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## ADMINISTRATION OF JUSTICE

Division: Humanities, Social Sciences, and Mathematics

**AJ-101 Administration of Justice**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU &amp; UC

This course covers the history and philosophy of administration of justice in America as well as recapitulation of the system identifying the various sub-systems and their relationships. Theories of crime, punishment, ethics, education and training for professionalism in the system are explored. (GR) (CAN AJ 2)

**AJ-102 Criminal Law**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU &amp; UC

This course covers concepts of criminal law: historical development, philosophy of law, and constitutional provisions. Also covered will be classifications of crime and their application to the system of administration of justice. In addition, the course covers legal research, study of case law, methodology, and concepts of law as a social force. (GC) (CAN AJ 4)

**AJ-104 Criminal Evidence**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU

This course covers the legal aspects of evidence. The origin, development, philosophy, and constitutional basis of evidence, along with constitutional and procedural considerations affecting arrest, search and seizure, kinds and degrees of evidence, and rules governing admissibility are studied. Judicial decisions interpreting individual rights and case studies are used to interpret the material. (GC) (CAN AJ 6)

**AJ-106 Criminal Procedure**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU

This course covers the principles and procedures of the justice system. It is an in-depth study of the role and responsibilities of each segment within the Administration of Justice system – law enforcement, judicial, and corrections. (GC)

**AJ-107 Criminal Investigation**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-151B

Accepted For Credit: CSU

This course covers the nature of investigation, crime scene search and recording, interviews and interrogation, sources of information, case preparation, and investigative techniques in specific crimes. (GC) (CAN AJ 8)

**AJ-115 Cyber Crime**

54.00 hrs lecture, 18.00 hrs lab

Units: 3.00

Advisory: ENGL-151B, ENGL-163

Accepted For Credit: CSU

This course will give students background in the history and terminology of computer crimes. The investigation of computer crimes and the forensic processing of seized computer data while safeguarding the constitutional rights of individuals will be examined. (GR)

**AJ-116****Criminal Forensics**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU

This course covers training of crime laboratory technicians in photography, scientific analysis, identification and comparison of physical evidence. Emphasis is placed on techniques and tests involved in cases of alcohol and drug intoxication and identification, blood types, fingerprints, ballistics, explosives, ultraviolet techniques, tool marks, and questioned documents. (GC)

**AJ-117****Police and Society**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU &amp; UC

This course involves an in-depth exploration of roles of AJ practitioners and their agencies. Through interaction and study, Administration of Justice students will become aware of interrelationships and role expectations among various agencies and the public. Emphasis is placed on the professional image of the Administration of Justice system and development of positive relationships between members of the system and the public. (GC)

**AJ-118****Criminology**

54.00 hrs lecture

Units: 3.00

Accepted For Credit: CSU

This course studies human behavior and the reasons and motivations why people commit crimes. It will also examine the nature and extent of crimes as well as causes and prevention of criminality. (GR)

**AJ-119****Murder in America**

54.00 hrs lecture

Units: 3.00

Cross-referenced Course: PSY-104

Advisory: Eligible for ENGL-101A

Accepted For Credit: CSU

This course surveys the psychological and criminological aspects of murder in America, including serial killers, mass murders, and terrorism. (GR)

**AJ-120****Report Writing for Law Enforcement and the Administration of Justice**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-101A

Accepted For Credit: CSU

This course will provide pre-service students with an introduction to the field of report writing for law enforcement and the Administration of Justice system. Repeatable = 2 times (GC)

**AJ-123****Terrorism**

54.00 hrs lecture

Units: 3.00

Advisory: ENGL-151B, ENGL-163

Accepted For Credit: CSU

This course examines basic information about the structure and nature of domestic and international terrorism and the roles of state and local law enforcement in national defense. (GR)

- AJ-131 Juvenile Justice**  
54.00 hrs lecture  
Units: 3.00  
Accepted For Credit: CSU  
This course covers causes and forms of juvenile delinquency, the handling of juvenile offenders and victims, the prevention and repression of juvenile delinquency, the diagnosis and referral of juvenile offenders, the organization of community resources, and juvenile law and juvenile court procedures. (GR)
- AJ-132 Civil Law**  
36.00 hrs lecture  
Units: 2.00  
This course covers the essentials of non-criminal law as it relates to contracts, personal and property rights, torts, marriage and family relations, and the civil action. This course also covers obtaining and enforcing emergency protective restraining orders. (GC)
- AJ-135 Drug Enforcement**  
36.00 hrs lecture  
Units: 2.00  
This course covers the identification of narcotic and dangerous drugs, the users of drugs and their supply, the law as an agency of drug control, investigation and processing of drug violations, and social solutions to the drug problems. (GC)
- AJ-140 Post PC 832 Laws of Arrest**  
40.00 hrs lecture  
Units: 2.00  
This course is POST certified as 40 hours PC 832 Laws of Arrest for code enforcement vocations. This course covers professionalism for code enforcement officers, basic legal concepts, the laws of evidence and investigative techniques, and unarmed defense and handcuffing techniques. The course is principally directed at individuals who deal with members of the general public in their regular occupation and who can be expected to enforce code violations by issuing citations, if necessary. Repeatable = 2 times (CR)
- AJ-141 Post PC 832 Basic Firearms**  
10.00 hrs lecture, 14.00 hrs lab  
Units: 1.00  
Prerequisite: Students must pass a background fingerprint check through the California Department of Justice at their own expense. The clearance letter must be provided to the Coordinator before entrance to the firing range. This requirement is California State Law.  
This course is the basic POST (Police Officer Standards and Training) certified 24-hour firearms training with qualification certificate upon completion. Successful completion of this course will allow the student to enter any enforcement type vocation, for instance, code inspectors, such as park rangers, building inspectors, animal control officers, community service officers, probation officers, security officers, or firefighters anywhere in the State of California. Repeatable = 3 times. (CR)
- AJ-144 Leadership Skills Development**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151A  
This course is designed to teach skills needed to create future leaders and supervisors for the public safety sector. Emphasis is not to teach students about supervision, but about leadership, and the differences between the two. (GC)
- AJ-150 POST Level III Part 2 Laws of Arrest Reserve Level III Training**  
80.00 hrs lecture, 18.00 hrs lab  
Units: 5.00  
Prerequisite: AJ-140 and AJ-141  
Advisory: Eligible for ENGL-151B  
Accepted For Credit: CSU  
This class is the basic POST (California Department of Justice's Commission on Peace Officer Standards and Training) Level III Part 2 Reserve Officer 98-hour training course. Successful completion of this course together with the basic 64 hour-Part 1 courses – AJ-140 and AJ-141 – will enable students the opportunity to apply for a Level III reserve officer position with any law enforcement agency employing reserve officers in the State of California. Repeatable = 3 times (GC)
- AJ-195A1 Work Experience Education – Vocational**  
75.00 hrs lab  
Units: 1.00  
Accepted For Credit: CSU  
Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)
- AJ-195A2 Work Experience Education – Vocational**  
150.00 hrs lab  
Units: 2.00  
Accepted For Credit: CSU  
Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)
- AJ-195A3 Work Experience Education – Vocational**  
225.00 hrs lab  
Units: 3.00  
Accepted For Credit: CSU  
Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)
- AJ-195A4 Work Experience Education – Vocational**  
300.00 hrs lab  
Units: 4.00  
Accepted For Credit: CSU  
Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)
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- AIR FORCE**
- Division: Fine Arts, Business, and Broadcasting
- AF-101A Foundations of the U.S. Air Force**  
22.50 hrs lecture  
Units: 1.00  
Accepted For Credit: CSU  
Today's Air Force officer and the Air Force as a whole. (GR)
- AF-101B Foundations of the U.S. Air Force**  
18.00 hrs lecture, 18.00 hrs lab  
Units: 1.00  
Accepted For Credit: CSU  
Today's Air Force officer and the Air Force as a whole. (GR)

**AF-102A The Evolution of the U.S. Air Force**  
22.50 hrs lecture  
Units: 1.00  
Accepted For Credit: CSU  
Introduction to ethics, values, leadership and leadership problems, and communication skills. (GR)

**AF-102B Evolution of the U.S. Air Force Air and Space Power**  
36.00 hrs lecture  
Units: 2.00  
Accepted For Credit: CSU  
Introduction to ethics, values, leadership and leadership problems, and communication skills. (GR)

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## ALLIED HEALTH

Division: Health Sciences and Environmental Studies

**AH-110 Medical Terminology**  
36.00 hrs lecture  
Units: 2.00  
Corequisite: AH-111  
Advisory: Eligible for ESL-184RW and ENGL-162; SPCH/ESL-150 or SPCH/ESL-151  
Accepted For Credit: CSU  
This course is an introduction to medical terminology as used in the health professions. Course content includes anatomical and physiological terminology; basic structure, prefixes, suffixes; combining forms; abbreviations; and analysis of a medical paper. Repeatable = 1 time (GR)

**AH-111 Medical Terminology**  
36.00 hrs lecture  
Units: 2.00  
Corequisite: AH-110  
Advisory: Eligible for ESL-184RW and ENGL-162; SPCH/ESL-150 or SPCH/ESL-151  
Accepted For Credit: CSU  
This course provides opportunities for application of medical terminology and further development of skill in analyzing components of medical terms and guiding a medical vocabulary applicable to specialties of medicine. Repeatable = 1 time (GR)

**AH-114 Laboratory and Diagnostic Tests**  
18.00 hrs lecture  
Units: 1.00  
This course is designed for health science students and RN practitioners. Students will learn the purpose of various lab and diagnostic tests. Using clinical case studies, test results will be presented and analyzed. Repeatable = 1 time (CR)

**AH-117A Basic Phlebotomy Training**  
36.00 hrs lecture  
Units: 2.00  
Prerequisite: AH-110, AH-111 with grade of C or better  
This course meets the California content standards for basic phlebotomy training. It is the first course in the four course series leading to the Ohlone College Phlebotomy Certificate of Completion and eligibility to sit for the state certification exam as a Phlebotomy Technician I. This is a 36-hour theory course normally offered in an abbreviated format over 3 to 4 weeks. Repeatable = 1 time (GR)

**AH-117B Phlebotomy Skills Lab**  
27.00 hrs lab  
Units: 0.50  
Prerequisite: AH-117A with grade of C or better; must have been taken within one year  
This course is the second course of the four course series required for the Phlebotomy Certificate of Completion. In this course students demonstrate what has been learned in the previous phlebotomy course. In a laboratory setting, under the supervision of the phlebotomist instructor, the student will demonstrate safe blood withdrawal techniques for vacuum system, butterfly needle, syringe system, and capillary puncture. The students will collect samples from each other and demonstrate safe transport of specimens. Skill mastery will be assessed through a final practice exam that must be successfully completed to progress to AH-117D Phlebotomy Externship. Students must have their Health Forms completed to participate in this course. This is a 27 hour course normally taught over a 1 to 3 week period. Repeatable = 1 time (CR)

**AH-117C Advanced Phlebotomy Training**  
27.00 hrs lecture  
Units: 1.50  
Prerequisite: AH-117A with grade of C or better; AH-117B; all must have been taken within one year  
This is the third course in the four course series that meets the California content standards for eligibility to sit for the Phlebotomy Technician I certification exam. All four courses are required to earn the Ohlone College Phlebotomy Certificate of Completion. This course builds upon the content and principles taught in AH-117A, Basic Phlebotomy Training. It addresses each standard as outlined in the California standards and includes preparation for state certification. This is a 27 hour course normally offered over a 2 to 3 week period. Repeatable = 1 time (GR)

