **3 UNITS**

PREREQUISITE: None.

DEPARTMENTAL ADVISORY: CD 105 or CD 105H.

LECTURE: 3 contact hours per week.

This course examines the effects of the family and the community on a child's development. Topics include the interactions among children, family, school, peers, media and community with an emphasis on ethnic diversity, cultural diversity, social class, disabilities, gender roles and their relationship to family behavior, values, morals and attitudes. Research and reviewing community resources relating to education, health and welfare are also highlighted.

Associate Degree Applicable
Course credit transfers to CSU and UC.

CD 127
GUIDANCE OF CHILDREN **3 UNITS**

PREREQUISITE: None

LECTURE: 3 contact hours per week.

This course presents a developmental approach to the guidance and discipline of children. Effective guidance theories and methods are presented for teachers and professionals working with children, including children with special needs. Effective communication methods for early childhood educators working with children and their parents will be emphasized.

Associate Degree Applicable
Course credit transfers to CSU.

CD 130
CREATIVE MUSIC AND MOVEMENT FOR CHILDREN **3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

This course will explore the importance of music and movement in the development of the children ages two through eight. Because children's physical and motor maturation influence all other aspects of development this course focuses on planning for motor skill progression through creative and teacher-guided movement. There is equal emphasis on developmentally appropriate musical activities, as well as rhythmic experiences with musical instruments and creative props.

Applicable to Associate Degree
Course credit transfers to CSU.

CD 133
CREATIVE SCIENCE AND MATH ACTIVITIES
FOR CHILDREN **3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

This course focuses on planning and implementing creative and developmentally appropriate science and math activities for young children. Content includes life science, physical science, and Earth science, creation of scientific environment in the classroom, scientific concepts and the science process skills (observing, comparing, measuring, classifying and predicting), as well as, the basic math concepts (classifying, ordering, seriation, patterning, number sense and counting) and how to create a math environment.

Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

CD 134
LANGUAGE, LISTENING AND LITERATURE FOR
CHILDREN **3 UNITS**

PREREQUISITE: CD 105 or CD 105H.

LECTURE: 3 contact hours per week.

This course emphasizes the process of language acquisition in children and techniques and experiences which promote language development and listening skills. It includes the examination of children's literature; teaching strategies for reading picture books to children; presenting poetry; flannel board activities; puppetry and storytelling in the classroom for children ages two through eight.

Associate Degree Applicable
Course credit transfers to CSU for elective credit only.



CD 136
CREATIVE ART EXPERIENCES FOR CHILDREN **3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

This course focuses on establishing an environment for young children that cultivates and nourishes creativity and their aesthetic sense. It includes the principles of creative development; instructional strategies; materials, tools and equipment in an art program; and developmentally appropriate activities and experiences which underscore the emotional, social, physical, and cognitive needs of children from two through eight years of age.

Applicable to Associate Degree

Course credit transfers to CSU for elective credit only.

CD 138
TEACHING IN A DIVERSE SOCIETY **3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

This course is an examination of the development of social identities in diverse societies including theoretical and practical implications of oppression and privilege as they apply to young children, families, programs, classrooms and teaching. Various classroom strategies will be explored emphasizing culturally and linguistically appropriate anti-bias approaches supporting all children in becoming competent members of a diverse society. The course includes self-examination and reflection on issues related to social identity, stereotypes and bias, social and educational access, media and schooling.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

CD 160
UNDERSTANDING SCHOOL-AGE CHILDREN **3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

Designed to prepare students to work with children ages five years through adolescence, this course includes developmental theories and the practical implications of those theories. This course incorporates licensing regulations as required by Title 22 licensed facilities.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

CD 161
ACTIVITIES FOR SCHOOL-AGE CHILDREN **3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

A survey of program and activity planning for school age children including both before- and after-school activities for groups and individuals.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

CD 168
EARLY LITERACY FOR YOUNG CHILDREN **3 UNITS**

PREREQUISITE: CD 105 or CD 105H.

LECTURE: 3 contact hours per week.

The study of the principles and developmentally appropriate practices for providing children early literacy skills necessary for a strong foundation for conventional reading and writing. The course will address how to create an environment and curriculum to promote and encourage early literacy beginning at birth through age five.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

CD 185
INFANT/TODDLER GROWTH AND DEVELOPMENT **3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

This course explores the sensory, cognitive and emotional development of children from birth to age three. It fulfills the California licensing requirements for Infant Center personnel and includes infant/toddler curriculum, record keeping, communication with parents, and daily activity plans.

Associate Degree Applicable

Course credit transfers to CSU.

CD 186
INFANT AND TODDLER ACTIVITIES **3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

A survey of program and activity planning for infants and toddlers child care programs, emphasizing curriculum and good practice specific to infants, toddlers and two-year-old children.

Applicable to Associate Degree

Course credit transfers to CSU for elective credit only.

CD 198
CHILD DEVELOPMENT WORK EXPERIENCE **1-4 UNITS**

PREREQUISITE: None.

Supervised training in the form of on the job employment that will enhance the student's educational goals. The student's major and job must match. Students work 5-20 contact hours per week to earn units using the following formula: For paid work, 75 hours = 1 unit; for volunteer work, 60 hours = 1 unit. Students may earn a total of 16 units toward graduation in Work Experience 198 courses. Students MUST be working for pay or volunteer before registering for a Work Experience class. NOTE: Only one section of Work Experience may be taken during a semester.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

CD 205
**CHILD DEVELOPMENT PRACTICUM/
FIELD EXPERIENCE** 4 UNITS

PREREQUISITE: CD 105 or CD 105H.
DEPARTMENTAL ADVISORY: CD 114.
LECTURE: 1 contact hour per week and
LABORATORY: 9 contact hours per week.

This course is a demonstration of developmentally appropriate early childhood teaching competencies under guided supervision. Students will utilize practical classroom experiences to make connections between theory and practice, develop professional behaviors, and build a comprehensive understanding of children and families. Child centered, play-oriented approaches to teaching, learning and assessment; and knowledge of curriculum content areas will be emphasized as student teachers design, implement and evaluate experiences that promote positive development and learning for all young children.

Associate Degree Applicable
Course credit transfers to CSU.

CD 210
**INFANT AND TODDLER GROWTH AND
DEVELOPMENT LABORATORY** 4 UNITS

PREREQUISITE: CD 185.
DEPARTMENTAL ADVISORY: CD 105 or CD 105H.
LECTURE: 1 contact hour per week and
LABORATORY: 9 contact hours per week.

This supervised field experience course guides students to put learned theory into classroom practice and promotes the development of teaching competencies with infants and toddlers at the SBVC Child Development Infant Center or with an approved mentor teacher. The emphasis is on developing appropriate individual programs for infants and toddlers, professional ethics and cooperative relationships with staff, parents and children. (Formerly CD 210x2)

Associate Degree Applicable
Course credit transfers to CSU.

CD 215
EARLY INTERVENTION AND INCLUSION INTERNSHIP 4 UNITS

PREREQUISITE: CD 244.
COREQUISITE: CD 245.
LECTURE: 2 contact hours per week and
LABORATORY: 6 contact hours per week.

This course provides a supervised internship as an assistant in an early intervention or inclusion setting with children from birth through eight years. It explores the unique development and guidance of infants, toddlers and young children with disabilities and other special needs. Adaptation of curriculum, natural environments, identification and assessment are discussed.

Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

CD 222
INDEPENDENT STUDY IN CHILD DEVELOPMENT 1-3 UNITS

PREREQUISITE: None.
DEPARTMENTAL ADVISORY: CD 105 or CD 105H.
INDEPENDENT STUDY: 3-9 contact hours per week.

Students with previous course work in Child Development may do assigned projects involving research and analysis of selected topics. This independent study is for students who are interested in furthering their knowledge of Child Development. Prior to registration, a written contract must be prepared. See instructor for details.

Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

CD 244
CHILDREN WITH SPECIAL NEEDS 3 UNITS

PREREQUISITE: CD 105 or CD 105H.
LECTURE: 3 contact hours per week.

This course introduces the physical, social, emotional and intellectual characteristics of children with disabilities and other special needs. It covers teaching strategies that are sensitive to children with special needs and their families, as well as the legal requirements of educating children with disabilities or other special needs.

Associate Degree Applicable
Course credit transfers to CSU.

CD 245
EARLY INTERVENTION AND INCLUSION 3 UNITS

PREREQUISITE: CD 244.
COREQUISITE: CD 215.
LECTURE: 3 contact hours per week.

This course focuses on theories, research and practical teaching strategies in early intervention and early childhood special education. Students learn intervention techniques and strategies to work with children with disabilities and other special needs.

Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

CD 270
THE MENTOR TEACHER/ADULT SUPERVISION 3 UNITS

PREREQUISITE: CD 105 or CD 105H.
DEPARTMENTAL ADVISORY: None.
LECTURE: 3 contact hours per week.

This course presents the methods and principles of supervising student teachers in early childhood classrooms. Emphasis is on the role of experienced classroom teachers who function as mentors to new teachers while simultaneously addressing the needs of children, parents and other staff.

Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

CD 271**ADMINISTRATION OF EARLY CHILDHOOD
EDUCATION PROGRAMS 3 UNITS****PREREQUISITES: CD 105 or CD 105H and CD 126.****LECTURE: 3 contact hours per week.**

This course covers the basic principles for organizing and administering an early childhood education program. Specific topics include determining community need, site development, staffing, budget and fiscal management, licensing laws and regulations, nutrition, health and safety issues, marketing, curriculum development and program philosophy. This class meets state requirements for supervision of Title 22 preschool programs and the Child Development Matrix for Master Teacher, Site Supervisor and Program Director.

*Associate Degree Applicable**Course credit transfers to CSU for elective credit only.***CD 272****ADVANCED ADMINISTRATION OF EARLY
CHILDHOOD EDUCATION PROGRAMS 3 UNITS****PREREQUISITE: CD 105 or CD 105H and CD 126.****DEPARTMENTAL ADVISORY: CD 271.****LECTURE: 3 contact hours per week.**

This course addresses advanced administrative skills, knowledge and techniques needed to organize and operate a child development facility. Emphasis will be on principle-centered leadership, staffing and staff development opportunities, personnel policies, problem solving techniques, regulatory laws, funding opportunities, budget and fiscal management, and working with a board, parents, volunteers and the community. This class meets state requirements for supervision of Title 22 preschool programs and the Child Development Matrix for Master Teachers.

*Associate Degree Applicable**Course credit transfers to CSU for elective credit only.***CD 293****ELEMENTARY LABORATORY: INTRODUCTION TO
EARLY FIELD EXPERIENCE 3 UNITS****PREREQUISITE: EDU 290.****LECTURE: 2 contact hours per week and****LABORATORY: 2 contact hours per week.**

This course offers supervised experience and participation in an elementary school setting for prospective elementary school teachers. Emphasis is on understanding the role of the elementary school teacher, instructional methods, aiding literacy, cooperative relationships with staff, parents, children and professional ethics of teaching. This is a required class for all Liberal Studies/ Education majors transferring to CSUSB seeking a teaching credential.

*Associate Degree Applicable**Course credit transfers to CSU and UC.***CD 295A-Z****SPECIAL TOPICS IN CHILD DEVELOPMENT
.5-3 UNITS****PREREQUISITE: None.****LECTURE: 8-54 contact hours per semester or****LABORATORY: 27-162 contact hours per semester.**

Special Topics in Child Development covers selected subject matters that are current and relevant in the field of child development. Possible topics include Emergent Curriculum, Ethics, Early Literacy, Children and Conflict, Nutrition, Childhood Obesity, Early Intervention, Dramatic Play, Child Abuse, Brain Development and Importance of Play.

*Associate Degree Applicable**Course credit transfers to CSU for elective credit only.***COMPUTER INFORMATION
TECHNOLOGY**

DIVISION:	Mathematics, Business and Computer Technology
DIVISION DEAN:	Haragewen Kinde, Ed.D.
FACULTY CHAIR:	Roger Powell, M.S. Business 200E (909) 384-8910
OTHER FACULTY:	Maha Al-Husseini, M.A. Mona Jackson, M.A. Barbara Saxon, B.S.I.S. Mary Lou Vasquez, B.A.
ADMINISTRATIVE SECRETARY:	Chris Williams
DIVISION OFFICE:	Business 101 (909) 384-8908
ADMINISTRATIVE SECRETARY:	Vivian Marquez
DIVISION OFFICE:	Business 100 (909) 384-8520
LIAISON COUNSELOR:	Patty Jones, M.A. (909) 384-4404

The Computer Information Technology (CIT) Department provides a program of study for students who are preparing for employment in the field of computer management in business.

The CIT Department offers a complete introduction to computers and software, specific training in selected software packages, and advanced courses dealing with networks, specialized programming techniques, and management of computer facilities.

**CIT – COMPUTER INFORMATION TECHNOLOGY
ASSOCIATE OF ARTS DEGREE**

To graduate with a degree in Computer Information Technology, students must complete the following required courses plus the general breadth requirements for the Associate Degree.

REQUIRED COURSES:		UNITS
CIT 101	Introduction to Computer Literacy	3
CIT 102	Advanced Computer Literacy	3
CIT 114	Spreadsheets: Excel	3
CIT 116	Database Management: Access	3
CIT 120	Internet	2
CIT 150	Office Applications Development	3
CIT 215	Database Management Systems	3
CIT 232	Data Communication and Networks	3
GENERAL EDUCATION:		37
TOTAL UNITS:		60

CIT CERTIFICATES

Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.

**CISCO CERTIFIED NETWORK ASSOCIATE
CERTIFICATE**

This certificate is designed to prepare students to take the Cisco Certified Network Associate certification examination. This course of study prepares students for entry level employment in the computer networking field. The certificate is part of the Cisco Networking Academy program and all instruction is provided by Cisco Certified Academy Instructors using Cisco certified curriculum. This is the first level of Cisco certification. This course of study is open to all students.

REQUIRED COURSES:	UNITS
CIT 091 Networking Fundamentals, Semester One	3
CIT 092 Networking Fundamentals Basic Routing, Semester Two	3
CIT 093 Fundamentals of LANS, Local Area Networks, Semester Three	3
CIT 094 Fundamentals of WANS, Wide Area Networks, Semester Four	3
TOTAL UNITS:	12

CIT – MANAGEMENT INFORMATION SYSTEMS CERTIFICATE

The MIS Certificate offers a complete introduction to computers, specific training in selected software packages, advanced courses dealing with networks, and management of computer facilities.

REQUIRED COURSES:	UNITS
CIT 101 Introduction to Computer Literacy	3
CIT 105 Windows	2
CIT 114 Spreadsheets: Excel	3
CIT 116 Database Management: Access	3
CIT 120 Internet	2
CIT 200 Business Programming Visual Basic	3
CIT 210 Systems Analysis and Design	3
CIT 215 Database Management Systems	3
CIT 232 Data Communications and Networks	3
CIT 031 Business English	3
Or	
ENGL 015 Preparation for College Writing	(4)
Or	
ENGL 101 Freshman Composition	(4)
Three units from the list of RECOMMENDED COURSES:	3
TOTAL UNITS:	31-32

RECOMMENDED COURSES:	UNITS
CIT 020 Word Processing: Microsoft Word	3
CIT 222 Independent Study in CIT	1-3

CIT – OFFICE TECHNOLOGY ASSOCIATE OF ARTS DEGREE

To graduate with a degree in Office Technology, students must complete the following required courses plus the general breadth requirements for the Associate Degree (total = 60 units.)

REQUIRED COURSES:	UNITS
BUSAD 039 Strategies for Successful Employment	3
CIT 016 Advanced Keyboarding	3
CIT 020 Word Processing: MS Word	3
CIT 060 General Office Procedures	2
CIT 101 Introduction to Computer Literacy	3
CIT 105 Windows	2
CIT 114 Spreadsheets: Excel	3
TOTAL UNITS:	19

CIT - OFFICE INFORMATION SYSTEMS CERTIFICATES

There are two Office Information Systems Certificates: Office/Clerical and Administrative Assistant.

1. OFFICE/CLERICAL CERTIFICATE

REQUIRED COURSES:	UNITS
BUSAD 039 Strategies for Successful Employment	3
CIT 013 Intermediate Keyboarding	3
CIT 020 Word Processing: Microsoft Word	3
CIT 025 Microsoft Office Outlook	2
CIT 031 Business English	3
CIT 033 Machine Calculations	3
CIT 060 General Office Procedures	3
CIT 100 Introduction to Personal Computers	3
CIT 114 Spreadsheets: Excel	3
CIT 118 Microsoft Powerpoint	3
CIT 120 Internet	2
CIT 198 CIT Work Experience	1-4
TOTAL UNITS:	32-35

2. ADMINISTRATIVE ASSISTANT CERTIFICATE

Completion of Office/Clerical Certificate (31-34 units) plus the following:

REQUIRED COURSES:	UNITS
Office/Clerical Certificate courses	31-34
CIT 016 Advanced Keyboarding	3
CIT 021 Word Processing: Adv Microsoft Word	3
CIT 116 Database Management: Access	3
Total Units required for the Administrative Assistant Certificate	40-43

3. COMPUTER SPECIALIST CERTIFICATE

The Computer Specialist Certificate is designed to provide students with skills in advanced computer technology pertaining to a wide variety of industry specific and government agency career paths. Students are required to have a basic knowledge of reading and writing as well as have completed Math 095 or assessed at a higher level.

Career Outlook: The rapid spread of computers and information technology has generated a need for highly trained workers proficient in various job functions. These jobs are categorized under the heading of Computer Specialist in the EDD Labor Market Information Occupational Projection Report. The Computer Specialist designation constitutes 97 percent of the Computer and Mathematical Occupations category. There are many career paths available mainly because employers' needs are so varied.

REQUIRED COURSES:	UNITS
CIT 101 Introduction to Computer Literacy	3
CIT 102 Advanced Computer Literacy	3
CIT 114 Spreadsheets: Excel	3
CIT 116 Database Management: Access	3
CIT 150 Office Applications Development	3
CIT 215 Database Management Systems	3
CIT 232 Data Communications and Networks	3
MATH 095 Intermediate Algebra	4

Select two courses from the following:		UNITS
CIT 080	Inside the Personal Computer	3
CIT 091	Networking Fundamentals Semester I (Cisco Networking Academy)	3
CS 110	Fundamentals of Computer Science	3
CS 120	Introduction to Visual Basic.NET	4
CS 190	Programming in C++	4
CS 220	Advanced Visual Basic.NET Programming	4
TOTAL UNITS:		31 - 33

(Math 095 is required unless student is assessed at a higher level.)

