

Course Descriptions

Information Contained Within Course Descriptions

The first part of the course description contains the course discipline abbreviation, number, title, and the student unit value of the course such as **ENGL 150. Reading and Composition 1A. (3)**. It also contains prerequisites, corequisites, or advisories, followed by the hours required for the course.

The second part of the description is a brief explanation of the material being covered in the course. It also contains information regarding how many times a course may be taken and if it is offered in a distance learning format (television, videocassette, internet or teleconference).

The last part of the description includes Associate degree and transfer information. Courses certified for a California Articulation Number will have the CAN number listed.

For further information regarding transfer or degree requirements, please refer to the Graduation and Degree Requirements Section and the Transfer Information Section of this catalog.

Student Units and Hours

Credit for courses offered at the College of Marin is awarded in semester units. The value of the course is computed on the basis of one unit for each lecture hour per week for one semester (together with two hours of preparation outside class) or three hours of laboratory work per week for one semester. Courses meeting for less than the full semester will require an equivalent number of hours prorated on a per week basis.

Prerequisites, Corequisites, and Advisories

Prerequisites

A prerequisite is a condition of enrollment that a student is required to meet in order to demonstrate current readiness for enrollment in a particular course or program. The College requires students to complete prerequisite courses with a grade of "C", "CR", or higher prior to registering in the course requiring the prerequisites.

Corequisites

A corequisite is a condition of enrollment consisting of a course that a student is required to take simultaneously in order to enroll in another course. Courses that may require corequisites include courses that are part of a closely related lecture-laboratory pairing requiring concurrent enrollment.

Advisories

An advisory is a condition that a student is advised, but not required, to meet before or in conjunction with enrollment in a course or educational program.

Other Limitations

Other limitations on enrollment may include:

1. Courses that require public performance or competition.
2. Blocks of courses for which enrollment is limited in order to create a cohort of students.

Grading Systems

Different grading systems are used for different courses. Some will be limited to letter grades, some will be limited to credit/no credit grading and the remainder will be optional letter or credit/no credit grades, upon agreement between the instructor and student. For some disciplines, grading is indicated in the catalog before the discipline's course descriptions. In general, courses required for a student's four-year major should be taken on a letter grade basis.

Course Numbering System

Courses in this catalog and in the schedule of classes are numbered in the following sequence:

0-99	Preparatory/remedial courses and courses that do not apply to the major. Courses numbered 0-99 are not applicable to the Associate degree.
100-199	Courses taken during the first year of academic work or the first 30 units of course work. Courses numbered 100-199 are applicable to the Associate degree.
200-299	Courses taken during the second year of academic work or the second 30 units of course work. Courses numbered 200-299 are applicable to the Associate degree.

Administration of Justice

There are excellent and increasing opportunities for men and women in all areas of the administration of justice field. Education and training is becoming more important for those who seek careers in criminal justice. This program is designed to provide a solid foundation of knowledge that will prepare the student for initial employment, advancement, or transfer to a four-year college or university.

Career Options

Border Patrol Agent
California Highway Patrol
Correctional Counseling
County and State Park Ranger
Court Administration
Deputy Sheriff
Federal Bureau of Investigation
Immigration and Naturalization Service
Law
Paralegal
Police Officer
State Correctional Officer

Faculty

Sandy Boyd

Department Phone: (415) 883-2211, Ext. 8108

Suggested Transfer Preparation

Major requirements are subject to change. Please consult the latest catalog of the school you plan to attend and meet with a College of Marin counselor. Updated information is available at www.assist.org, a statewide repository of articulation and student transfer information.

Lower division major requirements for upper division standing at:

California State University, Hayward

Administration of Justice 110, 111, 118, 212, 215
Math 115 or Statistics 115
Psychology 110
Sociology 110

California State University, San Bernardino
Administration of Justice 110, 111, (215, optional)
One course from: Math 105, 110

California State University, San Jose

Administration of Justice 110, 111
Math 115 or Statistics 115
Six units of lower division electives: Administration of Justice 212, 215

A.S. in Administration of Justice, Occupational

(Career Certificate also awarded)

An Associate in Science degree is awarded for satisfactory performance in major courses, as well as completion of general education and graduation requirements. A Career Certificate in Administration of Justice is awarded for satisfactory completion of courses required for the major.

Students wishing to earn a degree or Career Certificate in Administration of Justice should be aware that it might take longer than two years. However, courses are offered on a two-year cycle, and with planning, a student can complete a degree and/or Career Certificate in a two-year period.

Please note: Students may choose English 120, 120SL, or 150 to complete the Associate degree. Transfer students, however, are advised to complete English 150. All students should consult a counselor.

Requirements			Units
A J	110	Introduction to the Administration of Justice	3
A J	111	Criminal Law	3
A J	113	Criminal Procedures	3
A J	116	Juvenile Law and Procedure	3
A J	118	Community and Human Relations	3
A J	204	Crime and Delinquency	3
	or		
SOC	184	Criminology	3
A J	212	Introduction to Evidence	3
A J	215	Introduction to Investigation	3
A J	220	Vice, Narcotics, and Organized Crime	3
	or		
SOC	220	Vice, Narcotics, and Organized Crime	3

Administration of Justice Courses (A J)

39. Selected Topics (Nondegree Applicable). (1/2-6) *(Please see Selected Topics category.)*

110. Introduction to the Administration of Justice. (3) *(No prerequisite. Three lecture hours weekly.)*

The history and philosophy of justice as it evolved throughout the world; in-depth study of the American system and the various subsystems; roles and role expectations of criminal justice agents in their interrelationships in society; concepts of crime causation, punishments and rehabilitation; ethics, education, and training for professionalism in the social system. (CSU/UC)

111. Criminal Law. (3) *(No prerequisite. Three lecture hours weekly.)*

Historical development, philosophy of law and constitutional provisions; definitions, classifications of crimes and their applications to the system of administration of justice; legal research, review of case law, methodology, and concepts of law as a social force. Explores crimes against persons, property, and the state as a social, religious, and historical ideology. (CSU/UC)

113. Criminal Procedures. (3) *(No prerequisite. Three lecture hours weekly.)*

Legal processes from prearrest, arrest through trial, sentencing and correctional procedures; a review of the history of case and common law; conceptual interpretations of law as reflected in court decisions; study of case law methodology and case research as the decisions impact upon the procedures of the justice system. (CSU)

116. Juvenile Law and Procedure. (3) *(No prerequisite. Three lecture hours weekly.)*

Techniques of handling juvenile offenders and victims; prevention and repression of delinquency; diagnosis and referral; organization of community resources. Juvenile law and juvenile court procedures. (CSU)

118. Community and Human Relations. (3) *(No prerequisite. Three lecture hours weekly.)*

The relationship of criminal justice agents and the community; causal and symptomatic aspects of community understanding; lack of cooperation and

mistrust; study of behavioral causes; ways to develop and maintain amicable relationships. (CSU/UC)

139. Selected Topics. (1/2-6) *(Please see Selected Topics category.)* (CSU w/limit)

204. Crime and Delinquency. (3) *(No prerequisite. Can be taken for credit as Administration of Justice 204 or Sociology 184. However, credit will be awarded for only one course. Three lecture hours weekly.)*

An introduction to the major theoretical explanations of criminal behavior; social and economic factors which contribute to crime; major typologies of criminal behavior; criminal justice systems and research; courts, probation and parole; police and other institutions. The course will take a sociological perspective and integrate theories from sociology, criminology, and criminal justice. (CSU/UC)

212. Introduction to Evidence. (3) *(No prerequisite. Three lecture hours weekly.)*

Origin, development, philosophy, and constitutional basis of evidence; constitutional and procedural considerations affecting arrest, search and seizures; kinds and degrees of evidence and rules governing admissibility; judicial decisions interpreting individual rights, and case studies viewed from a conceptual level. (CSU)

215. Introduction to Investigation. (3) *(No prerequisite. Three lecture hours weekly.)*

This course covers fundamentals of investigation; techniques of crime scene search and recording; collection and preservation of physical evidence; modus operandi processes; sources of information; interview and interrogation; follow-up investigation. (CSU)

220. Vice, Narcotics, and Organized Crime. (3) *(No prerequisite. Can be taken for credit as Administration of Justice 220 or Sociology 220. However, credit will be awarded for only one course. Three lecture hours weekly.)*

This course examines the relationship between organized crime and the community. It will cover the impact of organized crime, history of organized crime, relationship to the social structure, symptoms of organized crime i.e. corruption, dysfunctional behavior, violence, and attempts to control organized crime and the role of the legal system. In addition, vice and trade in narcotics will be discussed.

Modern organized crime groups both national and international will be highlighted. Exposure to sociological theory and concepts from criminal justice will be integrated into the course. (CSU)

249. Directed Study. (1-3) (No prerequisite.)

This course is designed to provide (at irregular intervals) advanced training and investigation in-depth of topics suggested and required by P.O.S.T. Individual topics will be in lecture format and run from 8 to 80 hours, in one day to ten-week periods. Examples of possible topics: Advanced Officer, Advanced Traffic Investigation, Narcotics, Auto Theft, Explosives and Explosive Devices, Fingerprints, Police Photography, and Domestic Violence. This course may be taken more than once for credit, provided the same topic is not repeated. (CSU w/limit)

Aeronautics

The study of the fundamentals of flight, navigation, meteorology, and basic aircraft operation in the airspace.

Department Phone: (415) 883-2211, Ext. 8108

Aeronautics Course (AERO)

101. Private Pilot Ground School. (3) (No prerequisite. Three lecture hours weekly.)

This course is designed to prepare the student to pass the FAA written examination for Private Pilot Airplane and Recreational Pilot Airplane. The course will include an overview of the aviation industry, aerodynamic theory, meteorology, navigation, and the Federal Aviation Regulations. Each student successfully completing this course should be prepared to pass his or her FAA written exam and will be able to prepare a complete and accurate flight plan. (CSU)

American Sign Language

American Sign Language courses are designed to meet the needs of the deaf community of Marin County. American Sign Language is a full natural language at the core of new literary tradition, both poetry and theatre. It is an alternative

language choice for students completing general education humanities requirements at College of Marin.

Department Phone: (415) 485-9348

American Sign Language Courses (ASL)

101. Elementary Sign Language I. (5) (No prerequisite. Four lecture and three laboratory hours weekly.)

This is an introductory course that emphasizes visual readiness skills for recognition and expression of appropriate facial expression and body movements, response to commands, and learning how to visualize the environment. Communicative functions, vocabulary, grammar, and cultural aspects of the deaf community will be introduced and studied. (CSU/UC)

AA/AS Area C, CSU Area C2, UC Language other than English

102. Elementary Sign Language II. (5) (Prerequisite: American Sign Language 101. Four lecture and three laboratory hours weekly.)

This course is a continuation of ASL 101; exchanging information, identifying others, making requests, giving reasons, options, simple directions, and asking for clarification. Discussions revolve around classes, the campus, home, work and transportation, physical descriptions of people and objects, general conversation skills, visual perception and specific specialization skills, and the continuation of the cultural study of the deaf community. (CSU/UC)

AA/AS Area C, CSU Area C2, IGETC Area 3B

139. Selected Topics (1/2-6) (Please see Selected Topics category.) (CSU w/limit)

203. Intermediate Sign Language III. (5) (Prerequisite: American Sign Language 101, 102. Four lecture and three laboratory hours weekly.)

This course expands upon the conversational and grammar functions. Skills to be learned include locating things, asking for solutions to everyday problems, telling about life events and personal background, making suggestions and requests and asking permission. (CSU/UC)

AA/AS Area C

204. Intermediate Sign Language IV. (4)
(Prerequisite: American Sign Language 203. Four lecture hours weekly.)

This course strives for a higher level of conversation and narration skills. Topics include describing problems at home, work and school, expressing opinions and feelings and argumentation; i.e., how to disagree with someone and potentially change that person's mind. (CSU/UC)

AA/AS Area C

249. Directed Study. (1-3) (Please see Directed Study category.) (CSU w/limit)

Anthropology

Anthropology is a scientific discipline concerned with all aspects of humankind: human biology and genetics; ancestral fossils and evolutionary processes; primates; cultures of the world, language and customs; cross-cultural marriage and family processes; prehistory and archaeology; art, healing, religion and technology. Because it is such a diverse discipline, you may find anthropologists uncovering our early ancestors in Africa, excavating a pyramid in Central America, studying peoples in New Guinea or in San Francisco, collecting information on orangutans in Southeast Asia, and advising business and government on customs in India.

Career Options

Archaeologist	Peace Corps/Vista Worker
Criminologist	Physical Anthropologist
Cultural Anthropologist	Prehistorian
Ethnologist	Primatologist
Forensic Scientist	Public Health Worker
Genetic Counselor	Researcher
Governmental Consultant	Scientific Illustrator
Industrial Consultant	Social Worker
International Business Consultant	Teacher
Journalist	Technical Writer
Linguist	Tour Organizer
Marketing Specialist	United Nations Advisor
Museum Curator	Zoo Curator
Park Naturalist/Ranger	Zoologist

Faculty

Elizabeth Goerke
Peter Kassebaum

Department Phone: (415) 485-9630

Suggested Transfer Preparation

Major requirements are subject to change. Please consult the latest catalog of the school you plan to attend and meet with a College of Marin counselor. Updated information is available at www.assist.org, a statewide repository of articulation and student transfer information.

California State University, Sacramento
Anthropology 101, 101L, 102

California State University, San Bernardino
Anthropology 101, 102

San Francisco State University
Anthropology 101, 102, 110

San Jose State University
Anthropology 101, 102, 110
Math 115 or Statistics 115

Sonoma State University
Anthropology 101, 102

University of California, Berkeley
Anthropology 101, 102, 110

University of California, Davis
Anthropology B.A.
Anthropology 101, 102, 110
Math 115 or Statistics 115

Anthropology B.S.
Anthropology 101, 102, 110
Biology 115 and 116
Chemistry 131 and 132
Math 121 and 122 or 123 and 124
Math 115 or Statistics 115

Recommended: Geology 120, 121
Psychology 110

University of California, Riverside
Anthropology 101, 102, 110

University of California, Santa Cruz
Anthropology 101, 102, 110

Anthropology Courses (ANTH)

39. Selected Topics (Nondegree Applicable). (1/2-6) (Please see Selected Topics category.)

101. Introduction to Physical/Biological Anthropology. (3) (No prerequisite. Three lecture hours weekly.)

This course is the study of evolutionary theory as a unifying theory that encompasses human variation and human evolution. The course covers modern evolutionary theory and its history, genetics, and the human genome. Students will learn about primates including behavior, anatomy, and features of the skeletal system. Instructors will cover selected topics in forensic analysis, archaeological theory and methodology, scientific method, and an overview of the most significant fossil sites that relate to human evolution. The field is changing on a daily basis in regards to new information being uncovered pertaining to our distant past and the progress being made in the study of the human genome. Primates in many areas of the world are under threat from human populations and efforts to establish protected areas are meeting with mixed success. The department has an extensive collection of fossil casts that allows students the opportunity to actually see them in person rather than relying solely upon photographs or descriptions. Some instructors may require field trips to local zoos, museums or lectures. (CSU/UC) AA/AS Area A, CSU Area B2, IGETC Area 5B, CAN ANTH 2

101L. Physical/Biological Anthropology Laboratory. (1) (Prerequisite: Anthropology 101 or concurrent enrollment. Three laboratory hours weekly.)

Laboratory and related exercises selected from the fields of: genetics, the human genome, human variability, medical genetics, nonhuman primates, human dental and skeletal anatomy, forensics, primate behavior, reconstruction, fossil hominids, the scientific method including probability and research design. The nature of the course requires students to solve problems, to observe, to take a hands-on approach to the subject matter. This course is supplemental to Anthropology 101. It is designed to cover in greater detail areas which are taught in Physical/Biological Anthropology and which require the active participation of students in learning how to accomplish specific tasks related to the above areas. Field trips may be included. (CSU/UC) AA/AS Area A, CSU Area B2, IGETC Area 5B

102. Introduction to Cultural Anthropology. (3) (No prerequisite. Three lecture hours weekly.)

Cultural anthropology is the study of human behavior from a cross-cultural perspective. An emphasis will be placed upon non-Western societies. Areas that may be covered are social organization, belief systems and ritual behavior, socialization, psychological anthropology, economic organization, social stratification, theory, and other selected topics. The use of films, slides, and videotapes allows students to become acquainted with cultures and lifestyles that are distinct from contemporary Western society. A goal of the course is to create a greater degree of cross-cultural awareness by attempting to promote an understanding of and appreciation for the richness and diversity of human culture. Can also be offered in a distance learning format. (CSU/UC) AA/AS Area B, CSU Area D1, IGETC Area 4 CAN ANTH 4

103. Globalization and Peoples and Cultures of the World. (3) (No prerequisite. Three lecture hours weekly.)

This course is designed to explore what is happening to cultural groups from diverse regions around the world. The focus will be upon cultural change, impact of technology, external and regional pressures and how they impact local groups. The role of women, children, ethnic/racial/religious violence, and class conflict will be examined. Poverty, child/female trafficking, slavery, child soldiers, disease, forced migration, famine and genocide will be covered. The use of police, death squads, military, torture and death squads are common in many of these areas. The role of the World Bank, World Trade Organization, Multi-Nationals, local and regional elites, as they relate to the lives of specific ethnic groups will be presented. Theory from ethnology and ethnography will be used as a basis for analysis. (CSU/UC) AA/AS Area B, CSU Area D1, IGETC Area 4

110. Introduction to Archaeology and Prehistory. (3) (No prerequisite. Three lecture hours weekly.)

This course includes the methods of recovery, analysis and interpretation of material culture, current research questions, current controversies, frauds of the past, ethical problems confronting the archaeologist and some of the spectacular discoveries. Some of the questions to be explored include the origin of art and writing, the evolution of

tool making, how and why agriculture began, why civilizations rose and fell, and who settled the Americas. (CSU/UC)

AA/AS Area B, CSU Area D1, IGETC Area 4, CAN ANTH 6

139. Selected Topics. (1/2-6) *(Please see Selected Topics category.)* (CSU/UC w/limit)

204. Native American Cultures. (3) *(No prerequisite. Three lecture hours weekly.)*

This survey course of Native Americans will examine early examples of the inhabitation of the western hemisphere. In addition, the historical record will be used to illustrate contact between indigenous peoples and the outside world and the results of that contact. The present conditions of native peoples in the hemisphere will be illustrated. Traditional cultural systems, social organization, religious beliefs, art, and economy will be discussed for selected cultural groups. Contemporary issues of land rights, tribal independence, natural resource rights, and social problems will be examined. (CSU/UC)

AA/AS Areas B & G, CSU Area D1, IGETC Area 4

205ABC. Field Anthropology. (1-3) *(No prerequisite. One to three lecture hours weekly.)*

Lectures to prepare the student for anthropology field trips. Combinations of Anthropology 205ABC may be taken a total of four times for credit. (CSU)

206. Archaeological Field and Laboratory Methods. (3) *(No prerequisite. Two lecture and three laboratory hours weekly.)*

This course is designed to acquaint the student with archaeological field techniques, as well as the laboratory skills necessary for interpreting and preserving the excavated material. Students will perform experiments and exercises using the scientific method. When available, excavation will involve threatened (salvage) sites. Possible topics to be covered will include site survey, flintknapping, and lithic, faunal, shell, and ceramic analysis. May be taken four times for credit. (CSU)

208. Magic, Folklore, and Healing. (3) *(No prerequisite. Three lecture hours weekly.)*

This course is a general survey of what anthropologists have learned about belief systems and folklore from a cross-cultural perspective. It will ask: What do we know about the origins of belief systems? Why do people in most societies believe in unseen spirits and powers? How do people use supernatural or special powers to gain control over

their own lives or the lives of others? What is the subdiscipline of folklore and how does it relate to the subject matter and to anthropology as a whole? The course will use examples drawn from a wide variety of cultural areas. (CSU/UC)

215. Native Americans of California. (3) *(No prerequisite. Three lecture hours weekly.)*

The study of California Native Americans will include the prehistoric period (as seen through archaeology), contact with explorers, the mission period, post-mission, and contemporary issues. Major linguistic groups will be discussed in terms of environmental setting, subsistence, technology, political organization, social structure, religion, ceremonial life, art, and mythology. May be taken twice for credit. (CSU/UC)

AA/AS Areas B & G

249. Directed Study. (1-3) *(Please see Directed Study category.)* (CSU/UC w/limit)

Architecture

Architecture begins with a basic understanding of human nature and of the relationship of people to their environment. This requires an understanding and sensitivity to human needs. It also requires certain technical skills and specialized knowledge to translate drawing and specifications into reality.

Career Options

Account Executive
 Architectural Designer
 Architectural Engineer
 Civil Engineer
 Computer Graphic Designer
 Construction Manager
 Director/Administrator of Architectural Firm
 Interior Designer
 Product Designer
 Professor of Architecture
 Urban Designer
 Urban Planner

Department Phone: (415) 485-9480

Suggested Transfer Preparation

Major requirements are subject to change. Please consult the latest catalog of the school you plan to attend and meet with a College of Marin counselor. Updated information is available at www.assist.org, a statewide repository of articulation and student transfer information.

Lower division major requirements for upper division standing at:

University of California, Berkeley

Architecture 110, 130

Art 112 and 113

English 150, 151 or 155

Math 121, 122, or 123, 124

In addition, complete lower division nondesign breadth requirements. Take one course from each of the following areas. (See the College of Environmental Design Web site for examples of courses and limitations.)

Physical Sciences

Physics 108A and 108AC or Physics 207A

Biological Science

One course (at least three units) in the biological sciences, with some cross-listings, as well as a selection of courses from related disciplines such as anthropology, nutritional sciences, and psychology.

Social and Behavioral Sciences

One course (at least three units) in economics, legal studies, political science, sociology, social welfare, and many courses in anthropology, geography, and psychology. A variety of courses from other disciplines and some advanced language courses with a significant linguistic component are also acceptable.

Historical Studies

One course (at least three units) in history and other courses that deal primarily with the human events, institutions, and activities of the past.

International Studies

One course (at least three units) that involves the study of the contemporary politics, culture, arts, or socioeconomic structure of at least one country other than the U.S., or courses that involve comparison between the U.S. and another country (subcultures within the U.S. do not qualify as subjects of study for the purposes of this requirement). Participation in Berkeley Education Abroad or a comparable program is also acceptable. Second semester or higher non-English language courses also satisfy this requirement.

Philosophy and Values

One course (at least three units) in the department of philosophy, plus courses with a major focus on religion, ethics, legal values, or leading philosophical figures.

Arts and Literature

One course (at least three units) that involves significant engagement with arts, literature, or language, either through practical engagement with works of art courses or through practical engagement with works of art or through the creation of art. Second semester or higher non-English language courses also satisfy this requirement.