**AH-117D Phlebotomy Externship**  
108.00 hrs lab  
Units: 2.00  
Prerequisite: AH-117A and AH-117C with grade of C or better; AH-117B; all must have been taken within one year  
This is the fourth of four courses required to earn the Phlebotomy Certificate of Completion. This is a clinical course in which students are assigned to experienced phlebotomists in clinical settings to practice blood collection, patient interaction, specimen processing, and laboratory function in healthcare. Students are mentored as they master techniques as required by California regulations. This is a 108-hour clinical course normally taught in an intensive 3-week block. Repeatable = 1 time (CR)

**AH-118 Advanced Phlebotomy for Practitioners**  
27.00 hrs lecture  
Units: 1.50  
Advisory: Phlebotomy work experience within the past five (5) years as required by California law  
This course is open to practicing phlebotomists who by law are eligible to sit for the Phlebotomy Technician I certification exam upon successfully completing this course. The content meets the standards as set forth by California law and the Department of Health Services. It prepares students to sit for the certification exam and includes advanced techniques in blood collection. This is a 27-hour course normally offered in an abbreviated format over 2 to 3 weeks. Repeatable = 1 time (GR)

**AH-120 Electrocardiography and Vital Signs**  
27.00 hrs lab  
Units: 0.50  
Advisory: AH-110, AH-111  
This is a short-term 27 hour experiential course in a variety of formats. This course introduces the principles and applications of electrocardiography (ECG) and vital signs (temperature, pulse, respiration, blood pressure). Not applicable to associate degree. Repeatable = 1 time (GR)

- AH-121 EKG Interpretation**  
18.00 hrs lecture  
Units: 1.00  
Students are introduced to waveform identification, measurements, determination of rhythms, determination of heart rates, and various EKG rhythms and dysrhythms. This course will also review cardiac anatomy and physiology in relation to various rhythms. Students will practice interpreting EKG rhythms. A brief review of anatomy and physiology is included. Repeatable = 1 time (CR)
- AH-130 Acupressure Connection I**  
18.00 hrs lecture  
Units: 1.00  
This course presents the fundamental concepts of acupressure and its application. Students learn to give short and long acupressure treatments to relieve pain and to promote relaxation and healing. Additional alternative health practices, including therapeutic touch, relaxation techniques, guided imagery, exercise, and nutrition are addressed. Repeatable = 2 times (CR)
- AH-151 Applied Clinical Pharmacology**  
36.00 hrs lecture  
Units: 2.00  
Accepted For Credit: CSU  
This course provides the respiratory therapy and nursing student or practitioner with a working knowledge of drug therapy in current use with acutely ill clients. (GC)
- AH-365 Supervised Tutoring**  
180.00 hrs lab  
Units: 0.00  
Prerequisite: Instructor or counselor referral  
This course provides students with individualized tutoring. It assists students to develop a learning methodology and skill enhancement in a subject. It may include consultation with skills lab coordinator and supervised tutoring and/or student tutors. Repeatable = 3 times (NG)

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## AMERICAN SIGN LANGUAGE

Division: Deaf Studies and Special Services

- ASL-101A Principles of American Sign Language I**  
90.00 hrs lecture, 18.00 hrs lab  
Units: 5.00  
Accepted For Credit: CSU & UC  
This course covers the beginning fundamental principles of American Sign Language and introduces basic information about the Deaf Community and Deaf Culture. This course is required for students majoring in American Sign Language and Deaf Studies and is a prerequisite for students wishing to enter the Interpreter Preparation Program. Students are expected to attend outside events at their own expense. (GR)
- ASL-101B Principles of American Sign Language I**  
90.00 hrs lecture, 18.00 hrs lab  
Units: 5.00  
Prerequisite: ASL-101A or two years of high school ASL  
Accepted For Credit: CSU & UC  
This course is an enhanced and expanded Level I study of the fundamentals of American Sign Language grammar and is a further study of the Deaf community and Deaf culture. This course is recommended for students who have completed ASL-101A and desire to further study and review before taking ASL-102A. Students are expected to attend outside events at their own expense. (GR)
- ASL-102A Principles of American Sign Language II**  
90.00 hrs lecture, 18.00 hrs lab  
Units: 5.00  
Prerequisite: ASL-101A or B with a grade of C or better or equivalent  
Accepted For Credit: CSU & UC  
This course covers the fundamental principles of Level II American Sign Language and introduces more advanced information about the Deaf community and Deaf culture. This course is recommended for students majoring in American Sign Language and Deaf Studies and students wishing to enter the Interpreter Preparation Program. Students are expected to attend outside events at their own expense. (GR)
- ASL-102B Principles of American Sign Language II**  
90.00 hrs lecture, 18.00 hrs lab  
Units: 5.00  
Prerequisite: ASL-102A or equivalent  
Accepted For Credit: CSU & UC  
This course is an enhanced and expanded Level II study of the fundamentals of American Sign Language and is a further study of the Deaf culture. This course is recommended for students who have completed ASL-102A and desire further study and review. Students are expected to attend outside events at their own expense. (GR)
- ASL-103A Principles of American Sign Language III**  
90.00 hrs lecture, 18.00 hrs lab  
Units: 5.00  
Prerequisite: ASL-102A or B with grade of C or better, or equivalent  
Accepted For Credit: CSU & UC  
This course covers the fundamental principles of Level III of American Sign Language for students who have completed ASL-102A and is a further study of the Deaf community and Deaf culture. It is required for students majoring in American Sign Language and Deaf Studies and students wishing to enter the Interpreter Preparation Program. Students are expected to attend outside events at their own expense. (GR)
- ASL-103B Principles of American Sign Language III**  
90.00 hrs lecture, 18.00 hrs lab  
Units: 5.00  
Prerequisite: ASL-103A or equivalent  
Accepted For Credit: CSU & UC  
This course is an expanded and enhanced Level III study of the fundamental principles of American Sign Language and is a further study of the Deaf community and Deaf culture. This course is recommended for students who have completed ASL-103A and who desire further study and review before taking ASL-104A. Students are expected to attend outside events at their own expense. (GR)
- ASL-104A Principles of American Sign Language IV**  
90.00 hrs lecture, 18.00 hrs lab  
Units: 5.00  
Prerequisite: ASL-103A or B with grade of C or better, or equivalent course  
Accepted For Credit: CSU & UC  
This course covers the fundamental principles of Level IV of American Sign Language and continues information about the Deaf community and Deaf culture. This course is required for students majoring in American Sign Language and Deaf Studies and students wishing to enter the Interpreter Preparation Program. It is for students who have completed ASL-103A or ASL-103B. Students are expected to attend outside events at their own expense. (GR)

**ASL-104B Principles of American Sign Language IV**

90.00 hrs lecture, 18.00 hrs lab  
Units: 5.00  
Prerequisite: ASL-104A or equivalent  
Accepted For Credit: CSU & UC

This course is an enhanced and expanded Level IV study of the fundamental principles of American Sign Language and is a further study of the Deaf community and Deaf culture. This course is recommended for students who have finished ASL-104A and desire further study and review. Students are expected to attend outside events at their own expense. (GR)

**ASL-140 Deaf Education**

54.00 hrs lecture  
Units: 3.00  
Accepted For Credit: CSU

This course has been designed to provide students with a general orientation to the Deaf community. The course provides an overview of the historical, philosophical, psychological, educational, and social aspects of the Deaf. In addition it provides an orientation to problems, issues, and research in the field of education of the Deaf. Repeatable = 1 time (GR)

**ASL-142 Deaf Culture**

54.00 hrs lecture  
Units: 3.00  
Prerequisite: Completion of, or concurrent enrollment in, ASL-101A or B or equivalent  
Accepted For Credit: CSU

This course is an in-depth study of Deaf culture and the Deaf community which will help students understand Deaf culture, values, identity, rules of interaction, and traditions. Students will appreciate the deep-rooted ties that Deaf have with residential schools, Gallaudet University, and national, state, and local organizations. (GR)

**ASL-145 Deaf History**

54.00 hrs lecture  
Units: 3.00  
Prerequisite: ASL-101A or ASL-101B with grade of C or better, or equivalent  
Accepted For Credit: CSU & UC

This is an in-depth study of noted Deaf persons, Deaf contributions to education and job markets, Deaf heritage, international Deaf history, history of California School of the Deaf-Fremont, and history of Bay Area Deaf organizations. (GR)

**ASL-150 Linguistics of ASL**

54.00 hrs lecture  
Units: 3.00  
Prerequisite: ASL-102A or ASL-102B with a grade of C or better, or equivalent  
Accepted For Credit: CSU & UC

This course is an in-depth study of the language of American Deaf people including grammar, morphology, phonology, semantics, and discourse of ASL. This course is taught in ASL only. Repeatable = 1 time (GR)

**ASL-152 Advanced Fingerspelling**

18.00 hrs lecture  
Units: 1.00  
Prerequisite: ASL-102A or B or with grade of C or better, or equivalent

This course provides concentrated instruction in the receptive and expressive practice of advanced fingerspelling at increasing levels of complexity. It is recommended for advanced students majoring in American Sign Language/Deaf Studies or who are in the Interpreter Preparation Program. Repeatable = 3 times (GC)

**ASL-154 American Sign Language Vocabulary**

36.00 hrs lecture  
Units: 2.00  
Prerequisite: ASL-102A or ASL-102B with a grade of C or better, or equivalent

This course is designed to provide students with receptive and expressive knowledge of over 5,000 signs and commonly used phrases. Regional variations of signs will be studied. Conceptual accuracy is emphasized. This course is recommended for advanced students majoring in American Sign Language, Deaf Studies Program, and/or Interpreter Preparation. Repeatable = 3 times (GC)

**ASL-155 ASL Literature (Folklore)**

54.00 hrs lecture  
Units: 3.00  
Prerequisite: ASL-103A or B with grade of C or better, or equivalent

This course is an introduction to the analysis of ASL literature. Two ASL stories will be studied in depth and analyzed from a variety of perspectives. The class is taught in ASL only. (GR)

**ASL-156 Advanced Reception of ASL**

54.00 hrs lecture  
Units: 3.00  
Prerequisite: ASL-102A or B or with grade of C or better, or equivalent

This course is designed to strengthen the receptive skills of students interested in ASL by analyzing stories, jokes, and experiences of a large variety of Deaf signers. This course is recommended for advanced students in the American Sign Language and Deaf Studies Program or in the Interpreter Preparation programs. Repeatable = 3 times (GC)

**ASL-157 ASL Storytelling**

54.00 hrs lecture  
Units: 3.00  
Prerequisite: ASL-102A or B with a grade of C or better, or equivalent

This course includes various levels and situations from simple to complex ASL stories. Expressive storytelling will incorporate ASL principles, sign order, facial expressions, body expressions, and pantomime. Receptive storytelling will involve critiquing and analyzing given stories. The class is taught in ASL only. (Formerly ASL-189) Repeatable = 2 times (GC)

**ASL-158 Classifiers in ASL**

54.00 hrs lecture  
Units: 3.00  
Prerequisite: ASL-102A or ASL-102B with a grade of C or better, or equivalent

In this course, students will study the classifier system of ASL. This course is taught in ASL only. Repeatable = 3 times (GC)