COURSES OFFERED BY THE DEPARTMENT OF COMPUTER INFORMATION TECHNOLOGY:

CIT 008
BEGINNING KEYBOARDING, PART I **1.5 UNITS**
PREREQUISITE: None.
LECTURE: 1 contact hour per week and
LABORATORY: 1.5 contact hours per week.
This course provides keyboard mastery and proper techniques leading to maximum skill in typing. Use of speed and accuracy drills designed to develop a keyboarding speed of at least 18 NWPM (Net Words Per Minute). This is a Part I course students can complete in half a semester.
Associate Degree Applicable

CIT 009
BEGINNING KEYBOARDING, PART II **1.5 UNITS**
PREREQUISITE: CIT 008.
LECTURE: 1 contact hour per week and
LABORATORY: 1.5 contact hours per week.
Instruction and practice in keyboarding various styles of reports, letters, and memos. Designed to develop a minimum keyboarding speed of 30 words per minute for five minutes. This is a Part II course students can complete in half a semester.
Associate Degree Applicable

CIT 010
BEGINNING KEYBOARDING **3 UNITS**
PREREQUISITE: None.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
Fundamentals of keyboarding including operation of a standard keyboard by touch. Instruction and practice in formatting a variety of personal and business documents, such as letters, reports, and tables. Use of speed and accuracy drills designed to develop a keyboarding speed of 30 words per minute for five minutes. This is a combined Part I and Part II course students can complete in one semester.
Associate Degree Applicable

CIT 013
INTERMEDIATE KEYBOARDING **3 UNITS**
PREREQUISITE: CIT 010 or CIT 009.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
Procedures for arranging and tabulating materials and preparing letters and business forms with an emphasis on accuracy and speed. Designed to develop a keyboarding speed of 45 words per minute for five minutes.
Associate Degree Applicable

CIT 016
ADVANCED KEYBOARDING **3 UNITS**
PREREQUISITE: CIT 013.
DEPARTMENTAL ADVISORY: CIT 020.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
This is a comprehensive course in the development and maintenance of a database. It provides a working knowledge of designing a database that includes: setting field properties, storing, retrieving, printing, and indexing records, creating informational and technical queries, developing customized forms and reports, establishing different types of relationships, integrating Access with the Web, and creating a database switchboard. The course emphasis is on developing a practical ability to use a database in a Windows environment with full graphical user interface functionality.
Associate Degree Applicable

CIT 020
WORD PROCESSING: MICROSOFT WORD **3 UNITS**
PREREQUISITE: None.
DEPARTMENTAL ADVISORY: CIT 010 or CIT 009.
LECTURE: 3 contact hours per week.
This course is an introduction to word processing and the creation of professional quality documents using Microsoft Word software.
Associate Degree Applicable

CIT 021
WORD PROCESSING: ADVANCED MICROSOFT WORD **3 UNITS**
PREREQUISITE: CIT 020.
LECTURE: 3 contact hours per week.
This course focuses on the production of professional quality documents using Microsoft Word advanced features: mail merge, sorting, numbering, bullets, symbols, headers and footers, group activities, quick parts, themes and styles, references, tables, forms, and prepares students for Microsoft Certified Application Specialist exam.
Associate Degree Applicable

CIT 025
MICROSOFT OFFICE OUTLOOK **2 UNITS**
PREREQUISITE: None.
LECTURE: 2 contact hours per week.
This course is an introduction to a personal information management program that helps organize a busy schedule. Students will learn how to track schedules, organize meetings, create e-mail messages, share information and data within workgroups, and maintain contact lists.
Associate Degree Applicable

CIT 030
RECORDS AND DATABASE MANAGEMENT 3 UNITS

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

The course provides an introduction to manual and computerized filing systems. The principles governing records storage, and how to locate when needed, and how to apply the criteria for determining their disposition or retention are thoroughly explored.

Associate Degree Applicable

CIT 031
BUSINESS ENGLISH 3 UNITS

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

Review of basic grammar, punctuation, capitalization and spelling. Emphasis on grammar, vocabulary building for effective business communication, and writing common business letters and memos.

Associate Degree Applicable

CIT 032
MACHINE TRANSCRIPTION 3 UNITS

PREREQUISITE: CIT 020.

DEPARTMENTAL ADVISORY: CIT 031.

LECTURE: 2 contact hours per week and

LABORATORY: 3 contact hours per week.

The course provides instruction and practice in document formatting, editing, proofreading, and listening as well as the preparation of industry-specific documents for transcription.

Associate Degree Applicable

CIT 033
MACHINE CALCULATIONS 3 UNITS

PREREQUISITE: None.

DEPARTMENTAL ADVISORY: BUSCAL 050 or
MATH 952.

LECTURE: 2 contact hours per week and

LABORATORY: 3 contact hours per week.

Instruction and practice on electronic desk calculators with application of skills to problems and mathematical computation for business and industry.

Associate Degree Applicable

CIT 043
LEGAL OFFICE PROCEDURES 3 UNITS

PREREQUISITE: CIT 010 or CIT 009.

LECTURE: 3 contact hours per week.

Specialized training for the legal office assistant including legal terminology; legal correspondence; professional relations with employers and clients; California Codes and court rules; and preparation and handling of legal forms.

Associate Degree Applicable

CIT 044
MEDICAL OFFICE TERMINOLOGY 3 UNITS

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

The course covers the origin, correct spelling, pronunciation, meaning, and current use of medical terms and their application to medical records and reports.

Associate Degree Applicable

CIT 045
MEDICAL INSURANCE FORMS 3 UNITS

PREREQUISITE: None.

DEPARTMENTAL ADVISORIES: CIT 010 and CIT 044.

LECTURE: 3 contact hours per week.

A comprehensive study of various types of health insurance programs including insurance benefits, patient cost, sharing coverage, insurance terminology, and the proper handling of insurance claims in medical and dental offices.

Associate Degree Applicable

CIT 048
MEDICAL OFFICE PROCEDURES 3 UNITS

PREREQUISITE: CIT 010 or CIT 009.

DEPARTMENTAL ADVISORY: CIT 020.

LECTURE: 3 contact hours per week.

This course prepares students for employment as "front office" administrative medical assistants. Instruction is provided for both the traditional and technological medical environments. The course covers the medical environment and ethics. Students learn to input patient information, schedule appointments, handle billing, produce lists and reports, and handle insurance claims manually and electronically.

Associate Degree Applicable

CIT 060
GENERAL OFFICE PROCEDURES 2 UNITS

PREREQUISITES: CIT 013, CIT 020, CIT 031 and
CIT 100.

DEPARTMENTAL ADVISORY: ENGL 914.

LECTURE: 1 contact hour per week and

LABORATORY: 3 contact hours per week.

This course offers training in essential skills necessary for general office employment and on-the-job performance. Students participate in office simulations that integrate software techniques, written and verbal communication skills, email, time management, and human relations skills with typical workplace activities, responsibilities, and general office routines.

Associate Degree Applicable

CIT 080
INSIDE THE PERSONAL COMPUTER 3 UNITS

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

An introduction to the personal computers at the machine level. Topics include the system board, keyboard, floppy and hard disk drives, interface cards, monitors, printers, machine organization, and design conventions.

Associate Degree Applicable

CIT 081
INTRODUCTION TO OPERATING SYSTEMS – A+
3 UNITS

PREREQUISITES: None.
DEPARTMENTAL ADVISORIES: CIT 080 and CIT 105.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.

Basic, hands-on instruction and practice with computer Operating Systems. Prepares the student to use, install, configure, upgrade, manage and troubleshoot Windows type Operating Systems. Topics include the function of major components of the Operating System Desktop; installation, configuration, and upgrade of Operating Systems in both a stand-alone and networked environment; and diagnosis and troubleshooting of Operating System errors. Prepares the student to take the CompTIA A+ Operating System Technologies certification exam. Recommended for students interested in pursuing a career as a computer technician or being able to resolve their own Windows technical problems.

Associate Degree Applicable

CIT 091
NETWORKING FUNDAMENTALS, SEMESTER ONE
(CISCO NETWORKING ACADEMY)
3 UNITS

PREREQUISITE: None.
DEPARTMENTAL ADVISORIES: MATH 952 and
CIT 105.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.

Designed to provide students with classroom and laboratory experience in the fundamentals of current and emerging networking technology. Topics covered include network topology, cabling, electrical considerations, the OSI model, Internet Protocol, addressing, bridges, switches, hubs, and routers. This is the first course in a four-course CCNA preparation sequence.

Associate Degree Applicable

CIT 092
BASIC ROUTING SEMESTER TWO (CISCO
NETWORKING ACADEMY)
3 UNITS

PREREQUISITE: CIT 091.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.

This course is the second course in a four course sequence preparing students to take the Cisco Certified Network Associate certification examination. The course gives students theoretical and hands-on practical experience with TCP/IP based internetwork routing including appropriate configurations of routers. Network design and operation for operational efficiency, scalability, robustness, security, and reliability are emphasized. Critical analysis of requirements and analytical troubleshooting skills are taught and practiced.

Associate Degree Applicable

CIT 093
FUNDAMENTALS OF LANS, LOCAL AREA
NETWORKS, SEMESTER THREE
(CISCO NETWORKING ACADEMY)
3 UNITS

PREREQUISITE: CIT 091.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.

This course is designed to provide students with classroom and laboratory experience in configuring routers, switches, and Wireless Access Points for various industry standard protocols. Includes LAN design fundamentals, Virtual LANs and Virtual Trunking Protocol. Equipment is configured to handle standard security issues as well as additional security concerns that are inherent with wireless access.

Associate Degree Applicable

CIT 094
FUNDAMENTALS OF WANS, WIDE AREA NETWORKS,
SEMESTER FOUR (CISCO NETWORKING ACADEMY)
3 UNITS

PREREQUISITE: CIT 091.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.

The fourth semester of the Cisco Academy program provides students with classroom and laboratory experience with Wide Area Networks (WANs) and network security. WAN design, configuration, installation and management topics are included. Security issue relating to WAN access including user access control, packet and protocol filtering, and security policies are also covered.

Associate Degree Applicable

CIT 100
INTRODUCTION TO PERSONAL COMPUTERS
3 UNITS

PREREQUISITE: None.
LECTURE: 3 contact hours per week.

A survey course for the use of software tools such as word processing, spreadsheets, graphics, presentation and database using Microsoft Office.

Associate Degree Applicable

Course credit transfers to CSU.

CIT 101
INTRODUCTION TO COMPUTER LITERACY 3 UNITS
PREREQUISITE: None.
DEPARTMENTAL ADVISORY: CIT 008 or CIT 009 or
CIT 010.

LECTURE: 3 contact hours per week.

This course is an introduction to fundamental computer concepts. It provides the skills to create beginning word processing, spreadsheet, database, presentation, and personal information management documents.

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

CIT 102
ADVANCED COMPUTER LITERACY 3 UNITS
PREREQUISITE: CIT 101.

LECTURE: 3 contact hours per week.

This course utilizes the complex fundamentals of hardware computer concepts and software applications. It provides the skills to create advanced word processing documents, spreadsheets, databases, and presentations.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

CIT 105
INTRODUCTION TO WINDOWS 2 UNITS
PREREQUISITE: None.
LECTURE: 1 contact hour per week and
LABORATORY: 3 contact hours per week.
This course is an introduction to the computer operating system that simplifies the process of working with documents and applications. It will provide the necessary background to understand the graphical user interface of the most widely used operating system.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

CIT 114
SPREADSHEETS: EXCEL 3 UNITS
PREREQUISITE: None.
DEPARTMENTAL ADVISORY: CIT 100 or CIT 101.
LECTURE: 3 contact hours per week.
Production of workbooks using EXCEL, which integrates spreadsheet analysis, information management, and graphics. Includes the design and the use of worksheets; how to enter labels, numbers, formulas, and create graphs; how to format worksheets professionally; how to use Excel functions in different applications and understand the concept of data management in Excel; how to use the concept of what-if-analysis; how to consolidate data in a 3-D workbook and establish File Linking; and how to integrate Excel with the Web.
Associate Degree Applicable
Course credit transfers to CSU.

CIT 116
DATABASE MANAGEMENT: ACCESS 3 UNITS
PREREQUISITE: None.
DEPARTMENTAL ADVISORY: CIT 100 or CIT 101.
LECTURE: 3 contact hours per week.
Development and maintenance of a database. Provides a working knowledge of designing a database and setting field properties, storing, retrieving, printing, and indexing records; creating informational and technical queries; developing customized forms and reports; establishing different types of relationships; integrating Access with the Web; and creating a database Switchboard. Emphasis on developing a practical ability to use a database in a Windows environment with full graphical user interface functionality.
Associate Degree Applicable
Course credit transfers to CSU.

CIT 118
MICROSOFT POWERPOINT 3 UNITS
PREREQUISITE: None.
DEPARTMENTAL ADVISORY: CIT 105.
LECTURE: 3 contact hours per week.
This course provides an introduction to a presentation graphics program for those who plan to make effective and compelling presentations. Instructions include developing and customizing presentations by using charts, clip art, pictures, presentation templates, WordArt, and information and graphics from Word, Excel, and Access.
Associate Degree Applicable
Course credit transfers to CSU.

CIT 120
INTERNET 2 UNITS
PREREQUISITE: None.
DEPARTMENTAL ADVISORY: CIT 105.
LECTURE: 1 contact hour per week and
LABORATORY: 3 contact hours per week.
This course provides the basics of the Internet using current technology browser software. The course includes the effective use of web search portals, online collaboration software, and implications of security, privacy and ethical usage.
Associate Degree Applicable
Course credit transfers to CSU.

CIT 122
WEB PUBLISHING 3 UNITS
PREREQUISITE: None.
DEPARTMENTAL ADVISORY: CIT 101.
LECTURE: 3 contact hours per week.
An introduction to Web Page design using hypertext markup language (HTML) and web design software.
Associate Degree Applicable
Course credit transfers to CSU.

CIT 126
COMPUTER GRAPHICS 3 UNITS
PREREQUISITE: CIT 101.
LECTURE: 3 contact hours per week.
An introduction course to graphic design using graphic software. Topics include the study of good graphic design skills and how to apply them, learning graphics software to create professional-looking documents and hands-on experiencing using the PC.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

CIT 150
OFFICE APPLICATIONS DEVELOPMENT 3 UNITS
PREREQUISITE: CIT 100 or CIT 101.
DEPARTMENTAL ADVISORY: CIT 102.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
This course is an introduction to Visual Basic for Applications, Microsoft's built-in application programming language for Microsoft Office applications. Topics include: programming basics, automated formatting of Office documents, and design and construction of customized event-driven screens for Microsoft Office applications.
Associate Degree Applicable
Course credit transfers to CSU.

CIT 198
COMPUTER INFORMATION TECHNOLOGY
WORK EXPERIENCE 1-4 UNITS
PREREQUISITE: None.
Supervised training in the form of on the job employment that will enhance the student's educational goals. The student's major and job must match. Students work 5-20 contact hours per week to earn units using the following formula: For paid work, 75 hours = 1 unit; for volunteer work, 60 hours = 1 unit. Students may earn a total of 16 units toward graduation in Work Experience 198 courses. Students MUST be working for pay or volunteer before registering for a Work Experience class. NOTE: Only one section of Work Experience may be taken during a semester.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

CIT 215
DATABASE MANAGEMENT SYSTEMS **3 UNITS**
PREREQUISITE: CIT 101.

LECTURE: 3 contact hours per week.
 An introduction to the components of relational database management including data definition language, data manipulation language, screen generation, the use of report writers, and Structured Query Language (SQL).
Associate Degree Applicable
Course credit transfers to CSU.

CIT 222
INDEPENDENT STUDY IN COMPUTER
INFORMATION TECHNOLOGY **1-3 UNITS**
PREREQUISITE: CIT 101.

INDEPENDENT STUDY: 3-9 contact hours per week.
 Assigned projects involving research and analysis of selected topics or directed study for students who are interested in furthering their knowledge of information technology on an independent study basis. For each unit earned, students are required to devote three contact hours per week throughout the semester. Enrollment limited to those who meet independent study criteria. Prior to registration, a contract must be prepared. See instructor for details.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

CIT 232
DATA COMMUNICATIONS AND NETWORKS **3 UNITS**

PREREQUISITE: CIT 101.
LECTURE: 3 contact hours per week.
 An introduction to human-to-computer and computer-to-computer communications. Topics include data transmission, modems, network configurations, protocols and software, telecommunication, teleprocessing, security, and the control and management of LAN's and WAN's.
Associate Degree Applicable
Course credit transfers to CSU.

COMPUTER SCIENCE

DIVISION: Mathematics, Business and
 Computer Technology
 DIVISION DEAN: Haragewen Kinde, Ed.D.
 FACULTY CHAIR: Roger Powell, M.S.
 Business 200E
 (909) 384-8910
 ADMINISTRATIVE SECRETARY: Vivian Marquez
 DIVISION OFFICE: Business 100
 (909) 384-8520
 ADMINISTRATIVE SECRETARY: Chris Williams
 DIVISION OFFICE: Business 101
 (909) 384-8908
 LIAISON COUNSELOR: Mary Beth Barrios, M.S.
 (909) 384-4404

Courses offered by the Computer Science Department are interactive, featuring hands-on experience with the college's computer hardware and software. The courses cover a range of topics in the computer field with an emphasis on software engineering and information processing.

The Computer Science curriculum may culminate in either an Associate of Science degree or a certificate. The degree program prepares students to transfer to a four-year institution with a major in computer science or a related discipline. Students planning to transfer to a four-

year institution and major in computer science should consult with a counselor regarding the transfer process and lower division requirements. The certificate program prepares students for entry-level employment as programmers for scientific and business applications.

COMPUTER SCIENCE
ASSOCIATE OF SCIENCE DEGREE

To graduate with a specialization in Computer Science and intending to transfer to four-year institutions, students must complete a total of 25-26 units listed below in addition to general education requirements.

REQUIRED COURSES:		UNITS
CS 110	Fundamentals of Computer Science	3
CS 190	Programming in C++	4
CS 265	Data Structures	3
PHYSIC 200	General Physics I	6
PHYSIC 201	General Physics II	6

SELECT ONE OF THE FOLLOWING COURSES:		UNITS
CS 130	Applied Computer Logic	(3)
CS 170	Assembly Language	(4)
CS 215	Programming with Java	(4)
TOTAL UNITS:		25-26

COMPUTER SCIENCE CERTIFICATE

This certificate is designed to provide students with the fundamentals of software engineering, information processing concepts, and programming to prepare them for entry-level positions as programmers for scientific and business applications. In addition, this certificate completes the lower division requirements of the certificate program offered by the Computer Science Department at CSU San Bernardino.

REQUIRED COURSES:		UNITS
CS 110	Fundamentals of Computer Science	3
CIT 100	Introduction to Personal Computers	3
CS 120	Introduction to Visual Basic.NET	4
CS 220	Visual Basic.NET Programming II	3
SELECT ONE OF THE FOLLOWING COURSES:		UNITS
CS 190	Programming in C++	(4)
CS 215	Programming with Java	(4)
TOTAL UNITS:		17

COURSES OFFERED BY THE DEPARTMENT OF COMPUTER SCIENCE:

CS 110
FUNDAMENTALS OF COMPUTER SCIENCE **3 UNITS**

PREREQUISITE: MATH 095.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.

An orientation in computer science for computer science majors. Topics include an overview of the computer discipline, the design and use of the computer devices, the art of problem solving and programming, and the representation of data. Includes hands-on experience in computer programming using languages such as Visual Basic.NET and C++.
Associate Degree Applicable
*Course credit transfers to CSU and *UC.*

CS 120
INTRODUCTION TO VISUAL BASIC.NET 4 UNITS

PREREQUISITE: None.
LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

An introduction to a Web-based programming language, Visual Basic.NET as it applies to scientific, business and manufacturing settings. Topics include problem solving, graphical user interface, program design, software tools, structured logic, object-oriented programming, graphics and animation, procedures, arrays, files, and Web projects.