A.S. in Design, Architectural, Occupational

Some of the courses in the Architectural Design Program are offered at both campuses. Students may take courses at either campus to fulfill requirements for the major. The Architectural Design Program prepares students for practical work in architecture and its related fields, such as drafting, rendering, blueprint preparation, and other occupations where such skills are needed.

Please note: Students may choose English 120, 120SL, or 150 to complete the Associate degree. Transfer students, however, are advised to complete English 150. All students should consult a counselor.

Requirements			Units
ARCH	100	History of Architecture I	3
ARCH	101	History of Architecture II	3
ARCH	102	History of Architecture III	3
ARCH	110	Beginning Architectural Design	4
ARCH	111	Intermediate Architectural Design	4
ARCH	120	Beginning Architectural Drafting	4
ARCH	121	Intermediate Architectural Drafting	4
ARCH	130	Introduction to Architecture and Environmental Design (Not offered every semester)	3
ARCH	220	Advanced Architectural Drafting	4
ART	112	2-D Art Fundamentals	4
ART	130	Drawing and Composition I	4

Architecture Courses (ARCH)

39. Selected Topics (Nondegree Applicable). (1/2-6) (Please see Selected Topics category.)

100. History of Architecture I. (3) (No prerequisite. Three lecture hours weekly)

This class traces the development of architecture and cities throughout the world from the earliest permanent settlements at the end of the Ice Age to the 1100's C.E. Emphasis is on the evolution of architectural ideas and the connection between architecture and culture. Can also be offered in a distance learning format. (CSU/UC)

AA/AS Area C, CSU Area C1, IGETC Area 3A

101. History of Architecture II. (3) (No prerequisite. Three lecture hours weekly)

This class traces the development of architecture and cities throughout the world from the 1100's C.E. to the end of the nineteenth century. Emphasis is on the evolution of architectural ideas and the connection between architecture and culture. Can also be offered in a distance learning format. (CSU/UC)

AA/AS Area C, CSU Area C1, IGETC Area 3A

102. History of Architecture III. (3) (No prerequisite. Three lecture hours weekly)

This class traces the development of architecture and cities throughout the world during the twentieth century. Emphasis is on the evolution of architectural ideas and the connection between architecture and culture. Can also be offered in a distance learning format. (CSU/UC)

AA/AS Area C, CSU Area C1, IGETC Area 3A

110. Beginning Architectural Design. (4) (No prerequisite. Three lecture and three laboratory hours weekly.)

This design course explores fundamental principles and issues of architectural design through the use of abstract design projects. Students interested in architecture, interior design, landscape design, engineering, building construction, gallery or theatre design, sculpture and other fine arts create their own design solutions, moving from beginning sketches, through development, to final models. Students learn to develop architectural "vocabulary" and thinking in a group studio environment, and address formal, symbolic and contextual concepts of architecture. (CSU/UC)

111. Intermediate Architectural Design. (4) (Prerequisites: Architecture 110 and 120. Three lecture and three laboratory hours weekly.)

This design course explores local urban and rural architectural design projects through the use of lectures, design projects, site visits, individual and group critiques, model building and drawings. Human needs, social factors, public/private issues, contexture, historic precedent, and aesthetic perception will be emphasized. Students will learn about design methodology, site and program analysis and presentation techniques. Students further address formal, symbolic and contextual issues of architecture. (CSU)

120. Beginning Architectural Drafting. (4) (No prerequisite. Three lecture and three laboratory hours weekly.)

This course will introduce students interested in interior design, architecture, engineering, building construction, landscape architecture, and other design related fields to the fundamentals of architectural and freehand drawing. Students will learn hard-line drafting skills and architectural conventions. They will learn the appropriate applications for the following architectural drawings: plan, section, elevation, paraline, and perspective. Emphasis will be placed on the importance of drawings in the communication between designers, clients and builders, and on the relationship between three-dimensional form and its two-dimensional representation on paper. (CSU)

121. Intermediate Architectural Drafting. (4) (Prerequisite: Architecture 120. Advisory: Architecture 110 and 130. May be taken concurrently. Three lecture and three laboratory hours weekly.)

A practical intermediate course in architectural drafting. Course involves applying basic drafting and lettering techniques, architectural projections, detail and working drawings, and the basic understanding of wood frame construction to the solution of a variety of practical architectural and construction problems. Portfolio of blueprints required at the end of the semester. (CSU)

130. Introduction to Architecture and Environmental Design. (3) (No prerequisite. Advisory: One or more of Architecture 100, 101, 102, and 110. May be taken concurrently. Three lecture hours weekly.)

This course provides a foundation for future architecture, interior design, landscape architecture,

and city planning courses. It explores the basic elements of architecture and the built environment including form, organizational principles, context, materials, and the sensory qualities of design. The design process and professional practice are also addressed. Emphasis is placed on the process of developing one's personal approach to design, the ways in which people experience architecture, and the relationship of architecture to society. (CSU/UC)

139. Selected Topics. (1/2-6) (Please see *Selected Topics category.*) (CSU w/limit)

220. Advanced Architectural Drafting. (4) (Prerequisites: *Architecture 120 and 121. Advisory: Architecture 110 and 130. May be taken concurrently. Three lecture and three laboratory hours weekly.*)

A practical advanced course in architectural drafting. Course involves the design of wood frame structures and development of working drawings. Portfolio of working drawings required at the end of the semester. May be taken four times for credit. (CSU)

249. Directed Study. (1-3) (Please see *Directed Study category.*) (CSU w/limit)

Art

The study of art will enrich the student's experience of the world, and encourage the student to draw upon creative resources. An education in art can lead to professional or vocational careers, as well as enhance abilities in other fields. The Art Department offers a foundation in theoretical and practical skills, and the opportunity to work in a wide variety of specific art media.

Career Options

Animator	Graphic Designer
Art Appraiser	Industrial Color Consultant
Art Critic/Writer	Interior Designer/Decorator
Art Director	Landscape Designer
Art Historian	Medical/Scientific Illustrator
Art Therapist	Museum/Gallery Staff
Arts Administrator	Paste-Up Copy-Camera Operator
Arts and Crafts Specialist	Photographer
Calligrapher	Print Maker
Cartoonist	Printer
Ceramist	Product Designer

Commercial Artist	Sculptor
Exhibition Designer	Sign Painter
Fashion Apparel Designer	Stage Set Designer
Fashion Illustrator	Textile Designer
Floral Designer	Typographer
Furniture Designer	Weaver

Faculty

William Abright
Chester Arnold
Ted Greer
Richard C. Hall
Emily Lazarre
Deborah H. Loft
Richard K. Rupp
Polly Steinmetz
Katherine Wagner

Department Phone: (415) 485-9480

Suggested Transfer Preparation

Major requirements are subject to change. Please consult the latest catalog of the school you plan to attend and meet with a College of Marin counselor. Updated information is available at www.assist.org, a statewide repository of articulation and student transfer information.

Lower division major requirements for upper division standing at:

San Francisco State University

*Six units from Art 101, 102, 104
Select six units minimum. One course in area of emphasis and one course outside area of emphasis from Art 116, 130 plus 140, 152, 165, 170, 180, 190*

Emphases: Art History, Studio and Art Education, Ceramics, Conceptual and Information Arts, Painting, Photography, Printmaking, Sculpture, Textiles, Dual Emphases.

San Jose State University

Art: Design Studies
*Art 101 and 102 and 103, 112, 113, 130, 148
For emphasis in Graphic Design add: Art 190
For emphasis in Interior Design add: Architecture 120*

Art: Digital Media Art
Art 101 and 102 and 103, 112, 113, 130, 131, 148

Art History*Art 101 and 102 and 103**Foreign Language Requirement: Six to ten units of approved language related to field of emphasis.*Art: Studio Practice*Teaching emphasis: Art 101 and 102 and 103, 112, 113, 130, 131, 134, 140, 180**Photography emphasis: Art 101 and 102 and 103, Art 112, 113, 130, 148 or 131, 190***University of California, Berkeley**Art, Practice of*Portfolio/transfer credit evaluation.***University of California, Davis**Art History B.A.*Three courses from Art 101, 102, 102 and 103, 104 (Architecture 100 or 101 or 102 may be substituted for one of the above courses.)**One art studio course from Art 130, 131, 134, 140, 180 or 181*Art Studio B.A.*Two courses from Art 101, 102, 102 and 103, 104**Three courses from Art 130 or 131, 134, 180 or 181*

Note: Students interested in drawing and painting should take Art 130 or 131, 134. Art 180 or 181 is recommended. Students interested in sculpture should take Art 130 or 131, 180 or 181. Art 134 is recommended. Students preparing for graduate work in any of the environmental design programs should take Art 130 or 131, 180 or 181.

University of California, RiversideArt*Art 101 or 103, 130, 140, 190*Art History*Art 101, 102, 103, 104***A.A. in Art**

The Art Program provides transfer, professional preparation, personal development, general interest, and general education, as well as an Associate in Arts degree. Courses are offered at both campuses. Students may take courses at either campus to fulfill requirements for the major.

Please note: Students are required to complete English 150 for the Associate degree. All students should consult a counselor.

Requirements**Units**

ART	112	2-D Art Fundamentals	4
ART	130	Drawing and Composition I	4

One art history course to be chosen from the following:

ART	101	History of Ancient Art	3
ART	102	History of European Art	3
ART	103	History of Modern Art	3
ART	104	History of Asian Art	3
ART	105	Contemporary Art	3
ART	106	History of Women Artists	3
ART	107	History of American Art	3
ART	108	Arts of the Americas	3
or			
ETST	108	Arts of the Americas	3
or			
HUM	108	Arts of the Americas	3

And 12 additional units in art from the following:

ART	113	3-D Art Fundamentals	4
ART	114	Interior Design I	4
ART	116	Jewelry Design I	4
ART	118	Art Gallery Design and Management I	4
ART	129	Materials and Techniques	4
ART	134	Life Drawing I	4
ART	136	Drawing for Storytelling	4
ART	137	Caricature and Cartooning	1
ART	140	Painting I	4
ART	144	Watercolor I	4
ART	146	Life Painting I	4
ART	148	Color Theory	4
ART	152	Printmaking I	4
ART	154	Surface Design on Fabric	4
ART	161	Textiles: Hand Woven Constructions on Floor Looms I	4
ART	165	Fiber Sculpture I	4
ART	170	Ceramics I	4
ART	175	Primitive Ceramics	4
ART	180	Sculpture I	4
ART	185	Life Sculpture I	4
ART	190	Black and White Photography I	4
ART	193	Beginning Digital Imaging for the Photographer	4

A.S. in Design, Applied, Occupational

Courses in this program are offered at both campuses. Students may take courses at either campus to fulfill requirements for the major. The program offers a problem solving approach to design. The students elect the emphasis area (either two-dimensional or three-dimensional) that is most compatible with their occupational goals.

Please note: Students may choose English 120, 120SL or 150 to complete the Associate degree. Transfer students, however, are advised to complete English 150. All students should consult a counselor.

Requirements	Units
ARCH 120 Beginning Architectural Drafting	4
ART 103 History of Modern Art	3
or	
ART 105 Contemporary Art	3
ART 112 2-D Art Fundamentals	4
ART 113 3-D Art Fundamentals	4
ART 130 Drawing and Composition I	4
ART 148 Color Theory	4
BUS 101 Introduction to Business	3

In addition, applied design majors with an emphasis in two-dimensional design must complete 16 units from the following art studio courses:

ART 131 Drawing and Composition II	4
ART 134 Life Drawing I	4
ART 135* Life Drawing II	4
ART 140 Painting I	4
ART 141* Painting II	4
ART 144 Watercolor I	4
ART 145* Watercolor II	4
ART 152 Printmaking I	4
ART 153* Printmaking II	4
ART 190 Black and White Photography I	4
ART 191* Black and White Photography II	4

* More advanced classes offered, but major requirements must be satisfied from the courses listed above.

Applied design majors with an emphasis in three-dimensional design must complete 16 units (four courses) from the following art studio courses:

ART 116 Jewelry Design I	4
ART 117* Jewelry Design II	4
ART 118 Art Gallery Design and Management I	4
ART 119* Art Gallery Design and Management II	4
ART 161 Textiles: Hand Woven Constructions on Floor Looms I	4
ART 162* Textiles: Hand Woven Constructions on Floor Looms II	4
ART 165 Fiber Sculpture I	4
ART 170 Ceramics I	4
ART 171* Ceramics II	4
ART 180 Sculpture I	4
ART 181* Sculpture II	4
ART 185 Life Sculpture I	4
ART 186* Life Sculpture II	4

* More advanced classes offered, but major requirements must be satisfied from the courses listed above.

A.S. in Design, Applied -- Interior, Occupational

Some courses in this program are offered at both campuses. Students may take courses at either campus to fulfill requirements for the major. Someone has wisely said that it requires the knowledge of the historian, the connoisseur, the merchant, the engineer, the psychologist, and the artist to be a good designer. The following program reflects that teaching philosophy and gives the most advantageous sequence for required and recommended classes.

Please note: Students may choose English 120, 120SL, or 150 to complete the Associate degree. Transfer students, however, are advised to complete English 150. All students should consult a counselor.

Requirements Units

Freshman Year - First Semester

ART 112 2-D Art Fundamentals	4
ART 114 Interior Design I	4
ART 130 Drawing and Composition I	4

Freshman Year - Second Semester

ARCH 120 Beginning Architectural Drafting	4
ART 102 History of European Art	3
ART 115 Interior Design II	4

Sophomore Year - First Semester

ARCH	110	Beginning Architectural Design	4
ART	214	Interior Design III (Fall only)	4
BUS	120	Entrepreneurship	1 1/2

Sophomore Year - Second Semester

ART	103	History of Modern Art	3
ART	215	Interior Design IV (Spring only)	4
ART	148	Color Theory	4

In addition:

One art studio course other than those required for the major	4
---	---

Art Courses (ART)

Note: There may be field trips, as part of the class curriculum, in any of the art classes that are listed in this catalog.

39. Selected Topics (Nondegree Applicable). (1/2-6) *(Please see Selected Topics category.)***101. History of Ancient Art. (3)** *(No prerequisite. Three lecture hours weekly.)*

This class is a survey of ancient art and visual culture, including: Prehistoric, Near Eastern, Egyptian, Aegean, Greek, Etruscan, Roman, Early Christian, and Byzantine. (CSU/UC)
AA/AS Area C, CSU Area C1, IGETC Area 3A,
CAN ART SEQ A = Art 101+102+103

102. History of European Art. (3) *(No prerequisite. Three lecture hours weekly.)*

This class surveys the visual creations of a variety of European cultures from 1100 to the mid-nineteenth century. Emphasis will be placed on enhancing the student's ability to observe and describe visual works, and to understand them in their social and historical context. (CSU/UC)
AA/AS Area C, CSU Area C1, IGETC Area 3A,
CAN ART SEQ A = Art 101+102+103

103. History of Modern Art. (3) *(No prerequisite. Three lecture hours weekly.)*

This class is a survey of art and visual culture from the mid-nineteenth century to the present. (For focus on recent art, see ART 105.) Emphasis will be placed on enhancing the student's ability to observe and describe visual works, and to understand them in their social and historical context. (CSU/UC)

AA/AS Area C, CSU Area C1, IGETC Area 3A,
CAN ART SEQ A = Art 101+102+103

104. History of Asian Art. (3) *(No prerequisite. Three lecture hours weekly.)*

This course is a comparative study of art and visual culture in the Far East, including India, China, Japan, Korea, and Southeast Asia. Visual expression will be considered in relation to its social and religious contexts. (CSU/UC)
AA/AS Area C, CSU Area C1, IGETC Area 3A

105. Contemporary Art. (3) *(No prerequisite. Three lecture hours weekly.)*

This course covers art since 1945, focusing on art of the last 30 years. Emphasis is on new concepts and techniques by a diverse selection of artists. The visual and social issues raised by contemporary art will be considered. There will be several field trips to art galleries or other points of interest. (CSU/UC)
AA/AS Area C, CSU Area C1, IGETC Area 3A

106. History of Women Artists. (3) *(No prerequisite. Three lecture hours weekly.)*

This class introduces visual work by women of diverse ethnic and class backgrounds. A variety of media will be covered, from past art history as well as from contemporary art. Students will become aware of the social circumstances in which the work was produced. The course will include field trips. (CSU/UC)
AA/AS Area C, CSU Area C1, IGETC Area 3A

107. History of American Art. (3) *(No prerequisite. Three lecture hours weekly.)*

This class surveys American art and visual culture, including work by a diverse selection of artists. Material in several media will be presented through slides, discussion, and field trips. (CSU/UC)
AA/AS Area C, CSU Area C1, IGETC Area 3A

108. Arts of the Americas. (3) *(No prerequisite. Can be taken for credit as Art 108, Ethnic Studies 108, or Humanities 108. However, credit will be awarded for only one course. Three lecture hours weekly.)*

A survey of the arts and architecture of the Americas--North, Central, Caribbean, and South Americas--focusing on a selection of works from the major Pre-Columbian, Spanish Colonial, and modern

cultures. Art of the United States will focus on works from the culturally diverse peoples of the Bay Area. (CSU/UC)

AA/AS Area C & G, CSU Area C1, IGETC Area 3A

109. Gallery Seminar in Art. (2) *(No prerequisite. One lecture and three laboratory hours weekly.)*

Seminar in art history based on art available in museums, galleries, and collections. This course may be conducted at any site where original art objects are available for study and discussion. It includes assigned reading, lectures, and discussion trips to study art. Seminar discussion and presentations follow field trips. Content and areas of concentration may vary depending on locations and availability of art. (CSU)

112. 2-D Art Fundamentals. (4) *(No prerequisite. Three lecture and three laboratory hours weekly.)*

An introductory level studio course that encourages students to express themselves by using and understanding the elements of 2-D art: line, shape, texture, value, color, perspective, and space. Principles of composition such as balance, repetition, variation, and proportion will be explored using a wide variety of media that may include: ink, pencil, charcoal, painting, collage, printmaking, papier-mache, and found material mixed media. This course is required for art majors and highly recommended for all art students. (CSU/UC)
CSU Area C1, CAN ART 14

113. 3-D Art Fundamentals. (4) *(No prerequisite. Three lecture and three laboratory hours weekly.)*

An introductory level studio course that encourages students to express themselves by using and understanding the elements of 3-D art: line, plane, volume, mass, surface treatment, light and shadow. Principles of composition such as balance, repetition, variation, and proportion will be explored using a wide variety of materials that may include wire, cardboard, plaster, clay, papier-mache, and mixed media. This course is required for art majors and highly recommended for all art students. (CSU/UC)
CSU Area C1, CAN ART 16

114. Interior Design I. (4) *(No prerequisite. Three lecture and three laboratory hours weekly.)*

An introductory course in the theory and practice of interior design to acquaint the student with contemporary design, architecture, and furniture; color theory and application; basic residential construction methods and materials; surface

treatment (walls, floors, windows, etc.); the use of drafting tools and methods; and learning to draw simple plans. Classes may include field trips and guest lecturers that relate to various aspects of interior design. May be taken three times for credit. (CSU)

CSU Area C1

115. Interior Design II. (4) *(No prerequisite. Three lecture and three laboratory hours weekly.)*

Covers period design and decorations from the styles of antiquity through the Victorian era. Extensive reading is required to cover the historic evolution of interior design in the Western world. A number of tests, as well as oral, visual, and written projects, are given. This course may also include field trips that relate to history and interior design. May be taken three times for credit. (CSU)

116. Jewelry Design I. (4) *(No prerequisite. Three lecture and three laboratory hours weekly.)*

Design and creation of jewelry utilizing basic construction and casting techniques. Emphasis is on basic skill development. May be taken four times for credit. (CSU)
CSU Area C1

117. Jewelry Design II. (4) *(Prerequisite: Art 116. Three lecture and three laboratory hours weekly.)*

Advanced design and creation of jewelry. Emphasis is on perfecting skills. Projects include techniques that may include hinges and connections, advanced casting, die forming, and RT stamping. May be taken four times for credit. (CSU)

118. Art Gallery Design and Management I. (4) *(No prerequisite. Three lecture and three laboratory hours weekly.)*

Introduction to art gallery management to include selection of art works, publicity for art gallery, design of gallery furniture and exhibits, and installation of exhibits. Field trips to other educational and commercial galleries and museums. Preparation of individual portfolios. (CSU)
CSU Area C1

119. Art Gallery Design and Management II. (4) *(Prerequisite: Art 118. Three lecture and three laboratory hours weekly.)*

An environmental design class covering materials, techniques, aims, elements and principles of environmental display, spatial and visual

interrelationships of displayed materials, and gallery construction. This course will cover both theory and practice at the Kentfield Campus Fine Arts Gallery. (CSU)

128. Art Field Trips. (1-4) *(No prerequisite. Can be taken for credit as Art 128 or Ethnic Studies 128 or Humanities 128. However, credit will be awarded for only one discipline. Three-quarter lecture and three-quarter laboratory hours weekly for one unit, one and one-half lecture and one and one-half laboratory hours weekly for two units, two and one-quarter lecture and two and one-quarter laboratory hours weekly for three units, and three lecture and three laboratory hours weekly for four units.)*

A complement to art history and studio art courses, this course allows students to experience the art and architecture of sites like New York, Mexico City, and Rome first-hand. Pre-trip lectures will set up background for an intensive field trip(s) that may include visits to museums, galleries, libraries, artists' studios, and to architectural and archeological sites where lecture, discussion, and personal exploration will take place. May be used to bring students to a major media-specific conference. Each discipline may be taken four times for credit. (CSU)

129. Materials and Techniques. (4) *(Prerequisite: Art 140. Three lecture and three laboratory hours weekly.)*

This course is designed to enrich the painter's means of expression by expanding the potential use of both materials and techniques. Assignments will include work with collage, acrylic, oil, mixed media, encaustic, pastels, oil stick, enamels, impasto, glazes, etc. (CSU/UC)

130. Drawing and Composition I. (4) *(No prerequisite. Three lecture and three laboratory hours weekly.)*

Exercises in line, light and shade, texture, and perspective rendering of objects in space; development of good composition by means of balance, repetition and variation, focal point, economy, etc. A variety of graphic materials (pencil, charcoal, pen and ink, washes, color, etc.) will be used for both realistic and experimental drawings. Lectures, demonstrations, critiques, and supervision of works in progress. A sketchbook and/or portfolio of work done in and out of class may be required. Required of all art majors. (CSU/UC)
CSU Area C1, CAN ART 8

131. Drawing and Composition II. (4) *(Prerequisite: Art 130. Three lecture and three laboratory hours weekly.)*

Prerequisite of Art 130 assumes the student is competent in the use of line, value, texture, composition, and perspective to deal with:

- (1) complexity of subject matter;
- (2) diversity of materials;
- (3) experimental media like collage and painting;
- (4) color (pastels, pencil, watercolor, etc.); and
- (5) independent projects agreed upon contractually between student and instructor.