**ASL-160 American Sign Language Field Work**

54.00 hrs lab  
Units: 1.00  
Prerequisite: ASL-102A or ASL-102B with grade of C or better, or equivalent

This course offers direct experience signing in formal and/or informal conversational settings or projects involving knowledge of ASL and deafness. Repeatable = 3 times (GR)

**ASL-161 American Sign Language Field Work**

108.00 hrs lab  
Units: 2.00  
Prerequisite: ASL-102A or ASL-102B with a grade of C or better, or equivalent

This course offers direct experience signing in formal and/or informal conversational settings or projects involving knowledge of ASL and deafness. Repeatable = 3 times (GR)

- ASL-181A Conversational ASL I**  
54.00 hrs lecture  
Units: 3.00  
Accepted For Credit: CSU  
This course is designed to provide basic conversational skills in the language used by most Deaf people in the United States. Emphasis will be placed on basic American Sign Language structure. Students are expected to attend outside events at their own expense. Repeatable = 1 time (GC)
- ASL-181B Conversational ASL II**  
54.00 hrs lecture  
Units: 3.00  
Prerequisite: ASL-181A or equivalent  
Accepted For Credit: CSU  
This course is a continuation of the study of ASL as used in a conversational mode. It is designed to provide intermediate conversational skill in the use of ASL. Students are expected to attend outside events at their own expense. Repeatable = 1 time (GC)
- ASL-183 ASL Skill Building**  
54.00 hrs lab  
Units: 1.00  
Prerequisite: ASL-101B/181B or higher  
This is a course for students wishing to become more proficient in using ASL and to further develop their vocabulary, ASL grammar, and fingerspelling skills. This course is taught in ASL only. Repeatable = 3 times (GC)
- ASL-190A Workshop in Basic ASL**  
18.00 hrs lecture  
Units: 1.00  
This course is a workshop for students covering selected topics in the area of American Sign Language (ASL). The theme and content of each workshop varies and is determined by American Sign Language/Deaf Studies instructors. Repeatable = to a maximum of 9 units for ASL-190A-C (CR)
- ASL-190B Workshop in Basic ASL**  
36.00 hrs lecture  
Units: 2.00  
This course is a workshop for students covering selected topics in the area of American Sign Language (ASL). The theme and content of each workshop varies and is determined by American Sign Language/Deaf Studies instructors. Repeatable = to a maximum of 9 units for ASL-190A-C (CR)
- ASL-190C Workshop in Basic ASL**  
54.00 hrs lecture  
Units: 3.00  
This course is a workshop for students covering selected topics in the area of American Sign Language (ASL). The theme and content of each workshop varies and is determined by American Sign Language/Deaf Studies instructors. Variable unit class. Repeatable = to a maximum of 9 units for ASL-190A-C (CR)
- ASL-191A Workshops in Deaf Studies**  
18.00 hrs lecture  
Units: 1.00  
This course is a workshop for students covering selected topics in the area of Deaf Studies. The theme and content of each workshop varies and is determined by American Sign Language/Deaf Studies instructors. Repeatable = to a maximum of 9 units for ASL-190A-C (CR)
- ASL-191B Workshops in Deaf Studies**  
36.00 hrs lecture  
Units: 2.00  
This course is a workshop for students covering selected topics in the area of Deaf Studies. The theme and content of each workshop varies and is determined by American Sign Language/Deaf Studies instructors. Repeatable = to a maximum of 9 units for ASL-191A-C (CR)

- ASL-191C Workshops in Deaf Studies**  
54.00 hrs lecture  
Units: 3.00  
This course is a workshop for students covering selected topics in the area of Deaf Studies. The theme and content of each workshop varies and is determined by American Sign Language/Deaf Studies instructors. Repeatable = to a maximum of 9 units for ASL-191A-C (CR)

- ASL-365 Supervised Tutoring**  
90.00 hrs lab  
Units: 0.00  
Prerequisite: Instructor or counselor referral  
This course provides students with individualized tutoring. It assists students to develop a learning methodology in a subject. It includes diagnosis and consultation with tutorial coordinator and supervised tutoring by part-time instructional aides and/or student tutors. Repeatable = 3 times (NG)

## . . . ANTHROPOLOGY

Division: Science, Technology, and Engineering

- ANTH-101 Physical Anthropology**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU & UC  
This course is a study of human biology with an emphasis on human evolution and the interaction between biology and culture. Major topics of discussion will be genetics, human variation, primate studies, and the prehistorical fossil record. (GC)
- ANTH-102 Cultural Anthropology**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU & UC  
This course deals with the study of human society with reference to the development and change of culture. An emphasis will be placed on the comparative review of language, marriage and family, belief systems, wealth, power, and political organizations. (GC) (CAN ANTH 4)
- ANTH-103 Introduction to Archaeology and Prehistory**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU & UC  
This course introduces the subject of archaeology through the study of concepts, theories, and methods employed by archaeologists to reconstruct past life ways. Topics include the nature of archaeological research; field methods; data acquisition, analysis, and interpretation; cultural resource management; and an examination of cultural adaptations and change. (GC)

**ANTH-104 Survey of North American Indian Cultures**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU &amp; UC

This course will focus on the prehistoric and historic distribution of Native American populations and their respective cultures. Topics to be covered include prehistory and ethnographic record of North American Indian cultures. This will include social organizations, linguistics, religion, post contact history, and contemporary issues of Native Americans. (GC)

**ANTH-105 Field Archaeology**

18.00 hrs lecture, 108.00 hrs lab

Units: 3.00

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU

This course deals with the methods of scientific excavation implementing the techniques of a field archeologist. Emphasis will be on the scientific method as it relates to excavation, classifying, cataloging, and preservation of past human cultures under supervised field and laboratory conditions. (Formerly ANTH-103B). Repeatable = 3 times (GC)

**ANTH-106 Magic, Witchcraft, and Religion**

54.00 hrs lecture

Units: 3.00

Advisory: ANTH-102

Accepted For Credit: CSU &amp; UC

This course involves the study of belief systems from cultures around the world. Students will analyze the functions of religious beliefs and the varied expressions of religion through ritual behaviors, use of magic, cures, hallucinogenic drugs, and the importance of the mind-body connection. Emphasis will be placed upon concepts of good and evil, god and devil, and cultural survival from an anthropological perspective. (GC) (CAN ANTH 6)

**ANTH-365 Supervised Tutoring**

90.00 hrs lab

Units: 0.00

Prerequisite: Instructor or Counselor Referral

This course provides students with individualized tutoring. It assists students to develop a learning methodology in a subject. It includes diagnosis with consultation with tutorial coordinator and supervised tutoring by part-time instructional aides and/or student tutors. Repeatable = 3 times (NG)

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**ARABIC**

Division: Humanities, Social Sciences, and Mathematics

**ARBC-101A Elementary Arabic**

90.00 hrs lecture, 18.00 hrs lab

Units: 5.00

Accepted For Credit: CSU &amp; UC

This course is an introduction to the speaking, reading and writing of Arabic including fundamentals of grammar and Arabic culture. (GR)

**ARBC-101B Elementary Arabic**

90.00 hrs lecture, 18.00 hrs lab

Units: 5.00

Prerequisite: ARBC-101A or two years of high school Arabic

Accepted For Credit: CSU &amp; UC

This course is a continuation to the speaking, reading and writing of Arabic and includes fundamentals of grammar and Arabic culture. (GR)

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**ART**

Division: Fine Arts, Business, and Broadcasting

**ART-100 Survey of the Arts**

54.00 hrs lecture

Units: 3.00

Cross-referenced Course: IS-100, MUS-100, TD-100

Corequisite: ART-100L

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU &amp; UC

In this course, Theatre, Art, and Music are explored through discussion, historical review, and contemporary issues. The purpose of this course is to increase students' understanding and enjoyment of the arts. (GC)

**ART-100L Survey of the Arts Performance Attendance Lab**

6.00 hrs lab

Units: 0.00

Cross-referenced Course: IS-100L, MUS-100L, TD-100L

Corequisite: ART-100

This is a concert, performance, or gallery attendance lab component for Survey of the Arts course requiring attendance at selected events offered by the Gary Soren Smith Center for the Fine and Performing Arts. (NG)

**ART-101 Art: An Introduction**

54.00 hrs lecture

Units: 3.00

Corequisite: ART-101L

Accepted For Credit: CSU &amp; UC

This course is a survey of the visual arts: painting, sculpture, architecture, and film. The student will be introduced to the various functions of art in our society. The desired outcome is a more critical observer. (GC)

**ART-101L Art: An Introduction Performance Attendance Lab**

2.00 hrs lab

Units: 0.00

Corequisite: ART-101

This is a gallery attendance lab component for fine and performing arts classes requiring attendance at selected events offered by the Gary Soren Smith Center for the Fine and Performing Arts. (NG)

**ART-103A Survey of World Art History – Prehistoric Through 1300 C.E.**

72.00 hrs lecture

Units: 4.00

Corequisite: ART-103L

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU &amp; UC

This course consists of visual art history primarily from prehistory through 14th century: Mesopotamian, Egyptian, Greek, Roman, Early Christian, Islamic, African, Pre-Columbian, Asian, and the art of the Americas. (GC) (CAN ART 2)