Associate Degree Applicable
Course credit transfers to CSU and UC.

CS 130
APPLIED COMPUTER LOGIC 3 UNITS
PREREQUISITE: CS 110.

LECTURE: 3 contact hours per week.

An introduction to digital systems. Topics include Boolean algebra, truth tables, logic gates, number systems and codes, Karnaugh maps, flip-flops, counters and registers, digital arithmetic, combinatorial logic and functions.

Associate Degree Applicable
Course credit transfers to CSU and UC.

CS 170
ASSEMBLY LANGUAGE 4 UNITS
PREREQUISITE: CS 110.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

An introduction to assembly language and machine organization. Topics include memory location, register references, data definitions, machine instructions, screen processing, disk storage and macros.

Associate Degree Applicable
Course credit transfers to CSU and UC.

CS 190
PROGRAMMING IN C++ 4 UNITS
PREREQUISITE: CS 110.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week

This course is an introduction to the object-oriented language, C++. Topics include object-oriented design, program logic structures, problem solving techniques, arrays and records, procedures and functions, classes and objects, pointers and references, inheritance, and polymorphism.

Associate Degree Applicable
Course credit transfers to CSU and UC.

CS 198
COMPUTER SCIENCE WORK EXPERIENCE 1-4 UNITS
PREREQUISITE: None.

Supervised training in the form of on the job employment that will enhance the student's educational goals. The student's major and job must match. Students work 5-20 contact hours per week to earn units using the following formula: For paid work, 75 hours = 1 unit; for volunteer work, 60 hours = 1 unit. Students may earn a total of 16 units toward graduation in Work Experience 198 courses. Students MUST be working for pay or volunteer before registering for a Work Experience class. NOTE: Only one section of Work Experience may be taken during a semester.

Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

CS 215
PROGRAMMING WITH JAVA 4 UNITS
PREREQUISITE: CS 110.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

An introduction to the network-friendly language, Java. Topics include object-oriented design, multiple platform environment, program logic structures, graphical user interface, Visual J++, Java Applet and recursion.

Associate Degree Applicable
Course credit transfers to CSU and UC.

CS 220
ADVANCED VISUAL BASIC.NET PROGRAMMING 4 UNITS

PREREQUISITE: CS 120.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

Advanced programming using Visual Basic .NET with emphasis on software development and maintenance. Topics include object-oriented design, multiple class modules, interface and linking, windows and Internet controls, and database access.

Associate Degree Applicable
Course credit transfers to CSU and UC.

CS 222
SPECIAL PROBLEMS IN COMPUTER SCIENCE I 1 UNIT

PREREQUISITE: CS 110.

INDEPENDENT STUDY: 3 contact hours per week.

Assigned problems involving computer laboratory work for selected students who are interested in furthering their knowledge of computer science on an independent study basis. Students are required to devote three contact hours per week to their project throughout the semester. Prior to registration, a contract must be prepared.

See instructor for details.

Associate Degree Applicable
Course credit transfers to CSU.

Limited transfer to UC; credit determined after transfer to UC.

CS 265
DATA STRUCTURES 3 UNITS
PREREQUISITE: CS 190.

LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.

An introduction to data structures such as linked lists, stacks, queues and trees. Topics include algorithm development, storage allocation, data organization, information retrieval system software and language support features.

Associate Degree Applicable
Course credit transfers to CSU and UC.

**COOPERATIVE
WORK EXPERIENCE**
See WORK EXPERIENCE (General)

CORRECTIONS

DIVISION: Criminal Justice
 ADMINISTRATIVE DEAN: Gloria M. Fisher, J.D.
 FACULTY CHAIR: Patrick Buckley, B.S.
 ADMINISTRATIVE SECRETARY: To Be Announced
 DIVISION OFFICE: Planetarium, 2nd Floor
 (909) 384-4431
 LIAISON COUNSELOR: Frank Dunn, M.A.
 (909) 384-4404

The Corrections Department strives to provide our students with the legal, ethical and educational background necessary to pursue a career in a corrections-related field.

Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in occupations they select.

CORRECTIONS CERTIFICATE

This certificate is designed for persons considering a career as a Correctional Officer, Youth Correctional Counselor, Jailer, or those already employed seeking advancement in their career. The corrections systems specialize in the punishment and incarceration process as well as rehabilitation of the offender. This certificate is designed to provide students with the fundamentals of the corrections systems, the legal aspects of corrections, control and supervision in corrections, correctional interviewing and counseling, and the probation and parole concepts in corrections.

ANY FELONY OR DOMESTIC VIOLENCE CONVICTION, OR ANY SIGNIFICANT PRIOR OR CURRENT DRUG USE WILL DISQUALIFY MOST PEOPLE SEEKING JOBS IN LAW ENFORCEMENT, CORRECTIONS, PROBATION/PAROLE, OR FORENSICS.

REQUIRED COURSES:	UNITS
CORREC 101 Introduction to Corrections	3
CORREC 102 Correctional Interviewing and Counseling	3
CORREC 103 Gangs and Corrections	3
CORREC 104 Control and Supervision in Corrections	3
CORREC 105 Legal Aspects of Corrections	3
CORREC 106 Probation and Parole	3
TOTAL UNITS:	18

COURSES OFFERED BY THE DEPARTMENT OF CORRECTIONS:

Corrections courses are not offered every semester. Please refer to the college class schedule for class offerings.

CORREC 101 INTRODUCTION TO CORRECTIONS 3 UNITS

PREREQUISITE: None.
LECTURE: 3 contact hours per week.
 This course will focus on the legal issues, probation and parole, specific laws and general operation of correctional institutions. The relationship between historical trends of adult and juvenile corrections and other components of the judicial system will also be examined.
*Associate Degree Applicable
 Course credit transfers to CSU.*

CORREC 102 CORRECTIONAL INTERVIEWING AND COUNSELING 3 UNITS

PREREQUISITE: None.
LECTURE: 3 contact hours per week.
 This course of study is an overview of the techniques in counseling and interviewing available to practitioners in corrections; Which includes the use of appropriate techniques and theories in confidence building which the correctional employee may use in client interviews and counseling.
*Associate Degree Applicable
 Course credit transfers to CSU.*

CORREC 103 GANGS AND CORRECTIONS 3 UNITS

PREREQUISITE: None.
LECTURE: 3 contact hours per week.
 This course is designed to provide students with a base of knowledge as it relates to the impact of gangs in both correctional and community settings. It includes a review of the types of gangs, history, and criminal activities associated with gangs.
*Associate Degree Applicable
 Course credit transfers to CSU.*

CORREC 104 CONTROL AND SUPERVISION IN CORRECTIONS 3 UNITS

PREREQUISITE: None.
LECTURE: 3 contact hours per week.
 This course will emphasize local, state, and federal institutions in the role played by the offender and the correctional worker. Topics will include inmate subculture, violence and effects of crowding on inmates and staff, coping techniques for correctional officers in a hostile prison environment.
*Associate Degree Applicable
 Course credit transfers to CSU.*

CORREC 105 LEGAL ASPECTS OF CORRECTIONS 3 UNITS

PREREQUISITE: None.
LECTURE: 3 contact hours per week.
 The historical framework, concepts, and precedents that guide correctional practice. Course material will present a broader perspective of the correctional environment such as the civil rights of prisoners, responsibilities and liabilities of correctional officials, the courts, and police.
*Associate Degree Applicable
 Course credit transfers to CSU.*



CORREC 106
PROBATION AND PAROLE **3 UNITS**
PREREQUISITE: None.

LECTURE: 3 contact hours per week.

This course is a study of the historical and contemporary view of the application of probation and parole procedures in the criminal justice system. Community corrections as applied to probation and parole, probation as an entity of the courts and parole as an entity of corrections compose the main focus of this course. This course material will broaden the student's concept of community corrections and the rights and liabilities of a person on probation or parole.

Associate Degree Applicable
Course credit transfers to CSU.

CRIMINAL JUSTICE
 (see also POLICE SCIENCE)

DIVISION: Criminal Justice
 ADMINISTRATIVE DEAN: Gloria Fisher, J.D.
 ADMINISTRATIVE SECRETARY: To Be Announced
 CAMPUS OFFICE: Planetarium, 2nd Floor
 (909) 384-4431
 GLEN HELEN OFFICE: Sheriff's Training Center
 (909) 473-2695
 LIAISON COUNSELOR: Frank Dunn, M.A.
 (909) 384-4404

The Criminal Justice Department courses are designed to meet the needs and interests of individuals interested in law enforcement or related careers. Specialized training is available for persons interested in becoming a Basic Dispatcher or Forensic Specialist (Crime Scene Investigator).

CRIME SCENE INVESTIGATION CERTIFICATE

This certificate is designed for persons considering a career in Forensic Sciences or Criminalistics. Courses include critical components of Crime Scene Investigation (CSI), collection of evidence, courtroom testimony and presentation, forensic anthropology, entomology and odontology.

REQUIRED COURSES:	UNITS
CRMJUS 086 Introduction to Crime Scene Investigation	2
CRMJUS 087 Intermediate Crime Scene Investigation	2
CRMJUS 088 Advanced Crime Scene Investigation	2
ADJUS 103 Concepts of Criminal Law	3
ADJUS 104 Legal Aspects of Evidence	3

Two (2) units of electives chosen from the following list:

CRMJUS 089 Forensic Photography	2
CRMJUS 090 Bloodstain Pattern Analysis	2
TOTAL UNITS:	14

COURSES OFFERED BY THE DEPARTMENT OF CRIMINAL JUSTICE:

Criminal Justice courses are not offered every semester. Please refer to the college class schedule for class offerings.

CRMJUS 009
TACTICAL COMMUNICATION **.25 UNIT**
PREREQUISITE: None.

LABORATORY: 8 contact hours per semester.

This course provides a thorough overview in diffusing conflict when encountering hostile, uncooperative, or emotionally upset people and is designed to modify contacts into positive experiences and reduce the potential for complaints or the escalation into higher levels of force.

Associate Degree Applicable

CRMJUS 015
CAMPUS SECURITY **1.50 UNITS**
PREREQUISITE: None.

LECTURE: 24 contact hours per semester.

This course is directed toward the training needs of campus security personnel employed in elementary schools, secondary schools and community colleges. Topics include: laws impacting school campuses, working with law enforcement personnel, tactical communications, school violence, gangs, and disaster/emergency preparedness. This is a standardized curriculum from the California Department of Consumer Affairs, Bureau of Security and Investigative Services (BSIS) satisfying Senate Bill 1626 mandate.

Associate Degree Applicable

CRMJUS 016
SCHOOL POLICE OFFICER **2 UNITS**
PREREQUISITES: POLICE 002, POLICE 100,

POLICE 101, POLICE102 and POLICE 103.

LECTURE: 32 contact hours per semester.

This course is directed towards the training needs of the peace officers employed in elementary schools, secondary schools and community colleges and is a school police course which meets the requirements of SB1627 and Commission on Peace Officer Standards and Training (P.O.S.T.). Topics include: laws impacting school campuses, community relations, tactical communications, sexual harassment, violence/gangs, facility protection, and disasters/emergencies.

Associate Degree Applicable

CRMJUS 018
COMMUNITY ORIENTED POLICING **1.50 UNITS**
PREREQUISITE: None.

LECTURE: 24 contact hours per semester.

This course is intended to assist and define efficiency and equity as they pertain to community-oriented policing. An emphasis on analyzing the importance and use of a community assessment.

Associate Degree Applicable

CRMJUS 020
WORKPLACE VIOLENCE .50 UNIT
PREREQUISITE: None.

LECTURE: 6 contact hours per semester and
LABORATORY: 2 contact hours per semester.

This course is designed for the employee, employer, business owner or police officer who may become involved in a workplace violence incident. Students will learn the definition of workplace violence, will identify individual and organizational factors contributing to workplace violence, will learn prevention and intervention techniques, and will be introduced to the concepts of security analysis/threat assessment.

Associate Degree Applicable

CRMJUS 031
PUBLIC SAFETY INTERNSHIP ACADEMY MODULE 4A
4.75 UNITS

PREREQUISITE: CRMJUS 030.

LECTURE: 62 contact hours per semester and
LABORATORY: 36 contact hours per semester.

This course is designed to develop students' awareness of the Public Safety field, which includes law enforcement, corrections and fire safety. It is the seventh course in a series of eight to be completed by students who have a desire to pursue a career in public safety. Content covered in this course includes Weaponless Defense, Report Writing, Cultural Awareness, Choices/Self-Esteem, Crimes Against Persons, Firearm Training, Fire Rescue, Cardiopulmonary Resuscitation (CPR), First Aid and Gangs. **LIMITED TO STUDENTS WHO HAVE SUCCESSFULLY COMPLETED PROGRAM PREREQUISITES.**

Associate Degree Applicable

CRMJUS 036
BASIC INVESTIGATIVE TRACKING .50 UNIT
PREREQUISITE: None.

LECTURE: 8 contact hours per semester and
LABORATORY: 8 contact hours per semester.

Covers the basic tracking techniques used by law enforcement officers to apprehend suspects or to track lost children or adults. Topics include: track sketch; track preservation and processing; vehicle tracks; suspect interviews; preparation for testifying in court.

Associate Degree Applicable

CRMJUS 043
RAILROAD CROSSING .25 UNIT
PREREQUISITE: None.

LECTURE: 3 contact hours per semester and
LABORATORY: 5 contact hours per semester.

This course is designed to familiarize students with railroad crossing collisions, incidents involving trespassing on railroad property and the skills needed to properly investigate a grade crossing collision.

Associate Degree Applicable

CRMJUS 044
RESERVE AND VOLUNTEER COORDINATOR'S
TRAINING 1.25 UNITS

PREREQUISITE: None.

LECTURE: 20 contact hours per semester and
LABORATORY: 4 contact hours per semester.

Designed to assist those charged with establishing and maintaining Reserve Peace Officer or Volunteer Units within law enforcement agencies with the information they need to succeed. Topics include: establishing agency policy and procedures; conducting background investigations; developing recruiting methods, managing, training and disciplining reserve officers and volunteers; liability issues.

Associate Degree Applicable

CRMJUS 055
PREPARATION FOR POLICE ACADEMY
3.5 UNITS

PREREQUISITE: None.

LECTURE: 3 contact hours per week and
LABORATORY: 1.5 contact hours per week.

This course is designed to familiarize students with the requirements, scope, and commitments of the Police Academy Training Program. Includes assessing potential academy recruits for job related skills, such as physical endurance, report-writing, and comprehension of penal codes. Students who successfully complete this course are eligible for admission into the Police Academy Training Program.

Associate Degree Applicable

CRMJUS 058
PENAL CODE 832 3.50 UNITS
PREREQUISITE: None.

LECTURE: 50 contact hours per semester and
LABORATORY: 26 contact hours per semester.

This course will familiarize students with training in various Law Enforcement functions. These functions include but are not limited to the history, professionalism, and ethics of Law Enforcement, the criminal justice system, criminal law, laws of arrest, search and seizure, use of force, firearms, and crimes against the justice system.

LIMITATIONS ON ENROLLMENT: REGISTRATION IS LIMITED TO STUDENTS WHO HAVE SUCCESSFULLY COMPLETED THE FOLLOWING STATE SCREENING REQUIREMENTS: POSSESSION OF A VALID CALIFORNIA DRIVER'S LICENSE WITHOUT RESTRICTIONS OTHER THAN REQUIRED EYEGLASSES OR CONTACT LENSES AND POSSESSION OF A CURRENT LETTER OF CLEARANCE ISSUED BY THE CALIFORNIA DEPARTMENT OF JUSTICE THAT CERTIFIES THE RIGHT TO BE IN POSSESSION OF A FIREARM.

Associate Degree Applicable

CRMJUS 059
BASIC LAW ENFORCEMENT ACADEMY-LEVEL I OF
THE MODULAR FORMAT 18.50 UNITS

PREREQUISITE: CRMJUS 060.
LECTURE: 225 contact hours per semester and
LABORATORY: 215 contact hours per semester.

This course is the third module in the Regular Basic Course Modular Format Training sequence. The intensive and disciplined instruction is designed to meet the minimum requirements of a full-time peace officer or Level I reserve peace officer in the state of California. The course includes professional orientation, police-community relations, laws of arrest, evidence and search and seizure, vehicle and radio procedures, administration of justice, narcotics, gangs, patrol procedures, firearms, vehicle stops, domestic violence, defensive tactics, physical training, criminal investigations, traffic investigations, practical scenarios and testing. **REGISTRATION IS LIMITED TO STUDENTS WHO HAVE SUCCESSFULLY COMPLETED PROGRAM PREREQUISITES AND STATE SCREENING REQUIREMENTS.**

Associate Degree Applicable

CRMJUS 060
RESERVE LEVEL II OFFICER 14.25 UNITS
PREREQUISITE: CRMJUS 061.

LECTURE: 203 contact hours per semester and
LABORATORY: 73 contact hours per semester.

This course satisfies Peace Officer Standards and Training (POST) requirements for Level II reserve peace officer certification. This course covers but is not limited to: victimology, crimes against persons, property and the justice system, laws of arrest, evidence and search and seizure, use of force, defensive tactics, patrol procedures, firearms and chemical agents, weapons violations, crimes in progress, and cultural diversity. **THIS COURSE IS LIMITED TO STUDENTS WHO HAVE SUCCESSFULLY COMPLETED THE FOLLOWING STATE SCREENING REQUIREMENTS: POSSESSION OF A VALID CALIFORNIA DRIVER'S LICENSE WITHOUT RESTRICTIONS, OTHER THAN REQUIRED EYEGLASSES OR CONTACT LENSES, AND POSSESSION OF A CURRENT LETTER OF CLEARANCE ISSUED BY THE CALIFORNIA DEPARTMENT OF JUSTICE THAT CERTIFIES THE RIGHT TO BE IN POSSESSION OF A FIREARM.**

Associate Degree Applicable

CRMJUS 061
RESERVE LEVEL III OFFICER 7.5 UNITS
PREREQUISITE: None.

LECTURE: 81 contact hours per semester and
LABORATORY: 118 contact hours per semester.

This course satisfies Peace Officer Standards and Training (POST) requirements for Level III reserve peace officer certification. The PC 832 course is merged in this Level III course. Curriculum covers ethics and professionalism, history of law enforcement, the criminal justice system, defensive tactics, information systems, criminal law, crimes against persons and property, laws of arrest, firearms, driver awareness, first aid and CPR, custody, crimes in progress and report writing. **THIS COURSE IS LIMITED TO STUDENTS WHO HAVE SUCCESSFULLY MET STATE SCREENING REQUIREMENTS: POSSESSION OF A CALIFORNIA DRIVER'S LICENSE WITHOUT RESTRICTIONS, OTHER THAN REQUIRED EYEGLASSES OR CONTACT LENSES AND POSSESSION OF A CURRENT LETTER OF CLEARANCE ISSUED BY THE CALIFORNIA DEPARTMENT OF JUSTICE THAT CERTIFIES THE RIGHT TO BE IN POSSESSION OF A FIREARM.**

Associate Degree Applicable

CRMJUS 065
SIGN LANGUAGE FOR EMERGENCY PERSONNEL 1 UNIT

PREREQUISITE: CRMJUS 058.
LECTURE: 12 contact hours per semester and
LABORATORY: 12 contact hours per semester.