(CSU/UC)

134-135. Life Drawing I and II. (4-4) *(Prerequisite for Art 134 is Art 130. Art 134 is prerequisite for Art 135. Three lecture and three laboratory hours weekly.)*

This course is designed to provide the student with a basic understanding of proportion, structure, and superficial anatomy of the human figure, combined with further study of appropriate media and drawing techniques. Required of art majors. Art 134 and Art 135 may each be taken four times for credit. (CSU/UC)

CSU Area C1 for Art 134, CAN ART 24 = Art 134

136. Drawing for Storytelling. (1 1/2) *(No prerequisite. One lecture hour and one and one-half laboratory hours weekly.)*

Students will have the opportunity to learn the skills and techniques needed for the production graphic serial storytelling (for example comic books). Contour drawing, hatching, half toning, and other shading techniques as well as storyboarding and narrative development will be covered. A narrative development will be covered. A narrative story will be produced and printed in this class. May be taken twice for credit. (CSU)

137. Caricature and Cartooning. (1) *(No prerequisite. One and one-half lecture and one and one-half laboratory hours weekly for nine weeks.)*

This course is intended to introduce the student to the art of drawing caricatures and, to a limited extent, cartoons generally. In addition to providing practical instructions, the course will examine the history of caricature and the backgrounds and works of such cartoonists as Goya, Daumier, George Herriman, and David Levine. May be taken four times for credit. (CSU)

138. Advanced Critique. (1) *(No prerequisite. One lecture hour weekly.)*

A monthly critique/seminar designed for intermediate to advanced students of painting, drawing, sculpture, ceramics, textiles, photography, jewelry, and mixed media to have their work reviewed and participate in the review from a variety of perspectives. NOTE: "Advanced" means that the student has taken a number of courses in art or is a working artist who wants feedback on his/her work. May be taken four times for credit. (CSU)

139. Selected Topics. (1/2-6) *(Please see Selected Topics category.)* (CSU/UC w/limit)

140. Painting I. (4) *(Prerequisite: Art 112 or 130. Three lecture and three laboratory hours weekly.)*

It is especially important that students new to painting learn the process of making paintings -- to go through the steps one by one, methodically covering the basics of selecting significant shapes, balancing composition, mixing paints, perfecting techniques, and developing skills. Four paintings are required of ALL beginning students. Attendance for both instructional (lecture, discussion, demonstration, "critique" sessions) and studio work is essential. Oil, acrylic, and mixed media. (CSU/UC)

CSU Area C1, CAN ART 10

141. Painting II. (4) *(Prerequisite: Art 140. Three lecture and three laboratory hours weekly.)*

The more advanced the student, the more a strong individual approach is encouraged. Because of the varied abilities and experience found at this level, the semester assignments will be self-imposed but reviewed by the instructor on the basis of scope, technical improvement, and development of concept. Attendance is essential for instructional, studio, and "critique" sessions. Oil, acrylic, and mixed media. (CSU/UC)

144. Watercolor I. (4) *(No prerequisite. Three lecture and three laboratory hours weekly.)*

A course designed to acquaint the beginner with the materials, techniques, and experience of painting with watercolor. Frequent "critique" sessions, lectures, and demonstrations will examine paper selection and reaction to the medium, the tendency of watercolor to flow, and its qualities of transparency and evaporation. The aim is to thoroughly familiarize the student with the distinctive qualities of watercolor. (CSU/UC)

CSU Area C1

145. Watercolor II. (4) *(Prerequisite: Art 144. Three lecture and three laboratory hours weekly.)*

To some extent Watercolor II is a continuation of Watercolor I but with emphasis on personal development and expression. Students are encouraged to develop a visual vocabulary and way of using the watercolor medium to express their own ideas and way of seeing things. (CSU/UC)

146-147. Life Painting I and II. (4-4) *(Prerequisite for Art 146 is Art 140 and either Art 112 or Art 130. Art 146 is a prerequisite for Art 147. Must be taken in sequence. Three lecture and three laboratory hours weekly.)*

This class offers instruction in painting the human figure. Individualized instruction will allow for emphasis to be placed on either portraiture or painting the entire figure. Concepts of color, design, and style will be included. (CSU/UC)

CSU Area C1 for Art 146

148. Color Theory. (4) *(No prerequisite. Three lecture and three laboratory hours weekly.)*

General theory of color covering the objective and subjective aspects. Includes color notations, terminology, visual phenomena, effects of light, symbolism, and psychology of color. (CSU/UC)

CSU Area C1

152-153. Printmaking I and II. (4-4) *(Prerequisite for Art 152 is Art 130. Art 152 is a prerequisite for Art 153. Three lecture and three laboratory hours weekly.)*

An introductory course in the basic concepts and techniques of printmaking. Instruction and studio work include intaglio (etching, drypoint, and engraving), relief (woodcut and linocut) collagraph and monotype methods. Emphasis is on the fine arts approach to printmaking although the relationship of these processes to the graphic arts will be explored. Formal and individual critiques on work. Art 152 and Art 153 may each be taken four times for credit. (CSU/UC)

CSU Area C1 for Art 152, CAN ART 20 = Art 152

154. Surface Design on Fabric. (4) *(No prerequisite. Three lecture and three laboratory hours weekly.)*

This course explores the vast possibilities for dyeing and printing cloth to achieve richly patterned surfaces for apparel, interiors, theater, performance or artistic/conceptual intentions. A variety of fabric manipulations and coloring methods are investigated to develop design composition, repeat patterning,

and personally expressive imagery for two- and three-dimensional fabric applications. Techniques include immersion-dyeing, shibori, color removal, painting, paste resist, block printing, burn-out, ink-jet and screen printing. Historical and contemporary examples are examined for technical information, inspiration and personal interpretation. Studio work will be enhanced through slide presentations, field trips, guest artists, individual consultations and group critiques. May be taken four times for credit. (CSU)

161. Textiles: Hand Woven Constructions on Floor Looms I. (4) *(No prerequisite. Three lecture and three laboratory hours weekly.)*

Introduction to four-harness floor loom weaving. Emphasis on basic weave formation, weft techniques, loom controlled patterns, and their applications. May be taken four times for credit. (CSU)

CSU Area C1

162. Textiles: Hand Woven Constructions on Floor Looms II. (4) *(Prerequisite: Art 161. Three lecture and three laboratory hours weekly.)*

Double weave techniques on four- and eight-harness looms. Finn weave, double beam, discontinuous warp, and warp movement included. In-depth application expressed in projects. May be taken four times for credit. (CSU)

165. Fiber Sculpture I. (4) *(No prerequisite. Three lecture and three laboratory hours weekly.)*

Construction processes involved with interworking of flexible elements by such techniques as layering, bonding, plaiting, stitching, and weaving, in a scale that may range from personal object to installation. May be taken four times for credit. (CSU)

CSU Area C1

166. Fiber Sculpture II. (4) *(No prerequisite. Advisory: Art 165. Three lecture and three laboratory hours weekly.)*

Open to students from all art disciplines including textiles, who seek to integrate construction with sculpture, painting, and crafts, etc. An exploration of flexible, fragile, or fibrous materials such as cloth, paper, plastic, reed, wire, and threads. May be taken four times for credit. (CSU)

170. Ceramics I. (4) *(No prerequisite. Three lecture and three laboratory hours weekly.)*

A basic general ceramics course for those who want to survey various techniques of wheel throwing and

hand building methods, and to become familiar with ceramic glaze materials and kiln firing. It is expected that students will develop an awareness of ceramic design and explore individual solutions to specific technical and conceptual assignments. (CSU/UC) *CSU Area C1, CAN ART 6 = Art 170*

171. Ceramics II. (4) *(Prerequisite: Art 170. Advisory: Art 112 or concurrent enrollment. Three lecture and three laboratory hours weekly.)*

A second semester beginning ceramics course for those who wish to continue developing the basic techniques of wheel throwing and slab building methods with an emphasis on increasingly advanced projects. Direct participation in glaze preparation and kiln firing. It is expected that students will produce work reflecting an intermediate understanding of ceramic design and explore individual project resolutions through drawings and group discussion. Art 171 is a continuation of Art 170. (CSU/UC)

175. Primitive Ceramics. (4) *(No prerequisite. Three lecture and three laboratory hours weekly.)*

A working, historical overview of forming and firing methods that have been the basis of the African, Asian, American Indian, and Pre-Columbian cultures. Locating clay deposits, preparation of clay and colors, forming and burnishing techniques, pit firing, and Raku. May be taken four times for credit. (CSU/UC)

176. Pottery on the Wheel. (4) *(No prerequisite. Advisory: Art 112 or 113; and 130. Three lecture and three laboratory hours weekly.)*

This course will concentrate on the use of the potters wheel in the creation of functional and sculptural ceramic objects. Techniques of wheel throwing and trimming cups, bowls, vases, pitchers, lidded forms, closed forms, teapots and plates will be demonstrated as well as handle making. Students will be required to use basic design and drawing skills in the development of their assignments. Emphasis will be on refinement of technique rather than quantity. Covers stoneware glaze development, kiln loading, stoneware and soda firing. Development of post wheel-thrown projects will be demonstrated and encouraged. May be taken four times for credit. (CSU/UC)

177. Handbuilt Ceramics. (4) *(No prerequisite. Advisory: Art 112 or 113; and 130. Three lecture and three laboratory hours weekly.)*

This course will concentrate on the use of handbuilding in the creation of functional ceramic

ware and sculptural objects. Techniques of handbuilding cups, bowls, vases, pitchers, lidded forms, teapots and plates will be demonstrated as well as handle making and methods of embellishment. Students will be required to use basic design and drawing skills in the development of their assignments. Emphasis will be on exploration and creative refinement of technique. Covers basic clay bodies, glaze development, kiln loading, stoneware and soda firing. May be taken four times for credit. (CSU/UC)

180. Sculpture I. (4) *(No prerequisite. Three lecture and three laboratory hours weekly.)*

Study of form structure and its concept in relationship to self-expression. Survey of the history of sculpture as well as contemporary movements. Instruction in basic techniques of stone and woodcarving, modeling, moldmaking, welding, and bronze casting. (CSU/UC)

CSU Area C1, CAN ART 12

181. Sculpture II. (4) *(No prerequisite. Three lecture and three laboratory hours weekly.)*

Further exploration into materials and techniques. Welding, moldmaking, bronze casting, steel fabrication, current and historical perspectives in sculpture, and visiting lecturers. Emphasis on producing art works and the experience of the artist. (CSU/UC)

185. Life Sculpture I. (4) *(No prerequisite. Three lecture and three laboratory hours weekly.)*

In this class both a classical and contemporary approach to figure sculpture will be studied. Working from live models, students will learn to interpret the pose, study spatial relationship and proportion, experiment with scale and learn to compose as they examine human form. Materials may include clay, wax, and plaster. Historical and contemporary approaches to the figure will be studied in slide lectures and readings. (CSU/UC)
CSU Area C1

186. Life Sculpture II. (4) *(Prerequisite: Art 185. Three lecture and three laboratory hours weekly.)*

This course is a continuation of Life Sculpture I. Continued exploration of development and technique with emphasis on individual investigation of content. Students have an opportunity to move toward abstraction to explore basic concepts of modern sculpture. (CSU/UC)

187. Fundamentals of Color Photography. (3) *(No prerequisite. Three lecture hours weekly.)*

Introduction to the aesthetics, history, and fundamental techniques of photography using color slide film. An introduction to camera and film control, an awareness of light, and expressive use of color. Includes critiques of student work and a photographic fieldtrip. (CSU)

188. Experimental Processes and Photography. (4) *(Prerequisite: Art 187 or Art 190. Three lecture and three laboratory hours weekly.)*

An exploration of photographic media exposing students to the concept of manipulation and interpretation of the original to reveal forms of expression that are unattainable through traditional photography. Introduction to the use of contemporary use of other media. Includes choice and application of surface color, printmaking processes, three-dimensional design, installation, and presentation choices. Emphasis on choosing the appropriate techniques to powerfully express individual content. A good choice for art majors and for those interested in the introduction to, and exploration of, the creative experimentation of photo-based processes. May be taken twice for credit. (CSU)

189. Fundamentals of Lighting. (3) *(Prerequisite: Art 187 or Art 190. Three lecture hours weekly.)*

This course is intended to develop proficiency in the controlled use of light, both "on-location" and in the studio. Ambient, tungsten and flash lighting, mixed lighting techniques as well as the characteristics of different qualities of light are explored. Various camera formats, using black and white film as well as color transparency film can be used.

Diverse examples of lighting techniques used in both commercial and fine art will be shown. This is a good choice for art majors to increase their understanding of light, and to learn to photograph their own artwork. Also a good choice for students in fields that require documentation of fieldwork subjects. (CSU)

190. Black and White Photography I. (4) *(No prerequisite. Three lecture and three laboratory hours weekly.)*

This course is designed to meet the needs of art students, photography majors, and others who would like an introduction to black and white photography and who want to improve their photographic skills. The basics of camera use, film developing and darkroom printing are presented

with emphasis on balancing technical skills with artistic expression. Introduction to photographic terms will enable students to analyze photographs through discussion of their work. Major historical and contemporary photographers will be presented through slides. (CSU/UC)

CSU Area C1, CAN ART 18

191. Black and White Photography II. (4)

(Prerequisite: Art 190. Three lecture and three laboratory hours weekly.)

This course is designed to guide continuing photography students through experimentation of new materials and testing of exposure methods to refine their techniques. This course includes discussion and analysis of students' work in group and individual critiques. It contains a study of photographer's concepts, attitudes and philosophies. Fieldtrips and study of traditional and contemporary photography are included. May be taken twice for credit. (CSU/UC)

192. Black and White Photography III. (4)

(Prerequisite: Art 191. Three lecture and three laboratory hours weekly.)

This course seeks to develop the student's visual skills through the refinement of technique and the study of pertinent photographic work. The course will cover advanced black and white techniques. This course is for third semester (college) black and white photography students. (CSU/UC)

193. Beginning Digital Imaging for the Photographer. (4) *(No prerequisite. Advisory: Basic computer skills and Art 112, 187, and 190. Three lecture and three laboratory hours weekly.)*

The exploration of digital imaging techniques as applied to the art of photography. Emphasis is placed on the creative process while exploring electronic image making as an effective mode of communication used by photographers, artists, and designers today (Adobe Photoshop). May be taken twice for credit. (CSU)

196. Portfolio Photography. (1) *(Prerequisite: Art 291. Two and six-tenths lecture and two and six-tenths laboratory hours weekly for five weeks.)*

This is a practical course that will teach art students how to photograph their work professionally (both two- and three-dimensional) in color slide form for portfolio or publishing needs. The student must have access to a camera. May be taken twice for credit. (CSU)

214. Interior Design III. (4) *(Prerequisites: Architecture 120, Art 114 and 115. Advisory: Art 112 and 130. Three lecture and three laboratory hours weekly.)*

Emphasis in this advanced class is placed on residential interior design. Students will work with clients toward creative design solutions, project development and communication, and presentation skills. Space planning, furnishings/equipment selection and arrangement, color and materials selection are covered as aspects of the residential interior design process. Portfolios and project notebooks will include floor plans, furnishings/equipment plans, elevations, paraline 45-45 oblique drawings, electrical plans, materials/finish schedules, furnishings/equipment specifications, budgets and concept/sample boards. Fall only. May be taken three times for credit. (CSU)

215. Interior Design IV. (4) *(Prerequisites: Architecture 120, Art 114 and 115. Advisory: Art 112 and 130. Three lecture and three laboratory hours weekly.)*

Emphasis in this advanced class is placed on commercial interior design. Students will work with clients toward creative design solutions, project development and communication, and presentation skills. Space planning, furnishings/equipment selection and arrangement, color and materials selection are covered as aspects of the commercial interior design process. Portfolios and project notebooks will include floor plans, furnishings/equipment plans, elevations, paraline 45-46 oblique drawings, electrical plans, materials/finish schedules, furnishings/equipment specifications, budgets and concept/sample boards. Spring only. May be taken three times for credit. (CSU)

216. Jewelry Design III. (4) *(Prerequisite: Art 117. Three lecture and three laboratory hours weekly.)*

Advanced design and creation of jewelry. Areas explored include techniques such as tool making, advanced hollow forming techniques, including functional, conceptual, and aesthetic aspects of designing. May be taken four times for credit. (CSU)

217. Jewelry Design IV. (4) *(Prerequisite: Art 216. Three lecture and three laboratory hours weekly.)*

Advanced design and creation of jewelry. Emphasis is on stone setting, rendering, and individual projects incorporating advanced construction skills and stone setting. May be taken four times for credit. (CSU)

218. Art Gallery Design and Management III. (4)

(Prerequisite: Art 119. Three lecture and three laboratory hours weekly.)

Advanced course to allow students to apply practical application of techniques, materials, aims, and principles covered in the first two semesters.

Students to plan and assume responsibilities for various phases of proposed exhibits to be installed in the Kentfield Campus Fine Arts Gallery. (CSU)

219. Art Gallery Design and Management IV. (4)

(Prerequisite: Art 218. Three lecture and three laboratory hours weekly.)

Advanced course to allow students to apply practical application of techniques, materials, aims, and principles covered in the first three semesters.

Students will take greater responsibility for all phases of one specific exhibit to be exhibited at the Kentfield Campus Fine Arts Gallery. May be taken four times for credit. (CSU)

234-235. Life Drawing III and IV. (4-4)

(Prerequisite for Art 234 is Art 135. Art 234 is a prerequisite for Art 235. Three lecture and three laboratory hours weekly.)

Lectures, demonstrations, and supervision of work in progress. Drawing from undraped models. Classwork stresses the expressive qualities of the figure, and drawing accurately and sensitively with a variety of media. A sketchbook of work done outside of class is required. Art 234 and Art 235 may each be taken four times for credit. (CSU/UC)

240-241. Painting III and IV. (4-4) *(Prerequisite for Art 240 is Art 141. Art 240 is a prerequisite for Art 241. Three lecture and three laboratory hours weekly.)*

The more advanced the student, the more a strong individual approach is encouraged. Because of the varied abilities and experience found at this level, the semester assignments will be self-imposed but reviewed by the instructor on the basis of scope, technical improvement, and development of concepts. Attendance is essential for instructional, studio, and "critique" sessions. Oil, acrylic, and mixed media. Art 241 may be taken four times for credit. (CSU/UC)

242. Advanced Painting. (4) *(No prerequisite. Advisory: Art 241. Three lecture and three laboratory hours weekly.)*

This course is designed to broaden the base of opportunity for students to develop and expand their personal artistic direction. Technical and formal instruction will be combined with conceptual and

philosophical discussions and critiques to assist and encourage students to better understand visual expression in the context of current culture.

Students will be required to visit several galleries and museums in the San Francisco Bay Area and to read current fine arts periodicals and journals as well as local art criticism (e.g. San Francisco Chronicle, Examiner, etc.). In collaboration with instructor, students will formulate their own direction and be responsible for defining their own studio projects. Evaluation of student work and progress will be ongoing through regular studio contact and through group and individual critique. May be taken four times for credit. (CSU/UC)

243. Painting in the Era of Post Modernism -- Concepts and Techniques. (4) *(Prerequisite: Art 241. Three lecture and three laboratory hours weekly.)*

This advanced studio painting course will explore contemporary concepts, materials, and techniques associated with Post Modernism. Appropriation, pop culture and imagery, new collage/assemblage and creative re-use of images, objects, and previously established art styles will be explored in the context of painting. Students will be required to produce a body of work for final critique. May be taken four times for credit. (CSU/UC)

244-245. Watercolor III and IV. (4-4) *(Prerequisite for Art 244 is Art 145. Art 244 is a prerequisite for Art 245. Three lecture and three laboratory hours weekly.)*

Lectures, demonstration, and works in progress based on extending students' abilities toward advanced experimentations in the watercolor media. Extension of palette and techniques on a larger scale and with a greater variety. Art 245 may be taken four times for credit. (CSU/UC)

246-247. Life Painting III and IV. (4-4) *(Prerequisite for Art 246 is Art 147. Art 246 is a prerequisite for Art 247. Three lecture and three laboratory hours weekly.)*

This class offers advanced instruction in painting the human figure. Individualized instruction will allow for emphasis to be placed on either portraiture or painting the entire figure. Concepts of color, design, and style will be included for the advanced student. Experimentation in new techniques and materials will be encouraged. Art 247 may be taken four times for credit. (CSU/UC)

249. Directed Study in Art. (1-3) *(Limit to Enrollment: For advanced art students. Three, six, or nine laboratory hours weekly.)*

This course is for advanced study only with instructor and department chair's approval prior to enrollment in class, plus the filing of the Application for Directed Study form. A project may extend through a second semester with prior approval of the instructor. This course may be taken more than once for credit. (CSU/UC w/limit)

252-253. Printmaking III and IV. (4-4)
(Prerequisite for Art 252 is Art 153. Art 252 is a prerequisite for Art 253. Three lecture and three laboratory hours weekly.)

An in-depth continuation of Art 152-153 including planographic (lithography), photo etching, thermafax screens, advanced monotype/monoprinting and other experimental processes. Emphasis on personal expression and professional presentation of work. Art 252 and Art 253 may each be taken four times for credit. (CSU)

261. Textiles: Hand Woven Constructions on Floor Looms III. (4) *(No prerequisite. Advisory: Art 112, 161, and 162. Three lecture and three laboratory hours weekly.)*

An introduction to traditional and modern dye techniques and concepts such as Ikat, painted threads, over-dye, and discharge methods. Application to specific projects and individually designed explorations. May be taken four times for credit. (CSU)

262. Textiles: Hand Woven Constructions on Floor Looms IV. (4) *(No prerequisite. Advisory: Art 112, 148, 161, and 162. Three lecture and three laboratory hours weekly.)*

Individual studies of loom-controlled fiber structures that are designed for four-, six-, and eight-harness looms. Techniques used will be expanded studies based on Art 161, 162 and/or 261 by samples and projects composing an in-depth exploration. May be taken four times for credit. (CSU)

265. Fiber Sculpture III. (4) *(No prerequisite. Advisory: Art 166. Three lecture and three laboratory hours weekly.)*

Experimental media in the textile construction field encourage ideas not bound by a vast history and lend themselves to fresh and spontaneous ways of working with surface and structure. Application of skills and personal direction to advanced level work. Emphasis on developing individual concepts and

expression. May be taken four times for credit. (CSU)

266. Fiber Sculpture IV. (4) *(No prerequisite. Advisory: Art 265. Three lecture and three laboratory hours weekly.)*

Emphasis will be placed on the design process and development of a personal strategy for problem solving. Problems pertaining to perception, use of the imagination, and expanding imagery will be given in areas of construction technique as well as dyeing and surface treatment. Students will be expected to have a body of finished work that demonstrates their explorations and conceptual approach at the end of this class. May be taken four times for credit. (CSU)

270-271. Ceramics III and IV. (4-4) *(Prerequisite for Art 270 is Art 171. Art 270 is a prerequisite for Art 271. Three lecture and three laboratory hours weekly.)*

Advanced and in-depth interpretation of the common class project with greater expectations of further technical and conceptual development. Mentoring of beginning students, lab assistance in glaze preparation, kiln loading and firing. Advanced proficiency with various types of clay bodies and glaze formulation, including stoneware, porcelain, and low-fire techniques. Concentration on individual projects, which illustrate more comprehensive aesthetic understanding. Art 271 is a continuation of Art 270. (CSU)

275. Ceramic Sculpture. (4) *(Prerequisite: Art 171. Three lecture and three laboratory hours weekly.)*

Advanced study of ceramics with a focus on the technical and aesthetic considerations of ceramics as a sculptural medium. It is intended for students already well grounded in forming techniques who would benefit from a more critical assessment of their work. This course includes group discussions that focus on career opportunities, resume development, professional organizations, and showing work in galleries. Development of individual style and refinement of technique will be encouraged. May be taken four times for credit. (CSU/UC)

276. Advanced Wheel Thrown Ceramics. (4)
(Prerequisite: Art 171. Three lecture and three laboratory hours weekly.)

Advanced study of ceramics with a focus on the technical and aesthetic considerations of ceramics as a functional medium. Intended for students

already well grounded in throwing and handbuilding forming techniques who would benefit from a more critical assessment of their work. May involve field trips to artists' studios, shows, and conferences. Group discussions focusing on career opportunities, resume development, professional organizations, and showings in galleries and art fairs. Development of individual style and refinement of technique will be encouraged. May be taken four times for credit. (CSU/UC)

280-281. Sculpture III and IV. (4-4) (No prerequisite. Three lecture and three laboratory hours weekly.)