- ART-103B Survey of World Art History – 14th Century Through 20th Century**  
72.00 hrs lecture  
Units: 4.00  
Corequisite: ART-103L  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU & UC  
This course consists of a survey of visual arts from the Renaissance through the present. It includes studies of the art of the Americas, Africa, and Asia. (GC) (CAN ART 4)
- ART-103L Survey of World Art History – Performance Attendance Lab**  
2.00 hrs lab  
Units: 0.00  
Corequisite: ART-103A or B or D or E  
This is a gallery attendance lab component for fine and performing arts classes requiring attendance at selected events offered by the Gary Soren Smith Center for the Fine and Performing Arts. Repeatable = 3 times (NG)
- ART-104A 2D Design**  
36.00 hrs lecture, 72.00 hrs lab  
Units: 3.00  
Accepted For Credit: CSU & UC  
This lecture/studio class will introduce the beginning student to the techniques and concepts related to the organization of two-dimensional imagery. Studio work will include collage, painting, printmaking, and drawing. Repeatable = 3 times (GC) (CAN ART 14)
- ART-104B Color and 3D Design**  
36.00 hrs lecture, 72.00 hrs lab  
Units: 3.00  
Advisory: ART-104A  
Accepted For Credit: CSU & UC  
This lecture/studio class is a continuation of ART 104A. A major emphasis will be on the advanced study in color theory and the principles of three-dimensional form. (CAN ART 16) Repeatable = 3 times (GC) (CAN ART 16)
- ART-104C Color**  
36.00 hrs lecture, 72.00 hrs lab  
Units: 3.00  
Accepted For Credit: CSU & UC  
This lecture/studio class will introduce the beginning student to various theories of color, hands-on experience in mixing colors, and practical observation in color relationships and effects. The quality of color will be explored through hue, value, and saturation. Repeatable = 3 times (GC)
- ART-105A Glass Art and Design**  
36.00 hrs lecture, 126.00 hrs lab  
Units: 3.00  
Accepted For Credit: CSU  
This course is an introduction to fundamentals of glass-related design including studies of depth of field, reflected/refracted light, volume, and value/color balance. The course covers casting, fusion, slumping, sandblasting, lamination, fabrication techniques, and contemporary glass survey lectures. Repeatable = 3 times (GC)
- ART-105B Advanced Glass Fabrication**  
36.00 hrs lecture, 126.00 hrs lab  
Units: 3.00  
Prerequisite: ART-105A  
Accepted For Credit: CSU  
This course emphasizes further explorations in glass including moldmaking, casting, fusing, slumping, advanced lamination, and torchwork. Repeatable = 3 times (GC)
- ART-105C 3D Glass**  
36.00 hrs lecture, 126.00 hrs lab  
Units: 3.00  
Prerequisite: ART-105A and ART-105B  
Accepted For Credit: CSU  
This course emphasizes three-dimensional glass using advanced techniques in kiln forming, sand casting, lamination, and torchwork. Repeatable = 3 times (GC)
- ART-106A Descriptive Drawing**  
36.00 hrs lecture, 72.00 hrs lab  
Units: 3.00  
Accepted For Credit: CSU & UC  
This is a basic drawing course designed to teach students fundamental drawing skills and techniques. Composition and presentation of subject matter as well as use of charcoal, pencil, ink, and pastel will be emphasized. Repeatable = 3 times (GC) (CAN ART 8)
- ART-106B Intermediate Descriptive Drawing**  
36.00 hrs lecture, 72.00 hrs lab  
Units: 3.00  
Prerequisite: ART-106A  
Accepted For Credit: CSU & UC  
This course involves the further study of drawing concepts emphasizing creative expression and composition. The course emphasizes studio practice with a variety of visual elements, methods, and materials. Repeatable = 3 times (GC)
- ART-107A Life Drawing**  
36.00 hrs lecture, 72.00 hrs lab  
Units: 3.00  
Prerequisite: ART-106A  
Accepted For Credit: CSU & UC  
This course involves drawing the human figure from both an anatomical and intuitively observational method. Media used include charcoal, graphite, ink, water color, and oil wash. Repeatable = 3 times (GC) (CAN ART 24)
- ART-107B Life Drawing**  
36.00 hrs lecture, 72.00 hrs lab  
Units: 3.00  
Prerequisite: ART-107A  
Accepted For Credit: CSU & UC  
This course is a continuation of the work and methodology of ART-107A, but with an emphasis on expressive interpretation in drawing the human figure and the use of color. Repeatable = 3 times (GC)
- ART-108 Perspective Drawing**  
36.00 hrs lecture, 72.00 hrs lab  
Units: 3.00  
Advisory: ART-106A  
Accepted For Credit: CSU & UC  
This is a practical course in the techniques and principles of drawing in one and two point freehand and constructed perspective with an emphasis on drawing interiors and furniture. Repeatable = 3 times (GC)
- ART-109A Beginning Graphic Design I (Letter Forms and Typography)**  
36.00 hrs lecture, 126.00 hrs lab  
Units: 3.00  
Cross-referenced Course: GA-109A  
Advisory: ART-104A  
Accepted For Credit: CSU  
This course is an introduction to Graphic Design. It will cover the fundamentals of letter form design with traditional and contemporary alphabets. Studio practice will emphasize the relationships between image and message. Repeatable = 3 times (GC)

- ART-109B Beginning Graphic Design II**  
36.00 hrs lecture, 126.00 hrs lab  
Units: 3.00  
Cross-referenced Course: GA-109B  
Prerequisite: ART-109A or GA-109A  
Accepted For Credit: CSU  
This course is an introduction to the pictorial image and written word as basic components in a format for communications. The studio practice develops students' ability to formulate and communicate a concept into graphic form for both presentation and production. Repeatable = 3 times (GC)
- ART-110A Advanced Graphic Design I**  
36.00 hrs lecture, 126.00 hrs lab  
Units: 3.00  
Cross-referenced Course: GA-110A  
Prerequisite: ART-109B or GA-109B  
Accepted For Credit: CSU  
This is an advanced class. The emphasis is on students' problem-solving ability. It includes comprehensive projects in applied graphics and three-dimensional design. There is instruction in techniques for package design, product visualization, and execution of 3-D design prototypes for presentation and photography. Repeatable = 3 times (GC)
- ART-110B Advanced Graphic Design II**  
36.00 hrs lecture, 126.00 hrs lab  
Units: 3.00  
Cross-referenced Course: GA-110B  
Prerequisite: ART-110A or GA-110A  
Accepted For Credit: CSU  
This course gives advanced attention to design solution and presentation. The class deals with the development of a single all-inclusive graphic design project. The emphasis is on effective client relationship from concept development through assignment completion. Repeatable = 3 times (GC)
- ART-111A Painting – Color and Composition**  
36.00 hrs lecture, 72.00 hrs lab  
Units: 3.00  
Advisory: ART-104A or ART-106A  
Accepted For Credit: CSU & UC  
This is an introductory course in studio painting practices designed to involve the student in basic studio techniques and experiences with regard to color, composition, and subject matter. Oil paint will be the primary media. Introduction to other painting media will be included in the instruction. Repeatable = 3 times (GC) (CAN ART 10)
- ART-111B Painting**  
36.00 hrs lecture, 72.00 hrs lab  
Units: 3.00  
Prerequisite: ART-111A  
Accepted For Credit: CSU & UC  
This class continues the approaches studied in Painting 111A with an emphasis on form and content of subject matter. Techniques in painting with a student choice of media will be further explored. Repeatable = 3 times (GC)
- ART-112 Watercolor**  
36.00 hrs lecture, 72.00 hrs lab  
Units: 3.00  
Advisory: ART-106A  
Accepted For Credit: CSU & UC  
This course concentrates on water-based media including transparent watercolor, dyes, gouache, and tempera. Brush techniques and investigation of various papers will be included. Repeatable = 3 times (GC)
- ART-113 Airbrush Painting**  
36.00 hrs lecture, 72.00 hrs lab  
Units: 3.00  
Prerequisite: ART-104A or ART-106A  
Accepted For Credit: CSU  
This course is an introduction to airbrush techniques used by graphic artists in creating two- and three-dimensional imagery. The use, maintenance, and history of the airbrush will be included. Repeatable = 3 times (GC)
- ART-116A Basic Sculpture**  
36.00 hrs lecture, 126.00 hrs lab  
Units: 3.00  
Advisory: ART-104A or ART-106A  
Accepted For Credit: CSU & UC  
This is an introductory course designed to familiarize the student with contemporary forms of sculpture. Studio practice with process and material will be emphasized. Repeatable = 3 times (GC) (CAN ART 12)
- ART-116B Advanced Sculpture**  
36.00 hrs lecture, 126.00 hrs lab  
Units: 3.00  
Prerequisite: ART-116A  
Accepted For Credit: CSU & UC  
This course is a continuation of ART 116A and will further explore the relationship between sculptural form and personal expression. Studio practice in advanced processes will be emphasized. Repeatable = 3 times (GC)
- ART-116C Sculpture and Beyond**  
36.00 hrs lecture, 126.00 hrs lab  
Units: 3.00  
Accepted For Credit: CSU  
This course is a continuation of ART-116B and will further explore the relationship between sculptural form and personal expression. Studio practice in advanced processes and investigation of the local art scene will be emphasized. Repeatable = 3 times (GC)
- ART-117A Museum and Gallery Techniques (Exhibition Production)**  
18.00 hrs lecture, 54.00 hrs lab  
Units: 2.00  
Accepted For Credit: CSU  
This course is an introduction to the operation and display of visual art within a gallery and museum space. It involves a broad range of activities covering the care and handling, responsibility, and security of art shown in the College's Art Gallery. (GC)
- ART-117B Museum and Gallery Techniques (Promotional Graphics)**  
18.00 hrs lecture, 54.00 hrs lab  
Units: 2.00  
Prerequisite: ART-117A or ART-109A  
Accepted For Credit: CSU  
This course continues the production and display techniques experienced in ART-117A. The emphasis will be to give students a working understanding of the methods of preparing materials for promoting and disseminating information important to the exhibition of art in the College's gallery. Repeatable = 1 time (GC)
- ART-119A 3D Studio Lab**  
54.00 hrs lab  
Units: 1.00  
Corequisite: One of the following: ART-105A,B,C; ART-116A,B,C; ART-120A,B; ART-121A,B; ART-122A,B; ART-124; ART-125A,B; ART-126A,B  
Accepted For Credit: CSU  
This class is a lab component of all three- dimensional studio classes in the Art Department. Students will produce portfolio projects in clay, glass, or other sculptural materials. Repeatable = 3 times (CR)

**ART-119B Intermediate 3D Studio Lab**

54.00 hrs lab

Units: 1.00

Prerequisite: ART-119A

Corequisite: One of the following: ART-105A,B,C; ART-116A,B,C; ART-120A,B; ART-121A,B; ART-122A,B; ART-124; ART-125A,B; ART-126A,B

Accepted For Credit: CSU

This class is a lab component of all three-dimensional studio classes in the Art Department. Students will produce projects in clay, glass, or other sculptural materials. Repeatable = 3 times (CR)

**ART-119C Advanced 3D Studio Lab**

54.00 hrs lab

Units: 1.00

Corequisite: One of the following: ART-105A,B,C; ART-116A,B,C; ART-120A,B; ART-121A,B; ART-122A,B; ART-124; ART-125A,B; ART-126A,B.

Accepted For Credit: CSU

This class is a lab component of all three-dimensional studio classes in the Art Department. Students will produce portfolio projects in clay, glass, or other sculptural materials. Repeatable = 3 times (CR)

**ART-120A Ceramic Studio Development and Maintenance I**

54.00 hrs lab

Units: 1.00

Accepted For Credit: CSU

This course is an introduction to the development and maintenance of a ceramic studio. Students will gain general and practical working experience in the acquisition, installation, and use of all necessary studio equipment and supplies by helping to maintain the Ohlone ceramic studio. The machinery includes kilns, wheels, pug mill, slab roller, extruder, slip mixer, airbrush, spray booth, compressor, glaze materials, and ceramic library. Repeatable = 3 times (GC)

**ART-120B Ceramic Studio Development and Maintenance II**

54.00 hrs lab

Units: 1.00

Prerequisite: ART-120A or equivalent

Accepted For Credit: CSU

This course is a continuation of ART-120A. It enables ceramic students to develop plans for ceramic studios. Repeatable = 3 times (GC)

**ART-121A Introductory Ceramics I**

36.00 hrs lecture, 126.00 hrs lab

Units: 3.00

Accepted For Credit: CSU &amp; UC

This course is an introduction to the fundamental techniques of wheel-thrown and hand-constructed clay forms. This is a survey of clay and glaze materials and their ceramic applications. It includes firing of high temperature and low temperature stoneware and porcelain clays, including Raku and burnishing. Repeatable = 3 times (GC) (CAN ART 6)

**ART-121B Introductory Ceramics II**

36.00 hrs lecture, 126.00 hrs lab

Units: 3.00

Prerequisite: ART-121A or equivalent

Accepted For Credit: CSU &amp; UC

This course is a continuation of ART-121A. The emphasis is on wheel throwing, advanced handbuilding, glaze application, and loading and firing of bisque kilns. Repeatable = 3 times (GC)

**ART-122A Ceramic Throwing I**

36.00 hrs lecture, 126.00 hrs lab

Units: 3.00

Prerequisite: ART-121B or equivalent

Accepted For Credit: CSU &amp; UC

The course emphasis is on the designing, throwing, and glazing of more complex and difficult forms, including lidded containers, closed shapes, goblets, thin-necked bottles, and teapot sets. Repeatable = 3 times (GC)

**ART-122B Ceramic Throwing II**

36.00 hrs lecture, 126.00 hrs lab

Units: 3.00

Prerequisite: ART-122A or equivalent

Accepted For Credit: CSU &amp; UC

This course is a continuation of ART-122A. The emphasis is on the designing, throwing, glazing and firing of a matched dinner service for eight, including dinner and salad plates, soup bowls, cups, casserole, pitcher, teapot, sugar bowl, and creamer, or the completion of an equally difficult project. Repeatable = 3 times (GC)

**ART-123 Ceramic Decorating**

36.00 hrs lecture, 126.00 hrs lab

Units: 3.00

Prerequisite: ART-121B or ART-116B or equivalent.