This course trains emergency personnel to interact with deaf victims, witnesses and suspects. **REGISTRATION IS LIMITED TO STUDENTS WHO HAVE SUCCESSFULLY COMPLETED PROGRAM PREREQUISITES.**

Associate Degree Applicable

CRMJUS 066
INSTRUCTOR DEVELOPMENT .75 UNIT
PREREQUISITE: None.

LECTURE: 8 contact hours per semester and
LABORATORY: 16 contact hours per semester.

This course will enable police instructors to improve their public speaking skills, understand adult learning theories, write learning objectives and lesson plans, use various methods of instruction effectively, and understand techniques of testing and remediation.

Associate Degree Applicable

CRMJUS 068
LAW ENFORCEMENT RESPONSE TO THE
MENTALLY ILL .25 UNIT
PREREQUISITE: CRMJUS 061.

LECTURE: 4 contact hours per semester and
LABORATORY: 4 contact hours per semester.

Students will acquire skills to facilitate communication with mentally ill and developmentally disabled members of the community. Students will be taught methods to de-escalate and control situations that have the potential for violence.

Associate Degree Applicable

CRMJUS 069
LIFETIME FITNESS AND COPING WITH STRESS .50 UNIT

PREREQUISITE: CRMJUS 058.
LECTURE: 8 contact hours per semester.

Designed to assist officers in developing a personal fitness program, this course includes strategies to permanently control body fat, such as routine exercise and diet modification, and strategies for identifying and managing stress. **REGISTRATION IS LIMITED TO STUDENTS WHO HAVE SUCCESSFULLY COMPLETED PROGRAM PREREQUISITES.**

Associate Degree Applicable

CRMJUS 070
BASIC DISPATCHER'S COURSE 6 UNITS
PREREQUISITE: None.

LECTURE: 92 contact hours per semester and
LABORATORY: 30 contact hours per semester.

Training in the terminology, codes, and skills required for employment as a public safety dispatcher. Satisfies Peace Officers Standards and Training (POST) requirements for basic training of Public Safety Dispatchers.

Associate Degree Applicable

CRMJUS 071
DISPATCHERS AND CRITICAL INCIDENTS 2.25 UNITS

PREREQUISITE: CRMJUS 070.
LECTURE: 36 contact hours per semester and
LABORATORY: 4 contact hours per semester.

This course is devoted to the experienced dispatcher's role in critical incidents and officer survival. Course content will include: civil liabilities, communications under stress, physical disablers and psychological wellness, courtroom demeanor, sexual harassment, domestic violence, missing persons, hostage barricaded subject and suicidal subject situations, overview of telephone, radio and 800 megahertz systems. **REGISTRATION IS LIMITED TO STUDENTS WHO HAVE SUCCESSFULLY COMPLETED PROGRAM PREREQUISITES.**

Associate Degree Applicable

CRMJUS 072x20
CIVIL UPDATE FOR DISPATCHERS .50 UNIT
PREREQUISITE: CRMJUS 070.

LECTURE: 6 contact hours per semester and
LABORATORY: 2 contact hours per semester.

Does it seem like everybody wants to sue a police agency? Get updated information concerning civil liability issues related to dispatching, learn courtroom survival techniques in the event of a lawsuit, and get the latest information concerning court orders and civil disputes. **REGISTRATION IS LIMITED TO STUDENTS WHO HAVE SUCCESSFULLY COMPLETED PROGRAM PREREQUISITES.**

This course may be taken twenty times.

Associate Degree Applicable

CRMJUS 075
CRITICAL INCIDENT FOR DISPATCHERS .25 UNIT

PREREQUISITE: CRMJUS 070.
LECTURE: 5 contact hours per semester and
LABORATORY: 3 contact hours per semester.

Scenarios and basic skills will provide students with some new ideas and approaches to the everyday incidents. Students will have an understanding of what to tell the public in their inquiries, and where to get more information. **REGISTRATION IS LIMITED TO STUDENTS WHO HAVE SUCCESSFULLY COMPLETED PROGRAM PREREQUISITES.**

Associate Degree Applicable

CRMJUS 086
INTRODUCTION TO CRIME SCENE INVESTIGATION 2 UNITS

PREREQUISITE: None.
LECTURE: 24 contact hours per semester and
LABORATORY: 30 contact hours per semester.

This course is designed to be an introductory level course for those persons considering a career in Forensic Sciences or Criminalistics. Lecture topics include securing a crime scene, identification and collection of evidence at crime scenes, processing evidence and crime scenes for latent fingerprints, basic fingerprint pattern recognition, basic crime scene photography, documentation of the crime scene and the examinations performed, a discussion of common mistakes and how to avoid making them and an introduction to courtroom presentation and testimony.

Associate Degree Applicable

CRMJUS 087
INTERMEDIATE CRIME SCENE INVESTIGATION 2 UNITS

PREREQUISITE: CRMJUS 086.
LECTURE: 24 contact hours per semester and
LABORATORY: 24 contact hours per semester.

This course is designed to be an intermediate level course for those persons considering a career in Forensic Sciences or Criminalistics. Lecture topics include reviewing the critical components of the Basic CSI class, identification and collection of evidence at violent crime scenes, processing evidence and crime scenes for latent prints using advanced techniques, intermediate crime scene photography, documentation of the crime scene and the examinations performed, a discussion of common mistakes and how to avoid making them and courtroom presentation and testimony.

Associate Degree Applicable

CRMJUS 088
ADVANCED CRIME SCENE INVESTIGATION 2 UNITS

PREREQUISITE: CRMJUS 087.
LECTURE: 24 contact hours per semester and
LABORATORY: 30 contact hours per semester.

This course is designed to be an advanced level course for those persons considering a career in Forensic Sciences or Criminalistics. Lecture topics include reviewing the critical components of the basic and second level CSI classes, identification and collection of evidence at crime scenes involving death (homicides, suicide, accidental death and homicides that involve additional violence, such as sexual assault), processing of the deceased for physical evidence, latent fingerprints and other clues relating to the identity of the assailant, shooting reconstruction and gravesite excavation. This course will also discuss other specialties available to the death investigator, such as Forensic Anthropology, Entomology and Odontology.

Associate Degree Applicable

CRMJUS 089
FORENSIC PHOTOGRAPHY 2 UNITS
PREREQUISITE: None.

LECTURE: 24 contact hours per semester and
LABORATORY: 30 contact hours per semester.

This course is designed as an overall photography class with an emphasis on techniques needed for crime scene and evidence documentation. This course will discuss different types of cameras used for crime scene documentation, their advantages and disadvantages and special applications. This course will cover manual camera operations necessary for close-up, nighttime and other specialty photographs.

Associate Degree Applicable

**CRMJUS 090
BLOODSTAIN PATTERN ANALYSIS**

2 UNITS

PREREQUISITES: CRMJUS 088 and MATH 093 or MATH 103 or equivalent.

LECTURE: 24 contact hours per semester and LABORATORY: 30 contact hours per semester.

This course is designed to be an advanced level course for those persons considering a career in Forensic Sciences or Criminalistics. Lecture topics include the physical properties of blood, the dynamics of blood in flight, mathematical principles relating to bloodstain pattern interpretation and what this information can tell you about the crime that took place.

Associate Degree Applicable

CULINARY ARTS

DIVISION: Applied Technology,
Transportation and Culinary Arts
DIVISION DEAN: Gary Kelly, M.S.
FACULTY CHAIR: Chef Stacy Meyer, M.A.
Business 100B
(909) 384-8913
ADMINISTRATIVE SECRETARY: Cecile Smith
DIVISION OFFICE: Technical 108
(909) 384-8902
LIAISON COUNSELOR: André Wooten, M.A.
(909) 384-4404

The Culinary Arts curriculum prepares students for careers in culinary arts, food services, and other hospitality career fields. Hospitality is the second largest employing industry in the state of California and the United States.

Successful completion of one of the vocational certificates qualifies students for certification and membership in the American School Food Service Association. Students completing the associate degree are prepared to transfer to a baccalaureate program at a four-year institution.

**CULINARY ARTS PROGRAM
ASSOCIATE OF ARTS DEGREE**

To graduate with a specialization in Culinary Arts, students must complete the following required courses plus the general breadth requirements for the Associate Degree (total = 60 units)

REQUIRED COURSES:	UNITS
CULART 010X4 Culinary Arts Internship	8 - 22
CULART 101 Introduction to Culinary Arts	3
CULART 160 Introduction to Foods	3
CULART 161 Quantity Food Preparation	3
CULART 201 Culinary and Hospitality Management	3
CULART 225 Sanitation and Safety	3
CULART 235 Menu Planning Principles	3
CULART 240 Procurement, Purchasing and Selection	3
CULART 250 Food, Wine and Beverage Service Concepts	3
CULART 275 Food, Beverage and Labor Cost Control	3
FCS 162 Nutrition	3
BUSAD 100 Introduction to Business	3

Students must take CULART 010x4 for a minimum of 8 units.

RECOMMENDED COURSES: UNITS

ACCT 100 Introduction to Accounting I	2
BUSCAL 050 Quantitative Methods in Business	3

TOTAL UNITS: 41 - 55

CULINARY ARTS CERTIFICATES

Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.

CULINARY ARTS CERTIFICATE

The Culinary Arts Certificate is designed for students who are interested in entering middle-management positions within the Restaurant/Hospitality industry.

REQUIRED COURSES: UNITS

CULART 101 Introduction to Culinary Arts	3
CULART 010X4 Culinary Arts Internship	8 - 22
CULART 160 Introduction to Foods	3
CULART 161 Quantity Food Preparation	3
CULART 201 Culinary and Hospitality Management	3
CULART 225 Sanitation and Safety	3
CULART 235 Menu Planning Principles	3
CULART 240 Procurement, Purchasing and Selection	3
CULART 250 Food, Wine and Beverage Service Concepts	3
CULART 275 Food, Beverage and Labor Cost Control	3
BUSAD 100 Introduction to Business	3
FCS 162 Nutrition	3

RECOMMENDED COURSES: UNITS

ACCT 100 Introduction to Accounting I	2
BUSCAL 050 Quantitative Methods in Business	3

TOTAL UNITS: 41 - 55

Students are required to take CULART 010x4 for a minimum of 8 units.

DINING ROOM SERVICE CERTIFICATE

The Dining Room Service Certificate is designed to prepare students for entry-level employment in the front-of-the-house of the restaurant/hospitality industry.

REQUIRED COURSES:	UNITS
CULART 010X4 Culinary Arts Internship	8 - 22
CULART 101 Introduction to Culinary Arts	3
CULART 161 Quantity Food Preparation	3
CULART 225 Sanitation and Safety	3
CULART 250 Food, Wine and Beverage Service Concepts	3
CULART 275 Food, Beverage and Labor Cost Control	3

TOTAL UNITS: 23 - 37

Students are required to take CULART 010x4 for a minimum of 8 units

FOOD PREPARATION CERTIFICATE

The Food Preparation Certificate is designed to prepare students for entry-level employment in food preparation.

REQUIRED COURSES:	UNITS
CULART 010X4 Culinary Arts Internship	5.5 - 6
CULART 020 Catering and Banquets I	5
CULART 030X2 Catering and Banquets II	2 - 5.5
CULART 040 Introduction to Baking	3.5
CULART 101 Introduction to Culinary Arts	3
CULART 160 Introduction to Foods	3
CULART 161 Quantity Food Preparation	3
CULART 225 Sanitation and Safety	3
CULART 240 Procurement, Purchasing and Selection	3

TOTAL UNITS: 31 - 35

Students must take CULART 010X4 for a minimum of 5.5 credits

FOOD SERVICE CERTIFICATE

The Food Service Certificate is designed for students interested in employment at commercial restaurants, institutions, health care facilities, school food services, and related food service industries.

REQUIRED COURSES:	UNITS
BUSAD 100 Introduction to Business	3
CULART 101 Introduction to Culinary Arts	3
CULART 160 Introduction to Foods	3
CULART 161 Quantity Food Preparation	3
CULART 201 Culinary and Hospitality Management	3
CULART 225 Sanitation and Safety	3
CULART 235 Menu Planning Principles	3
CULART 240 Procurement, Purchasing and Selection	3
CULART 250 Food, Wine and Beverage Service Concepts	3
CULART 275 Food, Beverage and Labor Cost Control	3

TOTAL UNITS: 30

COURSES OFFERED BY THE DEPARTMENT OF CULINARY ARTS:

CULART 010x4 CULINARY ARTS INTERNSHIP 2- 5.5 UNITS
PREREQUISITE: None.

LABORATORY: 18 -4905 contact hours per week.

This course provides a supervised internship in the Culinary Arts Program's operational restaurant. The concentration will be on building basic preparation techniques, recipe standardization, time management and preparing meals for customers. This course can be taken four times. (Formerly RM 110x3)
Associate Degree Applicable.

CULART 020 CATERING AND BANQUETS I 5 UNITS
PREREQUISITE: None.

LECTURE: 2 contact hours per week and

LABORATORY: 9 contact hours per week.

This course covers catering and banquet techniques for serving 25 to 100 people. It includes developing a catering business that will work with clients to develop an event, including customizing a menu and calculating staffing needs for preparation, cooking, transporting, setting up, serving and cleaning up.
Associate Degree Applicable

CULART 030x2 CATERING AND BANQUETS II 2-6 UNITS
PREREQUISITE: CULART 020.

LABORATORY: 6 - 18 contact hours per week.

This course is classified as an intermediate course in catering and banquets. This course will include the management aspect of catering and banquet services, such as ordering, receiving, purchasing, staffing events, customer service, food presentation and catering set ups for 100 to 500 people. This course may be taken two times.
Associate Degree Applicable

CULART 040 INTRODUCTION TO BAKING 3.5 UNITS
PREREQUISITE: None.

LECTURE: 2 contact hours per week and

LABORATORY: 4.5 contact hours per week.

This basic baking course highlights baking techniques found in commercial kitchens with a focus on quick breads, cookies, cakes, pies and artisan breads.
Associate Degree Applicable

CULART 101 INTRODUCTION TO CULINARY ARTS 3 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week.

An overview of the food service and hospitality industries with an emphasis on career opportunities, customer service, and personal success strategies. Brief history, description and interrelationships of key industry segments emphasizing the application of technology, ethics, leadership, teams, critical thinking, and service standards for the restaurant and hotel-related business. (Formerly RM/FS 101)

Associate Degree Applicable

Course credit transfers to CSU.

CULART 160
INTRODUCTION TO FOODS 3 UNITS
PREREQUISITE: None.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.

This course introduces food science principles and food preparation procedures and practices. The emphasis is on food safety and sanitation, ingredient functions and interactions, techniques and food presentation. This course is also offered as FCS 160. (Formerly RM 160)

CULART 161
QUANTITY FOOD PREPARATION 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.

Introduction to the scientific theory of the application of heat, and the changes that takes place in food during the cooking process. Includes handling of kitchen tools and equipment, analysis of budgets, and the proper techniques of preparing food for quantity production. This course is also offered as FCS 161. (Formerly RM/FS 161)
Associate Degree Applicable
Course credit transfers to CSU.

CULART 201
CULINARY AND HOSPITALITY MANAGEMENT 3 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week.
This course highlights the effective management techniques of human resources as it applies to hotels, restaurants and other hospitality workplaces. It emphasizes personnel planning, recruitment, selection, training, performance management, coaching, counseling and discipline, delegation and decision making. (Formerly RM/FS 201)
Associate Degree Applicable
Course credit transfers to CSU.

CULART 225
SANITATION AND SAFETY 3 UNITS
PREREQUISITE: None.
DEPARTMENTAL ADVISORY: CULART 160 or FCS 160.
LECTURE: 3 contact hours per week.

This course focuses on the sanitation and safety issues involved with handling food through the foodservice process. Topics include the prevention of foodborne illnesses; responsibilities of the foodservice manager and employees; the characteristics of a food-safe facility; food safety guidelines; and Hazard Analysis and Critical Control Point system (HACCP) and Serve Safe. This course is also offered as FCS 225. (Formerly RM/FS 225)
Associate Degree Applicable
Course credit transfers to CSU.

CULART 235
MENU PLANNING PRINCIPLES 3 UNITS
PREREQUISITE: None.
DEPARTMENTAL ADVISORY: CULART 101 or CULART 160.
LECTURE: 3 contact hours per week.

This course presents the menu as the central influence on all foodservice functions. It focuses on the development of menus with an emphasis on the practical details of costing, planning, analyzing, purchasing and production, promotion and service. This course is also offered as FCS 235. (Formerly RM 235)
Associate Degree Applicable
Course credit transfers to CSU as elective credit only.

CULART 240
PROCUREMENT, PURCHASING AND SELECTION 3 UNITS
PREREQUISITE: None.

DEPARTMENTAL ADVISORIES: CULART 160 or FCS 160 and CULART 235 or FCS 235.
LECTURE: 3 contact hours per week.
This course covers purchasing policies, specifications, procedures and controls and their implementation in the procurement of quantity foods, merchandise and supplies. (Formerly RM/FS 240)
Associate Degree Applicable
Course credit transfers to CSU as elective credit only.

CULART 250
FOOD, WINE AND BEVERAGE SERVICE CONCEPTS 3 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week.
This course covers the psychology of service, dining room organization, serving styles, wine and beverage service, staffing and management; a thorough study of major wine grape varieties and world wide appellations where they are grown. (Formerly RM 250)
Associate Degree Applicable
Course credit transfers to CSU.

CULART 275
FOOD AND BEVERAGE AND LABOR COST CONTROL 3 UNITS
PREREQUISITE: CULART 235.

LECTURE: 3 contact hours per week.
This course includes the analysis of food, beverage and labor cost controls. Areas covered include cost, volume, profit relationships, food cost determination, standard costs, forecasting, sales control, menu pricing, beverage and labor control, and break-even analysis. (Formerly RM 275)
Associate Degree Applicable
Course credit transfers to CSU.

RM 198
RESTAURANT MANAGEMENT WORK EXPERIENCE
1-4 UNITS

PREREQUISITE: None.

Supervised training in the form of on the job employment that will enhance the student's educational goals. The student's major and job must match. Students work 5-20 contact hours per week to earn units using the following formula: For paid work, 75 hours = 1 unit; for volunteer work, 60 hours = 1 unit. Students may earn a total of 16 units toward graduation in Work Experience 198 courses. Students **MUST** be working for pay or volunteer before registering for a Work Experience class. **NOTE:** Only one section of Work Experience may be taken during a semester.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

DANCE

DIVISION: Humanities and The Arts
DIVISION DEAN: Kathryn Weiss, Ed.D.
FACULTY CHAIR: Matie Scully, M.M.
Planetarium 02
(909) 384-8545
ADMINISTRATIVE SECRETARY: Linda Tymchek
DIVISION OFFICE: Liberal Arts 217
(909) 384-8633
LIAISON COUNSELOR: Laura Gomez, M.A.
(909) 384-4404

COURSES OFFERED BY THE DEPARTMENT OF DANCE:

DANCE 101x2
BEGINNING MODERN DANCE **2 UNITS**
PREREQUISITE: None.

LABORATORY: 6 contact hours per week.