Advanced participation in three-dimensional materials and techniques. Casting bronze, iron and stainless steel, sheet metal fabrication, arc, heli-arc, and torch welding techniques, ceramic shell casting, and wood construction. Intended to encourage self-evaluation as it relates to continued expression as an artist. Art 281 may be taken twice for credit. (CSU)

285. Life Sculpture III. (4) (Prerequisite: Art 186. Three lecture and three laboratory hours weekly.)

This is a continuation of Life Sculpture II. Continued exploration of development and technique with emphasis on individual investigation of content. Students have an opportunity to move toward abstraction to explore basic concepts of modern sculpture. (CSU/UC)

286. Life Sculpture IV. (4) (Prerequisite: Art 285. Three lecture and three laboratory hours weekly.)

This is a continuation of Life Sculpture III. Continued exploration of development and technique with emphasis on individual investigation of content. Students have an opportunity to move toward abstraction to explore basic concepts of modern sculpture. Art 286 may be taken twice for credit. (CSU/UC)

290. Black and White Photography IV. (4) (Prerequisite: Art 192. Three lecture and three laboratory hours weekly.)

Individual or group projects in the field of creative photography. Emphasis on photographic art and trends in contemporary photography. Trips to photographic exhibits encourage analytical discussion. Student art works may be displayed at public showings. May be taken three times for credit. (CSU/UC)

292. Photographic History. (3) (No prerequisite. Three lecture hours weekly.)

A chronological, systematic presentation of the photographers and the evolution of photographic materials, processes, and techniques from the Camera Obscura through the earliest chemical investigations in the 1600s to the photographic events of the last quarter of the twentieth century. Critical thinking is encouraged through written assignments and group discussions. (CSU/UC)

293. The Photographic Portfolio. (3) (Prerequisites: Art 192 or 290. One lecture and six laboratory hours weekly.)

This course enables the student to focus on the completion of a photographic portfolio. Students will present their work to instructor and peers, and will refine concepts and presentation through these critiques. May be taken twice for credit. (CSU) CSU Area C1

Astronomy

Will the universe expand forever? Is there life on other planets? How do stars form? These are only a few of the exciting questions confronting astronomers. The development of space observatories, the construction of large telescopes on earth, and the availability of large computers for data analysis and theoretical calculations has been accompanied by a rapid growth in the sophistication of this field.

Career Options

Astronomer/Astrophysicist
Astronomy Instructor
Director of Planetarium/Science Museums
Observatory Staff Member
Technical Staff Member

Faculty

Bernd T. Enders

Department Phone: (415) 485-9549

Suggested Transfer Preparation

Major requirements are subject to change. Please consult the latest catalog of the school you plan to

attend and meet with a College of Marin counselor. Updated information is available at www.assist.org, a statewide repository of articulation and student transfer information.

Lower division major requirements for upper division standing at:

University of California, Berkeley

Astrophysics

Math 116, 123, 124, 223, 224

Physics 207A, 207B, 207C

Recommended: Astronomy 101 and 105, and 117L

Students are encouraged to acquire a reading knowledge of German, Russian, or French.

Astronomy Courses (ASTR)

39. Selected Topics (Nondegree Applicable). (1/2-6) (Please see Selected Topics category.)

101. Introduction to Astronomy. (3) (No prerequisite. Two lecture and one discussion hour weekly.)

This course is a non-mathematical description of the universe designed especially for the nonscience student. Topics include the sky and its apparent motion, the law of gravity, the nature of light, the solar system, stars and stellar evolution, galaxies and cosmology, and life in the universe. Can also be offered in a distance learning format. (CSU/UC)
AA/AS Area A, CSU Area B1, IGETC 5A

105. Cosmic Evolution. (3) (No prerequisite. Can be taken for credit as Astronomy 105, Biology 105, or Geology 105. However, credit will be awarded for only one course. Three lecture hours weekly.)

This is an interdisciplinary course that explores the origins and evolution of the cosmos from the Big Bang and the formation of the universe and Earth, to the development of life. Students will explore basic concepts and principles that bind all scientific disciplines, and the nature of science and scientific inquiry. Through the study of astronomy, chemistry, geology, and biology, students will discover the interrelatedness of all matter, living and nonliving in the cosmos and how physical and chemical processes eventually led to the evolution of living organisms. (CSU/UC)

AA/AS Area A, CSU Area B1 or B2, IGETC Area 5A

117F. Introductory Astronomy Field Lab. (1) (Prerequisite: Astronomy 101 or 105 or Physics 110 or concurrent enrollment. The maximum credit allowed for Astronomy 117F and 117L is one

course. A one-week field trip consisting of fifty-two and one-half laboratory hours.)

This course will develop the student's ability to investigate and solve problems in astronomy. Techniques of experimentation, direct observation, data gathering, and interpretation will be employed to solve both classical and contemporary problems in astronomy. The class will include observations using telescopes, astrophotography, and computer acquisition of data. This course will develop the student's awareness of the scientific method and how to apply it to specific problems and their solutions. (CSU)

AA/AS Area A, CSU Area B1

117L. Introductory Astronomy Lab. (1) (Prerequisite: Astronomy 101 or 105 or Physics 110 or current enrollment. Three laboratory hours weekly.)

This course will develop the student's ability to investigate and solve problems in astronomy. Techniques of experimentation, direct observation, data gathering, and interpretation will be employed to solve both classical and contemporary problems in astronomy. The class will include observations using telescopes, astrophotography, and computer acquisition of data. This course will develop the student's awareness of the scientific method and how to apply it to specific problems and their solutions. (CSU/UC)

AA/AS Area A, CSU Area B1, IGETC 5A

139. Selected Topics. (1/2-6) (Please see Selected Topics category.) (CSU/UC w/limit)

249. Directed Study. (1-3) (Limit to Enrollment: One astronomy or physics course. Prior arrangement with instructor is necessary. Three laboratory hours per unit weekly.)

A course designed to give a student an opportunity to participate in a research program in astronomy. (CSU/UC w/limit)

Automotive Collision Repair Technology

The Automotive Collision Repair Technology Program is designed to prepare students for entry into one or more of the many service branches of the expanding automotive collision repair and maintenance fields. This program will also meet the needs of

those in the adult community interested in acquiring the knowledge and skills necessary to repair and maintain the appearance and value of their personal vehicles.

Career Options

- Auto Design Engineer
- Insurance Estimator/
Adjuster
- Owner/Operator/Manager
(Independent or Dealer)
- Specialist in Body Work
- Specialist in Painting
- Working Foreman

Faculty

Ron Palmer

Department Phone: (415) 883-2211, Ext. 8532

A.S. in Master Collision Repair, Occupational

(Career Certificate also awarded. Skills Certificates available in Mechanical and Electrical Components, Nonstructural Damage Repair, Painting and Refinishing, and Structural Damage Repair.)

The Automotive Collision Repair Technology Program is offered at the Indian Valley Campus. Students who complete the requirements for Master Collision Repair and additional general education and graduation requirements will be awarded an Associate in Science degree. Students who complete only the required courses for the major will receive a Career Certificate. A Skills Certificate is earned by completion of the required courses as listed for the specific Skills Certificate. In addition, students may be credited with up to two years toward their apprenticeship in Marin County's automotive reconditioning and refinishing market.

Please note: Students may choose English 120, 120SL, or 150 to complete the Associate degree. Transfer students, however, are advised to complete English 150. All students should consult a counselor.

Requirements

Units

The following courses are required of all Master Collision Repair degree and/or Career Certificate students.

ACRT	167	Joining and Fastening Processes I	2
ACRT	168	Joining and Fastening Processes II	2
ACRT	169	Metalworking and Fundamentals I	4
ACRT	170	Metalworking and Fundamentals II	4
ACRT	171	Dent and Damage Repair	2
ACRT	176	Introduction to Plastics for Automotive Body Repair	2
ACRT	177	Maintenance and Detailing	2
ACRT	178	Introduction to Welding for Automotive Body Repair	2
ACRT	180	Panel Replacement	2
ACRT	249B	Directed Study	4
	or		
ACRT	160A	Automotive Painting and Refinishing Repair Workshop	1
	and		
ACRT	160B	Automotive Dent and Damage Repair Workshop	1
	and		
ACRT	160C	Automotive Structural Repair Workshop	1
	and		
ACRT	160D	Automotive Mechanical and Electrical Repair Workshop	1
ACRT	273	Painting and Refinishing	4
ACRT	274	Painting and Refinishing-- Enamels and Polyurethanes	4
ACRT	279	Frame Straightening and Repair	2
AUTO	113	Specialized Electronic Training	5
AUTO	225	Automotive Careers and Customer Relations	3
AUTO	235	Automotive Air Conditioning	2 1/2
AUTO	278	Alignment, Wheel Balance, and Brakes	2
	or		
AUTO	118	Brakes, Alignment and Suspension	6
MATH	95E*	Automotive Technician Applications	1

* Applied toward the Career Certificate only.

Skills Certificates

Skills Certificates are an acknowledgement that the student has attained a specified set of competencies within an occupational program. Skills Certificates may be part of a "ladder" of skills, beginning with job entry skills and leading to a full Career Certificate program or may constitute a skill set that enables a student to upgrade or advance in an existing career. Skills Certificates require less than 18 units and are shorter in duration than the Career Certificate.

Mechanical and Electrical Components Skills Certificate

This Skills Certificate demonstrates competency of skills necessary to qualify for an intermediate-level job in automotive collision repair. Students should be prepared to take and pass the ASE Structural Damage Repair Test Certification.

ACRT	178	Introduction to Welding for Automotive Body Repair	2
ACRT	249A	Directed Study	1
	or		
ACRT	160D	Automotive Mechanical and Electrical Repair Workshop	1
AUTO	113	Specialized Electronic Training	5
AUTO	235	Automotive Air Conditioning	2-1/2
AUTO	278	Alignment, Wheel Balance and Brakes	2
	or		
AUTO	118	Brakes, Alignment and Suspension	6
MATH	95E	Automotive Technician Applications	1

Nonstructural Damage Repair Skills Certificate

This Skills Certificate demonstrates competency of skills necessary to qualify for an entry-level automotive collision repair job. Students should be prepared to take and pass the ASE Nonstructural Damage Repair Test Certification.

ACRT	167	Joining and Fastening Processes I	2
ACRT	169	Metalworking and Fundamentals I	4
ACRT	171	Dent and Damage Repair	2
ACRT	176	Introduction to Plastics for Automotive Body Repair	2
ACRT	178	Introduction to Welding for Automotive Body Repair	2
ACRT	180	Panel Replacement	2

ACRT	249B	Directed Study	2
	or		
ACRT	160B	Dent and Damage Repair Workshop	2

Painting and Refinishing Skills Certificate

This Skills Certificate demonstrates competency of skills necessary to qualify for an entry-level automotive painting and refinishing technician job. Students should be prepared to take and pass the ASE Painting and Refinishing Test Certification.

ACRT	176	Introduction to Plastics for Automotive Body Repair	2
ACRT	177	Maintenance and Detailing	2
ACRT	249B	Directed Study	2
	or		
ACRT	160A	Automotive Painting and Refinishing Repair Workshop	2
ACRT	273	Painting and Refinishing	4
ACRT	274	Painting and Refinishing-- Enamels and Polyurethanes	4
MATH	95E	Automotive Technician Applications	1

Structural Damage Repair Skills Certificate

This Skills Certificate demonstrates competency of skills necessary to qualify for an entry-level job in automotive structural sheet metal collision repair. Students should be prepared to take and pass the ASE Structural Damage Repair Test Certification.

ACRT	168	Joining and Fastening Processes II	2
ACRT	170	Metalworking and Fundamentals II	4
ACRT	249B	Directed Study	2
	or		
ACRT	160C	Automotive Structural Repair Workshop	2
ACRT	279	Frame Straightening and Repair	2
AUTO	278	Alignment, Wheel Balance, and Brakes	2
	or		
AUTO	118	Brakes, Alignment and Suspension	6
MATH	95E	Automotive Technician Applications	1

Automotive Collision Repair Technology Courses (ACRT)

39. Selected Topics (Nondegree Applicable). (1/2-6) *(Please see Selected Topics category.)*

139. Selected Topics. (1/2-6) *(Please see Selected Topics category.)* (CSU w/limit)

160A. Automotive Painting and Refinishing Repair Workshop. (1) *(No prerequisite. Three laboratory hours weekly.)*

This course is designed as a skill-building workshop in the area of automotive refinishing. Students will work on projects of their choice under the direction and supervision of the instructor. Practice will include methods and techniques in basic, intermediate and advanced levels of auto refinishing. Related aspects of the automotive collision repair field will also be reviewed and practiced. May be taken four times for credit. (CSU)

160B. Automotive Dent and Damage Repair Workshop. (1) *(No prerequisite. Three laboratory hours weekly.)*

This course is designed as a skill-building workshop in the area of automotive dent and damage repair. Students will work on projects of their choice under the direction and supervision of the instructor. Practice will include methods and techniques in basic, intermediate and advanced levels of auto non-structural. Related aspects of the automotive collision repair field will also be reviewed and practiced. May be taken four times for credit. (CSU)

160C. Automotive Structural Repair Workshop. (1) *(No prerequisite. Three laboratory hours weekly.)*

This course is designed as a skill-building workshop in the area of automotive structural repair. Students will work on projects of their choice under the direction and supervision of the instructor. Practice will include methods and techniques in basic, intermediate and advanced levels of auto structural repair. Related aspects of the automotive collision repair field will also be reviewed and practiced. May be taken four times for credit. (CSU)

160D. Automotive Mechanical and Electrical Repair Workshop. (1) *(No prerequisite. Three laboratory hours weekly.)*

This course is designed as a skill-building workshop in the area of automotive mechanical and electrical repair. Students will work on projects of their choice

under the direction and supervision of the instructor. Practice will include methods and techniques in basic, intermediate and advanced levels of auto mechanical and electrical repair. Related aspects of the automotive collision repair field will also be reviewed and practiced. May be taken four times for credit. (CSU)

160E. Automotive Plastic Repair Workshop. (1) *(No prerequisite. Three laboratory hours weekly.)*

This course is designed as a skill-building workshop in the area of automotive plastic repair. Students will work on projects of their choice under the direction and supervision of the instructor. Practice will include methods and techniques in basic, intermediate and advanced levels of auto plastic repair. Related aspects of the automotive collision repair field will also be reviewed and practiced. May be taken four times for credit. (CSU)

167. Joining and Fastening Processes I. (2) *(No prerequisite. One lecture and three laboratory hours weekly.)*

This course will be primarily concerned with the various methods and techniques of fastening and joining of metals and various metal parts as they relate to the vehicle body and frame. This will include plasma arc cutting, electric spot, migwire, gas fusion, brazing, riveting, bolting, clips, retainers, and epoxy. May be taken four times for credit. (CSU)

168. Joining and Fastening Processes II. (2) *(No prerequisite. One lecture and three laboratory hours weekly.)*

This course will be primarily concerned with advanced methods and techniques of fastening and joining of metals and various metal parts as they relate to the vehicle body and frame. This will include plasma arc cutting, electric spot, migwire, gas fusion, brazing, riveting, bolting, clips, retainers, and epoxy. May be taken four times for credit. (CSU)

169. Metalworking and Fundamentals I. (4) *(No prerequisite. Two lecture and six laboratory hours weekly.)*

This course is designed to assist the student to successfully enter the automotive collision repair field or to understand metalworking techniques for their usefulness in other applications. It will include basic metal straightening fundamentals and will introduce the beginner to the tools, techniques, and theory of metalworking. Provides the laboratory

practice necessary for metal bumping and metal finishing required for successful rebuilding of damaged vehicle body panels and parts. May be taken four times for credit. (CSU)

170. Metalworking and Fundamentals II. (4) *(No prerequisite. Two lecture and six laboratory hours weekly.)*

This course is designed to assist the student to successfully enter the automotive collision repair field and/or to understand metalworking techniques for their usefulness in other applications. It will include advanced metal straightening fundamentals and will introduce the beginner to advanced tools techniques, and the theory of metalworking. This course provides the laboratory practice necessary for metal bumping and metal finishing required for successful rebuilding of damaged vehicle body panels and parts. In addition, it will introduce the student to many other up-to-date timesaving metalworking techniques. It will cover the proper use of plastic fillers, slide-hammers, pull rods, dozers, and powerposts. May be taken four times for credit. (CSU)

171. Dent and Damage Repair. (2) *(No prerequisite. One lecture and three laboratory hours weekly.)*

This course is designed for the person whose car has everyday run-of-the-mill dents, scrapes, scratches, and gouges. You can't remember where they all came from, but these are the ones that are usually left unfixed or you end up paying for them out of your own pocket. Most people simply lack the confidence to attempt their own minor automotive body and fender repairs. Until now the basic do-it-yourself instructions have not been available. With a surprisingly small number of tools, anyone can make small automotive body and fender repairs. May be taken four times for credit. (CSU)

Note: All work done on vehicles must have instructor's approval.

176. Introduction to Plastics for Automotive Body Repair. (2) *(No prerequisite. One lecture and three laboratory hours weekly.)*

Because plastic is lighter in weight than metal, it has become an important part of today's vehicles. Plastic is synthetically compounded from crude oil, coal, natural gas, and other natural substances. Plastic vehicle parts include bumpers, fender extensions, fascias, fender aprons, grille openings, stone shields, instrument panels, trim panels, fuel lines, door panels, and engine parts. In this course students will be able to understand and use plastics

of all types in automotive repairs of the parts listed above. May be taken four times for credit. (CSU)

177. Maintenance and Detailing. (2) *(No prerequisite. This course is required for automotive body and fender technology majors. One lecture and three laboratory hours weekly.)*

This course covers complete body care and maintenance: buffing, rubbing, polishing, upholstery cleaning and dyeing, paint touchup (interior and exterior), carpets and mats, vinyl and convertible top maintenance and color change, chrome parts and paint upkeep, and engine and chassis cleaning and painting. May be taken four times for credit. (CSU)

178. Introduction to Welding for Automotive Body Repair. (2) *(No prerequisite. One lecture and three laboratory hours weekly.)*

With major collision repairs, many of the panels or parts on a vehicle must be replaced and welded into place. The structural integrity of a vehicle is dependent upon how well you weld and install panels and parts. In this course you will learn how to identify the three classes of welding and the techniques used in the welding and installation of panels. The student will learn the various methods of welding, basic welding techniques, grazing and soldering, and plasma arc cutting. May be taken four times for credit. (CSU)

180. Panel Replacement. (2) *(No prerequisite. One lecture and three laboratory hours weekly.)*

This course will cover the basic procedures involved in the removal and replacement of quarter panels, rocker panels, door panels, and top panels. It also includes the various methods available for splicing damaged body panels or sections, rocker panels, floor sections, and front and rear body clips. May be taken four times for credit. (CSU)

249. Directed Study. (1-3) *(Please see Directed Study category.)* (CSU w/limit)

273. Painting and Refinishing. (4) *(No prerequisite. Two lecture and six laboratory hours weekly.)*

This course is designed as an introduction to the highly-skilled field of automotive spot painting and refinishing. It will include a comprehensive study of materials, equipment, and techniques necessary for the successful application of automotive refinishing material. May be taken four times for credit. (CSU)

274. Painting and Refinishing--Enamels and Polyurethanes. (4) *(No prerequisite. Two lecture and six laboratory hours weekly.)*

This course is designed as an introduction to the highly-skilled field of automotive enamel, acrylic enamel, and polyurethane refinishing. It will include

a comprehensive study of the materials, equipment, and techniques used for the successful application of each of these widely used automotive refinishing materials. May be taken four times for credit. (CSU)

279. Frame Straightening and Repair. (2) *(No prerequisite. One lecture and three laboratory hours weekly.)*

This course will cover conventional and unitized constructed vehicle frames, straightening and alignment of each type, alignment at cross members, rear and side frame members, suspension systems, and steering principles in their relationship to frame alignment. (Study, demonstration, and practice with various types of frame straightening machines, gauges, tools, and safety precautions, used in the automotive collision industry, will be covered.) May be taken four times for credit. (CSU)

Automotive Technology

The Automotive Technology Program is designed to prepare students to enter the automotive mechanics trade at the third year apprenticeship level. Both theory and manipulative skills of the trade are taught. While completing the two-year program for the Career Certificate or degree, students are required to work in the trade, as well as provide their own basic tool set, adding tools as needed.

Career Options

- Auto Mechanic - General
- Auto Mechanic - Specialized
- Brake Specialist
- Computer Systems Specialist
- Diagnostician Specialist
- Electrical Repair Specialist
- Emission Control Systems Specialist
- Front End Specialist
- Fuel Injection Specialist
- Transmission Specialist

- Tune-Up Specialist
- Factory Service Representative
- Parts Salesperson
- Pre-Teacher Training
- Private Business Owner
- Service Manager

Faculty

- George Hritz
- Ron Palmer

Department Phone: (415) 883-2211, Ext. 8531

A.S. in Automotive Technology: Master Repair, Occupational

(Career Certificate also awarded. Skills Certificates available in Automotive Service Advisor, Brakes and Suspension, Drive Trains, Electrical/Performance, Emissions, Engine Repair, and Heating and Air Conditioning.)