Accepted For Credit: CSU &amp; UC

This course emphasizes all aspects of ceramic decoration including texture, carving, flattening, applied ornament, colored clays, engobes, brush making, resists, stencils, slip trailing, combing, marbling, commercial underglazes, raw oxides, and overglazes. Repeatable = 3 times (GC)

**ART-124 Advanced Ceramic Decorating**

36.00 hrs lecture, 126.00 hrs lab

Units: 3.00

Prerequisite: ART-121B or ART-104B or equivalent

Accepted For Credit: CSU &amp; UC

The emphasis is on designing and forming ceramic products for marketing. This includes shapes with commercially available accessories such as clay teapots with bamboo handles, covered canisters with wooden scoops, and clay oil lamps with burners. This course also includes large outdoor ceramic shapes such as large planters, tiles and murals, stools, lights, small fountains, and non-functional ceramic sculpture. Repeatable = 3 times (GC)

**ART-131 History of Photography**

54.00 hrs lecture

Units: 3.00

Accepted For Credit: CSU &amp; UC

This course is a survey of photography as an historical and contemporary form of art and communication. The student will develop appreciation for, and comprehension of, the issues, practices, and theories involved in visual communication as well as gain insights into the role of photography with regard to social, cultural, and political shifts and events from its inception in the early 19th century to the present day. (GC)

**ART-133A Black and White Photography**

36.00 hrs lecture, 126.00 hrs lab

Units: 3.00

Accepted For Credit: CSU &amp; UC

This course covers the fundamental processes of photography in mechanics of camera, darkroom equipment, optics, chemistry of film and paper, filtration, subject content, composition, and skills required to produce quality continuous tone black and white prints. Students will need an adjustable camera. (GC) (CAN ART 18)

**ART-133B Intermediate Black and White Photography**

36.00 hrs lecture, 126.00 hrs lab  
Units: 3.00

Prerequisite: ART-133A or instructor's approval  
Accepted For Credit: CSU

This is a darkroom course in black and white photography. Students refine their use of light sensitive materials and gain hands-on experience with alternative photographic processes. This course affords the opportunity for students to emphasize creativity and artistic style. Repeatable = 1 time (GC)

**ART-133C Advanced Black and White Photography**

36.00 hrs lecture, 126.00 hrs lab  
Units: 3.00

Prerequisite: ART-133B or instructor's approval  
Accepted For Credit: CSU & UC

This is a darkroom course in black and white photography. Students learn about camera exposure as it relates to print controls. The course spends time on previsualization techniques and affords the opportunity for students to emphasize creativity and artistic style. Students work independently on photography projects of their own design. Repeatable = 2 times (GC)

**ART-134A Basic Color Photography**

36.00 hrs lecture, 126.00 hrs lab  
Units: 3.00

Accepted For Credit: CSU & UC

This course examines color and design in photography with emphasis on creative expression through 35mm color. The course introduces color negative and reversal films. Techniques covered in the lab include digital image capture through scanning and computer adjustments to offer color correction, image manipulation, and capability to produce multi-media effects. A 35mm camera is required, as well as the purchase of film and processing. (GC)

**ART-134B Advanced Color Photography**

36.00 hrs lecture, 126.00 hrs lab  
Units: 3.00

Accepted For Credit: CSU

Color darkroom techniques for chromogenic prints are taught in this course. The course includes the theory and methods for all other current types of color photographic processes. Students will print color enlargements from their 35mm color negatives. Repeatable = 1 time (GC)

**ART-138A Beginning Photoshop**

27.00 hrs lecture, 81.00 hrs lab  
Units: 3.00

Accepted For Credit: CSU

This course is for photographers with limited experience or new to Adobe Photoshop. Students learn how to work with a digital "darkroom" using images supplied by the instructor for this purpose. Topics included are image file management and organization, file formats, resolution, basic image editing, selective image editing, scanning, preparing images for web-based application, how to purchase a digital camera, and more. A digital camera is not required. Repeatable = 2 times (GC)

**ART-138B Intermediate Photoshop**

27.00 hrs lecture, 81.00 hrs lab  
Units: 3.00

Prerequisite: ART-138A

Accepted For Credit: CSU

This course is for photographers wishing to increase their working knowledge of Adobe Photoshop. Students work with a digital "darkroom" using original images as well as images supplied by the instructor. Topics included are working with layers and masks, opacity and blend modes, transforming, working with text, camera raw, actions and smart filters, print and web-based workflow. A digital camera is not required. Repeatable = 2 times (GC)

**ART-139A Beginning Digital Photography**

18.00 hrs lecture, 108.00 hrs lab  
Units: 3.00

Cross-referenced Course: GA-169A  
Accepted For Credit: CSU

This course explores the photographer's creative process from several directions. Students will undertake photographic projects designed to provide engagement with a variety of subject matter and ways of photographing, look at photographic work in online and local galleries and museums, consider current issues having to do with photographic technologies, discuss their photographs with other students in an effort to improve their creative processes. Technical instruction will include camera functions, resizing and saving digital files, and minor image modification. For intense technical instruction see ART-138A and ART-138B. Repeatable = 3 times (GC)

**ART-139B Intermediate Digital Photography**

18.00 hrs lecture, 108.00 hrs lab  
Units: 3.00

Cross-referenced Course: GA-169B

Prerequisite: ART-139A or GA-169A

Accepted For Credit: CSU

This course continues an exploration of the photographer's creative process from several directions. Students will undertake photographic projects designed to provide engagement with a variety of subject matter and ways of photographing, complete an extended photographic project of their choosing and receive guidance from the instructor and students, look at photographic work in online and local galleries and museums, consider current issues around photographic technologies, discuss their photographs with other students in an effort to improve their creative processes. Students will formalize their individual projects as books or online galleries. Technical instruction will include camera functions, resizing and saving digital files, and minor image modification. For intense technical instruction see ART-138A or ART-138B. Repeatable = 3 times (GC)

**ART-145****Digital Photojournalism**

18.00 hrs lecture, 54.00 hrs lab  
Units: 2.00

Cross-referenced Course: JOUR-145

Advisory: ART-133A or equivalent photographic experience

Accepted For Credit: CSU

This course is designed for students with a career or consumer interest in photography as a communication art. The history, techniques, philosophy, and markets of photojournalism are explored through lectures, discussions, and appropriate photographic assignments. Emphasis on photography as a complement to printed material. Digital photographic techniques are stressed, using scanners and PhotoShop. (GC)

**ART-146****Photography/Graphic Arts Newspaper Staff**

9.00 hrs lecture, 27.00 hrs lab  
Units: 1.00

Cross-referenced Course: JOUR-146

Advisory: ART-106A or ART-133A or equivalent

Accepted For Credit: CSU

Staff members initiate, plan, and complete photographic or graphic art assignments for publication in the campus newspaper and/or magazine. Training emphasizes use of techniques and skills that communicate ideas effectively to a mass media audience. Photographers and artists have access to Macintosh computers, scanners, and PhotoShop for completion of assignments. Students are also introduced to legal and ethical responsibilities. Repeatable = to a maximum of 9 units (GC)

- ART-147 Photography/Graphic Arts Newspaper Staff**  
18.00 hrs lecture, 54.00 hrs lab  
Units: 2.00  
Cross-referenced Course: JOUR-147  
Advisory: ART-106A or ART-133A or equivalent  
Accepted For Credit: CSU  
Staff members initiate, plan, and complete photographic or graphic art assignments for publication in the campus newspaper and/or magazine. Training emphasizes use of techniques and skills that communicate ideas effectively to a mass media audience. Photographers and artists have access to Macintosh computers, scanners, and PhotoShop for completion of assignments. Students are also introduced to legal and ethical responsibilities. Repeatable = to a maximum of 9 units (GC)
- ART-148 Photography/Graphic Arts Newspaper Staff**  
18.00 hrs lecture, 108.00 hrs lab  
Units: 3.00  
Cross-referenced Course: JOUR-148  
Advisory: ART-106A or ART-133A or equivalent  
Accepted For Credit: CSU  
Staff members initiate, plan, and complete photographic or graphic art assignments for publication in the campus newspaper and/or magazine. Training emphasizes use of techniques and skills that communicate ideas effectively to a mass media audience. Photographers and artists have access to Macintosh computers, scanners, and PhotoShop for completion of assignments. Students are also introduced to legal and ethical responsibilities (JOUR/ART 148 is limited to editors). Repeatable = to a maximum of 9 units (GC)
- ART-150A Interior Design Concepts**  
54.00 hrs lecture, 36.00 hrs lab  
Units: 3.00  
Cross-referenced Course: ID-150A  
Accepted For Credit: CSU  
This is an introductory course. Students analyze interiors using basic design concepts. Principles and techniques used by professional interior designers are demonstrated. Case studies in problem solving with an emphasis on residential interiors are presented. Repeatable = 1 time (GC)
- ART-150B Interior Design**  
36.00 hrs lecture, 72.00 hrs lab  
Units: 3.00  
Cross-referenced Course: ID-150B  
Prerequisite: ART/ID-150A  
Accepted For Credit: CSU  
This course is a continuation of ART-150A. Interior design theories and methodologies are explored in depth through case studies emphasizing the design of public space. Repeatable = 3 times (GC)
- ART-151 Visualization and Presentation**  
36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Cross-referenced Course: ID-151  
Advisory: ART-150A, ART-155, or ART-108  
Accepted For Credit: CSU  
This course familiarizes students with current methods and materials used in the design industry to develop concepts and communicate ideas. Students will prepare a design portfolio. Repeatable = 3 times (GC)
- ART-153 History of Decorative Arts**  
54.00 hrs lecture  
Units: 3.00  
Cross-referenced Course: ID-153  
Accepted For Credit: CSU  
Students study furniture construction, styles, and periods in conjunction with the architecture and related decorative arts of each era from ancient times to the present. This course includes a brief political, religious, and cultural history which significantly influenced these arts. (GC)
- ART-154 Contemporary Home Design**  
36.00 hrs lecture  
Units: 2.00  
Cross-referenced Course: ID-154  
Accepted For Credit: CSU  
Students will study the architectural history of home design and learn practical applications of information relating to design, construction methods, and economic practices. (GC)
- ART-155A Architectural Drafting for Interior Design**  
36.00 hrs lecture, 72.00 hrs lab  
Units: 3.00  
Cross-referenced Course: ID-155A  
Advisory: Concurrent with ART/ID/GA-163  
Accepted For Credit: CSU  
This course will introduce basic drafting techniques as related to architectural working drawings for interior design. Construction materials and procedures will be presented. Repeatable = 3 times (GC)
- ART-155B CAD for Interior Design**  
36.00 hrs lecture, 126.00 hrs lab  
Units: 3.00  
Cross-referenced Course: ID-155B  
Prerequisite: ART/ID-155A or equivalent  
Accepted For Credit: CSU  
This course focuses on the fundamentals of computer-aided drafting as related to interior design and architectural drawings through understanding concepts rather than memorizing commands. Drawing skills are learned and developed by applying these concepts to solve practical laboratory problems. Repeatable = 3 times (GC)
- ART-156 Architectural Modelmaking for Interior Design**  
36.00 hrs lecture, 72.00 hrs lab  
Units: 3.00  
Cross-referenced Course: ID-156  
Accepted For Credit: CSU  
Scale models will be developed in this class for presenting and studying architectural and interior design. A wide range of materials and processes will be explored. Repeatable = 3 times (GC)
- ART-157 Professional Practice for Interior Design**  
54.00 hrs lecture  
Units: 3.00  
Cross-referenced Course: ID-157  
This class introduces basic business practices for interior designers. It also includes an overview of career paths, business planning and organization, professional associations, marketing, sales, wholesale resource development, contractual obligations, and ethics. It is designed for people preparing to enter the field of interior design. (GC)
- ART-158 Textiles**  
36.00 hrs lecture, 72.00 hrs lab  
Units: 3.00  
Cross-referenced Course: ID-158  
Accepted For Credit: CSU  
Students in this course will study the physical and chemical properties of fibers, fabrication systems for yarns and fabrics, the technology of fabric dyes, and decorative processes and finishes. The application of these principles to interior furnishings and appointments are an integral part of the laboratory experience for this course, and provide practical applications for students of interior design. (GC)