A comprehensive survey of the beginning techniques of Modern Dance with a focus on vocabulary, placement and alignment, strength and flexibility exercises, and simple combinations of locomotor movement. This course may be taken twice.

Associate Degree Applicable

Course credit transfers to CSU and UC.

DANCE 102x4
INTERMEDIATE MODERN DANCE **2 UNITS**
PREREQUISITE: DANCE 101x2.

LABORATORY: 6 contact hours per week.

A progressive study of Modern Dance including strengthening exercises, center work on balance and control, rhythmic awareness, and combinations of increasing speed, length, and complexity. This course may be taken four times.

Associate Degree Applicable

Course credit transfers to CSU and UC.

DANCE 103x2
BALLET **2 UNITS**

PREREQUISITE: None.

LABORATORY: 6 contact hours per week.

A progressive study of Ballet including vocabulary, placement and alignment, strength and flexibility exercises, work on balance and control, and combinations of increasing speed, length, and complexity. This course may be taken two times.

Associate Degree Applicable

Course credit transfers to CSU and UC.

DANCE 105x2
BEGINNING JAZZ DANCE **2 UNITS**
PREREQUISITE: None.

LABORATORY: 6 contact hours per week.

A comprehensive survey of the beginning techniques of Jazz Dance with a focus on vocabulary, placement and alignment, strength and flexibility exercises, and simple combinations of locomotor movement. This course may be taken two times.

Associate Degree Applicable

Course credit transfers to CSU and UC.

DANCE 106x4
INTERMEDIATE JAZZ DANCE **2 UNITS**
PREREQUISITE: DANCE 105x2.

LABORATORY: 6 contact hours per week.

A progressive study of Jazz Dance including strengthening exercises, work on balance and control, rhythmic awareness, and combinations of increasing speed, length, and complexity. This course may be taken four times.

Associate Degree Applicable

Course credit transfers to CSU and UC.

DANCE 107x2
BEGINNING TAP DANCE **2 UNITS**
PREREQUISITE: None.

LECTURE: 1 contact hour per week and
LABORATORY: 3 contact hours per week.

This is a basic course of instruction in the art of tap dancing to include physical strengthening, rhythmic awareness, execution of basic tap dancing steps, floor exercises, vocabulary theatrical presentation of tap choreography, and an awareness of the audience requiring the element of acting.

Associate Degree Applicable

Course credit transfers to CSU and UC.

DANCE 114x4
DANCE REHEARSAL AND PERFORMANCE **4 UNITS**

PREREQUISITE: None.

LECTURE: 2 contact hours per week and
LABORATORY: 6 contact hours per week.

Instruction and supervision of rehearsal and performance of various dance productions. **ENROLLMENT IN THIS CLASS IS CONTINGENT WITH AN AUDITION FOR A CURRENT DANCE PRODUCTION.** This course may be taken four times.

Associate Degree Applicable

Course credit transfers to CSU and UC.

DANCE 200
DANCE HISTORY AND APPRECIATION **3 UNITS**
PREREQUISITE: None.

LECTURE: 3 contact hours per week.
 A comprehensive survey of dance from primitive time through the 20th century. Emphasis will be placed on historical perspectives revealing dance as an emerging art form. Course material also includes the relation of dance to religion and myth, as a reflection of cultural and social attitudes and mores, and its relation to other art forms.

Associate Degree Applicable
Course credit transfers to CSU and UC.

DANCE 203
CHOREOGRAPHY **3 UNITS**
PREREQUISITE: None.

LECTURE: 2 contact hours per week and
LABORATORY: 2 contact hours per week.
 An introduction and analysis of the elements of dance composition. A comprehensive survey of theories, techniques, and historical perspectives of dance composition, as well as the practical application of these elements through the actual physical activity of creating and teaching dance compositions.

Associate Degree Applicable
Course credit transfers to CSU and UC.

DANCE 206x4
DANCE PRODUCTION **4 UNITS**
PREREQUISITE: None.

LECTURE: 2 contact hours per week and
LABORATORY: 6 contact hours per week.
 Instruction and analysis of all aspects of dance production including organizing a dance production; publicity and marketing; budget; theatrical and dance lighting; set design; costumes and makeup; and instruction in elements of physical theater, such as stage terminology, stage directions, and roles of theatre personnel. This course may be taken four times.

Associate Degree Applicable
Course credit transfers to CSU and UC.

DIESEL

DIVISION: Applied Technology,
 Transportation and Culinary Arts
 DIVISION DEAN: Gary Kelly, M.S.
 FACULTY CHAIR: William Clarke, Ed.D.
 Technical 108
 (909) 384-8504
 OTHER FACULTY: Daniel Hook, A.S.
 DEPARTMENT SECRETARY: Amanda Moody
 (909) 382-4079
 DEPARTMENT OFFICE: 264 S. Leland Norton Way
 Suite A120, San Bernardino
 LIAISON COUNSELOR: Frank Dunn, M.A.
 (909) 384-4404

Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.

TRUCK AND BUS TECHNOLOGY
CERTIFICATE

This certificate is designed to prepare students for entry-level positions repairing and maintaining diesel engines in trucks, buses, locomotives, heavy vehicles, and mobile heavy-duty equipment. Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.

REQUIRED COURSES:		UNITS
CIT 101	Introduction to Computer Literacy	3
DIESEL 019	Truck and Bus Heavy-Duty Electrical Systems	4
DIESEL 021	Diesel Engines - Heavy Duty	4
DIESEL 022	Heavy-Duty Truck Brakes	2
DIESEL 023	Heavy-Duty Truck Suspension and Steering	2
DIESEL 024X3	Advanced Heavy-Duty Diesel Engines	4
DIESEL 026X3	Computer Controlled Diesel Engines	4
DIESEL 028	Heavy-Duty Truck Preventive Maintenance Service	4
DIESEL 030	Advanced Heavy-Duty Truck Systems	4
MATH 942	Arithmetic	or 3
	Eligibility for Math 952 as determined by the SBVC assessment process	0 - 4
WELD023	Oxy-Acetylene Welding	3
WELD077X4	Continuous Wire Welding	1
TOTAL UNITS:		35 - 39

COURSES OFFERED BY THE DEPARTMENT OF DIESEL:

DIESEL 019
TRUCK AND BUS HEAVY-DUTY ELECTRICAL SYSTEMS **4 UNITS**
PREREQUISITE: None.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.
 This course covers basic principles of truck and bus heavy-duty electricity and electronics systems. Detail topics include batteries, charging, starting systems, and the use of a digital multi-meter for analysis and diagnosis of series, parallel, and series-parallel circuits.
Associate Degree Applicable

DIESEL 020
DIESEL ENGINES – LIGHT DUTY **4 UNITS**
PREREQUISITE: None.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.
 Theory and practical shop work in the repair, operation and maintenance of light duty automotive diesel engines and fuel injection systems. Course includes general trouble-shooting and diagnostic testing. This course may be used in preparation for the Automotive Service Excellence (ASE) National Test.
Associate Degree Applicable

DIESEL 021
DIESEL ENGINES-HEAVY DUTY 4 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

Theory and practical shop work in repair, operation, and maintenance of heavy-duty industrial diesel engines and fuel injection systems. Course includes general troubleshooting and diagnostic testing. This course may be used in preparation for the automotive Service Excellence (ASE) National Test.

Associate Degree Applicable

DIESEL 022
HEAVY-DUTY TRUCK BRAKES 2 UNITS
PREREQUISITE: None.

LECTURE: 1.5 contact hours per week and
LABORATORY: 1.5 contact hours per week.

Theory and practical shop work in the construction, operation, and repair of heavy-duty truck brake systems and components. Includes principles of hydraulic and pneumatic brake systems, anti-lock, and computer controlled braking systems used in today's modern heavy-duty diesel trucks and busses.

Associate Degree Applicable

DIESEL 023
HEAVY-DUTY TRUCK SUSPENSION AND STEERING 2 UNITS
PREREQUISITE: None.

LECTURE: 1.5 contact hours per week and
LABORATORY: 1.5 contact hours per week.

Theory and practical shop work in the construction, operation, and repair of heavy-duty truck suspension and steering components. Includes principles of hydraulic and pneumatic steering and suspension systems.

Associate Degree Applicable

DIESEL 024x3
ADVANCED HEAVY-DUTY DIESEL ENGINES 4 UNITS
PREREQUISITE: DIESEL 021.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This course covers theory and practical shop work in the repair, operation, and maintenance of various heavy-duty diesel engines. Topics include general troubleshooting and diagnostic testing of engine components and systems found in most engines from a variety of engine manufacturers. This course is an advanced engine rebuild class. This course may be taken three times. (Formerly DIESEL 024)

Associate Degree Applicable



DIESEL 026x3
COMPUTER CONTROLLED DIESEL ENGINES 4 UNITS
PREREQUISITE: DIESEL 019.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This course covers theory and practical shop work in the repair, operation, and maintenance of computer controlled diesel engines. Topics include general troubleshooting and diagnostics using assorted electronic and computerized test equipment on operable computer controlled diesel engines. This course may be taken three times. (Formerly DIESEL 026)

Associate Degree Applicable

DIESEL 028
HEAVY-DUTY TRUCK PREVENTIVE MAINTENANCE SERVICE 4 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

Theory and practical shop work in maintenance and preventive maintenance service of heavy-duty truck and bus systems. Fundamentals of truck components and systems are explained as students perform routine tasks. Course is designed to provide students the needed skills and knowledge to perform entry level labor tasks in the heavy-duty truck service industry.

Associate Degree Applicable

DIESEL 030
ADVANCED HEAVY-DUTY TRUCK SYSTEMS 4 UNITS
PREREQUISITE: DIESEL 028.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

Advanced level theory and practical shop work in maintenance, air conditioning, ABS, computers, and operations of the heavy-duty truck and bus systems. Course is designed to provide students the needed skills and knowledge to perform advanced level labor tasks in the heavy-duty truck and bus service industry.

Associate Degree Applicable

DIESEL 034
INTRODUCTION TO HEAVY-DUTY COMPRESSED NATURAL GAS VEHICLE SYSTEMS 2 UNITS
PREREQUISITE: DIESEL 026.

LECTURE: 1.5 contact hours per week and
LABORATORY: 1.5 contact hours per week.

This course provides theory and hands-on experience in the operation, service, inspection, and maintenance of compressed natural gas (CNG) vehicle systems. This course prepares students for the ASE Alternate Fuels Test (F-1).

Associate Degree Applicable

DIESEL 035
HEAVY-DUTY VEHICLE AUTOMATIC TRANSMISSIONS 2 UNITS
PREREQUISITE: None

LECTURE: 1.5 contact hours per week and
LABORATORY: 1.5 contact hours per week.

This course provides theory and hands on experience with heavy and medium-duty automatic transmission operation, construction, service and overhaul procedures. The purpose of the class is to prepare the students to successfully troubleshoot and repair heavy and medium-duty transmissions.

Associate Degree Applicable

ECONOMICS

DIVISION: Social Science, Human Development and Physical Education
DIVISION DEAN: Corene Schwartz, Ed.D.
FACULTY CHAIR: Walt Chatfield, Ph.D.
Liberal Arts 117
(909) 384-8652
OTHER FACULTY: James Dulgeroff, Ph.D.
ADMINISTRATIVE SECRETARY: Karen Deck
DIVISION OFFICE: Liberal Arts 114
(909) 384-8603
ADMINISTRATIVE SECRETARY: Anita Moore
DIVISION OFFICE: Liberal Arts 111
(909) 384-8514
LIAISON COUNSELOR: Patty Jones, M.A.
(909) 384-4404

Economics is concerned with the study of how people and societies produce various commodities and distribute them for consumption, now or in the future, among various persons and groups in society. As a descriptive, academic discipline, it is concerned with accurate portrayals of national economics as well as those of regions, firms, and individuals. As an analytic discipline, its tools are used to order, modify, and describe economic activity.

Training in economics, supplemented by course work in other disciplines, provide excellent preparations for particular careers in industry, government, and many professions including management, law, education, public administration or consulting. The study of economics also provides useful intellectual training for individuals who may be uncertain about their future careers.

Students planning to transfer to a four-year institution and major in economics or related fields should consult with a counselor regarding the transfer process and lower division requirements.

COURSES OFFERED BY THE DEPARTMENT OF ECONOMICS:

ECON 100
INTRODUCTION TO ECONOMICS 3 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week.
Survey of the American economy and the development, functioning and significance of economic institutions. Emphasis on economic growth, the national debt, inflation and international economic problems.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ECON 200
INTRODUCTION TO MACROECONOMICS 3 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week.
Introduction to macroeconomic theory and the role of fiscal and monetary policies in economics with emphasis on national economic problems.
Associate Degree Applicable
*Course credit transfers to CSU and *UC.*

ECON 200H
INTRODUCTION TO MACROECONOMICS – HONORS 3 UNITS

PREREQUISITE: None.
LECTURE: 3 contact hours per week.
Introduction to macroeconomic theory and the role of fiscal and monetary policies in economics with special emphasis on national economic problems. **Enrollment is limited to students eligible for the Honors Program.**
Associate Degree Applicable
*Course credit transfers to CSU and *UC.*

ECON 201
PRINCIPLES OF MICROECONOMICS 3 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week.
Introduction to microeconomic theory including international economics, economic development, and comparative economic systems with emphasis on microeconomic problems.
Associate Degree Applicable
Course credit transfers to CSU and UC.

ECON 208
BUSINESS AND ECONOMICS STATISTICS 4 UNITS

PREREQUISITE: MATH 095.
LECTURE: 4 contact hours per week.
A review of statistical methods commonly used in business and economics including measures of central tendency; measures of dispersion and skewness; probability concepts and distributions; statistical inferences; parametric and non-parametric hypothesis testing; index numbers time series analysis, simple regression, and correlation analysis. This course is also offered as BUSCAL 208.
Associate Degree Applicable
*Course credit transfers to CSU and *UC.*

ECON 222
INDEPENDENT STUDY IN ECONOMICS 1-3 UNITS

PREREQUISITES: ECON 200 and ECON 201.
INDEPENDENT STUDY: 3-9 contact hours per week.
Assigned projects involving research and analysis of selected topics or directed study for students who are interested in furthering their knowledge of economics on an independent study basis. For each unit earned, students are required to devote three contact hours per week throughout the semester. Enrollment limited to those who meet independent study criteria. Prior to registration, a contract must be prepared. See instructor for details.
Associate Degree Applicable
Course credit transfers to CSU.
Limited transfer to UC; credit determined after transfer to UC.

EDUCATION

DIVISION: Social Science, Human Development and Physical Education
 DIVISION DEAN: Corene Schwartz, Ed.D.
 FACULTY CHAIRS: Kathryn Adams, M.S.
 North Hall 301
 (909) 384-8549
 Denise Knight, B.A.
 North Hall 305
 (909) 384-8547
 OTHER FACULTY: Kellie Barnett, M.S.
 ADMINISTRATIVE SECRETARY: Karen Deck
 DIVISION OFFICE: Liberal Arts 114
 (909) 384-8603
 ADMINISTRATIVE SECRETARY: Anita Moore
 DIVISION OFFICE: Liberal Arts 111
 (909) 384-8514
 LIAISON COUNSELOR: Patty Jones, M.A.
 (909) 384-4404

COURSES OFFERED BY THE DEPARTMENT OF EDUCATION:

EDU 290
INTRODUCTION TO EDUCATION **3 UNITS**
PREREQUISITE: CD 105.

LECTURE: 3 contact hours per week.

Introduction to the field of education, designed to familiarize students with philosophies of education, history of education in America, social, political and legal foundations of education, and contemporary issues in education. The course transfers to CSUSB for students, majoring in Liberal Studies/Education.

Associate Degree Applicable
Course credit transfers to CSU.

ELECTRICITY/ELECTRONICS/ TECHNICAL CALCULATIONS

DIVISION: Applied Technology, Transportation and Culinary Arts
 DIVISION DEAN: Gary Kelly, M.S.
 FACULTY CHAIRS: Edward Szumski, M.A.
 (909) 384-8501
 Carlos Busselle, B.A.
 (909) 384-8502
 ADMINISTRATIVE SECRETARY: Cecile Smith
 DIVISION OFFICE: Technical 108
 (909) 384-8902
 LIAISON COUNSELOR: Frank Dunn, M.A.
 (909) 384-4404

The Electricity/Electronics curriculum is designed to provide entry-level job training in this broad and expanding field. These classes lead to trainee positions in maintenance, installation, field service, networking, and apprenticeship in the area of specialization. Students who seek a Certificate or an Associate of Science Degree in the fields of: 1) Electronics Technology, 2) Communication Engineering Technology, 3) Computer Engineering Technology, 4) Electric Power Technology, or (5) Avionics Technology, will complete a series of Electronics Technology courses common to electricity, communications, and computers and then complete the appropriate area of specialization.

Students planning to transfer to a four-year institution and major in electronics should consult with a counselor regarding the transfer process and lower division requirements.

ELECTRICITY/ELECTRONICS ASSOCIATE OF SCIENCE DEGREE

To graduate with a specialization in one of the Electricity/Electronics majors, students must complete all the requirements for the appropriate certificate with a grade of C or better plus the general breadth requirements for the Associate Degree.

ELECTRICITY/ELECTRONICS CERTIFICATES

Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select. These certificates are designed to provide students with the fundamentals of electronics technology by offering courses common to electricity, communications and computers. This preparation can be for transfer to the university or for further study in areas of communications, computers, electricity, and aircraft electronics. It can also prepare students for entry-level positions in electronics maintenance, installation, field service, networking, and apprenticeship in the field of electronics technology. Students should have normal color vision, hand/eye coordination and the ability to lift over 50 pounds.

1. ELECTRONICS TECHNOLOGY CERTIFICATE

This certificate is designed to provide students with the fundamentals of electronics technology. It also prepares students for entry-level positions in electronics maintenance, installation, field service, networking, and apprenticeship in the field of electronics technology.

REQUIRED COURSES:		UNITS
TECALC 087	Technical Calculations	4
ELECTR 110	Direct Current Circuit Analysis	3
ELECTR 111	Direct Current Circuit Laboratory	1
ELECTR 115	Alternating Current Circuit Analysis	3
ELECTR 116	Alternating Current Circuit Laboratory	1
ELECTR 155	Electronic Drawing and Assembly	3
ELECTR 230	Semiconductor Devices	3
ELECTR 235	Solid State Circuit Analysis	4
ELECTR 265	Digital Logic Design	4
ELECTR 266	Microprocessor Technology	4
ELECTR 270	Linear Integrated Circuit	4
TOTAL UNITS:		34

2. COMMUNICATION ENGINEERING TECHNOLOGY CERTIFICATE

This certificate is designed to provide students with the fundamentals of electronics technology as it applies to communication engineering. The curriculum prepares students for entry-level positions in electronics communication maintenance, installation, field service, networking, and apprenticeship in the field of communication engineering technology.