The Automotive Technology Program is offered at the Indian Valley Campus. An Associate of Science degree in Automotive Technology: Master Repair is awarded for satisfactory completion of the technical requirements, as well as the general education requirements. A Career Certificate is awarded for satisfactory performance in required technical training. A Skills Certificate is earned by completion of the required courses as listed for the specific Skills Certificate. Students are required to work in the trade for a minimum of 2,000 hours while completing the two-year program. They should possess their own basic tool set, adding tools as needed.

The Automotive Technology: Master Repair Career Certificate or degree is a sequential program with each semester building on the previous semester. Although there are no prerequisites for individual courses, students tend to be more successful if they follow the suggested sequence of courses.

Please note: Students may choose English 120, 120SL, or 150 to complete the Associate degree. Transfer students, however, are advised to complete English 150. All students should consult a counselor.

Requirements			Units
AUTO	112	Automotive Engines	4
AUTO	113	Specialized Electronic Training	5
AUTO	114	Automotive Basic Fuel Systems	4

AUTO	116	Automotive Electrical Systems	6
AUTO	118	Brakes, Alignment and Suspension	6
AUTO	225	Automotive Careers and Customer Relations	3
AUTO	228	Automotive Computer Controls	4
AUTO	229	Automotive Systems, Troubleshooting and Diagnosis	4
AUTO	232	Automatic Transmission/Transaxles	4
AUTO	233	Manual Drive Trains and Axles	4
AUTO	235	Automotive Air Conditioning	2 1/2
AUTO	238	Basic Area Clean Air Car Course	3 1/2
AUTO	240	Enhanced Area Clean Air Car Course	1
AUTO	249	Directed Study (Fieldwork)	4
MACH	120	Machine Technology I	3
MACH	130	Welding I	2
MATH	95E*	Automotive Technician Applications	1

* Applied toward the Career Certificate only.

Skills Certificates

Skills Certificates are an acknowledgement that the student has attained a specified set of competencies within an occupational program. Skills Certificates may be part of a "ladder" of skills, beginning with job entry skills and leading to a full Career Certificate program or may constitute a skill set that enables a student to upgrade or advance in an existing career. Skills Certificates require less than 18 units and are shorter in duration than the Career Certificate.

Automotive Service Advisor Skills Certificate

This Skills Certificate provides the student with the skills necessary to qualify for an entry-level service writer/advisor.

AUTO	110	Introduction to Automotive Maintenance	3
AUTO	111	Automotive Maintenance - Intermediate	3
BUS	144	Business Communication	3
CIS	110	Introduction to Computer Information Systems	3
MATH	95E	Automotive Technician Applications	1

Brakes and Suspension Skills Certificate

This Skills Certificate signifies to employers that the student has completed comprehensive training in the skill area of brake and suspension system repair and will require minimal supervision upon employment.

AUTO	113	Specialized Electronic Training	5
AUTO	118	Brakes, Alignment and Suspension	6
AUTO	249A*	Directed Study (Fieldwork)	1
MATH	95E	Automotive Technician Applications	1

* Each section of AUTO 249A may be applied to only one Skills Certificate.

Drive Trains Skills Certificate

This Skills Certificate signifies to employers that the student has completed comprehensive training in the skill areas of transmission/transaxle and drive train repair and will require minimal supervision upon employment.

AUTO	113	Specialized Electronic Training	5
AUTO	232	Automatic Transmissions/Transaxles	4
AUTO	233	Manual Drive Trains and Axles	4
AUTO	249A*	Directed Study (Fieldwork)	1
MATH	95E	Automotive Technician Applications	1

* Each section of AUTO 249A may be applied to only one Skills Certificate.

Electrical/Performance Skills Certificate

This Skills Certificate signifies to employers that the student has completed comprehensive training in the skill areas of electrical system and drivability repair and will require minimal supervision upon employment.

Select 17 units from the following courses:

AUTO	113	Specialized Electronic Training	5
AUTO	116	Automotive Electrical Systems	6
AUTO	228	Automotive Computer Controls	4
AUTO	229	Automotive Systems, Troubleshooting and Diagnosis	4

AUTO	249A*	Directed Study (Fieldwork)	1
AUTO	281	Electrical & Electronic Systems Training - A6 Alternative	2
AUTO	283	Engine Performance Diagnosis & Repair - A8 Alternative	2
AUTO	285	Advanced Engine Performance/Emissions - L1 Alternative	2
MATH	95E	Automotive Technician Applications	1

* Each section of AUTO 249A may be applied to only one Skills Certificate.

Emissions Skills Certificate

This Skills Certificate meets the educational requirements of the Bureau of Automotive Repair to qualify for the examination to gain an Advanced Emission Technician Specialist (EA) license.

AUTO	238	Basic Area Clean Air Car Course	3 1/2
AUTO	240	Enhanced Area Clean Air Car Course	1
AUTO	281	Electrical & Electronic Systems Training - A6 Alternative	2
AUTO	283	Engine Performance Diagnosis & Repair - A8 Alternative	2
AUTO	285	Advanced Engine Performance/Emissions - L1 Alternative	2
AUTO	249A*	Directed Study (Fieldwork)	2

* Each section of AUTO 249A may be applied to only one Skills Certificate. Course must be taken twice.

Engine Repair Skills Certificate

This Skills Certificate signifies to employers that the student has completed comprehensive training in the skill area of engine repair and will require minimal supervision upon employment.

AUTO	112	Automotive Engines	4
AUTO	113	Specialized Electronic Training	5
AUTO	249A*	Directed Study (Fieldwork)	1
MATH	95E	Automotive Technician Applications	1

* Each section of AUTO 249A may be applied to only one Skills Certificate.

Heating and Air Conditioning Skills Certificate

This Skills Certificate signifies to employers that the student has completed comprehensive training in the skill area of heating and air conditioning systems repair and will require minimal supervision upon employment.

AUTO	113	Specialized Electronic Training	5
AUTO	235	Automotive Air Conditioning	2 1/2
AUTO	249A*	Directed Study (Fieldwork)	1
MATH	95E	Automotive Technician Applications	1

* Each section of AUTO 249A may be applied to only one Skills Certificate.

Automotive Technology Courses (AUTO)

39. Selected Topics (Nondegree Applicable). (1/2-6) *(Please see Selected Topics category.)*

99. Internship in Automotive Technology. (1 1/2) *(No prerequisite. Corequisite: Automotive Technology 110. Nine lecture hours and fifty-four internship hours total.)*

In this course, students learn job search methods, conventions and expectations in the workplace, composition of essential job-search documents such as cover letters and resumes, creation of traditional and electronic portfolios, and interview techniques. In addition, in the lab component of the course, students undertake an on-site experience (internship) in a business that corresponds to the subject matter taught in Automotive Technology 110.

110. Introduction to Automotive Maintenance. (3) *(No prerequisite. Two lecture and three laboratory hours weekly.)*

An introductory course which will study basic lab procedures, safety, service information, oil change service, under hood inspection, under vehicle service and belts, hoses, tubing services, tire and wheel service, and cooling system service. May be taken four times for credit. (CSU)

111. Automotive Maintenance -- Intermediate. (3) *(No prerequisite. Two lecture and three laboratory hours weekly.)*

An intermediate course which will study engine testing and repair, engine performance, fuel and emission service, general electrical system repair,

battery service, brake service and suspension, and steering and alignment service. May be taken four times for credit. (CSU)

112. Automotive Engines. (4) *(No prerequisite. Two lecture and six laboratory hours weekly.)*

This course is designed for students with a desire to become automotive technicians. This course provides training in diagnosing and servicing modern automotive engines used on cars, pickups, light trucks, and utility vehicles. The course covers operation and repair of automotive engines including disassembly, testing, and reassembly. Automotive machine shop skills are not included. This course is a skills-competency based curriculum. In order to pass this class, each student must demonstrate his/her competency to perform skills necessary to qualify for technician positions, which require minimum supervision upon employment. May be taken four times for credit. (CSU)

113. Specialized Electronic Training. (5) *(No prerequisite. Four lecture and three laboratory hours weekly.)*

This course is designed for students with a desire to become technicians. This course provides training in electrical and electronic systems used on cars, pickups, light trucks, and utility vehicles. The course includes theory and operations of OHMS law, Digital Volt Ohm Meters, electrical circuits, wiring diagrams, schematics, and wire repair. This course is a skills-competency based curriculum. In order to pass this class each student must demonstrate his/her competency to perform skills necessary to qualify for technician positions, which require minimum supervision upon employment. May be taken four times for credit. (CSU)

114. Automotive Basic Fuel Systems. (4) *(No prerequisite. Two lecture and six laboratory hours weekly.)*

This course is designed for students with a desire to become technicians. This course provides training in diagnosing and servicing modern automotive fuel systems used on cars, pickups, light trucks, and utility vehicles. The course covers operation and repair of fuel systems, carburetors, and electronic fuel injection systems. Modern diagnostic tools and equipment will be used. This class is a skills-competency based curriculum. In order to pass this class each student must demonstrate his/her competency to perform skills necessary to qualify for technician positions which require minimum supervision upon employment. May be taken four times for credit. (CSU)

116. Automotive Electrical Systems. (6) *(No prerequisite. Three lecture and nine laboratory hours weekly.)*

This course is designed for students with a desire to become technicians. This course provides training in diagnosing and servicing modern automotive electrical systems used on cars, pickups, light trucks, and utility vehicles. Emphasis is placed on developing a comprehensive understanding of all electrical components with special emphasis on diagnosis, repair, and testing of electrical systems. This course is a skills-competency based curriculum. In order to successfully pass this class each student must demonstrate his/her competency to perform skills necessary to qualify for technician positions, which require minimum supervision upon employment. May be taken four times for credit. (CSU)

118. Brakes, Alignment, and Suspension. (6) *(No prerequisite. Three lecture and nine laboratory hours weekly.)*

Wheel balance, wheel alignment, brake repair, automotive suspensions, steering gears, and driveline repair. Students will learn to balance wheels, become proficient in operating wheel aligners, including four-wheel computer aligners, repair and service both disc, drum and anti-skid brake systems, and service both rack and pinion and worm gear steering gears. Diagnosing and troubleshooting all of these systems is included. Health and safety working with asbestos will be stressed. May be taken four times for credit. (CSU)

119. Selected Topics. (1/2-6) *(Please see Selected Topics category.) (CSU w/limit)*

225. Automotive Careers and Customer Relations. (3) *(No prerequisite. Three lecture hours weekly.)*

This course will include the types of human needs and behaviors in business and industry and is designed to improve individual attitudes, productivity, and morale in working. Students will also study methods of work and time scheduling in the independent service shop, service station, and dealerships. Students will be exposed to a variety of speakers from industry who will review their personal career in the automotive industry. May be taken four times for credit. (CSU)

228. Automotive Computer Controls. (4) *(No prerequisite. Two lecture and six laboratory hours weekly.)*

This course is designed for students with a desire to become technicians. This course provides training in diagnosing and servicing modern automotive computer control systems used on cars, pickups, light trucks, and utility vehicles. This course covers operation of sensors, actuators and control modules, and the use of modern scan tools and diagnostic tools. This class is a skills-competency based curriculum. In order to pass this class each student must demonstrate his/her competency to perform skills necessary to qualify for technician positions, which require minimum supervision upon employment. May be taken four times for credit. (CSU)

229. Automotive Systems, Troubleshooting and Diagnosis. (4) *(No prerequisite. Two lecture and six laboratory hours weekly.)*

This course is designed for students with a desire to become technicians. This course provides training in diagnosing and servicing modern automotive electronic and electronic systems used on cars, pickups, light trucks, and utility vehicles. This course covers the diagnostic thought process used to diagnose and repair cranking, charging, ignition, air bag, lighting systems, gauge and instrument panels, horn, wiper/washer, and accessory systems. This class is a skills-competency based curriculum. In order to pass this class each student must demonstrate his/her competency to perform skills necessary to qualify for technician positions, which require a minimum of supervision upon employment. May be taken four times for credit. (CSU)

232. Automatic Transmission/Transaxles. (4) *(No prerequisite. Two lecture and six laboratory hours weekly.)*

This course is designed for students with a desire to become technicians. This course provides training in diagnosing and servicing modern automotive automatic transmissions and transaxles used on cars, pickups, light trucks, and utility vehicles. The course covers construction, function, and principles of operation including planetary gears, power flow, friction devices, and hydraulic and electrical controls. This class is a skills-competency based curriculum. In order to pass this class each student must demonstrate his/her competency to perform skills necessary to qualify for technician positions,

which require minimum supervision upon employment. May be taken four times for credit. (CSU)

233. Manual Drive Trains and Axles. (4) *(No prerequisite. Two lecture and six laboratory hours weekly.)*

This course is designed for students with a desire to become a technician. This course provides training in diagnosing and servicing modern automotive manual transmissions and transaxles used on cars, pickups, light trucks and utility vehicles. This course covers theory and service of clutches, transmissions, transaxles, driveshafts, driveaxles, and 4-wheel drive systems. This class is a skills-competency based curriculum. In order to pass this class each student must demonstrate his/her competency to perform skills necessary to qualify for technician positions, which require minimum supervision upon employment. May be taken four times for credit. (CSU)

235. Automotive Air Conditioning. (2 1/2) *(No prerequisite. Two lecture and one and one-half laboratory hours weekly.)*

This course is designed for students with a desire to become technicians. This course provides training in diagnosing and servicing modern automotive air conditioning systems used on cars, pickups, light trucks, and utility vehicles. The course covers refrigerant certification, operation of manual and automatic A/C systems, and procedures used to test and repair heating and air conditioning systems. This class is a skills-competency based curriculum. In order to pass this class each student must demonstrate his/her competency to perform skills necessary to qualify for technician positions, which require minimum supervision upon employment. May be taken four times for credit. (CSU)

238. Basic Area Clean Air Car Course. (3 1/2) *(No prerequisite. Three lecture and one and one-half laboratory hours weekly.)*

All technicians who wish to become State Licensed Smog Inspection Technicians must complete this course. The course covers operation of the BAR 90 ET Emission Analyzer System, Bureau of Automotive Repair rules and regulations, vehicle emission testing procedures, theory and operation of the OBD II Engine Performance System. May be taken four times for credit. (CSU)

240. Enhanced Area Clean Air Car Course. (1)
(No prerequisite. A total of eighteen lecture hours and ten laboratory hours.)

This course is designed for technicians wishing to become licensed as an "Advanced Emission Specialist" Smog Inspection Technician. May be taken four times for credit. (CSU)

249. Directed Study. (1-3) *(Please see Directed Study category.)* (CSU w/limit)

276. Automatic Transmission Repair. (2) *(No prerequisite. One and one-half lecture and one and one-half laboratory hours weekly.)*

This course is designed to help upgrade skills in automotive transmission repair and diagnosis. Components such as planetary gears, clutches, controls, and valve bodies will be studied. Laboratory exercises will be conducted on laboratory transmissions, both foreign and domestic. May be taken four times for credit. (CSU)

278. Alignment, Wheel Balance, and Brakes. (2)
(No prerequisite. One and one-half lecture and one and one-half laboratory hours weekly.)

This course is designed for automotive technicians to update their knowledge and skills in automotive wheel alignment, wheel balance, and brakes. The course will include instruction on current wheel aligners, wheel balancing, and the use of drum and rotor lathes. Health and safety when working with asbestos will be stressed. May be taken four times for credit. (CSU)

281. Electrical and Electronic Systems Training - A6 Alternative. (2) *(No prerequisite. Two lecture hours and one laboratory hour weekly.)*

This course is designed to bring to students the knowledge and skills required to diagnose and repair modern vehicles experiencing drivability and emission faults resulting from electrical system malfunctions. May be taken four times for credit. (CSU)

283. Engine Performance Diagnosis and Repair - A8 Alternative. (2) *(No prerequisite. Two lecture hours and one laboratory hour weekly.)*

This course is designed to bring to students the knowledge and skills required to diagnosis and repair modern vehicles experiencing engine performance malfunction. May be taken four times for credit. (CSU)

285. Advanced Engine Performance/Emission Systems Diagnosis and Repair - L1 Alternative. (2) *(No prerequisite. Two lecture hours and one laboratory hour weekly.)*

This course is designed to bring to students the knowledge and skills required to diagnose and repair modern vehicles experiencing drivability and emission faults resulting from powertrain system malfunctions. May be taken four times for credit. (CSU)

Behavioral Science

Behavioral science is an interdisciplinary study of human behavior and encompasses such disciplines as anthropology, psychology, and sociology. The courses offered are intended to be used as a background for general education.

Faculty

Sarah Cirese
Marc E. Russell

Department Phone: (415) 485-9630

A.A. in Behavioral Science

In addition to other graduation requirements, completion of 18 units from any degree-applicable courses in anthropology, behavioral science, psychology, and sociology.

Please note: Students may choose English 120, 120SL, or 150 to complete the Associate degree. Transfer students, however, are advised to complete English 150. All students should consult a counselor.

Behavioral Science Courses (BEHS)

39. Selected Topics (Nondegree Applicable). (1/2-6) *(Please see Selected Topics category.)*

103. Human Sexuality. (3) *(No prerequisite. When specified in the class schedule, may be taken for credit as Behavioral Science 103 or Biology 108A. Students will receive credit for only one course. Three lecture hours weekly.)*

This is a survey course dealing with aspects of human sexual behavior. Topics will be considered from psychological, social, cultural, and biological perspectives. Topics to be included are sexual anatomy and physiology, hormones, conception and contraception, sex research, sex and the life span, human sexual activities and behaviors, sexual orientation, gender, sex and society, and contemporary sexual issues. (CSU/UC)

AA/AS Area B, CSU Area D or E, IGETC Area 4

105. Sex Roles in Contemporary Society. (3) *(No prerequisite. Three lecture hours weekly.)*

This course examines the ways in which female and male roles and sex role stereotyping influence our lives. Topics will include biological and cultural contributions to sex role-playing in interpersonal relationships, and the impact of sex roles on personal growth. Emphasis on the social and personal implications of moving toward androgyny (role-free human behavior and identity). (CSU/UC)

114. Chemical Dependency. (3) *(No prerequisite. Three lecture hours weekly.)*

This course examines the behavioral and psychological effects of chemical dependency on the individual. Included is an analysis of the effects of substance abuse on the family and the sociological conditions contributing to substance abuse. The primary focus is on the role of the mental health professional in issues of substance abuse. (CSU)
CSU Area D1 or E

139. Selected Topics. (1/2-6) *(Please see Selected Topics category.) (CSU/UC w/limit)*

201. Understanding Globalization: The Impact of Social, Political, and Economic Change. (3) *(No prerequisite. Can be taken for credit as Behavioral Science 201, Economics 201, or Political Science 201. However, credit will be awarded for only one discipline. Three lecture hours weekly.)*

The world is becoming more integrated and interdependent, heightening the need for greater understanding of the impact of globalization on the economy, politics, and society. This interdisciplinary team-taught course explores the new wave of global political, economic, and social change and the opportunities and challenges it brings to states, institutions, and individuals. Focus is upon what the individual will need to know and understand to be an effective participant in these rapidly changing global phenomena. (CSU/UC)

AA/AS Area B, CSU Area D1 Fall 2000 and subsequent terms, IGETC Area 4

249. Directed Study in Anthropology, Psychology, and Sociology. (1-3) *(Limit to Enrollment: Successful completion of at least three units in anthropology, behavioral science, psychology, or sociology.)*

A course designed to give a student an opportunity to participate in individual study in the behavioral sciences. The student plans and executes an individual project under the direction of a member of the department. The course may be taken more than once for credit. (CSU/UC w/limit)

252ABC. Seminar and Fieldwork Experience. (2-4) *(No prerequisite. Behavioral Science 252ABC and Psychology 252ABC are equivalent. Credit is given for only one course. One lecture and four fieldwork hours weekly for two units; One lecture and eight fieldwork hours weekly for three units; One lecture and twelve fieldwork hours weekly for four units.)*

This course is designed to give the student meaningful participation in a psychologically related community service agency. Each student works in a program of his or her choice at a social agency, school, special education program, rehabilitation program, mental health agency, or community organization under the supervision of someone employed there. The one-hour weekly seminar is intended to provide students with an opportunity to present observations and discuss perceptions emerging from their participation in fieldwork agencies. Course may be taken additional semesters, up to a course total of eight units. (CSU)

Biology

Biology career options include a choice of dozens of intriguing specialties. One can concentrate on microbiology and investigate viruses, bacteria, or molds. One can focus on cytology and study cells or histology and delve into the structure of animal and vegetable tissue. Ichthyology, parasitology, embryology, genetics, ecology, and biochemistry are a few of the other choices in the field. Emerging areas of emphasis include the concern for the environment and allied health professions.

Career Options

Agricultural Biologist	Nutritionist
Biochemist	Occupational Therapist
Biologist	Orthotist-Prosthetist
Botanist	Osteopath
Chiropractor	Podiatrist
Dentist	Park Naturalist/Ranger
Entomologist	Pharmacist
Environmental Specialist	Pharmacologist
Fish & Game Technical Aide	Physical Therapist
Fish & Game Warden	Physician/Surgeon
Food Technologist	Registered Nurse
Forester	Research Assistant
Genetic Counselor	Sanitarian
Horticulturists	Scientific Illustrator
Industrial Hygienist	Speech Pathologist/ Audiologist
Inhalation Therapist	Teacher
Laboratory Technician	Technical Writer
Marine Biologist	Veterinarian
Medical Technologist	Wildlife Specialist
Microbiologist	X-Ray Technician
Nuclear Medical Technician	Zoo Curator
	Zoologist

Faculty

Paul da Silva
 Jamie Deneris
 David Egert
 Joseph Mueller

Department Phone: (415) 485-9574

Suggested Transfer Preparation

Major requirements are subject to change. Please consult the latest catalog of the school you plan to attend and meet with a College of Marin counselor. Updated information is available at www.assist.org, a statewide repository of articulation and student transfer information.

Biology Transfer Preparation

Lower division major requirements for upper division standing at:

San Francisco State University

Cell and Molecular Biology Concentration

Biology 115, 116

Chemistry 131, 132

Math 123

Physics 108A, 108B

One course from Math 115, 124, 223 or Statistics 115

Sonoma State University

Biology B.A.

Biology 115 and 116

Chemistry 131

Geology 120 or Physics 108A

Math 115 or Statistics 115

University of California, Berkeley

Molecular and Cell Biology:

Biology 115 and 116

Chemistry 131, 132, 231, 232

Math 123, 124

Physics 108A and 108AC, 108B and 108BC or 207A, 207B

Integrative Biology

Biology 115 and 116

Chemistry 131, 132, 231, 232

Math 121 or 123

Physics 108A and 108AC, 108B and 108BC or 207A, 207B

Note: Although this major requires only one semester of calculus, it is strongly recommended that students continue with the sequence, particularly if they intend to pursue studies in graduate or professional school. Additional courses in math, statistics, biochemistry, history of biology, and/or foreign languages is recommended.