**ART-159A Applied Design: Residential Lighting**  
 18.00 hrs lecture  
 Units: 1.00  
 Cross-referenced Course: ID-159A  
 Accepted For Credit: CSU  
 This course will present an overview of basic considerations necessary to plan, choose, and place lighting fixtures throughout a home to help define space, articulate atmosphere, direct attention, and facilitate activities. Repeatable = 3 times (GC)

**ART-159B Applied Design: Color for the Home**  
 18.00 hrs lecture  
 Units: 1.00  
 Cross-referenced Course: ID-159B  
 Accepted For Credit: CSU  
 This course will explore various approaches that may be followed to arrive at color schemes that are satisfying, comfortable, and exciting. Repeatable = 3 times (GC)

**ART-160A Computer Graphics I**  
 54.00 hrs lecture, 162.00 hrs lab  
 Units: 4.00  
 Cross-referenced Course: BA-160A, GA-160A, CS-160A  
 Advisory: ART-104A  
 Accepted For Credit: CSU & UC

This course is an introduction to micro-computers and to the creation of computer-generated graphics. This course examines the variety of software/hardware tools and techniques available for the production of computer-made imagery. The emphasis is on hard-copy production using printers, plotters, and other reproduction methods. This course also covers design principles, business graphics, and elementary programming principles. Repeatable = 3 times (GC)

**ART-160B Computer Graphics II**  
 54.00 hrs lecture, 162.00 hrs lab  
 Units: 4.00  
 Cross-referenced Course: BA-160B, GA-160B, CS-160B  
 Prerequisite: GA/ART/BA/CS-160A or equivalent  
 Accepted For Credit: CSU & UC

This course is a continuation of ART-160A. The emphasis in this course is on developing intermediate and advanced skills needed to operate a computer graphics work station. Students complete projects of their choice using more complex Paint and CAD software, printers, and plotters. Repeatable = 3 times (GC)

**ART-161A Digital Graphics I**  
 18.00 hrs lecture, 90.00 hrs lab  
 Units: 2.00  
 Cross-referenced Course: GA-161A, CAOT-161A  
 Accepted For Credit: CSU

This course is an overview of computer graphics on desktop computers for graphic designers, artists, typographers, and for business applications. This course will cover hardware and software including laser printers, ink jet printers, scanners, tablets, and bit-mapped and vector-based graphics programs. This course also covers design principles and business graphics. The course emphasis is on the creation of a portfolio of computer graphics drawings. Repeatable = 3 times (GC)

**ART-161B Digital Graphics II**  
 18.00 hrs lecture, 90.00 hrs lab  
 Units: 2.00  
 Cross-referenced Course: GA-161B, CAOT-161B  
 Prerequisite: GA/ART/CAOT-161A or equivalent  
 Accepted For Credit: CSU

This course is a continuation of ART-161A. The emphasis in this course is on developing intermediate and advanced skills needed to set up and operate a digital graphics work station and publish on the Web. Students complete projects of their choice using complex graphics software, scanners, tablets, and printers. The course emphasis is on the continued development of a portfolio of computer images. Repeatable = 3 times (GC)

**ART-162 Digital Graphics Lab**  
 54.00 hrs lab  
 Units: 1.00  
 Cross-referenced Course: GA-162  
 This course is a lab component for all Graphic Arts/Computer Graphics courses. Students will produce digital graphic projects for all art and graphic design classes. Repeatable = 3 times (CR)

**ART-163 Digital Arts Lab – Macintosh**  
 27.00 hrs lab  
 Units: 0.50  
 Cross-referenced Course: GA-163, ID-163  
 This course is a lab component for all courses taught on the Macintosh and on drafting equipment in these areas: Art, Graphic Arts/Computer Graphics, Photography, and Interior Design. Students will produce digital graphic and drafting projects for art related classes. Repeatable = 3 times (CR)

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## ASTRONOMY

Division: Science, Technology, and Engineering

**ASTR-101A General Astronomy of the Solar System**  
 54.00 hrs lecture  
 Units: 3.00  
 Advisory: Eligible for ENGL-151B and ENGL-163  
 Accepted For Credit: CSU & UC  
 This course is an introduction to the history, principles, methods, and fundamentals of the astronomy of the Solar System. (GC)

**ASTR-101B General Astronomy Beyond the Solar System**  
 54.00 hrs lecture  
 Units: 3.00  
 Advisory: Eligible for ENGL-151B and ENGL-163  
 Accepted For Credit: CSU & UC  
 This course is an introduction to the fundamental principles and the dynamics of the astronomy beyond the Solar System. (GC)

**ASTR-102 General Astronomy Lab**  
 54.00 hrs lab  
 Units: 1.00  
 Corequisite: ASTR-101A or ASTR-101B  
 Advisory: Eligible for ENGL-151B and ENGL-163  
 Accepted For Credit: CSU & UC  
 This is an introductory lab course covering the methods and fundamentals of astronomy through inquiry and experiments. (GC)

**ASTR-365 Supervised Tutoring**  
 90.00 hrs lab  
 Units: 0.00  
 Prerequisite: Instructor or Counselor Referral  
 This course provides students with individualized tutoring. It assists students to develop a learning methodology in a subject. It includes diagnosis and consultation with tutorial coordinator and supervised tutoring by part-time instructional aides and/or student tutors. Repeatable = 3 times (NG)

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## ATHLETICS

Division: Student Services

**ATHL-220 Women's Volleyball**

180.00 hrs lab

Units: 3.00

Prerequisite: Physical exam clearance, enrollment in 9 additional units per Student Education Plan  
Accepted For Credit: CSU & UC

These courses are designed for students who desire to compete in intercollegiate athletics and who can perform the necessary physical skills. Repeatable = 3 times (GC)

**ATHL-222 Women's Soccer**

180.00 hrs lab

Units: 3.00

Prerequisite: Physical exam clearance, enrollment in 9 additional units per Student Education Plan  
Accepted For Credit: CSU & UC

These courses are designed for students who desire to compete in intercollegiate athletics and who can perform the necessary physical skills. Repeatable = 3 times (GC)

**ATHL-223 Men's Soccer**

180.00 hrs lab

Units: 3.00

Prerequisite: Physical exam clearance, enrollment in 9 additional units per Student Education Plan  
Accepted For Credit: CSU & UC

These courses are designed for students who desire to compete in intercollegiate athletics and who can perform the necessary physical skills. Repeatable = 3 times (GC)

**ATHL-224 Women's Waterpolo**

180.00 hrs lab

Units: 3.00

Prerequisite: Physical exam clearance, enrollment in 9 additional units per Student Education Plan  
Accepted For Credit: CSU & UC

These courses are designed for students who desire to complete in intercollegiate athletics and who can perform the necessary physical skills. Repeatable = 3 times (GC)

**ATHL-225 Men's Waterpolo**

180.00 hrs lab

Units: 3.00

Prerequisite: Physical exam clearance, enrollment in 9 additional units per Student Education Plan  
Accepted For Credit: CSU & UC

These courses are designed for students who desire to complete in intercollegiate athletics and who can perform the necessary physical skills. Repeatable = 3 times (GC)

**ATHL-226 Women's Basketball**

180.00 hrs lab

Units: 3.00

Prerequisite: Physical exam clearance, enrollment in 9 additional units per Student Education Plan  
Accepted For Credit: CSU & UC

These courses are designed for students who desire to compete in intercollegiate athletics and who can perform the necessary physical skills. Repeatable = 3 times (GC)

**ATHL-227 Men's Basketball**

180.00 hrs lab

Units: 3.00

Prerequisite: Physical exam clearance, enrollment in 9 additional units as per Student Education Plan  
Accepted For Credit: CSU & UC

These courses are designed for students who desire to compete in intercollegiate athletics and who can perform the necessary physical skills. Repeatable = 3 times (GC)

**ATHL-228 Women's Swimming**

180.00 hrs lab

Units: 3.00

Prerequisite: Physical exam clearance, enrollment in 9 additional units per Student Education Plan  
Accepted For Credit: CSU & UC

These courses are designed for students who desire to compete in intercollegiate athletics and who can perform the necessary physical skills. Repeatable = 3 times (GC)

**ATHL-229 Men's Swimming**

180.00 hrs lab

Units: 3.00

Prerequisite: Physical exam clearance, enrollment in 9 additional units per Student Education Plan  
Accepted For Credit: CSU & UC

These courses are designed for students who desire to compete in intercollegiate athletics and who can perform the necessary physical skills. Repeatable = 3 times (GC)

**ATHL-230 Women's Softball**

180.00 hrs lab

Units: 3.00

Prerequisite: Physical exam clearance, enrollment in 9 additional units per Student Education Plan  
Accepted For Credit: CSU & UC

These courses are designed for students who desire to compete in intercollegiate athletics and who can perform the necessary physical skills. Repeatable = 3 times (GC)

**ATHL-231 Men's Baseball**

180.00 hrs lab

Units: 3.00

Prerequisite: Physical exam clearance, enrollment in 9 additional units per Student Education Plan  
Accepted For Credit: CSU & UC

These courses are designed for students who desire to compete in intercollegiate athletics and who can perform the necessary physical skills. Repeatable = 3 times (GC)

**ATHL-232 Women's Tennis**

180.00 hrs lab

Units: 3.00

Accepted For Credit: CSU & UC

These courses are designed for students who desire to compete in intercollegiate athletics and who can perform the necessary physical skills. Repeatable = 3 times (GC)

**ATHL-233 Men's Tennis**

180.00 hrs lab

Units: 3.00

Accepted For Credit: CSU & UC

These courses are designed for students who desire to compete in intercollegiate athletics and who can perform the necessary physical skills. Repeatable = 3 times (GC)