REQUIRED COURSES:		UNITS
TECALC 087	Technical Calculations	4
ELECTR 110	Direct Current Circuit Analysis	3
ELECTR 111	Direct Current Circuit Laboratory	1
ELECTR 115	Alternating Current Circuit Analysis	3
ELECTR 116	Alternating Current Circuit Laboratory	1
ELECTR 155	Electronic Drawing and Assembly	3
ELECTR 230	Semiconductor Devices	3
ELECTR 235	Solid State Circuit Analysis	4
ELECTR 265	Digital Logic Design	4
ELECTR 266	Microprocessor Technology with Assembly Language	4
ELECTR 270	Linear Integrated Circuit Analysis	4
ELECTR 220C	FCC Rules and Regulations	3
ELECTR 250C	Radio Transmitters, Receivers and Antennas	4
ELECTR 255C	Telephone and Data Networking	4
TOTAL UNITS:		45

3. COMPUTER ENGINEERING TECHNOLOGY CERTIFICATE

This certificate is designed to provide students with the fundamentals of electronics technology as it applies to computer engineering. The curriculum prepares students for entry-level positions in computer maintenance, installation, field service, networking, and apprenticeship in the field of computer engineering technology.

Complete the REQUIRED COURSES for Electronics Technology plus -

REQUIRED COURSES:		UNITS
ELEC 217B	Industrial Electricity	4
ELECTR 158	Microcomputer Operation	2
ELECTR 280B	Computer Operations and Maintenance	4
TOTAL UNITS:		44

4. ELECTRIC POWER TECHNOLOGY CERTIFICATE

This certificate is designed to provide students with the fundamentals of electronics technology as it applies to industrial electricity. The curriculum prepares students for entry-level positions in electrical maintenance, installation, field service, networking, and apprenticeship in the field of electric power technology.

REQUIRED COURSES:		UNITS
TECALC 087	Technical Calculations	4
ELECTR 110	Direct Current Circuit Analysis	3
ELECTR 111	Direct Current Circuit Laboratory	1
ELECTR 115	Alternating Current Circuit Analysis	3
ELECTR 116	Alternating Current Circuit Laboratory	1
ELECTR 155	Electronic Drawing and Assembly	3
ELECTR 230	Semiconductor Devices	3
ELECTR 235	Solid State Circuit Analysis	4
ELECTR 265	Digital Logic Design	4
ELECTR 266	Microprocessor Technology with Assembly Language	4
ELECTR 270	Linear Integrated Circuit Analysis	4
ELEC 216C	Introduction to Industrial Electricity	4
ELEC 217C	Industrial Electricity	4
ELEC 218C	Controlling Industrial Electricity	4
TOTAL UNITS:		46

5. AVIONICS TECHNOLOGY CERTIFICATE

This certificate is designed to provide students with the fundamentals of electronics technology as it applies to avionics. The curriculum prepares students for entry-level positions in aircraft electricity, maintenance, installation, field service, networking, and apprenticeship in the field of avionics technology.

REQUIRED COURSES:		UNITS
TECALC 087	Technical Calculations	4
ELECTR 110	Direct Current Circuit Analysis	3
ELECTR 111	Direct Current Circuit Laboratory	1
ELECTR 115	Alternating Current Circuit Analysis	3
ELECTR 116	Alternating Current Circuit Lab	1
ELECTR 155	Electronic Drawing and Assembly	3
ELECTR 230	Semiconductor Devices	3
ELECTR 235	Solid State Circuit Analysis	4
ELECTR 265	Digital Logic Design	4
ELECTR 266	Microprocessor Technology with Assembly Language	4
ELECTR 270	Linear Integrated Circuit Analysis	4
AERO 121 *	Aviation Fundamentals	3
AERO 140D *	Instrument Ground School and Flight Simulators	4
ELECTR 220C	FCC Rules and Regulations	3
ELECTR 250C	Radio Transmitters, Receivers and Antennas	4
ELECTR 257C	Navigation and Communication Systems	4
TOTAL UNITS:		52

* AERO 102 & 103 can be substituted for AERO 121 & 140D

6. GENERAL ELECTRICIAN CERTIFICATE

This certificate will allow an "Electrician Trainee" to sit for the California State General Electrician Certification examination. These courses also satisfy the continuing education requirement every three years for certified electricians.

REQUIRED COURSES:		UNITS
ELEC 216C	Introduction to Industrial Electricity	4
ELEC 217C	Industrial Electricity	4
ELEC 218C	Controlling Industrial Electricity	4
ELECTR 110	Direct Current Circuit Analysis	3
ELECTR 111	Direct Current Circuit Laboratory	1
ELECTR 115	Alternating Current Circuit Analysis	3
ELECTR 116	Alternating Current Circuit Laboratory	1
ELECTR 230	Semiconductor Devices	3
ELECTR 235	Solid State Circuit Analysis	4
ELECTR 265	Digital Logic Design	4
INSPEC 014D	Advanced Construction Inspection: National Electrical Code (NEC)	3
INSPEC 024D	Community Relations for Civil Service Employees	3
PE 231	First Aid and CPR	3
TECALC 087	Technical Calculations	4
TOTAL UNITS:		44

COURSES OFFERED BY THE DEPARTMENT OF ELECTRICITY/ELECTRONICS:

ELEC 012
UTILITY POLE CLIMBING: OSPCTP **3.25 UNITS**

PREREQUISITE: None.

LECTURE: 2 contact hours per week and
LABORATORY: 4 contact hours per week.

The study of the procedures, safety practices and equipment used in telephone and utility pole climbing. Subjects include: knots, handlines, cable repair, pole climbing, blueprints, cable placement, and pole handling. **DOCTOR'S VERIFICATION THAT THERE IS AN ABSENCE OF FEAR OF HEIGHTS, HEART TROUBLE, DIZZINESS, FAINTING SPELLS, HIGH BLOOD PRESSURE, BACK TROUBLE, ASTHMA, EPILEPSY; OR A PHYSICIAN'S STATEMENT THAT PRE-EXISTING CONDITIONS WILL NOT AFFECT THE STUDENT'S ABILITY TO SAFELY COMPLETE THIS COURSE IS REQUIRED.**

Associate Degree Applicable

ELEC 216C
INTRODUCTION TO INDUSTRIAL ELECTRICITY **4 UNITS**

PREREQUISITES: ELECTR 110 and ELECTR 111.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This course covers the study of electrical power transmission, the National Electrical Code, electrical blueprints, residential and commercial wiring.

Associate Degree Applicable

Course credit transfers to CSU.

ELEC 217C
INDUSTRIAL ELECTRICITY **4 UNITS**

PREREQUISITES: ELECTR 115 and ELECTR 116.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This course covers the study of DC motors, single and polyphase AC motors, and the necessary controls and measuring equipment used for industrial circuit protection and switching equipment.

Associate Degree Applicable

Course credit transfers to CSU.

ELEC 218C
CONTROLLING INDUSTRIAL ELECTRICITY **4 UNITS**

PREREQUISITES: ELECTR 115 and ELECTR 116.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This course covers the study of DC, AC, and polyphase motor operation, mechanical and programmable machine controls, relays and programmable logic controllers (PLCs), ladder logic diagrams and the communication network linking the programmer, the controller, the laptop computer and the machine.

Associate Degree Applicable

Course credit transfers to CSU.

ELECTR 110
DIRECT CURRENT CIRCUIT ANALYSIS **3 UNITS**

PREREQUISITE: None.

COREQUISITE: ELECTR 111.

LECTURE: 3 contact hours per week.

This is a comprehensive course in direct current circuit analysis including Ohm's law, series and parallel circuit analysis, voltage and current dividers, DC meters, Kirchoff's laws, magnetic circuits, and network theorems.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ELECTR 111
DIRECT CURRENT CIRCUIT LABORATORY **1 UNIT**

PREREQUISITE: None.

COREQUISITE: ELECTR 110.

LABORATORY: 3 contact hours per week.

This course is the laboratory complement to ELECTR 110 including experiments reinforcing the theory of electricity and the necessary technical skills.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ELECTR 115
ALTERNATING CURRENT CIRCUIT ANALYSIS **3 UNITS**

PREREQUISITES: ELECTR 110 and ELECTR 111.

COREQUISITE: ELECTR 116.

LECTURE: 3 contact hours per week.

This course is an in depth analysis of alternating current circuits to include AC generation and transformation, inductance and inductive circuits, capacitance and capacitive circuits, time constants, rectangular and polar notation, AC circuit analysis, resonance, and filters.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ELECTR 116
ALTERNATING CURRENT CIRCUIT LABORATORY 1 UNIT

PREREQUISITES: *ELECTR 110 and ELECTR 111.*
COREQUISITE: *ELECTR 115.*

LABORATORY: *3 contact hours per week.*

This course is the laboratory complement to ELECTR 115 including skill training in reading and interpreting measurements on an oscilloscope, using QT boards, function generators, and other test equipment.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ELECTR 155
ELECTRONIC DRAWING AND ASSEMBLY 3 UNITS
PREREQUISITE: *None.*

LECTURE: *2 contact hours per week and*
LABORATORY: *3 contact hours per week.*

This course develops skills in interpreting and creating electronic drawings and circuit board construction and assembly with an emphasis on drawings, soldering, assembly and fundamentals of CAD.

Associate Degree Applicable

Course credit transfers to CSU.

ELECTR 198
ELECTRONICS WORK EXPERIENCE 1-4 UNITS
PREREQUISITE: *None.*

Supervised training in the form of on the job employment that will enhance the student's educational goals. The student's major and job must match. Students work 5-20 contact hours per week to earn units using the following formula: For paid work, 75 hours = 1 unit; for volunteer work, 60 hours = 1 unit. Students may earn a total of 16 units toward graduation in Work Experience 198 courses. Students MUST be working for pay or volunteer before registering for a Work Experience class. NOTE: Only one section of Work Experience may be taken during a semester.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

ELECTR 220C
F.C.C. RULES AND REGULATIONS 3 UNITS
PREREQUISITE: *None.*

LECTURE: *3 contact hours per week.*

This course is a review of the requirements and questions for the General Radiotelephone Operator's License offered by the Federal Communications Commission.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

ELECTR 222
SPECIAL PROBLEMS IN ELECTRONICS I 1 UNIT
PREREQUISITE: *ELECTR 116.*

INDEPENDENT STUDY: *3 contact hours per week.*

Assigned problems involving laboratory work for selected students who are interested in furthering their knowledge of electronics on an independent study basis. Students are required to devote three contact hours per week to their project throughout the semester. Prior to registration, a contract must be prepared. See instructor for details.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

ELECTR 223
SPECIAL PROBLEMS IN ELECTRONICS II 2 UNITS
PREREQUISITE: *ELECTR 116.*

INDEPENDENT STUDY: *6 contact hours per week.*

Assigned problems involving laboratory work for selected students who are interested in furthering their knowledge of electronics on an independent study basis. Students are required to devote six contact hours per week to their project throughout the semester. Prior to registration, a contract must be prepared. See instructor for details.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

ELECTR 230
SEMICONDUCTOR DEVICES 3 UNITS
PREREQUISITE: *ELECTR 110.*

LECTURE: *3 contact hours per week.*

This course is a study of semiconductor devices including the chemistry and physics of the structure of the atom and the operation of semiconductor devices based on energy level analysis.

Associate Degree Applicable

Course credit transfers to CSU.

ELECTR 235
SOLID STATE CIRCUIT ANALYSIS 4 UNITS
PREREQUISITE: *ELECTR 230.*

LECTURE: *3 contact hours per week and*
LABORATORY: *3 contact hours per week.*

This course covers an analysis of discrete solid state circuits and their design including diodes, circuit configurations, amplifiers and amplification, biasing techniques, feedback principles, FETs, photo devices, and evaluation of designed circuits.

Associate Degree Applicable

Course credit transfers to CSU.

ELECTR 250C
RADIO TRANSMITTERS, RECEIVERS AND ANTENNAS 4 UNITS

PREREQUISITES: *ELECTR 115 and ELECTR 116.*

LECTURE: *3 contact hours per week and*
LABORATORY: *3 contact hours per week.*

This course includes coverage of radio frequency amplifiers, oscillators, signal spectra, elements of noise, AM and FM modulation and demodulation, AM and FM transmitter and receiver systems, transmitter and receiver circuits, frequency and phase modulation and demodulation, phase locked loops, pulse and digital modulation and demodulation, and data communication techniques.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

ELECTR 255C
TELEPHONE AND DATA NETWORKING 4 UNITS

PREREQUISITES: *ELECTR 115 and ELECTR 116.*

LECTURE: *3 contact hours per week and*
LABORATORY: *3 contact hours per week.*

This course includes telephone topology with emphasis on the Open System Interconnection (OSI) model, telephony color code, tools, patch panels, phone wiring and installation, voice and data block wiring, installation, and programming/troubleshooting a digital key system and network.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

ELECTR 257C
NAVIGATION AND COMMUNICATION SYSTEMS 4 UNITS

PREREQUISITE: ELECTR 250C.
LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This course covers the bench test, installation and ramp test of transmitter and receiver systems and their operating principles. Systems include Auto Direction Finder, Very High Frequency Omnidirectional Range, LORAN-C, Omega, INS, DME, ILS, VHF communication, HF communication, FM transceivers and transponder.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

ELECTR 265
DIGITAL LOGIC DESIGN 4 UNITS
PREREQUISITE: None.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This course covers combinational logic utilizing Boolean algebra and the binary numbering system. Topics include Karnaugh maps, truth tables, coding, switching circuits, converters, logic circuit elements, timers, digital-to-analog and analog-to-digital conversions, decoders, multiplexers, demultiplexers, and displays.
Associate Degree Applicable
Course credit transfers to CSU.

ELECTR 266
MICROPROCESSOR TECHNOLOGY WITH
ASSEMBLY LANGUAGE 4 UNITS
PREREQUISITE: ELECTR 265.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This course covers the fundamental principles of microprocessors, the 8051 series microcontroller, emphasizing their operation and applications in radio, VCRs and traffic control. Makes use of assembly language interfacing with both analog and digital circuitry. Includes breadboarding circuits and controlling them with the 8051 series microcontroller.
Associate Degree Applicable
Course credit transfers to CSU.

ELECTR 270
LINEAR INTEGRATED CIRCUIT ANALYSIS 4 UNITS
PREREQUISITE: ELECTR 115 and ELECTR 116.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This course is a review of bipolar transistor fundamentals and differential amplifiers with emphasis on inner connections and circuit designs using integrated circuit operational amplifiers, phase-lock loops, and current differentiating amplifiers. Includes breadboarding and evaluation of various types of active linear and pulse circuits involving operational amplifiers and phase-lock loops.
Associate Degree Applicable
Course credit transfers to CSU.

ELECTR 280C
COMPUTER OPERATION AND MAINTENANCE 4 UNITS

PREREQUISITE: ELECTR 266.
LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This course provides a working knowledge of the principles and analysis techniques applicable to computer operations and maintenance. Includes the theory and experience necessary to understand and analyze computer circuitry as needed for entry-level work in the computer and electronics industry.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

ELECTR 290C
INDUSTRIAL COMPUTERS AND ROBOTICS
MAINTENANCE 4 UNITS
PREREQUISITE: ELECTR 266.

LECTURE: 3 contact hours per week and
LABORATORY: 3 contact hours per week.

This course is a comprehensive study of computers and robots used in industry. Including diagnostics and programming for controlling robots, machines and medical equipment.
Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

TECALC 087
TECHNICAL CALCULATIONS 4 UNITS
PREREQUISITE: None.

LECTURE: 4 contact hours per week.

Practical use and applications of technical calculations on topics such as electrical, measurements, temperature, volume, weight, and positioning. Includes the number line, working with dedicated formula, applied problems, geometric principles, graphs, right triangles, coordinate systems, and scientific notation.
Associate Degree Applicable

ENGINEERING

DIVISION: Science and Health Science
DIVISION DEAN: Susan Bangasser, Ph.D.
FACULTY CHAIR: John Stankas, Ph.D.
Chemistry 114
(909) 384-8268
ADMINISTRATIVE SECRETARY: Rose Garcia
DIVISION OFFICE: Chemistry 121
(909) 384-8645
LIAISON COUNSELOR: Mary Beth Barrios, M.S.
(909) 384-4404

ENGR 100
ENGINEERING CAREER EXPLORATION **1 UNIT**
PREREQUISITE: None.

LECTURE: 1 contact hour per week.

An introduction to the major fields of specialization in engineering and engineering technology professions. This course gives students a broad understanding of various career opportunities and the specialized demands and rewards of each field.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ENGR 265
ENGINEERING MECHANICS – STATICS **3 UNITS**
PREREQUISITE: PHYSIC 200.

LECTURE: 3 contact hours per week.

This course lays the foundation of Newtonian mechanics for students to learn the basic fundamental engineering science and serves as the building blocks for further courses in analysis and design. A study of two- and three-dimensional equilibrium of particles and rigid bodies; concentrated and rigid bodies; concentrated and distributed force systems; shear and bending moment stresses in beams and other rigid bodies; analysis of frames, machine and trusses; force resultants using vectors in two and three dimensions; non-coplanar force systems, friction forces; center of gravity and moment of inertia.

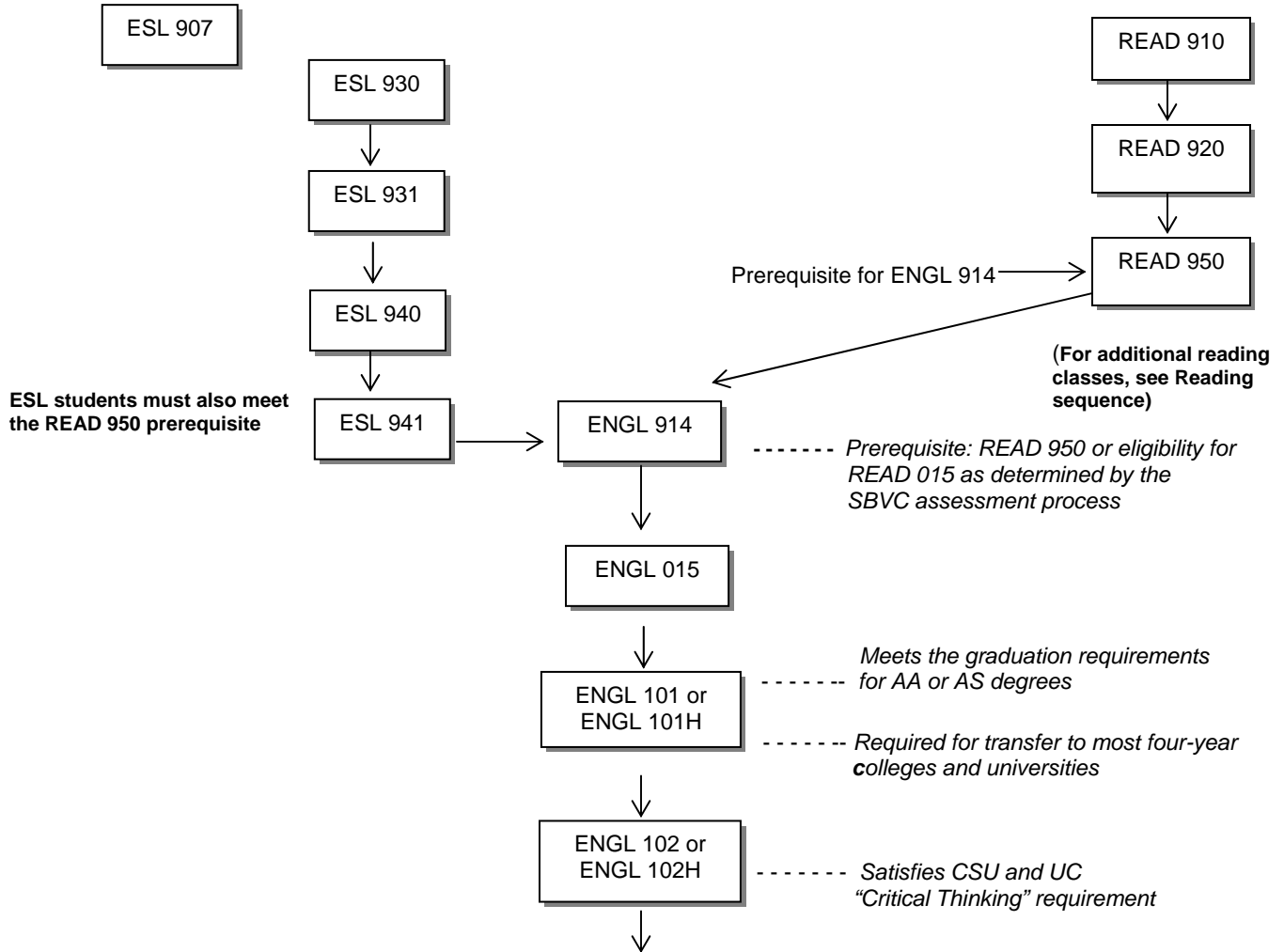
Associate Degree Applicable

Course credit transfers to CSU and UC.