Genetics and Plant Biology

Biology 115 and 116

Chemistry 131, 231, 232

English 150, 151, or 155

Math 121, 122, or Math 123, 124

Physics 108A and 108AC, 108B and 108BC or 207A, 207B, 207C

One computer science or statistics course from: Computer Science 200 or Math 115 or Statistics 115.

At least 15 units of UC transferable courses in humanities and social science from fields such as economics (except 101 and 102), history (except 117), philosophy, art, music, political science (except 101), or a foreign language (a maximum of six units is allowed.)

University of California, Davis

Biological Sciences B.A.

Biology 115, 116

Chemistry 131, 132, 231, 232

Math 115 or Statistics 115

Physics 108A, 108B

Recommended: Chemistry 132, Math 121 and 122 or 123 and 124

Biological Sciences B.S.*Biology 115, 116**Chemistry 131, 132, 231, 232**Math 115 or Statistics 115**Math 121 and 122 or 123 and 124**Physics 108A, 108B***University of California, Santa Cruz***Biology 115 and 116**Chemistry 131, 132, 231, 232**Math 123 and 124**Physics 108A, 108B or two from Physics 207A, 207B, 207C***Physical Therapy Transfer Preparation**

Since requirements differ at various institutions, it is advisable to consult with a counselor.

University of California, San Francisco*Biology 120, 224, 240**Chemistry 131, 132, 231**Physics 108A, 108B**Psychology 112, 204**90 Semester Units*

Students who enter this curriculum without the bachelor's degree must meet the following additional requirements:

*English 150, 151**History 117 or 118**Political Science 101**Three courses in humanities**Three courses in social science***Predental Transfer Preparation**

This is NOT a major. There are specific requirements for entering dental schools and these can be met by taking the following:

*Biology 115, 116**Chemistry 131, 132, 231, 232**Physics 108A, 108B***University of California, San Francisco***Biology 115 and 116**Chemistry 131 and 132, 231**English 150, 151**Physics 108A, 108B**Psychology 110*

Eleven semester units in social science, humanities, and/or foreign language.

Additional electives to bring the total number of units to 90 semester units.

Premedical Transfer Preparation

This is NOT a major. ANY major is acceptable and all majors are given equal consideration as long as the required courses are completed. The required courses for admission to ANY medical school are:

*Biology 115, 116**Chemistry 131, 132, 231, 232**Math 121, 122 or 123, 124 recommended**Physics 108A, 108B***Preveterinary Transfer Preparation**

Students may prepare for admission to Schools of Veterinary Medicine by taking the required courses at College of Marin. It is advisable to consult with a counselor concerning requirements for the specific school of attendance.

University of California, School of Veterinary Medicine*Biology 115 and 116**Chemistry 131, 132, 231, 232**Physics 108A, 108B***A.S. in Biology**

While students may take classes at both campuses, courses required for the major are offered at the Kentfield Campus.

Please note: Students are required to complete English 150 for the Associate degree. All students should consult a counselor.

Requirements			Units
BIOL	115*	Principles of Biology	5
BIOL	116+	Principles of Animal and Plant Diversity	5
CHEM	115	Survey of Organic and Biochemistry	4
	or		
CHEM	131	General Chemistry I	5
	and		
CHEM	132	General Chemistry II	5
MATH	104	Plane Trigonometry	3
PHYS	108A	General Physics I	5
PHYS	108B	General Physics II	5

* Prerequisite: Biol 110 and Chem 131. Chem 131 may be taken concurrently with Biol 115.

+ Biol 116 has Biol 110 and 110L prerequisites.

Career Certificate in Natural History

The Natural History Program is a field experience program based on scientific principles and concepts for students who want to develop a comprehensive understanding of the natural world. It is especially designed for elementary school teachers, natural history museum and environmental docents, and environmental educators. For students interested in receiving an Associate in Science degree in Biology, see requirements under that major.

Please note: Students are required to complete English 150 for the Associate degree in Biology. All students should consult a counselor.

Requirements			Units
BIOL	110	Introduction to Biology	3
BIOL	110L	Introduction to Biology Lab	1
BIOL	161	Field Botany	3
BIOL	162	General Ecology	3
BIOL	235	General Marine Biology	4
BIOL	237	Marine Ecology Field Studies	2
or			
BIOL	247	Extended Field Studies	1 1/2 -3
BIOL	245	Field Ecology of Marin	1
or			
BIOL	246	Field Ecology	2
GEOG	112	Meteorology and Climatology	3
GEOL	120	Physical Geology	3
GEOL	120L	Physical Geology Lab	1
GEOL	125	Field Geology I	2-1/2
or			
GEOL	128	Geologic Studies of Marin County	1

In addition, complete six units from the following courses:

BIOL	143	Stewardship of Marin Parks and Open Space	3
BIOL	147	Food, People, and the Environment	3
BIOL	164	Introduction to Mammalogy	3
BIOL	165	The World of Insects	2
BIOL	165LA	Introduction to Insect Biodiversity	1/2
BIOL	165LB	Biodiversity of Crickets, Scales and Hoppers	1/2
BIOL	165LC	Biodiversity of Beetles, Lacewings, Antlions, Fleas and Flies	1/2

BIOL	165LD	Biodiversity of Butterflies, Moths, Caddis Flies, Wasps, Bees and Ants	1/2
BIOL	167	Introduction to Herpetology	3
BIOL	169	Introduction to Ornithology	3
BIOL	170	Biology of Marine Animals	3
BIOL	171	Biology of Marine Mammals	3

Biology Courses (BIOL)

39. Selected Topics (Nondegree Applicable). (1/2-6) *(Please see Selected Topics category.)*

99. General Science. (3) *(No prerequisite. Can be taken for credit as Biology 99 or Geology 99. However, credit will be awarded for only one course. Three lecture hours weekly.)*

This course is designed for students who have not reached the level of success they desired in high school or college science courses and for individuals returning to school after an extended absence. The course covers basic scientific principles and concepts of the physical and life sciences and prepares students to move into other science classes with the information, understanding, and skills required to succeed. Introductory topics in biology, chemistry, geography, geology, meteorology, and physics are discussed. This course also provides an excellent overview of the most important topics in science today for anyone interested in learning more about the natural world.

100. Nutrition. (3) *(No prerequisite. Three lecture hours weekly.)*

This course provides an in-depth study of the basic principles of nutrition in health and disease. Topics include: nutrients, vitamins, digestion, metabolism, food safety, diets, eating disorders, and changing nutritional needs throughout life. This course is a general education course recommended for anyone curious or concerned about nutrition. (CSU/UC) AA/AS Area A, CSU Area E, CAN FCS 2

101. Field Biology. (3) *(No prerequisite. Two lecture and three laboratory hours weekly.)*

This outdoor field course is designed to give nonmajors in biology an overview of Marin's varied plant and animal communities. Most of Marin's 25 biotic community types are investigated including aquatic and terrestrial. Identification of plants, animals, and ecology are major areas of emphasis. (CSU) AA/AS Area A

104. The Ecology of Infectious Diseases. (3) *(No prerequisite. Three lecture hours weekly.)*

This course is designed for both science and nonscience majors interested in understanding the distribution and spread of infectious diseases. Emphasis is on the role that specific environments play in determining where and when epidemics will occur. Topics include the biology and ecology of microorganisms and their hosts, geographic medicine, the impact of human activity on the incidence and transmission of infectious diseases, and epidemics in human history. (CSU)

105. Cosmic Evolution. (3) *(No prerequisite. Can be taken for credit as Astronomy 105, Biology 105, or Geology 105. However, credit will be awarded for only one course. Three lecture hours weekly.)*

This is an interdisciplinary course that explores the origins and evolution of the cosmos from the Big Bang and the formation of the universe and Earth, to the development of life. Students will explore basic concepts and principles that bind all scientific disciplines, and the nature of science and scientific inquiry. Through the study of astronomy, chemistry, geology, and biology, students will discover the interrelatedness of all matter, living and nonliving in the cosmos and how physical and chemical processes eventually led to the evolution of living organisms. (CSU/UC)

AA/AS Area A, CSU Area B1 or B2, IGETC Area 5B

107. Human Biology. (3) *(No prerequisite. Can be taken for credit as Biology 107 or Physical Education 107. However, credit will be awarded for only one course. Three lecture hours weekly.)*

This course is designed to provide students with an introduction to the structure, function, and development of the human body. The course will give students the foundational concepts to explore personal and societal issues involving human biology as well as cover anatomy and physiology concepts useful in preparing for careers in wellness-related fields such as personal training, group fitness instruction, and massage therapy. Topics include an introduction to scientific methods of investigation and some elementary chemistry (no previous background necessary) as a basis for understanding human functions such as movement, digestion, circulation, reproduction, and other systems. Some diseases and other causes of body malfunction will be discussed. (CSU/UC)

AA/AS Area A, CSU Area B2, IGETC Area 5B

108. Animal Behavior. (3) *(No prerequisite. Advisory: Biology 110. Three lecture hours weekly.)*

Introduction to the behavior of animals with an emphasis on the evolution and adaptive significance of these behaviors. (CSU/UC)

108A. Human Sexuality. (3) *(No prerequisite. Biology 108A and Behavioral Science 103 combined, maximum credit allowed, one course. Three lecture hours weekly.)*

This is a survey course dealing with aspects of human sexual behavior. Topics will be considered from psychological, social, cultural, and biological perspectives. Topics to be included are sexual anatomy and physiology, hormones, conception and contraception, sex research, sex and the life span, human sexual activities and behaviors, sexual orientation, gender, sex and society, and contemporary sexual issues. (CSU/UC)

AA/AS Area A, CSU Area D or E

109. Heredity and Evolution. (3) *(No prerequisite. Three lecture hours weekly.)*

This is an introductory course on the principles of genetics and evolution. The factors that govern inheritance and natural selection are presented, and their impact on physical and cultural evolution discussed. Current issues surrounding genetic counseling, genetic engineering, recombinant DNA technologies, and emerging infectious diseases are introduced. The potential impact of these developments is discussed. (CSU/UC)

AA/AS Area A, CSU Area B2, IGETC Area 5B

110. Introduction to Biology. (3) *(No prerequisite. Advisory: Concurrent enrollment in Biology 110L. Three lecture hours weekly.)*

This course is an introduction to the science of biology for nonmajors as well as a prerequisite course for majors in biology. Subjects include ecology, human ecology, evolution, molecular, cell biology, genetics, systematics of monerans, protists, fungi, plants and animals, and human physiology. (CSU/UC)

AA/AS Area A, CSU Area B2, IGETC Area 5B

110L. Introduction to Biology Laboratory. (1) *(Prerequisite: Biology 110 or concurrent enrollment. Three laboratory hours weekly.)*

This course is an introduction to biology experimentation for nonmajors. Experiments and field studies are selected from ecology, molecular, cell biology, genetics, plant anatomy and identification, and human physiology topics. (CSU/UC)

AA/AS Area A, CSU Area B2, IGETC Area 5B

115. Principles of Biology. (5) (*Prerequisites: Biology 110, 110L, and Chemistry 131. Three lecture and six laboratory hours weekly.*)

This is an introductory course for biology majors covering the fundamentals of molecular and cell biology, genetics, DNA technology, evolution, and ecology. It is a lecture/laboratory-based course in which students incorporate lecture concepts into laboratory experiments that they design, carry out, analyze, and report.

Please note that Biology 115 is not a prerequisite for Biology 116. Since Biology 115 has a Chemistry 131 prerequisite and Biology 116 does not, students may wish to register for Biology 116 and Chemistry 131 during the same semester. (CSU/UC)
AA/AS Area A, CSU Area B2, IGETC Area 5B, CAN BIOL SEQ A = Biol 115 +116

116. Principles of Animal and Plant Diversity. (5) (*Prerequisite: Biology 110 and 110L. Three lecture and six laboratory hours weekly.*)

This is a course for biology majors to study the evolution of organisms from Monera to plants and animals. Emphasis will be placed on taxonomy, comparative morphology, and ecology of plants and animals.

Please note that Biology 115 is not a prerequisite for Biology 116. Since Biology 115 has a Chemistry 131 prerequisite and Biology 116 does not, students may wish to register for Biology 116 and Chemistry 131 during the same semester. (CSU/UC)
AA/AS Area A, CSU Area B2, IGETC Area 5B, CAN BIOL SEQ A = Biol 115 +116

120. Human Anatomy. (5) (*Prerequisite: Biology 110 and 110L. Three lecture and six laboratory hours weekly.*)

Study of structure and major functions of the human body through use of models and dissection. Includes introduction to related fields of biology such as histology and embryology. (CSU/UC)
AA/AS Area A, CSU Area B2, IGETC Area 5B, CAN BIOL 10, CAN BIOL SEQ B = Biol 120 + 224

138. Introduction to Environmental Science. (3) (*No prerequisite. Can be taken for credit as Biology 138 or Geology 138. However, credit will be awarded for only one course. Three lecture hours weekly.*)

This course identifies the environmental problems of our modern world, offers solutions compatible with humankind's need for natural resources, and strikes

the balance requisite for humankind's survival, the maintenance of a sustained environment. (CSU/UC)
CSU Area B1, IGETC Area 5A

139. Selected Topics. (1/2-6) (*Please see Selected Topics category.*) (CSU/UC w/limit)

140. Environmental Field Techniques. (1) (*No prerequisite. Can be taken for credit as Biology 140 or Geology 140. However, credit will be awarded for only one course. Three laboratory hours weekly.*)

This course is designed to teach the fundamentals of environmental sampling and monitoring. Topics include surveying and mapping; data collection and management; and hydrological, geological, and biological assessment methods. This course is field based and the emphasis is on the mastery of practical field techniques. May be taken four times for credit. (CSU)

142. Environmental Policy and Planning. (3) (*No prerequisite. Can be taken for credit as Biology 142 or Geology 142. However, credit will be awarded for only one course. Three lecture hours weekly.*)

This course is a study of federal, state, and local environmental legislation. It is a chronology of America's awakening to environmental issues and a study of our efforts to resolve these issues through the planning process. An understanding of the content of this course is vital for environmental scientists, planners, and developers. (CSU/UC)

143. Stewardship of Marin Parks and Open Space. (3) (*No prerequisite. Two lecture and three laboratory hours weekly.*)

Besides making Marin a desirable place in which to live and travel, its nonurbanized park and open space areas carry with them a great responsibility: preservation and enhancement of their best qualities for present and future generations. Fulfilling this responsibility is a continuing process that began years ago and now involves a diverse mix of philosophical, legislative, biological, sociological and logistical challenges. The course includes essential background material, interviews with current management personnel, and field visits to parkland and open space areas of special interest. (CSU)

145. Ethics in Science. (3) (*No prerequisite. Can be taken for credit as Biology 145 or Geology 145. However, credit will be awarded for only one course. Three lecture hours weekly.*)

This course explores some of the most pressing issues facing our society today. It enables students to investigate and understand the controversies

surrounding current and future technologies, and helps them make rational decisions when faced with situations in their own lives and at the voting booth. The approach is an interdisciplinary one, combining basic science, applied research, ethics, and decision-making processes. Topics include scientific fraud, recombinant DNA technologies, the human genome project, energy and land use, and toxic waste. This course is appropriate for both science and nonscience majors. (CSU/UC)

147. Food, People, and the Environment. (3) *(No prerequisite. Advisory: Biology 110. Two lecture and three laboratory hours weekly.)*

This course examines problems and solutions affecting the past, present and future of agriculture, the chief method of securing food from the environment and the basis of human civilization. Patterns of care and use of the major classes of agricultural resources will be surveyed, including domestication and genetic improvement of edible plants and animals, maintenance of soil fertility through manipulation of humus and individual plant nutrients, suppression of pests through chemical, biological and cultural techniques, and attempts to maximize efficiency in utilization of land, water, energy, labor, and capital. Effects of changes in demographics and socioeconomic conditions of producers and consumers of agricultural products will be discussed. Evolution and integration of production methods will be emphasized, through site-specific examples of functioning agricultural systems in Marin County, the rest of California, and the world. Special attention will be paid to the concept of sustainability and to the current debate between defenders of modern industrial agriculture and proponents of its alternatives, such as biodynamic, organic, and low-input agriculture. Includes field trips to selected agricultural areas of interest in Northern and Central California. (CSU)

148. Marin County Agriculture. (3) *(No prerequisite. Two lecture and three laboratory hours weekly.)*

This course focuses on one of Marin County's most significant human activities in terms of use of land and other natural resources, preservation of a valuable way of life, generation of economic benefits and formation of the unique character of the local environment. The course examines agricultural challenges and accomplishments by production systems and locality. It offers general overview, historical background and explanation of important biological, social and economic processes, as well as contemporary insights provided by those currently involved in the Marin County agricultural scene. Systems studied may include beef and dairy,

poultry, shellfish, flowers, fruits and vegetables, from planning and production through marketing and consumption, in both East and West Marin. Includes field trips to notable local farms. (CSU)

159. Introduction to Aquatic Biology. (3) *(No prerequisite. Two lecture and three laboratory hours weekly.)*

A field and hands-on laboratory course on the natural history and ecology of both living and nonliving components of freshwater environments. This course is designed to give the student practical experience in the identification and interrelationships of local plant and animal species found in freshwater ecosystems. Biology majors gain field experience in interpreting basic concepts in ecology, biotic zonation, and survival through adaptation and natural selection. (CSU)

AA/AS Area A

161. Field Botany. (3) *(No prerequisite. Two lecture and three laboratory hours weekly.)*

Introduction to the identification procedures, systematics, ecology, and natural history of bryophytes and vascular plants. Emphasis is on the identification and natural history of local plants native to Marin's 14 plant communities. Laboratory investigations include hands-on analysis of vascular plant parts useful for identification purposes. Field explorations are used in understanding the ecology of local plant communities. (CSU)

162. General Ecology. (3) *(No prerequisite. Advisory: Biology 110. Two lecture and three laboratory hours weekly.)*

Introduction to the ecology of organisms in their environment. Emphasis is on the ecology of global, regional and local environmental sustainability. Field explorations are used in understanding ecological concepts in relation to Marin's biotic communities. (CSU/UC)

AA/AS Area A, CSU Area B2, IGETC Area 5B

163. Ecology of Estuaries. (3) *(No prerequisite. Advisory: Biology 110. Two lecture and three laboratory hours weekly.)*

Special ecological study of the great San Francisco Bay estuary system of rivers, Delta, sloughs/marshes, lower bays, and Tomales Bay/Bolinas Lagoon habitats. Dynamics of natural ecology and man's encroachment/pollution are studied. (CSU)

164. Introduction to Mammalogy. (3) *(No prerequisite. Advisory: Biology 110. Two lecture and three laboratory hours weekly.)*

Introduction to the natural history, ecology, and behavior of mammals. Emphasis is on the natural history of California mammals, techniques in studying mammals, tracking, and interpretation of mammal sign. Laboratory investigations include hands-on analysis of mammal anatomy and physiology. Field explorations are used in understanding mammalogy concepts in relation to their survival strategies. (CSU)

165. The World of Insects. (2) *(No prerequisite. Advisory: Biology 110 and 165LA - LD. Two lecture hours weekly.)*

Insects are the largest group of organisms on earth today. This course is a general introduction to these diverse and amazing creatures. Topics to be covered include insect structure and function, history and evolution, habitats and adaptations, and ecological relationships with other organisms, including those of major economic importance to humans in the areas of agriculture, architecture, forestry, animal husbandry, medicine and public health. As befits such a hard-to-ignore group, insect roles in literature, folklore, philosophy, painting, sculpture and other arts will not be neglected. (CSU)

165LA. Introduction to Insect Biodiversity. (1/2) *(No prerequisite. Advisory: Biology 165. Four laboratory and two field-trip hours weekly for four weeks.)*

The amazing diversity of insects is a result of unique structural and functional features that can best be appreciated by close study of well-prepared specimens using proper magnification and illumination. This is a short course designed to present the basics necessary for further study of insect diversity. It also gives an overview of the major insect orders, and includes details of the earliest insects, mayflies, damselflies and dragonflies. (CSU)

165LB. Biodiversity of Crickets, Scales and Hoppers. (1/2) *(Prerequisite: Biology 165LA. Four laboratory and two field-trip hours weekly for four weeks.)*

The grasshoppers, katydids, crickets, cockroaches, stoneflies, earwigs, termites, mantids, and leaf and stick insects are among the most ancient of insects. The true bugs, hoppers, spittlebugs, psyllids, aphids, cicadas, thrips, scales, mealybugs and whiteflies came later. Yet all are very important in the modern

world. This is a short course designed to present the basics necessary for further study of the diversity of these insects. (CSU)

165LC. Biodiversity of Beetles, Lacewings, Antlions, Fleas and Flies. (1/2) *(Prerequisite: Biology 165LA. Four laboratory and two field-trip hours weekly for four weeks.)*

It has been estimated that one of every five living things on earth is a beetle. But although beetles are considered the largest and most diverse group of insects, their distant relatives the lacewings and antlions are important and ferocious predators. For their parts, the flies are everywhere and have special interactions with humans, as do the fleas. This is a short course introducing the biodiversity of these insect groups. (CSU)

165LD. Biodiversity of Butterflies, Moths, Caddis Flies, Wasps, Bees and Ants. (1/2) *(Prerequisite: Biology 165LA. Four laboratory and two field-trip hours weekly for four weeks.)*

Butterflies and moths are among the showiest of insects. Wasps, bees and ants are often considered the most dangerous. Fly fishermen honor caddis flies. Yet these groups contain some of the most beneficial of insects, both to plants and to humans. This is a short course introducing the biodiversity of these insect groups. (CSU)

167. Introduction to Herpetology. (3) *(No prerequisite. Advisory: Biology 110. Two lecture and three laboratory hours weekly.)*

Introduction to the natural history, ecology, and behavior of reptiles and amphibians. Emphasis is on the natural history of reptiles and amphibians of Western North America, techniques in studying reptiles, and field observation. Laboratory investigations include hands-on analysis of reptile and amphibian anatomy and physiology. Field explorations are used in understanding herpetology concepts in relation to survival strategies. (CSU)

169. Introduction to Ornithology. (3) *(No prerequisite. Advisory: Biology 110. Two lecture and three laboratory hours weekly.)*

This course is designed to be an introduction to ornithology. The anatomy, ecology, behavior, and identification of birds will be explored through lectures, laboratories, slide presentations, and field trips. The biology of Marin County birds will be emphasized. (CSU)

170. Biology of Marine Animals. (3) (No prerequisite. Advisory: Biology 110. Two lecture and three laboratory hours weekly.)