- ATHL-262 Theory of Volleyball**  
18.00 hrs lecture, 54.00 hrs lab  
Units: 2.00  
Corequisite: Must be an active member of an intercollegiate athletic team  
Accepted For Credit: CSU & UC  
This course is a study of fundamental offensive and defensive techniques and strategies in volleyball as they apply to teaching and/or coaching. This course includes the principles of how to scout games, critique skills of athletes, and plan a practice schedule. (GC)
- ATHL-264 Theory of Soccer**  
18.00 hrs lecture, 54.00 hrs lab  
Units: 2.00  
Corequisite: Must be an active member of an intercollegiate athletic team  
Accepted For Credit: CSU  
Class designed for the potential soccer coach. Repeatable = 1 time (GC)
- ATHL-265 Theory of Basketball**  
18.00 hrs lecture, 54.00 hrs lab  
Units: 2.00  
Corequisite: Must be an active member of an intercollegiate athletic team  
Accepted For Credit: CSU & UC  
This course is designed for students who wish to learn fundamental offensive and defensive techniques and strategies in basketball as they apply to teaching and/or coaching. The course will also include the principles of scouting, critiquing skills of athletes, and planning a practice schedule. Repeatable = 1 time (GC)
- ATHL-266 Theory of Softball**  
18.00 hrs lecture, 54.00 hrs lab  
Units: 2.00  
Corequisite: Must be an active member of an intercollegiate athletic team  
Accepted For Credit: CSU & UC  
This course is a study of fundamental offensive and defensive techniques and strategies as they apply to teaching and/or coaching softball. This course includes the principles of how to scout games, critique skills of athletes, and plan a practice schedule. Repeatable = 1 time (GC)
- ATHL-267 Theory of Baseball**  
18.00 hrs lecture, 36.00 hrs lab  
Units: 2.00  
Corequisite: Must be an active member of an intercollegiate athletic team  
Accepted For Credit: CSU & UC  
This course is a study of fundamental offensive and defensive techniques and strategies as they apply to teaching and/or coaching baseball. This course includes the principles of how to scout games, critique skills of athletes, and plan a practice schedule. Repeatable = 1 time (GC)
- ATHL-380 Sports Injury Rehabilitation**  
90.00 hrs lab  
Units: 0.00  
This course will provide individualized rehabilitation programs for athletic injuries. Exercises to increase joint range of motion, muscle strength, muscle endurance, agility, and speed will be utilized to assist Ohlone athletes in rehabilitating their athletic injuries. Repeatable = 3 times (NG)

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## BIOLOGY

Division: Science, Technology, and Engineering

- BIOL-101A Principles of Biology – Molecular and Cellular**  
54.00 hrs lecture, 108.00 hrs lab  
Units: 5.00  
Prerequisite: CHEM-101A or equivalent with a grade of C or better  
Advisory: Eligible for ENGL-151B and ENGL-163; BIOL-130  
Accepted For Credit: CSU & UC  
This course is the first of a two-semester course that provides an introduction to biological principles for biology and health professions majors. Topics emphasized biochemistry, cell structure and function, metabolism, cellular reproduction, Mendelian genetics, molecular genetics, genetics of prokaryotes and viruses, biotechnological techniques, and evolution. Students taking this course should plan to also take Biology 101B. (GR) (CAN BIOL 2 or BIOL-101A + BIOL-101B = CAN BIOL SEQ A)
- BIOL-101B Principles of Biology – Organisms and Systems**  
54.00 hrs lecture, 108.00 hrs lab  
Units: 5.00  
Prerequisite: BIOL-101A or equivalent with a grade of C or better  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU & UC  
This course is an introduction to biological principles for biology and health professions majors. Topics emphasized include evolution, systematics, prokaryote and eukaryote diversity (including a survey of the Kingdoms Protista, Fungi, Animalia, and Plantae), anatomy and physiology of animals, plant structure and function, and ecology. This course completes the lower-division core curriculum in biology for biology and pre-health professions majors. (GR) (BIOL-101A + BIOL-101B = CAN BIOL SEQ A)
- BIOL-103A Human Anatomy and Physiology**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Prerequisite: Completion within past three years of BIOL-130 and CHEM-109 with grade of C or better  
Advisory: Eligible for ENGL-101A  
Accepted For Credit: CSU & UC  
This course will cover homeostasis, biochemistry, histology, osteology, excitable membrane physiology, muscle structure and physiology, the central nervous system, reflexes and integration of neural pathways, the autonomic nervous system, sensory systems, endocrinology, reproduction, and human development. (GR) (BIOL-103A + BIOL-103B = CAN BIOL SEQ B)
- BIOL-103B Human Anatomy and Physiology**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Prerequisite: BIOL-103A with a grade of C or better  
Accepted For Credit: CSU & UC  
This course includes the structural and functional relationships of the human body. The excretory, nervous, endocrine, and reproductive systems are treated. (GR) (BIOL-103A + BIOL-103B = CAN BIOL SEQ B)

- BIOL-104 Basic Human Anatomy and Physiology**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Advisory: BIOL-130 or equivalent within past 3 years  
Accepted For Credit: CSU & UC  
This course surveys the structure and function of the major organ systems of the human body. Emphasis is on homeostasis and regulatory mechanisms. Animal dissection and cadaver demonstrations will be presented. (GR)
- BIOL-105 Heredity, Evolution, and Society**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU & UC  
This course is an introduction to the principles of genetics and evolution for non-science majors. The mechanisms of heredity and evolution will be studied with an emphasis on the human aspect of both subjects. (GC)
- BIOL-106 Microbiology**  
54.00 hrs lecture, 108.00 hrs lab  
Units: 5.00  
Prerequisite: BIOL-130 or equivalent with grade of C or better; CHEM-109 or equivalent with grade of C or better  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU & UC  
This course presents basic microbiology with an emphasis on the medical significance of microorganisms, methods to study and control microbes, and the principles of aseptic technique. (GR) (CAN BIOL 14)
- BIOL-107 Microbiology and Infectious Diseases**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU & UC  
This course is directed toward understanding the biology of microorganisms, their relationship to disease, their control, and the human defense system. (GR)
- BIOL-108 Human Ecology**  
54.00 hrs lecture  
Units: 3.00  
Cross-referenced Course: ENVS-108  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU & UC  
Human Ecology is an interdisciplinary, general education course that identifies problems created by man's modification of his environment, presents solutions to these problems, and offers appropriate alternatives. (GC)
- BIOL-109 Biology of Sexual Reproduction**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU & UC  
This course presents anatomy, physiology, and behavioral aspects of human sexual reproduction with emphasis on functional mechanisms. (GC)
- BIOL-114 Introduction to Plant Biology**  
45.00 hrs lecture, 27.00 hrs lab  
Units: 3.00  
Cross-referenced Course: BIOT-114  
Accepted For Credit: CSU  
This course provides a basic introduction to plant Biology and careers related to plant biology. Topics include basic plant structure, plant growth and development, genetics, plant molecular biology, plant genetic engineering, plant culture techniques and an introduction to California agriculture. (GR)
- BIOL-114B Applications in Plant and Food Biotechnology**  
27.00 hrs lecture, 27.00 hrs lab  
Units: 2.00  
Cross-referenced Course: BIOT-114B  
Prerequisite: BIOT-114 or BIOL-114  
Accepted For Credit: CSU  
This course trains for positions in the biotechnology industry. This course builds upon the basic skills learned in BIOT-114 and provides plant and food biotechnology specific skills and knowledge. Topics include plant genetic engineering, the growth and development of plants in culture and the greenhouse, as well as genetic engineering of plants and microbes involved in food production. (GR)
- BIOL-130 Introduction to Biology**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU & UC  
This course is an introduction to biological principles for non-science majors. Fundamental biological principles are covered including cell structure and function, ecology, evolution, genetics, taxonomy, and reproduction. (GC)
- BIOL-131D Review of Biological Concepts**  
18.00 hrs lecture  
Units: 1.00  
Corequisite: Concurrent enrollment in the appropriate biology classes  
This course is designed to review course content in selected Biology course(s). This course introduces study techniques and more in-depth discussions of basic biological principles in the selected courses. Repeatable = 3 times (CR)
- BIOL-140 Sierra Nevada Natural History**  
36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Accepted For Credit: CSU  
An introduction to the plants, animals, and geology of the Sierra Nevada. A three-day camping and learning experience in the Sierra Nevada will take place at the end of the semester. Emphasis is on learning the common plants and animals of the region. Recommended for anyone interested in natural history or ecology of the Sierra Nevada. (GC)
- BIOL-141 Marine Biology**  
54.00 hrs lecture  
Units: 3.00  
Advisory: ENGL-151B  
Accepted For Credit: CSU & UC  
This course covers basic concepts of marine ecosystems including oceanographic principles, ecology, and a survey of marine habitats and diversity of marine organisms. Will include two field trips to pacific tidal zones and to San Francisco Bay ecosystems. (GR)
- BIOL-142 Environmental Biology**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Cross-referenced Course: ENVS-142  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU & UC  
This lecture and lab course is an introduction to the biological sciences focusing on diversity; organismal interactions with their environment and with other organisms (ecology), the effects humans have had on biological diversity and ecosystems, and efforts to protect species and their habitats (conservation). (GC)

**BIOL-365 Supervised Tutoring**

90.00 hrs lab

Units: 0.00

Prerequisite: Instructor or counselor referral

This course provides students with individualized tutoring. It assists students to develop a learning methodology in a subject. It includes diagnosis and consultation with tutorial coordinator and supervised tutoring by part-time instructional aides and/or student tutors. Repeatable = 3 times (NG)

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**BIOTECHNOLOGY**

Division: Science, Technology, and Engineering

**BIOT-100 Biotechnology and Society**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-101A

Accepted For Credit: CSU &amp; UC

Introduction to the scientific principles and techniques of molecular biology and biotechnology, including recombinant DNA technology and gene cloning, recombinant protein design, and analysis of biomolecules. Discussion of technical, ethical, and safety concerns presented by medical, agricultural, pharmaceutical, and forensic applications of biotechnology. (GR)

**BIOT-102 Chemical Safety and Hygiene**

9.00 hrs lecture, 27.00 hrs lab

Units: 1.00

Cross-referenced Course: CHMT-102

This course is about chemical and lab safety in the workplace with emphasis on hazardous materials and chemical safety; MSDS sheets; government regulations such as OSHA, FDA, FTC, and EPA; appropriate chemical disposal and recycling methodologies; inventory and storage; classification of chemicals according to safety and health hazards; ANSI standards; workers compensation; and quality assurance. In addition, a brief overview of development of Good Laboratory Practice (GLP) and Good Manufacturing Practice (GMP) will be taught. Students will also undergo basic first aid training, fire extinguisher training, and basic CPR training. (GR)

**BIOT-104A HPLC**

4.50 hrs lecture, 13.50 hrs lab

Units: 0.50

Cross-referenced Course: CHMT-104A

This course trains students in High Pressure Liquid Chromatography, a technique used to separate and analyze chemical mixtures. The course is designed for beginners and intermediate level users in HPLC who want practical laboratory experience. The lectures, supplemental by problem sets, slides, and video presentations, provide the fundamentals needed to understand the techniques and instrumentation involved in this powerful analytical tool. Key topics include basic HPLC instrumentation, detectors, including UV/vis, photo diode array, column selection, qualitative and quantitative analysis and troubleshooting HPLC systems. (GR)