Sequence of English Courses at SBVC

Your placement within any of the sequences is dependent on the results of the SBVC Reading and English assessment process.
(Contact a counselor for details and the Admissions Office for assessment dates.)

(ESL students are encouraged to take the Reading assessment as soon as possible)



ADVANCED ENGLISH COURSES

**Advanced English Courses: News Writing, Creating Writing, and Literature courses
(ENGL 120 through ENGL 281) have a prerequisite of ENGL 101 or 101H**

- ENGL 120 Fundamentals of News Writing
- ENGL 122x4 Journalism Production
- ENGL 151 Freshman Composition and Literature
- ENGL 153 Literature and Film
- ENGL 155 Children's Literature
- ENGL 161 Women Writers
- ENGL 163 Chicano Literature
- ENGL 165 African-American Literature
- ENGL 175 Literature and Religion of the Bible
- ENGL 232 Creative Writing
- ENGL 260 American Literature: to the Mid-1800s
- ENGL 261 American Literature: from the Mid-1800s to the Present
- ENGL 270 English Literature to the 18th Century
- ENGL 271 English Literature from the 18th Century to the Present
- ENGL 275 Shakespeare
- ENGL 280 World Literature to the 17th Century
- ENGL 281 World Literature from the 17th Century to the Present

ENGLISH

DIVISION: Humanities and The Arts
DIVISION DEAN: Kathryn Weiss, Ed.D.
FACULTY CHAIR: Diane Hunter, M.A.
Liberal Arts 220
(909) 384-8617

OTHER FACULTY: Horace Alexander, Ed.D.
Sharon Chapman, M.A.
Mary Copeland, M.F.A.
Paula Ferri-Milligan, M.A.
Sheela Free, Ph.D.
Edward Jones, M.F.A.
Thomas Kinnaird, M.A.
Joel Lamore, M.A.
Dirkson Lee, M.A.
Yvette Lee, M.A.
William McKie, M.A.
Dolores Moreno, M.A.
Joseph Notarangelo, M.A.
Edward Perez, Ph.D.
Michael Slusser, M.A.
Julie Tilton, M.A.

ADMINISTRATIVE SECRETARY: Linda Tymchek
(909) 384-8633

DIVISION OFFICE: Liberal Arts 217
LIAISON COUNSELOR: Laura Gomez, M.A.
(909) 384-4404

The English Department offers courses in composition, literature, journalism, creative writing, English as a second-language, and basic skills. These courses are designed to help students develop skills in reading perceptively, thinking critically, and writing effectively. The Writing Center, located in Liberal Arts 201, offers supplemental support to assist students in developing these skills.

In order to be placed into the proper level of composition class, all new students are required to take a placement test and meet with a counselor prior to enrollment. A schedule of test dates is available in the Counseling Center. Test scores as well as other information, such as high school and/or work experience, are used to place students in the proper levels of courses.

Students planning to transfer to a four-year institution and major in English should consult with a counselor regarding the transfer process and lower division requirements.

COURSES OFFERED BY THE DEPARTMENT OF ENGLISH:

ENGL 911
BASIC GRAMMAR AND USAGE REVIEW 1 UNIT
PREREQUISITE: None.
LECTURE: 1 contact hour per week.
This course covers a review of basic English grammar and common errors in grammar and usage.
Not applicable to the Associate Degree

ENGL 912
RESEARCH PAPER WORKSHOP 1 UNIT
PREREQUISITE: None.
LECTURE: 1 contact hour per week.
A workshop to prepare students in all phases of preparing a research paper, from selecting a topic to final format.
Not Applicable to the Associate Degree

ENGL 914
BASIC WRITING 4 UNITS
PREREQUISITE: READ 950 (or eligibility for READ 015) and eligibility for ENGL 914 as determined by the SBVC assessment process, or ESL 941 and READ 950 (or eligibility for READ 015) as determined by SBVC assessment process.

LECTURE: 4 contact hours per week.
This course is a basic skills writing course that prepares students for ENGL 015. The focus is on the following: reading for comprehension, grammar, punctuation, usage and practice in writing effective sentences, paragraphs and short essays.
Not Applicable to the Associate Degree

ENGL 920
GRAMMAR 3 UNITS
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
An introductory course on basic grammatical principles and language use, focusing on the structure of the sentence, parts of speech and major errors in grammar and usage.
Not Applicable to the Associate Degree

ENGL 015
PREPARATION FOR COLLEGE WRITING 4 UNITS

PREREQUISITE: ENGL 914 or eligibility for ENGL 015 as determined by SBVC assessment process.
LECTURE: 4 contact hours per week.
A writing course designed to prepare students for ENGL 101. Primary focus on the development of the paragraph and short essay. Includes a review of grammar, sentence structure, and punctuation.
Associate Degree Applicable

ENGL 020
FUNDAMENTALS OF NEWS WRITING 3 UNITS
PREREQUISITE: ENGL 914 or eligibility for ENGL 015 as determined by SBVC assessment process.
LECTURE: 3 contact hours per week.
A course in journalistic writing: reporting, feature writing, interpretation, editorial and column writing and critical review of the arts. Emphasis is on the most basic form, the news story. This non-transfer course is taught simultaneously with ENGL 120, a transfer-level course. Assignments differ for the two courses although students participate in the same lectures.
Associate Degree Applicable

ENGL 022x4
JOURNALISM PRODUCTION 2 UNITS
PREREQUISITE: ENGL 914 or eligibility for ENGL 015 as determined by SBVC assessment process.
LABORATORY: 6 contact hours per week.
A laboratory course for the production of the campus newspaper. Students participate in all phases of newspaper production: writing, reporting, layout, advertising, photography, editing and distribution. This course may be taken four times. This non-transfer course is taught simultaneously with ENGL 122x4, a transfer-level course. Assignments differ for the two courses although students participate in the same lectures. This course may be taken four times.
Associate Degree Applicable

ENGL 032
CREATIVE WRITING **3 UNITS**
PREREQUISITE: ENGL 914 or eligibility for ENGL 015
as determined by SBVC assessment process.
LECTURE: 3 contact hours per week.
Introductory course in creative writing focusing on poetry and fiction. Includes strategies for writing both poetry and fiction, and the development of critical standards for judging literature. This non-transfer course is taught simultaneously with ENGL 232, a transfer-level course. Assignments differ for the two courses although students participate in the same lectures.
Associate Degree Applicable

ENGL 055
CHILDREN'S LITERATURE **3 UNITS**
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
Survey of literature written for children with emphasis on values common to all significant literature. This non-transfer course is taught simultaneously with ENGL 155, a transfer-level course. Assignments differ for the two courses although students participate in the same lectures.
Associate Degree Applicable

ENGL 061
WOMEN WRITERS **3 UNITS**
PREREQUISITE: ENGL 914 or eligibility for ENGL 015
as determined by SBVC assessment process.
LECTURE: 3 contact hours per week.
A survey of poetry and prose by prominent women writers, exploring historical and contemporary issues in women's lives. This non-transfer course is taught simultaneously with ENGL 161, a transfer-level course. Assignments differ for the two courses although students participate in the same lectures.
Associate Degree Applicable

ENGL 063
CHICANO LITERATURE **3 UNITS**
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
Survey of representative Chicano literature including novels, drama, poetry, and essays. This non-transfer course is taught simultaneously with ENGL 163, a transfer-level course. Assignments differ for the two courses although students participate in the same lectures.
Associate Degree Applicable

ENGL 065
AFRICAN-AMERICAN LITERATURE **3 UNITS**
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
An examination of poetry, stage plays, short stories, essays, and novels in the African-American genre. This non-transfer course is taught simultaneously with ENGL 165, a transfer-level course with differing assignments.
Associate Degree Applicable

ENGL 070
ENGLISH LITERATURE TO THE 18TH CENTURY **3 UNITS**
PREREQUISITE: ENGL 914 or eligibility for ENGL 015
as determined by SBVC assessment process.
LECTURE: 3 contact hours per week.
Analysis of masterpieces of every literary type significant in the development of English literature from the Middle Ages to the early 18th Century, supplemented by a study of the historical and social background of the literature and lives of representative and important writers. This non-transfer course is taught simultaneously with ENGL 270, a transfer-level course. Assignments differ for the two courses although students participate in the same lectures.
Associate Degree Applicable

ENGL 071
ENGLISH LITERATURE FROM THE 18TH CENTURY
TO THE PRESENT **3 UNITS**
PREREQUISITE: ENGL 914 or eligibility for ENGL 015
as determined by SBVC assessment process.
LECTURE: 3 contact hours per week.
Analysis of masterpieces of every literary type significant in the development of English literature from the 18th Century to the present day, supplemented by a study of the historical and social background of the literature and lives of representative and important writers. This non-transfer course is taught simultaneously with ENGL 271, a transfer-level course. Assignments differ for the two courses although students participate in the same lectures.
Associate Degree Applicable

ENGL 075
LITERATURE AND RELIGION OF THE BIBLE **3 UNITS**
PREREQUISITE: ENGL 914 or eligibility for ENGL 015
as determined by SBVC assessment process.
LECTURE: 3 contact hours per week.
The English Bible as literature and as religion including an examination of the types of literature found in the Bible, the historical and religious context in which the literature was developed and an extensive reading of the two testaments. This non-transfer course is taught simultaneously with ENGL 175, a transfer-level course. Assignments differ for the two courses although students participate in the same lectures.
Associate Degree Applicable

ENGL 077
SHAKESPEARE **3 UNITS**
PREREQUISITE: ENGL 914 or eligibility for ENGL 015
as determined by SBVC assessment process.
LECTURE: 3 contact hours per week.
A critical analysis of a selection of Shakespeare's plays representative of his literary development. Lectures, films, and recordings will examine life and the theater in Elizabethan England. This non-transfer course is taught simultaneously with ENGL 275, a transfer-level course. Assignments differ for the two courses although students participate in the same lectures.
Associate Degree Applicable

ENGL 080
WORLD LITERATURE TO THE 17TH CENTURY 3 UNITS

PREREQUISITE: ENGL 914 or eligibility for ENGL 015 as determined by SBVC assessment process.
LECTURE: 3 contact hours per week.

An introduction to world literature from the beginning to the seventeenth century, including a critical analysis of selected samples of literature within the context of the culture and time in which they were written. This non-transfer course is taught simultaneously with ENGL 280, a transfer-level course. Assignments differ for the two courses although students participate in the same lectures.

Associate Degree Applicable

ENGL 081
WORLD LITERATURE: FROM THE 17TH CENTURY TO THE PRESENT 3 UNITS

PREREQUISITE: ENGL 914 or eligibility for ENGL 015 as determined by SBVC assessment process.
LECTURE: 3 contact hours per week.

An introduction to world literature from the seventeenth century to the present, including a critical analysis of selected samples of literature within the context of the culture and time in which they were written. This non-transfer course is taught simultaneously with ENGL 281, a transfer-level course. Assignments differ for the two courses although students participate in the same lectures.

Associate Degree Applicable

ENGL 101
FRESHMAN COMPOSITION 4 UNITS

PREREQUISITE: ENGL 015 or eligibility for ENGL 101 as determined by SBVC assessment process.
LECTURE: 4 contact hours per week.

This course is a writing course which emphasizes expository and argumentative essays. It includes reading and analysis of various forms of writing, instruction in library research and preparation of documented research papers.

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

ENGL 101H
FRESHMAN COMPOSITION-HONORS 4 UNITS

PREREQUISITE: ENGL 015 or eligibility for ENGL 101 as determined by SBVC assessment process.
LECTURE: 4 contact hours per week.

This course is a writing course which emphasizes expository and argumentative essays. It includes reading and analysis of various forms of writing, instruction in library research and preparation of documented research papers. **Enrollment is limited to students eligible for the Honors Program.**

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

ENGL 102
INTERMEDIATE COMPOSITION AND CRITICAL THINKING 4 UNITS

PREREQUISITE: ENGL 101 or ENGL 101H.
LECTURE: 4 contact hours per week.

This course provides students with further work in the expository and argumentative essay with emphasis on the critical examination of literature and on analytical and explicatory writing. **Enrollment is limited to students eligible for the Honors Program.**

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

ENGL 102H
INTERMEDIATE COMPOSITION AND CRITICAL THINKING – HONORS 4 UNITS

PREREQUISITE: ENGL 101 or ENGL 101H.
LECTURE: 4 contact hours per week.

This course provides students with further work in the expository and argumentative essay with emphasis on the critical examination of literature and on analytical and explicatory writing. **Enrollment is limited to students eligible for the Honors Program.**

Associate Degree Applicable

*Course credit transfers to CSU and *UC.*

ENGL 120
FUNDAMENTALS OF NEWS WRITING 3 UNITS

PREREQUISITE: ENGL 101.
LECTURE: 3 contact hours per week.

A course in journalistic writing: reporting, feature writing, interpretation, editorial and column writing and critical review of the arts. Emphasis on the most basic form, the news story.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ENGL 122x4
JOURNALISM PRODUCTION 2 UNITS

PREREQUISITE: ENGL 101 or ENGL 101H.
LABORATORY: 6 contact hours per week.

A laboratory course for the production of the campus newspaper. Students participate in all phases of newspaper production: writing, reporting, layout, advertising, photography, editing, and distribution. This course may be taken four times.

Associate Degree Applicable

Course credit transfers to CSU.

ENGL 125x2
LITERARY MAGAZINE PRODUCTION 2 UNITS

PREREQUISITE: ENGL 015 or eligibility for ENGL 101 as determined by SBVC assessment process.
LABORATORY: 4 contact hours per week.

The production of the college literary magazine including selecting material, planning format, typesetting, and paste-up. This course may be taken two times.

Associate Degree Applicable

Course credit transfers to CSU.

ENGL 151
FRESHMAN COMPOSITION AND LITERATURE **3 UNITS**

PREREQUISITE: ENGL 101 or ENGL 101H.

LECTURE: 3 contact hours per week.

This course includes the study of fiction, poetry, and drama, with an emphasis on the fundamental principles of literacy criticism and interpretation, including student writing based on critical reading.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ENGL 153
LITERATURE AND FILM **3 UNITS**

PREREQUISITE: ENGL 101.

LECTURE: 2 contact hours per week and

LABORATORY: 2 contact hours per week.

A study of literature adapted into film. Students will read short stories, novels, and plays; view the film(s) adapted from each literary work; and write critical and analytic essays about the literature, the films, and their interplay.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ENGL 155
CHILDREN'S LITERATURE **3 UNITS**

PREREQUISITE: ENGL 101.

LECTURE: 3 contact hours per week.

Survey of literature written for children with emphasis on values common to all significant literature. This transfer course is taught simultaneously with ENGL 055, a non-transfer course. Assignments differ for the two courses although the students participate in the same lectures.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ENGL 161
WOMEN WRITERS **3 UNITS**

PREREQUISITE: ENGL 101.

LECTURE: 3 contact hours per week.

A survey of poetry and prose by prominent women writers, exploring historical and contemporary issues in women's lives.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ENGL 163
CHICANO LITERATURE **3 UNITS**

PREREQUISITE: ENGL 101.

LECTURE: 3 contact hours per week.

Survey of representative Chicano literature including novels, drama, poetry, and essays which focus on the cultural, social, and political developments/themes which shape and characterize Chicano culture and literary expression. This transfer course is taught simultaneously with ENGL 063, a non-transfer-level course. Assignments differ for the two courses although students participate in the same lectures.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ENGL 165
AFRICAN-AMERICAN LITERATURE **3 UNITS**

PREREQUISITE: ENGL 101 or ENGL 101H.

LECTURE: 3 contact hours per week.

This course is an examination of poetry, stage plays, short stories, essays, and novels in the African-American genre. It will include the definition of the "African-American" genre and what it is or is not. This transfer course is taught simultaneously with ENGL 065, a non-transfer course. Assignments differ for the two courses although the students participate in the same lectures.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ENGL 175
LITERATURE AND RELIGION OF THE BIBLE **3 UNITS**

PREREQUISITE: ENGL 101.

LECTURE: 3 contact hours per week.

The English Bible as literature and as religion including an examination of the types of literature found in the Bible, the historical and religious context in which the literature was developed and an extensive reading of the two testaments. This course is also offered as RELIG 175.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ENGL 232
CREATIVE WRITING **3 UNITS**

PREREQUISITE: ENGL 101.

LECTURE: 3 contact hours per week.

An introductory course in creative writing focusing on poetry and fiction. Includes strategies for writing both poetry and fiction, and the development of critical standards for judging literature.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ENGL 260
AMERICAN LITERATURE: TO THE MID-1800S **3 UNITS**

PREREQUISITE: ENGL 101.

LECTURE: 3 contact hours per week.

Reading of representative literary works of significant writers to illustrate the origin and development of American thought and culture from colonial times to the mid-1800s.

Associate Degree Applicable

Course credit transfers to CSU and UC.



ENGL 261
AMERICAN LITERATURE: FROM THE MID-1800S
TO THE PRESENT **3 UNITS**

PREREQUISITE: ENGL 101.

LECTURE: 3 contact hours per week.

Reading of representative literary works of significant writers to illustrate the development of literary and intellectual American thought from the mid-1800s to the present.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ENGL 270
ENGLISH LITERATURE TO THE 18TH CENTURY
3 UNITS

PREREQUISITE: ENGL 101.

LECTURE: 3 contact hours per week.

Analysis of masterpieces of every literary type significant in the development of English literature from the Middle Ages to the early 18th century, supplemented by a study of the historical and social background of the literature and lives of representative and important writers.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ENGL 271
ENGLISH LITERATURE FROM THE 18TH CENTURY
TO THE PRESENT **3 UNITS**

PREREQUISITE: ENGL 101.

LECTURE: 3 contact hours per week.

Analysis of masterpieces of every literary type significant in the development of English literature from the 18th century to the present day, supplemented by a study of the historical and social background of the literature and lives of representative and important writers.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ENGL 275
SHAKESPEARE **3 UNITS**

PREREQUISITE: ENGL 101.