Introduction to the natural history, ecology, and behavior of marine animals. Emphasis is on the identification and natural history of marine intertidal invertebrates. Various local marine habitats will be investigated including rocky intertidal mudflats, sandflats, and estuaries. Laboratory investigations include hands-on analysis of invertebrate and vertebrate anatomy and physiology. Field explorations are used in understanding marine zoology in relation to their survival strategies. (CSU)

171. Biology of Marine Mammals. (3) (No prerequisite. Two lecture and three laboratory hours weekly.)

Taking an integrated approach to the biology of marine carnivores, cetaceans and sirenians, we use lecture, laboratory and field explorations to provide us with a framework for fundamental biological and ecological concepts. Topics include functional morphology, sensory systems, energetics, reproduction, communication and cognition, behavior, distribution, population biology, and feeding ecology. We also review the physiological adaptations that have enabled marine mammals to exploit their aquatic environment such as diving, thermoregulation, osmoregulation, and orientation. (CSU)

224. Human Physiology. (5) (Prerequisites: Biology 110 and 110L and Chemistry 110. Students wanting to take Chemistry 110 concurrently, please contact the instructor. Three lecture and six laboratory hours weekly.)

This course involves the study of the structure and function of the human body. Emphasis will be placed on the physiochemical and homeostatic mechanisms occurring in the human body. The laboratory will introduce clinical and research techniques for studying and measuring various physiological parameters. (CSU/UC)

AA/AS Area A, CSU Area B2, IGETC Area 5B, CAN BIOL 12, CAN BIOL SEQ B = Biol 120 +224

224A. Physiology Laboratory Techniques. (1) (No prerequisite. Corequisite: Biology 224. One lecture hour weekly.)

This is an optional course for students desiring further instruction in the use of laboratory equipment and application of physiology theory to the laboratory experiments and exercises conducted in Biology 224. (CSU)

AA/AS Area A

234. Fishery Biology. (3) (No prerequisite. Advisory: Biology 110, 116, and 162. Two and one-half lecture and one and one-half laboratory hours weekly.)

An introduction to the study of invertebrates and vertebrates that constitute the fishery industry of the world. Emphasis on local San Francisco Bay area species. Ichthyology will constitute the major area of study. (CSU)

235. General Marine Biology. (4) (Prerequisite: Biology 110. Class includes field trips. Field trips may meet earlier and run later than scheduled to take advantage of low tides. Three lecture and three laboratory hours weekly.)

This laboratory and field course is designed to give biology majors as well as nonmajors an overview of marine plant and animal communities. Topics investigated include fundamental physical oceanography, marine ecology, marine zoology, marine botany, and field studies. Emphasis is on the local marine communities comprising protected and unprotected rocky intertidal estuaries, salt marshes, sandflats, mudflats, and floating docks. Laboratory investigations include phytoplankton and zooplankton studies, fish identification and internal morphology, marine invertebrate identification, and marine algae preservation techniques. (CSU/UC)
AA/AS Area A, CSU Area B2, IGETC Area 5B

237. Marine Ecology Field Studies. (2) (No prerequisite. One lecture and three laboratory hours weekly.)

This course is an introduction to the natural history and ecology of marine plants and animals. Emphasis is on the identification, evolution, life histories, and survival strategies of intertidal and subtidal organisms of the Pacific Northwest coast. Terrestrial systems such as temperate rain forests and redwood plant communities will be investigated to use as comparison with the marine systems. Field investigations include hands-on analysis of marine algae, invertebrate, vertebrate, and nonliving interrelationships. Human disturbances of Pacific Northwest ecosystems will be a central focus of our studies. (CSU)

240. Microbiology. (5) (Prerequisites: Biology 110 and 110L; plus Chemistry 110 or 114. Three lecture and six laboratory hours weekly.)

This course is primarily for biology and health science majors. It is a lecture/laboratory-based course with equal emphasis on both. The fundamentals of microbial taxonomy, ecology, anatomy, physiology, genetics, and biotechnology

are covered. Viruses, bacteria, fungi, protists, and helminths are discussed. Emphasis is on the role that microorganisms play in human health and disease. (CSU/UC)

AA/AS Area A, CSU Area B2, IGETC 5B, CAN BIOL 14

242. Geology and Biology of the Basin and Range and the Colorado Plateau. (3) *(No prerequisite. Can be taken for credit as Biology 242 or Geology 242. However, credit will be awarded for only one course. A two-week field trip that includes seventeen and one-half lecture hours and thirteen, eight-hour field experiences.)*

This course is a two-week field course through the Basin and Range and Colorado Plateau Provinces. It includes a raft trip down the Colorado or Green River. The geological and biological evolutions of the area are explored through observation, experimentation, and study of the diverse abiotic and biotic contributors to the area. Course topics include: stratigraphy and structure; fluvial landforms and processes; species dispersion, radiation and evolution; ecology; and the art of fly-fishing. Through lectures and a broad range of field experiences, students will gain an understanding of the factors that shaped and continue to shape this unique area. May be taken four times for credit. (CSU)

243. Natural History of Hawaii. (3) *(Prerequisite: Biology 110 or Geology 120. Sixteen lecture hours and thirteen eight-hour field trips.)*

A two-week field course on the Islands of Hawaii and Kauai. The geological and biological evolutions of the Hawaiian Islands are explored through observation, experimentation, and study of the diverse biotic and abiotic contributors to the islands. Course topics include formation of the islands; species dispersion, radiation, and evolution; ecology; and human occupation. Through lectures and a broad range of field experiences, students will gain an understanding of the basic tenets of island biogeography as exemplified by the Hawaiian-Emperor Chain. May be taken three times for credit. (CSU)

244. Environmental Microbiology. (5) *(Prerequisite: Biology 110 and 110L and Chemistry 110. Three lecture and six laboratory hours weekly.)*

Microorganisms represent the origin of life on Earth, and cover the planet providing the biological basis for life. Environmental microbiology is the study of microorganisms that exist in natural and artificial habitats and their interaction with their physical and biological environments. Course topics include: microbial communities; water microbiology and

public health; aquatic, soil, and aero microbiology; biotransformation; and biodegradation. This course is appropriate for anyone interested in microbiology or environmental science. (CSU/UC)

245. Field Ecology of Marin. (1) *(No prerequisite. Three all-day field trips and eight lecture hours to be arranged.)*

This course is designed to give the student practical experience in the identification and interrelationships of local plant and animal species. Climatological and geological features of Marin are also explored. May be taken four times for credit. (CSU)

246. Field Ecology. (2) *(Prerequisites: Biology 101 or 115 or concurrent enrollment. Students must complete forms expressing a desire to participate in the field trip. These forms are available from the Life Science Department in November and must be filed with that department by December 1. A ten-day field trip during the spring break and twelve lecture hours to be arranged.)*

Observation of the characteristic plant and animal communities of the coastal redwood forest, the San Francisco Bay salt marsh, the Central Valley, the western slope of the Sierra Nevada, the "rain shadow" of the Western California Cold Desert, Owens Valley, Death Valley, and the Pacific coastal marine environment.

This course is designed to give biology majors field experience in interpreting basic concepts of ecology, biotic succession, and survival through adaptation and natural selection. May be taken four times for credit. (CSU/UC)

247AB. Extended Field Studies. (1 1/2 - 3) *(No prerequisite unless specified in the class schedule. A seven-day field trip and eight lecture hours to be arranged for one and one-half units, and a fourteen-day field trip and sixteen lecture hours to be arranged for three units.)*

A one- or two-week investigation of the natural history of various communities in Marin County or in another selected area of the Western hemisphere. May be taken four times for credit. (CSU)

249. Directed Study. (1-3) *(Limit to Enrollment: Sophomore standing; grade point average of 2.7 or higher in biology. Prior arrangement with the instructor is required. Three laboratory hours per unit weekly.)*

Provides the student of science an opportunity to undertake a research program in a special field of

biology. Requirements: weekly conferences, reports, and a final paper. May be taken for a total of six units. (CSU/UC w/limit)

250. Scientific Research and Reporting. (1) (No prerequisite. Advisory: *Biology 110 and Geology 120*. Can be taken for credit as *Biology 250* or *Geology 250*. However, credit will be awarded for only one course. One lecture hour weekly.)

Scientific research and reporting is a hands-on, individualized course designed to walk learners step-by-step through a scientific research project of their choice. The final report of their findings will be delivered at a professional meeting. This course is designed for science majors that have completed the first year of their curriculum and desire a hands-on, real world experience in science. May be taken four times for credit. (CSU/UC)

Business

The business curriculum provides the students skills and knowledge for employment in a variety of business related occupations. The program emphasizes the development of skills necessary for entry-level employment including self-employment. The curriculum also provides students with the foundation courses that will help them prepare for transfer to a four-year college or university.

Career Options

Accounting Clerk	Manager
Administrator	Management Trainee
Administrative Assistant	Office Manager
Analyst	Office Clerk
Banking Services	Purchasing Agent/ Buyer
Bookkeeper	
Claims Agent	Public Administration
Computer Operations	Real Estate
Employment Interviewer	Retail/Industrial Sales
Employment Counselor	Sales Representative
Entrepreneur	Securities Sales Worker
Entry-level Financial Services	Small Business Manager
Franchise Business Owner	Small Business Owner
Government Service	Stockbroker
Insurance Agent	Supervisor
Management Assistant	Transfer to Bachelor's Program

Faculty

Sandy Boyd
Robert P. Kennedy
Norman Pacula
Marilyn J. Schwartz
Lawrence R. Steiner
Lawrence M. Tjernell
Brian Wilson

Department Phone: (415) 485-9610

Suggested Transfer Preparation

Major requirements are subject to change. Please consult the latest catalog of the school you plan to attend and meet with a College of Marin counselor. Updated information is available at www.assist.org, a statewide repository of articulation and student transfer information.

Lower division major requirements for upper division standing at:

California State University, Chico
Business Administration - Accounting
Business 101 or 107, 112A and 112B, 113
Economics 101, 102
Math 114; Math 115 or Statistics 115

San Francisco State University
Business Administration
Business 112A, 112B, 113
Computer Information Systems 110, 116
Economics 101, 102
Math 115 or Statistics 115
Math 121

Sonoma State University
Business Administration
Business 107
Business 112A, 112B, 113
Economics 101, 102
Math 114 or 123
Math 115 or Statistics 115

University of California, Berkeley
Haas School of Business

Admits students at the junior level upon completion of 60 units distributed as follows:

Business 101
Economics 101, 102
English 150 and 151, or 150 and 155
Math 115 or Statistics 115
Math 121 or 123

(Students are strongly encouraged to complete the next math course in the series.)

*One additional writing or literature course from a selected list. **

One course in Computer Science that is UC-transferable and has a unit value of three semester units and that is offered by Computer Science or Computer Information Systems departments.

Foreign Language: Three years of a single foreign language taken in high school or two semesters at College of Marin through 102 with a grade of C- or higher (French 102, Italian 102, Japanese 102, Spanish 102).

Completion of at least seven of the nine breadth requirements to be taken from a selected list. *

*For a selected list of courses, please see a counselor.

**University of California, Riverside
Business Administration**

*Business 101, 112A and 112B, 113
Computer Information Systems 110
Economics 101, 102
Math 115 or Statistics 115
Math 121 and 122 or 123*

**A.A. in Business Administration--
Transfer**

This program provides an opportunity for students to earn an Associate in Arts degree in Business Administration while preparing to transfer as an upper division student to a four-year college or university. For those students considering a career in business, a baccalaureate degree is necessary. However, the attainment of an A.A. degree will demonstrate commitment to the field and the student's ability to complete an educational goal.

An Associate in Arts degree is awarded for satisfactory performance in major courses, as well as completion of general education and graduation requirements.

Please note: Students may choose English 120, 120SL, or 150 to complete the Associate degree. Transfer students, however, are advised to complete English 150.

All students should consult the counselor assigned to Business and Social Sciences.

Requirements			Units
BUS	101	Introduction to Business	3
BUS	112A	Financial Accounting IA	2
BUS	112B	Financial Accounting IB	2
CIS	110	Introduction to Computer Information Systems	3
or			
CIS	215	Visual BASIC Programming	3-1/2
ECON	101	Principles of Macroeconomics	3
ECON	102	Principles of Microeconomics	3
MATH	115	Probability and Statistics	4
or			
STAT	115	Introduction to Statistics	4
MATH	121	Calculus I with Applications	3

Suggested Electives

It is recommended that business transfer students take courses that would be beneficial in their area of specialization (major) and also courses in modern languages and mathematics.

**A.S. in Applied Accounting,
Occupational
(Career Certificate also awarded)**

This program provides training for entry-level bookkeepers, as well as individuals with bookkeeping experience who wish to gain a better conceptual background in accounting and finance.

An Associate in Science degree is awarded for satisfactory completion of all requirements, as well as completion of general education and graduation requirements. A Career Certificate is awarded for the satisfactory completion of the program.

Please note: Students may choose English 120, 120SL, or 150 to complete the Associate degree. Transfer students, however, are advised to complete English 150. All students should consult a counselor.

Requirements			Units
BUS	101	Introduction to Business	3
BUS	112A	Financial Accounting IA	2
BUS	112B	Financial Accounting IB	2
BUS	113	Managerial Accounting	5
BUS	114	Beginning Computerized Accounting	1-1/2
CIS	110	Introduction to Computer Information Systems	3
CIS	128	Intermediate Spreadsheet Design	1-1/2

Suggested Electives

BUS	104	Introduction to Marketing	3
BUS	107	Business Law	3
BUS	108	Introduction to International Business	3
BUS	109	Business and Economics Problem Solving	1-1/2
BUS	120	Entrepreneurship	1-1/2
BUS	131	Elements of Management and Supervision	1-1/2
BUS	144	Business Communication	3
BUS	146	Business Presentation Tools	1-1/2
CIS	118	Introduction to Spreadsheet Design	1-1/2
ECON	101	Principles of Macroeconomics	3
ECON	102	Principles of Microeconomics	3

A.S. in Business, General**(Career Certificate also awarded)**

The General Business Program curriculum is designed to provide education for business careers including self-employment, professional advancement, retraining, and transfer preparation. The program emphasizes the development of specific skills and knowledge for employment. Many courses are hands-on, skill-based, and use current computer technology and student-based projects. The program also provides background for students who plan to transfer to a four-year school.

An Associate in Science degree is awarded for satisfactory completion of all requirements, as well as completion of general education and graduation requirements. A Career Certificate is awarded for the satisfactory completion of the program.

Please note: Students may choose English 120, 120SL, or 150 to complete the Associate degree. Transfer students, however, are advised to complete English 150. All students should consult a counselor.

Requirements		Units	
BUS	101	Introduction to Business	3
BUS	109	Business and Economics Problem Solving	1-1/2
BUS	112A	Financial Accounting IA	2
BUS	120	Entrepreneurship	1-1/2
BUS	131	Elements of Management and Supervision	1-1/2
BUS	144	Business Communication	3
BUS	146	Business Presentation Tools	1-1/2

CIS	110	Introduction to Computer Information Systems	3
CIS	118	Introduction to Spreadsheet Design	1-1/2

Suggested Electives

BUS	104	Introduction to Marketing	3
BUS	107	Business Law	3
BUS	108	Introduction to International Business	3
BUS	112B	Financial Accounting IB	2
ECON	101	Principles of Macroeconomics	3
ECON	102	Principles of Microeconomics	3

A.S. in Business, Management**(Career Certificate also awarded)**

The Business Management Program equips students with the basic knowledge and skills in entry-level management and supervision, preparing them for employment or professional advancement. It also prepares students to start, operate, and grow new or existing ventures and help those who work in large organizations to become more entrepreneurial in their outlook and performance.

An Associate in Science degree is awarded for satisfactory completion of all requirements, as well as completion of general education and graduation requirements. A Career Certificate is awarded for the satisfactory completion of the program.

Please note: Students may choose English 120, 120SL, or 150 to complete the Associate degree. Transfer students, however, are advised to complete English 150. All students should consult a counselor.

Requirements		Units	
BUS	101	Introduction to Business	3
BUS	112A	Financial Accounting IA	2
BUS	131	Elements of Management and Supervision	1-1/2
BUS	132	Human Resources Management	1-1/2
BUS	134	Human Relations	1-1/2
BUS	144	Business Communication	3
BUS	146	Business Presentation Tools	1-1/2
CIS	110	Introduction to Computer Information Systems	3
CIS	118	Introduction to Spreadsheet Design	1-1/2

Suggested Electives

BUS	104	Introduction to Marketing	3
BUS	107	Business Law	3
BUS	108	Introduction to International Business	3
BUS	109	Business and Economics Problem Solving	1-1/2
BUS	112B	Financial Accounting IB	2
BUS	120*	Entrepreneurship	1-1/2
BUS	124	Create a Marketing Plan	1-1/2
BUS	125	Legal Planning for the Small Firm	1-1/2
BUS	126	Create a Finance Plan	1-1/2
BUS	127	Write a Business Plan	1-1/2
BUS	131	Elements of Management and Supervision	1-1/2
ECON	101	Principles of Macroeconomics	3
ECON	102	Principles of Microeconomics	3

* Please note: BUS 121 New Venture Creations (3 units) may be substituted.

Business Courses (BUS)

39. Selected Topics (Nondegree Applicable). (1/2-6) *(Please see Selected Topics category.)*

97. Business English. (3) *(No prerequisite. Three lecture hours weekly.)*

This is a course in grammar, usage, editing, and punctuation specifically for students of business and the professions. It focuses on the conventions of standard written English and mechanics applied specifically in business, technical, and professional writing. This course is appropriate for students who deal with the language professionally, in the creation of business documents, editing, and transcription of oral language. May be taken twice for credit.

101. Introduction to Business. (3) *(No prerequisite. Three lecture hours and one laboratory hour weekly.)*

This survey course explores the history, environment and functional areas of business, and analyzes the following topics: comparative economic systems focused on capitalism, globalization, ethical behavior and social responsibility, business ownership, entrepreneurship, marketing, accounting, finance, information technology, environmental issues, and productivity. The course includes a management/economic computer simulation component designed to provide students with experience operating a simulated business. Can

also be offered in a distance learning format. (CSU/UC)
AA/AS Area B, CSU Area D3

102. Business and Economics Simulation. (1/2) *(No prerequisite. One and one-half laboratory hours weekly.)*

This is a computer based decision-making course designed to provide students with simulated experience in making decisions and managing the variables that are encountered in operating a business. Participants working in teams will compete against one another by making a spectrum of managerial decisions related to the major functional areas of business. The purpose of the simulation is to increase understanding of how a business enterprise operates and to demonstrate fundamental economic principles. The course teaches not only the importance of strategic management, but also that teamwork and competing in a business environment can be challenging and fun. May be taken twice for credit. (CSU)

104. Introduction to Marketing. (3) *(No prerequisite. Three lecture hours weekly.)*

An introductory course to a vital business area, marketing is open to all students and is especially recommended for business majors. It is required for the general business major. Topics to be included are: marketing's role in society, the market structure, channels of distribution, retail institutions, wholesale institutions, product development, packaging, pricing, and promotion. Can also be offered in a distance learning format. (CSU)

107. Business Law. (3) *(No prerequisite. Three lecture hours weekly.)*

Designed to give the student an understanding of the basic principles of business law and applications to typical business situations. Topics include law of contracts, agency and employment, negotiable instruments, personal property, bailments, sales of goods, real property, and partnerships. (CSU/UC)
CAN BUS 8

108. Introduction to International Business. (3) *(No prerequisite. Three lecture hours weekly.)*

Provides the basic tools and perspective necessary to understand the international business environment. Explores the changing nature of the primary business, economic, and political institutions. Explains the nature of the transnational, foreign trade, foreign exchange and world capital and money markets. Will attempt to better understand the problems and opportunities created

in a world comprised of post-industrial, developing, and less-developed nations. Focus is upon what the individual will need to know and understand to be an effective learner and performer in our rapidly developing world economy. (CSU)

109. Business and Economics Problem Solving. (1 1/2) *(No prerequisite. Advisory: Computer Information Systems 118. Two lecture and three laboratory hours weekly for eight weeks.)*

The focus of this course is the application of mathematical principles to the solution of basic business and economic problems using computer spreadsheet software. The course includes problems in financial analysis, basic business statistics, compound interest and annuities, investments, economic growth and inflation. Students will learn to compute problem results as well as to present solutions in a concise informative manner. (CSU)

112A. Financial Accounting IA. (2) *(No prerequisite. Four lecture hours and one laboratory hour weekly for eight weeks.)*

An introduction to accounting practice, principles, and analysis. This course is basic for students in accounting, business administration, economics, law, and other professions. Also it should be the first course in accounting theory for vocational bookkeepers, as well as small business people needing basic accounting theory. This first eight-week course covers the accounting cycle for a service enterprise and for a merchandising enterprise, preparation of financial statements, computerized accounting, and internal control. The course includes a computerized tutorial. (CSU/UC)
CAN BUS 2 = Bus 112A + 112B

112B. Financial Accounting IB. (2) *(No prerequisite. Advisory: Business 112A. Four lecture hours and one laboratory hour weekly for eight weeks.)*

An introduction to accounting practice, principles, and analysis. This is a continuation of Business 112A designed for business and other transfer students. This course is basic for students in accounting, business administration, economics, law, and other professions. This second eight-week course covers accounting for assets, liabilities, and the underlying framework for accounting concepts. Course includes a computer-based simulation with special journals and subsidiary ledgers. (CSU/UC)
CAN BUS 2 = Bus 112A + 112B

113. Managerial Accounting. (5) *(Prerequisite: Business 112A and 112B. Five lecture hours weekly.)*

The course covers fund flow analysis, basic managerial cost concepts and developments in contemporary managerial accounting, cost accounting systems, cost-volume-profit relationships, budgetary planning and control, responsibility accounting, performance evaluation through standard costs and incremental analysis and capital budgeting. (CSU/UC)
CAN BUS 4

114. Beginning Computerized Accounting. (1 1/2) *(No prerequisite. Advisory: Business 112A. Two lecture and three laboratory hours weekly for eight weeks.)*

A first course in the operation of computerized accounting software. This course is designed for business entrepreneurs who will be using a computerized accounting system in their business as well as students training to be professional accountants. Subjects will include an overview of the software, setting up a company, entering, working with lists, setting up inventory, paying bills, payroll, and preparation of reports and graphs. May be taken twice for credit. (CSU)

120. Entrepreneurship. (1 1/2) *(No prerequisite. Two lecture and three laboratory hours weekly for eight weeks.)*

This course provides a framework for understanding the entrepreneurial process and a method for analyzing new venture opportunities. Methods of valuing business opportunities, analyzing ideas, the importance of creativity, the process of preparing a business plan, assessing required resources, and the unique challenges of managing an entrepreneurial firm are covered. The course will provide some of the knowledge and skills required to pursue a career as an entrepreneur. (CSU)