LECTURE: 3 contact hours per week.

A critical analysis of a selection of Shakespeare's plays representative of his literary development. Lectures, films, and records examine life and the theatre in Elizabethan England.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ENGL 280
WORLD LITERATURE: TO THE 17TH CENTURY
3 UNITS

PREREQUISITE: ENGL 101.

LECTURE: 3 contact hours per week.

An introduction to world literature from the beginning to the 17th century, including a critical analysis of selected samples of literature within the context of the culture and time in which they were written.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ENGL 281
WORLD LITERATURE: FROM THE 17TH CENTURY
TO THE PRESENT **3 UNITS**

PREREQUISITE: ENGL 101.

LECTURE: 3 contact hours per week.

An introduction to world literature from the 17th century to the present, including a critical analysis of selected samples of literature within the context of the culture and time in which they were written.

Associate Degree Applicable

Course credit transfers to CSU and UC.

ENGLISH AS A SECOND LANGUAGE

Courses in English as a second language are designed for individuals learning English as a foreign language. The various courses cover writing, conversation, spelling and vocabulary in the English language.

ESL 906
THE SOUND PATTERNS OF ENGLISH **3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

A basic skills course designed to increase the non-native English speaker's ability to understand and pronounce the sounds of standard American English. Instruction in the pronunciation of vowels, consonants and intonation patterns with special emphasis in decreasing communication problems due to non-standard American English pronunciation.

Not Applicable to the Associate Degree

ESL 907
BASIC CONVERSATIONAL ENGLISH **3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

This course is designed to increase nonnative students' skills in basic conversation, listening and pronunciation of the English language.

Not Applicable to the Associate Degree

ESL 930
COMPOSITION BASED ESL LEVEL 1 – BEGINNING
4 UNITS

PREREQUISITE: None.

DEPARTMENTAL ADVISORY: Completion of the highest level ESL course commonly taught at adult schools.

LECTURE: 4 contact hours per week.

This is the first of a four-course sequence designed to give non-native speakers of English a comprehensive understanding of English composition. The focus of this course is on creating effective sentences and paragraphs, including a review of grammar, punctuation and usage. The grammatical emphasis of this course will be on simple present, past and future tenses. It also has some emphasis on pronunciation, listening and speaking. This course is taught through total immersion.

Not Applicable to the Associate Degree

**ESL 931
COMPOSITION BASED ESL LEVEL 2 – BEGINNING**

4 UNITS

PREREQUISITE: ESL 930 or eligibility as determined by SBVC assessment process.

LECTURE: 4 contact hours per week.

This is the second of a four-course sequence designed to give nonnative speakers of English a comprehensive understanding of English composition. The focus of this course is on creating effective sentences and paragraphs, including a review of grammar, punctuation and usage. The grammatical emphasis of this course will be on present, past and future continuous tenses and modal usage. It also has some emphasis on pronunciation, listening and speaking. This course is taught through total immersion.

Not Applicable to the Associate Degree

**ESL 940
COMPOSITION BASED ESL LEVEL 3 - INTERMEDIATE**

4 UNITS

PREREQUISITE: ESL 931 or eligibility as determined by SBVC assessment process.

LECTURE: 4 contact hours per week.

This is the third of a four-course sequence designed to give nonnative speakers of English a comprehensive understanding of English composition. The focus of this course is on creating effective sentences and paragraphs, including a review of grammar, punctuation and usage.

Not Applicable to the Associate Degree



**ESL 941
COMPOSITION BASED ESL LEVEL 4 - ADVANCED**

4 UNITS

PREREQUISITE: ESL 940 or eligibility as determined through the SBVC assessment process.

LECTURE: 4 contact hours per week.

This is the last of a four-course sequence designed to give nonnative speakers of English a comprehensive understanding of English composition. The focus of this course is on creating effective sentences and paragraphs, including a review of grammar, punctuation and usage.

Not Applicable to the Associate Degree

ESCROW

See the Department of REAL ESTATE AND ESCROW

ENVIRONMENTAL STUDIES

DIVISION: Science and Health Science
 DIVISION DEAN: Susan Bangasser, Ph.D.
 FACULTY CHAIR: Todd Heibel, Ph.D.
 Chemistry 113
 (909) 384-8638
 ADMINISTRATIVE SECRETARY: Rose Garcia
 DIVISION OFFICE: Chemistry 121
 (909) 384-8645
 ADMINISTRATIVE SECRETARY: Dorothy N. Fierro
 DIVISION OFFICE: Health and Life Science 101
 (909) 384-8550
 LIAISON COUNSELOR: Jeanne Marquis, M.A.
 (909) 384-4404

**ENVIRONMENTAL SCIENCE
ENVIRONMENTAL STUDIES**

Both programs are approved by the State and courses are currently offered at San Bernardino Valley College. For details on course requirements for the A.A. degree in either Environmental Studies or Environmental Science, contact the Science Division Office, Chemistry 121, or see a counselor.

FAMILY AND CONSUMER SCIENCE

DIVISION: Applied Technology,
 Transportation and Culinary Arts
 DIVISION DEAN: Gary Kelly, M.S.
 FACULTY CHAIR: Chef Stacy Meyer, M.A.
 Business 100B
 (909) 384-8913
 ADMINISTRATIVE SECRETARY: Cecile Smith
 DIVISION OFFICE: Technical 108
 (909) 384-8902
 LIAISON COUNSELOR: Patty Jones, M.A.
 (909) 384-4404

**FAMILY AND CONSUMER SCIENCE
CERTIFICATES**

Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.

1. DIETETIC AIDE CERTIFICATE

This certificate is designed to prepare students for entry-level employment in dietetics, assisting dieticians in the provision of food service and nutritional programs.

REQUIRED COURSES:	UNITS
FCS 160 Food Preparation	3
FCS 161 Quantity Food Preparation	3
FCS 162 Nutrition	3
FCS 225 Sanitation and Safety	3
FCS 235 Menu Planning	3
FCS 240 Purchasing	3
FCS 260 Modified Diets	3
TOTAL UNITS:	21

2. DIETETIC SERVICE SUPERVISOR CERTIFICATE

This certificate is designed to prepare students to meet the California Department of Health Licensing Requirements for Dietetic Service Supervisor [DSS] in order to supervise production, writing menus, designing diets, teaching classes to food service personnel, and giving diet instructions.

REQUIRED COURSES:	UNITS
FCS 160 Food Preparation	3
FCS 161 Quantity Food Preparation	3
FCS 162 Nutrition	3
FCS 225 Sanitation and Safety	3
FCS 240 Purchasing	3
FCS 260 Modified Diets	3
FCS 262 Nutrition Care	4.5
FCS 264 Nutrition Management	3
RECOMMENDED COURSES:	
BUSAD 105 Small Business Management	3
TECALC 087 Technical Calculations	4
Or	
MATH 090 Elementary Algebra	(4)
TOTAL UNITS:	25.5-32.5

COURSES OFFERED BY THE DEPARTMENT OF FAMILY AND CONSUMER SCIENCE:

FCS 160
INTRODUCTION TO FOODS **3 UNITS**
PREREQUISITE: None.
LECTURE: 2 contact hours per week and
LABORATORY: 3 contact hours per week.
 Introduction to food science principles and food preparation techniques. Emphasis on ingredient functions and interactions; technique, production and sensory evaluation standards, food safety, sanitation, nutrient values, and food presentation. This course is also offered as CULART160.
Associate Degree Applicable
Course credit transfers to CSU.

FCS 161
QUANTITY FOOD PREPARATION **3 UNITS**
PREREQUISITE: FCS 160 or RM 160.
LECTURE: 3 contact hours per week.
 Introduction to the scientific theory of the application of heat, and the changes that takes place in food during the cooking process. Includes handling of kitchen tools and equipment, analysis of budgets, and the proper techniques of preparing food for quantity production. This course is also offered as CULART 161.
Associate Degree Applicable
Course credit transfers to CSU.

FCS 162
NUTRITION **3 UNITS**
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
 This course introduces the scientific concepts of nutrition relating to the functioning of nutrients in the basic life processes. Emphasis is on individual needs, food sources of nutrients, current nutritional issues and diet analysis.
Associate Degree Applicable
Course credit transfers to CSU and UC.

FCS 198 FAMILY AND CONSUMER SCIENCE WORK EXPERIENCE 1-4 UNITS

PREREQUISITE: None.
 Supervised training in the form of on the job employment that will enhance the student's educational goals. The student's major and job must match. Students work 5-20 contact hours per week to earn units using the following formula: For paid work, 75 hours = 1 unit; for volunteer work, 60 hours = 1 unit. Students may earn a total of 16 units toward graduation in Work Experience 198 courses. Students MUST be working for pay or volunteer before registering for a Work Experience class. NOTE: Only one section of Work Experience may be taken during a semester.

Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

FCS 222 INDEPENDENT STUDY IN FAMILY AND CONSUMER SCIENCE 1-3 UNITS

PREREQUISITE: None.
INDEPENDENT STUDY: 3-9 contact hours per week.
 Students with previous course work in Family and Consumer Science may do assigned projects involving research and analysis of selected topics. This independent study is for students who are interested in furthering their knowledge of nutrition, diets, foods and other related subjects. Prior to registration, a written contract must be prepared. See instructor for details.

Associate Degree Applicable
Course credit transfers to CSU for elective credit only.

FCS 225 SANITATION AND SAFETY 3 UNITS

PREREQUISITE: FCS 160 or RM/FS 101 or RM 160.
LECTURE: 3 contact hours per week.
 Sanitation and safety as these effect the individual and the operation with a focus on prevention and control of problems encountered in client and employee safety and sanitation. Includes accidents, fire prevention, security maintenance and foodborne illnesses. This course is also offered as CULART 225.

Associate Degree Applicable
Course credit transfers to CSU.

FCS 235 MENU PLANNING 3 UNITS

PREREQUISITE: FCS 160 or RM/FS 101 or RM 160.
LECTURE: 3 contact hours per week.
 Principles of menu planning with emphasis on development, types, organization and significance of menus. Includes cost and pricing of menu items, and current legislation regarding truth in advertising. This course is also offered as CULART 235.

Associate Degree Applicable
Course credit transfers to CSU as elective credit only.

FCS 240 PURCHASING 3 UNITS

PREREQUISITE: None.
LECTURE: 3 contact hours per week.
 Policies, procedures, controls and their implementation in purchasing merchandise and supplies including food, beverage, equipment, service-ware, furniture, fixtures, and contract services. Students write and analyze reports of purchasing procedures, manuals, and receiving reports. This course is also offered as CULART 240.

Associate Degree Applicable
Course credit transfers to CSU as elective credit only.

FCS 260
MODIFIED DIETS **3 UNITS**
PREREQUISITE: FCS 162.
LECTURE: 3 contact hours per week.
 The principles of nutrition relating to modified diets used in the treatment of abnormal physical conditions with an emphasis on the rationale for the diet and how these modifications will improve the patient's condition.
Associate Degree Applicable
Course credit transfers to CSU as elective credit only.

FCS 264
NUTRITION MANAGEMENT **3 UNITS**
PREREQUISITE: None.
LECTURE: 3 contact hours per week.
 Planning and coordinating the operation of a food service system within the policies of an organization including the staffing, training, procedures, and responsibilities for financial planning and cost control.
Associate Degree Applicable
Course credit transfers to CSU as elective credit only.

FOOD SERVICE
 See the Department of
CULINARY ARTS

FRENCH

DIVISION: Humanities and The Arts
 DIVISION DEAN: Kathryn Weiss, Ed.D.
 FACULTY CHAIR: Lydia Barajas-Zapata, M.A.
 Liberal Arts 227
 (909) 384-8237
 OTHER FACULTY: Bert Reins, B.A.
 Nori Sogomonian, M.A.
 ADMINISTRATIVE SECRETARY: Linda Tymchek
 DIVISION OFFICE: Liberal Arts 217
 (909) 384-8633
 LIAISON COUNSELOR: Laura Gomez, M.A.
 (909) 384-4404

The ever-increasing role that the United States takes in global affairs, international trade, and the growing numbers of immigrants dictate the need for knowledge of a modern foreign language. The primary objective of the Modern Languages Department is communication at an acceptably correct level with an understanding of culture.

Positions for which four-year graduates in modern languages are qualified are teaching, business, foreign services, law enforcement, nursing, hospitality services, and secretarial services.

FRENCH COURSES OFFERED BY THE DEPARTMENT OF MODERN LANGUAGES:

FRENCH 101
COLLEGE FRENCH I **5 UNITS**
PREREQUISITE: None.
LECTURE: 5 contact hours per week.
 In this course students develop the ability to converse, read and write in French. The course includes the study of essentials of pronunciation, vocabulary, idioms and grammatical structures along with an introduction to the culture of French-speaking peoples. This course corresponds to two years of high school study.
Associate Degree Applicable
Course credit transfers to CSU and UC.

FRENCH 102
COLLEGE FRENCH II **5 UNITS**
PREREQUISITE: FRENCH 101.
LECTURE: 5 contact hours per week.
 Continues to develop conversational, reading and writing skills in French with special emphasis on past tense verbs, grammar, vocabulary expansion and cultural applications of the French language.
Associate Degree Applicable
Course credit transfers to CSU and UC.

GEOGRAPHIC INFORMATION SYSTEMS

DIVISION: Science and Health Science
 DIVISION DEAN: Susan Bangasser, Ph.D.
 FACULTY CHAIR: Todd Heibel, Ph.D.
 Chemistry 113
 (909) 384-8638
 ADMINISTRATIVE SECRETARY: Rose Garcia
 DIVISION OFFICE: Chemistry 121
 (909) 384-8645
 ADMINISTRATIVE SECRETARY: Dorothy N. Fierro
 DIVISION OFFICE: Health and Life Science 101
 (909) 384-8550
 LIAISON COUNSELOR: Jeanne Marquis, M.A.
 (909) 384-4404

GEOGRAPHIC INFORMATION SYSTEMS CERTIFICATE

This certificate is designed to prepare students for entry-level employment in Geographic Information Systems [GIS] and automated mapping technology, utilizing earth resources data satellites, aerial photography, and computerized data banks of spatial data. Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.

REQUIRED COURSES:	UNITS
GIS 130 Introduction to Geographic Information Systems (GIS)	3
GIS 131 GIS Applications	3
GIS 133 GIS Cartography and Base Map Dev	3
GIS 135 Spatial Analysis with GIS	3
GIS 136 GIS for Science, Government and Business	3
Or	
GIS 137 Advanced GIS Applications	(3)
GIS 139 Global Positioning Systems (GPS) Field Techniques	1
Or	
GIS 150 GIS Internship	(1)
TOTAL UNITS:	16

COURSES OFFERED BY THE DEPARTMENT OF GEOGRAPHIC INFORMATION SYSTEMS (GIS):

**GIS 130
INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS (GIS) 3 UNITS**

PREREQUISITE: None.

LECTURE: 3 contact hours per week.

An introduction to the fundamentals of Geographic Information Systems (GIS) including the history of automated mapping. Includes a brief introduction to basic cartographic principles, an in-depth review of the hardware and software used in GIS, and various applications of GIS technology in environmental science, business and government.

Associate Degree Applicable

Course credit transfers to CSU and UC.

**GIS 131
GIS APPLICATIONS 3 UNITS**

PREREQUISITE: CIT 101.

DEPARTMENTAL ADVISORY: GIS 130.

LECTURE: 2 contact hours per week and

LABORATORY: 2 contact hours per week.

Survey of the fundamentals of Geographic Information Systems (GIS) including hands-on experience in hardware and software elements used in GIS, vector-based data structures using ArcView, and raster-based data structures using ArcView Spatial Analysis Module.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

**GIS 133
GIS CARTOGRAPHY AND BASE MAP DEVELOPMENT 3 UNITS**

PREREQUISITE: GIS 131.

LECTURE: 2 contact hours per week and

LABORATORY: 2 contact hours per week.

A comprehensive study of Geographic Information Systems (GIS) cartographic principles, data acquisition methods used in map production, and methods of base map development. Includes an in-depth study of cartography, such as history, principles, map projections, scales, and map accuracy; methods of data acquisition, such as basic principles used in remote sensing, aerial images and the use of Global Positioning System (GPS) in the field for map feature location; techniques of GIS base map development, such as scanning, digitizing and coordinate geometry; and the production of professional quality maps using Arc View software.

Associate Degree Applicable

Course credit transfers to CSU.

**GIS 135
SPATIAL ANALYSIS WITH GIS 3 UNITS**

PREREQUISITE: GIS 131.

LECTURE: 2 contact hours per week and

LABORATORY: 2 contact hours per week.

An introduction to spatial analysis including the use of the principles of statistics in analysis of geographically referenced data; sampling strategies for data used in Geographic Information Systems (GIS) using raster and vector data structures; comparisons of conventional and geostatistical estimation techniques; single and multi-layer statistical operations including classification, coordination, and modeling analysis. Emphasis on application and interpretation of spatial analyses and problems in spatial correlation.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

**GIS 136
GIS FOR SCIENCE, GOVERNMENT AND BUSINESS 3 UNITS**

PREREQUISITE: GIS 135.

LECTURE: 2 contact hours per week and

LABORATORY: 2 contact hours per week.

An in-depth survey of the uses of Geographic Information Systems (GIS) techniques in science (geography, geology, oceanography, archeology and meteorology), government (city, county, state and federal) and business. Topics include data acquisition, accuracy, analysis, presentation techniques and legal issues for various GIS applications. Students produce a GIS project, including hardware and software requirements, methods of data acquisition, formulation of data standards, data structure, database features and attributes, metadata standards, methods of base map development, cost benefits analysis and generation of presentation-quality map layouts specific to their chosen GIS application.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

**GIS 137
ADVANCED GIS APPLICATIONS 3 UNITS**

PREREQUISITE: GIS 135.

LECTURE: 2 contact hours per week and

LABORATORY: 2 contact hours per week.

Hands-on training in advanced applications of Geographic Information Systems (GIS) using ArcView and ArcInfo, and a review of Avenue programming for customizing ArcView. Add-on modules extend the analytical capabilities of ArcView and allow input of map features and conversion of feature themes from raster to vector. Includes spatial analysis of slope and aspect maps, neighborhood and zone analysis; problem-solving techniques for geographic networks (point to point routing) or closest points; and use of ArcView and ArcInfo software to produce professional quality documents for use in spatial analysis and decision-making.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.

**GIS 139
GLOBAL POSITIONING SYSTEMS (GPS)
FIELD TECHNIQUES 1 UNIT**

PREREQUISITE: None.

LABORATORY: 3 contact hours per week.

An introduction to the use of a hand-held Global Positioning System (GPS) unit in the field including terminology; hardware; basic techniques of determining location; completion of a traverse using a GPS and a topographic map; and applications of GPS data in Geographic Information Systems.

Associate Degree Applicable

Course credit transfers to CSU for elective credit.

**GIS 150
GIS INTERNSHIP 1 UNIT**

PREREQUISITE: GIS 135.

LABORATORY: 5 contact hours per week.

A directed field study program in which students apply classroom instruction to real-world Geographic Information Systems (GIS) projects in a business or government agency. Students meet periodically with their advisor, complete interim reports and present a final report.

Associate Degree Applicable

Course credit transfers to CSU for elective credit only.