121. New Venture Creation. (3) *(No prerequisite. Three lecture hours and one laboratory hour weekly.)*

This is an introductory course in new venture creation/entrepreneurship designed to create knowledge, skills, awareness, and involvement in the process of starting, operating, and managing a small firm. The aim is to guide students in discovering the concepts of entrepreneurship and the competencies, skills, know-how, experience, resources, and techniques that are necessary to achieve success. The course deals with the driving forces of entrepreneurship, the environment and

competition, physical, capital and human resources, developing a business plan, accounting and finance for smaller firms, market potential, and how to practice marketing, management and legal aspects. The course includes a computer component to provide students with experience using computers in a business environment. (CSU)

124. Create a Marketing Plan. (1 1/2) *(No prerequisite. Two lecture and three laboratory hours weekly for eight weeks.)*

This course examines the major considerations in determining market potential, conducting a market survey, creating a market strategy, and developing a promotional plan. Also, new developments and techniques in market research are covered. Through the use of Internet research and computer software the course develops marketing skills and integrates entrepreneurial skills in the development of a comprehensive marketing plan required of each student. Students/practitioners who desire to create brochures, flyers, stationery, and other promotional literature for their business may enroll after or concurrently in Computer Information Systems 113, Introduction to Desktop Publishing. (CSU)

125. Legal Planning for the Small Firm. (1 1/2) *(No prerequisite. Two lecture and three laboratory hours weekly for eight weeks.)*

This practical course introduces the basic legal issues every business owner needs to know to establish and run a small business. Learn how to avoid costly, unnecessary litigation, and how to control and manage your company's legal expenses. Topics include deciding whether to form a sole proprietorship, partnership or corporation or LLC, protecting the business name, negotiating leases, employee legal considerations, working with independent contractors, creating good contracts, resolving business disputes, and working with attorneys. Student will complete a project of actually building these legal considerations into a business plan for a proposed or existing business. (CSU)

126. Create a Finance Plan. (1 1/2) *(No prerequisite. Two lecture and three laboratory hours weekly for eight weeks.)*

This course examines the major considerations in determining profit and loss and cash flow, constructing a pro forma balance sheet and analyzing the financial condition of a firm. Also explains the various financing alternatives available to help get the money you need to start or expand a business. Through the use of computer spreadsheets and/or off-the-shelf software the

student will develop a comprehensive financial plan for a proposed or existing business. (CSU)

127. Write a Business Plan. (1 1/2) *(No prerequisite. Advisory: Business 124, 125, and 126. Two lecture and three laboratory hours weekly for eight weeks.)*

This course provides a hands-on approach for actively developing an operational business plan. The process, using computer software, involves opportunity recognition, research, analysis, and completing each section of a business plan including the cover letter, the executive summary, company and industry overviews, market strategy and tactics, financial analysis (profit and cash flow forecasts), location, physical facilities, capital spending, purchasing, and promotion. Students receive individual attention regarding their business plans. (CSU)

128. Personal Finance. (3) *(No prerequisite. Three lecture hours weekly.)*

This course is designed to give the student a basic understanding of the principles, tools, and techniques required for proper management of personal finances. Through case problems, the student learns how to protect financial resources through insurance; how to make the most of income through budgeting, controlling credit, and reducing income taxes; how to increase net worth through sound investment planning and selection of suitable types of investment media; and how to properly plan for retirement. Can also be offered in a distance learning format. (CSU)

129. The Art of Selling. (1 1/2) *(No prerequisite. Two lecture and three laboratory hours weekly for eight weeks.)*

Through active participation students/entrepreneurs learn how to gain and maintain a competitive edge by developing effective sales strategies and techniques. The course covers all phases of the selling process. Participants learn the "how" as well as the "why" of selling and then have an opportunity to apply these techniques in a critiqued videotaped sales presentation. (CSU)

131. Elements of Management and Supervision. (1 1/2) *(No prerequisite. Two lecture and three laboratory hours weekly for eight weeks.)*

This is an introductory survey course in the major elements of management and supervision. Major topics include an introduction to management, planning and decision making, organizing including job design and work teams, organization structure and culture, and staffing and human resources

management. The lab portion provides students the opportunity to do Internet research. (CSU)

132. Human Resources Management. (1 1/2) *(No prerequisite. Two lecture and three laboratory hours weekly for eight weeks.)*

This course is designed to give employers and employees an overview of recruiting, employment laws, pay systems, discipline, and performance evaluations. The course will include Internet research in the field of human resources. (CSU)

134. Human Relations. (1 1/2) *(No prerequisite. Two lecture and three laboratory hours weekly for eight weeks.)*

This course is designed to acquaint the student with human relations and motivation in business and the implications of business practices as they apply to individual employees and supervisors. Problems and case studies with which managers must deal on a regular basis are used as a method of course instruction. The lab portion provides students the opportunity to do Internet research. (CSU)

135. Managing Change and Innovation. (1 1/2) *(No prerequisite. Six lecture hours weekly for four weeks or three lecture hours weekly for eight weeks.)*

This course is designed for managers and supervisors or would-be managers and supervisors in business, government, and nonprofit organizations. The focus of the course is on managing change and innovation within an organization in a dynamic, complex, and often unpredictable environment. Topics include learning organizations, creativity and innovation, organizational change, the management as change agent, managing planned change, and organization development. Students will learn how to help people and organizations learn and renew themselves continuously. (CSU)

137. Managing Groups and Teams. (1 1/2) *(No prerequisite. Six lecture hours weekly for four weeks or three lecture hours weekly for eight weeks.)*

In recent years, managing work groups and teams has changed from that of "controlling" or "directing" to "leading" or "facilitating." This short course is designed for anyone who wishes to learn the skills of leading and facilitating both the interpersonal relationships and the tasks of groups and teams. Primarily focused on the workplace, the skills also can be used in other settings including working with

volunteer groups. Topics include the team movement; the new leader-facilitator; getting people to work together; making the transition from controlling to facilitating; facilitating one-on-one meetings; facilitating group and team meetings; managing the group process; and getting to consensus and closure. (CSU)

139. Selected Topics. (1/2-6) *(Please see Selected Topics category.)* (CSU w/limit)

141. Intermediate Business English. (2) *(Prerequisite: Business 97. Two lecture hours weekly.)*

This course presents grammar, usage, punctuation, sentence rhetoric, and error recognition and editing on a professional level to business students who are planning careers that demand precise skills in independent writing, proofreading, and transcription of oral language. The course emphasizes syntax, diction, structure, and editing appropriate for business communications, general and technical report writing, and medical and court reporting transcriptions. It is a required course in the Court Reporting Program. (CSU)

142. Writing Business Correspondence. (1 1/2) *(Prerequisite: Business 97. Three lecture hours weekly for eight weeks.)*

This course deals specifically with the composition, editing, and production of memos, letters of inquiry, claim letters, adjustment letters, and e-mail. Students will be able to understand the purposes of both internal and external correspondence and will be able to compose, edit, and format such documents. The products of students' efforts may be compiled as part of a professional portfolio. (CSU)

144. Business Communication. (3) *(No prerequisite. Advisory: Business 97. Three lecture hours weekly.)*

This course emphasizes the student's ability to apply effective writing technique and strategies to business communication problems found in organizations. Students will analyze cases, then organize and prepare various business documents such as resumes, letters, memoranda, reports, business plans, and proposals. Electronic communication tools are discussed and oral presentations are made. Can be offered in a distance learning format. (CSU)

145. Internet Research and Presentation Skills for Business. (1 1/2) *(No prerequisite. Advisory: Computer Information Systems 116 and Library 110.)*

Two lecture and three laboratory hours weekly for eight weeks.)

This course uses the Internet and World Wide Web to help students gain the research and interpretation skills needed for problem solving in business. Class activities focus on interactive search projects, resulting in written and oral presentations of project findings using presentation software. May be taken twice for credit. (CSU)

146. Business Presentation Tools. (1 1/2) (No prerequisite. Advisory: Computer Information Systems 116. Two lecture and three laboratory hours weekly for eight weeks.)

This course introduces business presentation graphics software. Students will learn to create, edit, save, and print a variety of business presentations including those focused on sales, strategy, promotion, training, and progress reports. (CSU)

249. Directed Study. (1-3) (Limit to Enrollment: Successful completion of twelve units in business and/or economics. Hours to be arranged.)

This course is designed to give the student an opportunity for independent study. The student plans a project under the guidance of a member of the department. Evaluation is through reports and conferences and a final written report of the student's findings. This course may be taken more than once for credit. (CSU w/limit)

Business Office Systems

The business office systems curriculum is designed to develop the knowledge, skills, and attitudes needed by workers in today's automated offices. Students can acquire the training and skills necessary to enter the job market, update knowledge and skills to reenter the marketplace, or retrain in order to maintain a present position or obtain a promotion. The skills developed in this curriculum are also useful to students who wish to enrich their business and computer expertise for personal use. Courses emphasize skill development in business office systems with specialties available in the medical and office management areas. Most courses

include hands-on computer use so students learn necessary computer skills as well as the individual course material.

Career Options

Administrative Assistant	Medical Transcriber
Bank Teller	Microcomputer User
Clerical Assistant	Office Assistant
Executive Assistant	Office Manager
General Office Worker	Payroll Assistant
Human Resources Assistant	Receptionist
Medical Office Assistant	Records Clerk
Medical Office Manager	Research Assistant
Medical Receptionist	Secretary
Medical Records Clerk	Transcribing Machine Operator
Medical Scheduler	Word Processing Manager
Medical Secretary	Word Processing Operator

Faculty

Brian Wilson

Department Phone: (415) 485-9610

A.S. in Business Office Systems, Occupational

(Career Certificates in Medical Specialty and Office Management Specialty are awarded. Skills Certificates in Administrative Assistant and Medical Transcriber are also awarded.)

The business office systems curriculum develops knowledge, skills, and attitudes needed by workers who support information handling in today's electronic offices.

An Associate in Science degree is awarded for completion of all requirements in the core program and chosen specialty, as well as completion of general education and graduation requirements. A Career Certificate is awarded for satisfactory completion of the core program plus the additional course requirements in each specialty. A Skills Certificate is earned by satisfactory completion of the required courses as listed for the specific Skills Certificate.

Please note: Students may choose English 120, 120SL, or 150 to complete the Associate degree. Transfer students, however, are advised to complete English 150. All students should consult a counselor.

CORE PROGRAM

The following courses are required of all Business Office Systems degree students:

Requirements			Units
BUS	134	Human Relations	1-1/2
BUS	144	Business Communication	3
BOS	114	Beginning Word Processing	1-1/2
BOS	115	Intermediate Word Processing	1-1/2
CIS	126	Introduction to Windows	1-1/2

Also, select two units from:

BOS	44*	Skill Building for Keyboarders	1
or			
BOS	120	Computer Keyboarding	1
CIS	116	Introduction to Personal Computers and Operating Systems	1-1/2
CIS	118	Introduction to Spreadsheet Design	1-1/2
W E	298AB	Occupational Work Experience	1-2

The following course is highly recommended for successful completion of the Career Certificate.

BUS	97	Business English	3
-----	----	------------------	---

* Applied toward the Career Certificate only.

SPECIALTIES

In addition to the core program listed above, each Business Office Systems degree student will complete one of the following specialties:

Medical Specialty

BOS	163A	Communication in the Office and Time Management	1
BOS	163B	Records Management	1
BOS	163C	Travel and Conference Arrangements	1
BOS	230AB	Medical Terminology	2
BOS	231 ABC	Medical Transcription	3

Office Management Specialty

BUS	112A	Financial Accounting IA	2
BUS	114	Beginning Computerized Accounting	1-1/2
BUS	146	Business Presentation Tools	1-1/2
BOS	163A	Communication in the Office and Time Management	1
BOS	163B	Records Management	1
BOS	163C	Travel and Conference Arrangements	1

Skills Certificates

Skills Certificates are an acknowledgement that the student has attained a specified set of competencies within an occupational program. Skills Certificates may be part of a "ladder" of skills, beginning with job entry skills and leading to a full Career Certificate Program or may constitute a skill set that enables a student to upgrade or advance in an existing career. Skills Certificates require less than 18 units and are shorter in duration than the Career Certificate.

Note: Before a Business Office Systems Skills Certificate is granted, the student must demonstrate the ability to keyboard a minimum of 35 words-a-minute with five or fewer errors.

Administrative Assistant Skills Certificate

The Administrative Assistant Certificate indicates that foundation courses needed for entry-level employment in office support have been successfully completed.

BOS	44	Skill Building for Keyboarders	1
or			
BOS	120	Computer Keyboarding	1
BOS	76	Electronic 10-Key Calculating Machines	1
BOS	114	Beginning Word Processing	1-1/2
CIS	116	Introduction to Personal Computers and Operating Systems	1-1/2

Medical Transcriber Skills Certificate

The Medical Transcriber Certificate indicates that foundation courses needed for entry-level employment in medical transcription have been successfully completed.

BOS	44	Skill Building for Keyboarders	1
	or		
BOS	120	Computer Keyboarding	1
BOS	76	Electronic 10-Key Calculating Machines	1
BOS	114	Beginning Word Processing	1-1/2
BOS	230AB	Medical Terminology	2
BOS	231A	Medical Transcription	1
CIS	116	Introduction to Personal Computers and Operating Systems	1-1/2

Business Office Systems Courses (BOS)

39. Selected Topics (Nondegree Applicable). (1/2-6) (Please see Selected Topics category.)

44. Skill Building for Keyboarders. (1) (No prerequisite. Advisory: Knowledge of keyboard and ability to type by touch method. Three laboratory hours weekly.)

In this course students will concentrate on accuracy and speed drills to improve keyboarding skills. Diagnostic tests are given to determine weaknesses. Students then focus on drills to correct those weaknesses. Timings are taken on a regular basis so progress can be measured. May be taken four times for credit.

60A. Beginning Computer Keyboarding (ESL). (1) (No prerequisite. Three laboratory hours weekly.)

This course is recommended for any English as a Second Language student needing to acquire basic alphabetic and numeric keyboarding techniques for computer work. Students will learn how to keyboard by touch at a minimum speed of 20 words-a-minute. May be taken three times for credit.

60B. Beginning Computer Keyboarding (ESL). (1) (No prerequisite. Advisory: Business Office Systems 60A. Three laboratory hours weekly.)

This course is recommended for any English as a Second Language student needing to improve keyboarding speed and accuracy, and wishing to learn basic letter and report formatting. Students will learn how to keyboard by touch at a minimum speed of 25 words-a-minute. Students will also learn how to set up letters and reports in good form. Basic editing skills are practiced. May be taken three times for credit.

60C. Beginning Computer Keyboarding (ESL). (1) (No prerequisite. Advisory: Business Office Systems 60B. Three laboratory hours weekly.)

This course is recommended for any English as a Second Language student needing to improve keyboarding speed and accuracy, and wishing to learn additional letter and report formatting skills, plus business memos. Students will learn how to keyboard by touch at a minimum speed of 30 words-a-minute. Students will also learn how to set up and edit letters, reports, and memos. May be taken three times for credit.

70A. Spelling. (1) (No prerequisite. Three laboratory hours weekly.)

A self-paced course designed to help the business student in the improvement of spelling problems. The programmed format allows students to proceed at their own rate with the aid of a diagnostic test and review tests.

70B. Vocabulary Building. (1) (No prerequisite. Three laboratory hours weekly.)

A self-paced course designed to help the business student achieve a command of the vocabulary needed for business courses. Covers Latin and Greek derivatives, descriptive, and action words.

70C. Programmed Writing Skills. (1) (No prerequisite. Three laboratory hours weekly.)

A self-paced course covering writing skills for the business writer. Stresses how to write crisply and clearly with correct mechanics. Review exercises at the end of each chapter.

76. Electronic Ten-Key Calculating Machines. (1) (No prerequisite. Three laboratory hours weekly.)

Students learn the basic operation of electronic printing calculators and how to input numbers using the ten-key touch method. Common business problems are used to train students on the efficient use of the electronic calculator.

99. Business Applications Laboratory. (1/2) (No prerequisite. One and one-half laboratory hours weekly.)

A lab course in which students work with various business applications using a personal computer and application software. Students will complete a business-related project such as a business simulation, a financial projection, bookkeeping project, a business plan, or an accounting practice set. May be taken four times for credit.

114. Beginning Word Processing. (1 1/2) *(No prerequisite. Advisory: Ability to keyboard by touch. Two lecture and three laboratory hours weekly for eight weeks.)*

This beginning course in Microsoft Word for Windows develops competency in creating, formatting, editing, saving, and printing a variety of business and personal-use documents. Topics covered include creating and editing letters, reports, tables, outlines, and tables of contents. Students will also learn how to integrate Word with other Windows programs. May be taken twice for credit. (CSU)

115. Intermediate Word Processing. (1 1/2) *(No prerequisite. Advisory: Business Office Systems 114. Two lecture and three laboratory hours weekly for eight weeks.)*

This intermediate course in Microsoft Word for Windows develops competency in using some of the more advanced features of Word. Students will create, format, edit, save, and print a variety of business and personal-use documents. Topics covered include fonts, tables, mail merge, footnotes, endnotes, columns, templates, and graphics. May be taken twice for credit. (CSU)

116. Word Processing for Professional and Office Users. (2 1/2) *(No prerequisite. Advisory: Ability to keyboard 35 words-a-minute. Two lecture and two laboratory hours weekly.)*

This beginning course in Microsoft Word for Windows develops competency in creating, formatting, editing, saving, and printing a variety of business documents. Topics covered include creating, saving, editing, and printing letters, memos, and business reports. Special topics such as fonts, writing tools, tabs, merging, and tables are also included. May be taken twice for credit. (CSU)

120. Computer Keyboarding. (1) *(No prerequisite. Three laboratory hours weekly.)*

This course is recommended for any student needing to acquire alphabetic and numeric keyboarding techniques for computer work. Students will learn how to keyboard by touch at a minimum speed of 20 words-a-minute. May be taken four times for credit. (CSU)

122A. Machine Transcription. (1) *(No prerequisite. Advisory: Limited to the number of transcription machines available. Three laboratory hours weekly.)*

This course is designed to prepare students to become efficient operators of transcribing machines and to be able to transcribe mailable business correspondence from predicated material on the computer. Emphasis will be placed on the mechanics of letter styles, grammar, punctuation, spelling, word division, vocabulary, and proofreading. (CSU)

122B. Machine Transcription. (1) *(No prerequisite. Advisory: Business Office Systems 122A and limited to the number of transcription machines available. Three laboratory hours weekly.)*

This course is designed to further improve a student's competency in transcribing documents from transcription tapes while working on the computer. Emphasis will be placed on increased transcription speed and a refinement of transcription skills. A thorough review of punctuation rules and practice in applying those rules is included. (CSU)

122C. Machine Transcription. (1) *(No prerequisite. Advisory: Business Office Systems 122B and limited to the number of transcription machines available. Three laboratory hours weekly.)*

This course is designed to further improve a student's competency in transcribing documents from transcription tapes while working on the computer. Emphasis will be placed on an improvement in transcription speed and the quality of the transcribed documents. Grammar and punctuation rules will continue to be reinforced as well as specialized business vocabulary. (CSU)

139. Selected Topics. (1/2-6) *(Please see Selected Topics category.) (CSU w/limit)*

163A. Communication in the Office and Time Management. (1) *(No prerequisite. Three laboratory hours weekly.)*

"Communication in the Office" is a short course that presents methods and techniques basic to the efficient performance of office services, including interpersonal communications, receiving incoming mail, preparing outgoing mail, and telephone communications. This course is offered through a combination of instructor-assisted and self-paced, audiovisual learning methods.

"Time Management" introduces principles of time management and teaches procedures for planning, scheduling, executing, and evaluating secretarial work efficiently. Techniques for helping the executive use time effectively are also presented. (CSU)

163B. Records Management. (1) *(No prerequisite. Three laboratory hours weekly.)*

In addition to learning basic alphabetic, numeric, subject, and geographic filing methods on a microcomputer, students will be introduced to careers in records management. This is a self-paced course. (CSU)

163C. Travel and Conference Arrangements. (1) *(No prerequisite. Three laboratory hours weekly.)*

This course is designed to enable students to become proficient in planning and arranging business travel, and setting up business conferences. This course develops skills in choosing airline flights, making reservations, arranging hotel accommodations and ground transportation, and maintaining accurate follow-up records. (CSU)

200W. Software Certification Test Preparation – Word. (1/2) *(No prerequisite. Advisory: Business Office Systems 114 and 115. One and one-half laboratory hours weekly.)*

In this course students work with computer software to evaluate skill level in selected application software and prepare for software certification tests. May be taken three times for credit. (CSU)

213. Internship in Business and Information Systems. (3) *(Prerequisite: Business and Information Systems 115. Two lecture and three laboratory hours weekly.)*

This course bridges the gap between the classroom and the business and information systems industry by providing an on-campus lecture class coupled with a short-term internship in which students may work at a job site such as a medical office, legal office, or general business office. All assignments will be accomplished in a "real-life" context characterized by workgroup activities, multiple projects under deadline, and collaborative effort. Internships are not guaranteed. Projects may be suitable for student portfolios. May be taken four times for credit. (CSU)

230A. Medical Terminology. (1) *(No prerequisite. Three laboratory hours weekly.)*

Designed for medical secretary or medical assisting students, this course helps students become skillful in mastering word parts to form medical terms found in basic medical terminology. Students use a computer program to learn, analyze, and interpret most frequently used medical terms. (CSU)

230B. Medical Terminology. (1) *(No prerequisite. Advisory: Business Office Systems 230A. Three laboratory hours weekly.)*

A continuation of Business Office Systems 230A, this course helps students become skillful in mastering additional word parts to form medical terms used in medical terminology. Students use a computer program to learn and practice applying frequently used medical terms. (CSU)

231A. Medical Transcription. (1) *(No prerequisite. Advisory: Business Office Systems 120 and limited to the number of transcription machines available. Three laboratory hours weekly.)*

This course is designed to train transcriptionists to quickly and accurately transcribe four basic report types: office visit/clinic note, history and physical examination, discharge summary, and consultation. Students will use a transcription machine and a computer for completing their assignments. (CSU)

231B. Medical Transcription. (1) *(No prerequisite. Advisory: Business Office Systems 231A and limited to the number of transcription machines available. Three laboratory hours weekly.)*

This course is designed to improve the transcriptionist's speed and accuracy while transcribing medical reports using a transcribing machine and a computer. At an entry level, students will transcribe hospital, physician office, and psychiatric facility reports. In addition, students will continue to transcribe discharge summary reports learned in Business Office Systems 231A. (CSU)

231C. Medical Transcription. (1) *(No prerequisite. Advisory: Business Office Systems 231B and limited to the number of transcription machines available. Three laboratory hours weekly.)*

A continuation of Business Office Systems 231A and B, this course is designed to bring together the skills the transcriptionist has learned and practiced in the first two units. A variety of reports in challenging formats are presented for the student to experience "real-life" situations. (CSU)

249. Directed Study. (1-3) *(Please see Directed Study category.) (CSU w/limit)*