**BIOT-104B Gas Chromatography**

4.50 hrs lecture, 13.50 hrs lab

Units: 0.50

Cross-referenced Course: CHMT-104B

This course is designed for beginners and intermediate level practitioners who want practical laboratory experience in gas chromatography. This course provides the fundamentals needed to understand the technique and instrumentation involved in this powerful analytical tool and covers basic gas chromatography theory, different columns, phases, qualitative identification, data capture, quantitation, integration, practical applications, and troubleshooting. At the end of the class the student will have mastered the fundamentals of GC, participated in extensive hands-on laboratory sessions, and learned specialized techniques based on the student's specific interests. (GR)

**BIOT-104C IR and UV/Vis Spectroscopy**

4.50 hrs lecture, 13.50 hrs lab

Units: 0.50

Cross-referenced Course: CHMT-104C

Prerequisite: CHEM-106B or CHEM-109

A hands-on, lab-based course designed to introduce infrared spectroscopy, this course outlines the various sample handling methods and the numerous transmission and reflectance methods available for infrared analysis. Lab-based lectures will focus on Fourier Transform Infrared (FT-IR) spectroscopy and its advantages, instrument set-up and parameters, and FT-IR sample analysis methods. The course provides hands-on training for obtaining representative infrared spectra of analytical samples. Data manipulation, spectral analysis, and functional group identification will also be taught. The course will also focus on UV-Vis spectroscopy as a complementary method to IR analysis. The UV-Vis spectroscopy will focus on general principles such as wavelength, absorption, transmittance, standard curves, Beers-Lambert's Law, solvent effects, hypsochromic and bathochromic shifts, chromophores, conjugation, and UV spectral analysis. This course is designed for all levels of UV-Vis/IR instrument users. (GR)

**BIOT-104D Nuclear Magnetic Resonance Spectroscopy**

4.50 hrs lecture, 13.50 hrs lab

Units: 0.50

Cross-referenced Course: CHMT-104D

Prerequisite: CHEM-106B or CHEM-109

An introductory lab-based course geared towards understanding the application of NMR spectroscopy for structural elucidation of compounds in the fields of organic chemistry, physical chemistry, and biochemistry. Topics include basic principles and theory of NMR and the application of chemical shifts, coupling constants, peak splitting, and peak integration to reveal the molecular structure. Labs will include important one-dimensional experiments and their application in assignments and structure determination problems. In addition, the students will get hands-on experience in acquiring NMR spectra using fundamental concepts of instrumentation such as shimming, sample probes, integration, peak and signal parameters, and basic troubleshooting. (GR)



Photo courtesy of College Advancement.

**BIOT-105 Introduction to Cell and Molecular Biology**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Advisory: MATH-151, ENGL-151B

Accepted For Credit: CSU &amp; UC

This course introduces basic laboratory research methods (e.g., measuring volume and mass, preparing solutions, using micropipettors, operating a spectrophotometer), and introductory concepts of biology (e.g., chemistry of life, cell structure and function, and classic and modern genetics) to students who are interested in biotechnology, yet have no science background. Also included are strategies to improve success in the classroom such as notetaking, studying, test taking, and other techniques. Students are introduced to the scientific method; they use computers to prepare written reports; they maintain a professional quality laboratory notebook; and they will become familiar with the appropriate behavior and basic skills required in a modern, biological laboratory. Repeatable = 2 times (GR)

**BIOT-106A Introduction to Bio-Manufacturing Instruments and Measurements**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Advisory: ENGL-151B, MATH-151

This course introduces students to basic laboratory research methods and concepts in biotechnology. Lab skills include the measurement of volumes and masses, as well as the proper use of micropipettors, pH meters, spectrophotometers, microscopes, and autoclaves. In addition, students master sterile techniques, solution preparation, media preparation, aseptic culture of microbial colonies, protein concentration assay techniques, and bacterial transformation. (GR)

**BIOT-106B Current Lab Methods in Bio-Pharmaceutical Industry and Standard Operating Procedures**

54.00 hrs lecture, 108.00 hrs lab

Units: 5.00

Prerequisite: BIOT-106A

Corequisite: BIOT-131D, BIOT-106M

This course trains students for entry-level manufacturing positions in Biotechnology. This course builds upon lab skills learned in BIOT-106A, providing theoretical background and advanced applications. Lab skills include protein purification techniques, dialysis, chromatography, electrophoresis, western blot analysis, serum fractionation, IgG purification, protein A column, ELISA, DNA analysis, and PCR. (GR)

**BIOT-106M Math Applications in Biotechnology**

36.00 hrs lecture

Units: 2.00

Corequisite: BIOT-106B, BIOT-131D

This course gives the student a sound foundation in mathematical operations, the metric system, calculations involving solution concentrations and dilutions, solving proportions, and other calculations encountered in biotechnology. Students also learn data management, including graphing, basic statistics, and Excel. (GR)

**BIOT-110A1 Introduction to DNA Techniques**

9.00 hrs lecture, 27.00 hrs lab

Units: 1.00

Prerequisite: BIOT-105, BIOT-106M, and CHEM-109

Accepted For Credit: CSU

Introduction to DNA Techniques is a continuation of laboratory skills in molecular biology introduced in BIOT-105. The course content focuses on classical recombinant DNA techniques such as DNA extraction, restriction analysis, transformation, spectroscopy, and electrophoresis. Completion of this course will prepare students to enroll in BIOT-110A2 and BIOT-110A3. (GR)

**BIOT-110A2 PCR I and DNA Sequencing**

9.00 hrs lecture, 27.00 hrs lab

Units: 1.00

Prerequisite: BIOT-110A1

Accepted For Credit: CSU

PCR I and DNA Sequencing is a continuation of laboratory skills in molecular biology mastered in BIOT-110A1. The course content focuses on PCR cloning and DNA sequencing using the Sanger sequencing chemistry on an Applied Biosystems 310 Genetic Analyzer. (GC)

**BIOT-110A3 Protein Isolation and Assays**

9.00 hrs lecture, 27.00 hrs lab

Units: 1.00

Prerequisite: BIOT-110A1

Accepted For Credit: CSU

Protein Isolation and Assays continues the training in molecular biology laboratory techniques begun in BIOT-110A1 and BIOT-110A2. This course emphasizes the isolation and purification of proteins. Techniques include electrophoresis, chromatography (including HPLC & FPLC), and Western Blotting. (GC)

**BIOT-111A Genomic and cDNA Library Construction and Analysis**

9.00 hrs lecture, 27.00 hrs lab

Units: 1.00

Prerequisite: BIOT-105

Accepted For Credit: CSU

This course students the theory and practice lab techniques used to construct, search, and analyze simple genomic and cDNA libraries. Students will learn replica plating, southern and northern blotting, ELISA, and the use of non-radioactive oligonucleotide probes for searching libraries. (GC)

**BIOT-111B PCR Primer Design and Optimization and Reverse Transcription**

9.00 hrs lecture, 27.00 hrs lab

Units: 1.00

Prerequisite: BIOT-110A1

Accepted For Credit: CSU

Students will learn advance topics in PCR, including BLAST searches and DNA alignment protocols for locating minimal variable sequences to use in constructing PCR primers, principles of primer design, and optimization techniques for PCR reactions. Students will design primers, optimize salt and temperature parameters for PCR, and perform RT-PCR. (GC)

**BIOT-112 Introduction to Bioinformatics**

18.00 hrs lecture, 54.00 hrs lab

Units: 2.00

Advisory: ENGL-101A AND MATH-151

Accepted For Credit: CSU

This course is an introduction to computational biology and focuses on the computer analysis of biological sequences and structures. The course includes molecular biology databases, database searching, statistical techniques, genome annotation methods, phylogenetic analysis, protein structure prediction and microarray technology. Repeatable = 2 times (GR)

**BIOT-113 GMP/GLP**

18.00 hrs lecture

Units: 1.00

Accepted For Credit: CSU

This course gives an introduction to the concept of GMP (Good Manufacturing Practice) and GLP (Good Laboratory Practice), and their applications in the biotechnological manufacturing of therapeutic products. The course will discuss what is GMP and GLP, the history of GMP/GLP, federal and international regulation for GMP/GLP and how GMP/GLP are being applied in a bio-manufacturing facility. A field trip to a GMP manufacturing plant in the Bay Area is included. (GR)

- BIOT-114 Introduction to Plant Biology**  
45.00 hrs lecture, 27.00 hrs lab  
Units: 3.00  
Cross-referenced Course: BIOL-114  
Accepted For Credit: CSU  
This course provides a basic introduction to plant Biology and careers related to plant biology. Topics include basic plant structure, plant growth and development, genetics, plant molecular biology, plant genetic engineering, plant culture techniques and an introduction to California agriculture. (GR)
- BIOT-114B Applications in Plant and Food Biotechnology**  
27.00 hrs lecture, 27.00 hrs lab  
Units: 2.00  
Cross-referenced Course: BIOL-114B  
Prerequisite: BIOT-114 or BIOL-114  
Accepted For Credit: CSU  
This course trains students for positions in the biotechnology industry. This course builds upon the basic skills learned in BIOT-114 and provides plant and food biotechnology specific skills and knowledge. Topics include plant genetic engineering, the growth and development of plants in culture and the greenhouse, as well as genetic engineering of plants and microbes involved in food production. (GR)
- BIOT-115A Animal Cell Culture Techniques**  
18.00 hrs lecture, 54.00 hrs lab  
Units: 2.00  
Prerequisite: BIOT-105  
Accepted For Credit: CSU  
Through a series of lectures and hands-on laboratory procedures, this course introduces animal cell culture methods, including sterile technique, media preparation and, the establishment of primary and secondary cell lines. This course also provides students with the skills and concepts needed to work in today's biotech industry. Successful students will qualify to work as technicians in cell culture, manufacturing, and quality control. Repeatable = 1 time (GC)
- BIOT-115B Bioreactor Cell Culture Techniques**  
18.00 hrs lecture, 54.00 hrs lab  
Units: 2.00  
Advisory: BIOT-115A with a grade of B or higher  
Accepted For Credit: CSU  
This course introduces animal cell culture methods, including use of a bioreactor, quality control and validation. Through a series of lectures and hands-on exercises, students will learn the techniques and concepts needed to work in the biotechnology industry. Successful students will be prepared to work in cell culture, manufacturing, and quality control as technicians. Repeatable = 1 time (GC)
- BIOT-116 Biotech Summer Institute**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Accepted For Credit: CSU  
This course provides hands-on experience in molecular biology concepts and techniques. Students perform a variety of molecular techniques including PCR-based DNA cloning, restriction analysis, host cell transformation, DNA sequencing, forensic DNA fingerprinting, and protein extraction and purification. (GR)
- BIOT-117 Immunology**  
9.00 hrs lecture, 27.00 hrs lab  
Units: 1.00  
Prerequisite: BIOT-105  
Accepted For Credit: CSU  
This course covers the basics of immunology and the immunological technology relevant to biotechnology. Topics covered include cell culture and protein chemistry relating to immunology, the lymphatic system, cellular immunity, cell typing, humoral immunity and immunoglobulins, making antibodies, ELISA and EIA, affinity chromatography, clinical immunology and autoimmune diseases. (GC)
- BIOT-119 Clean Room Operations**  
7.20 hrs lecture, 5.40 hrs lab  
Units: 0.50  
Prerequisite: BIOT-105  
Accepted For Credit: CSU  
This course provides background and training for clean room operations in biotechnology. This course discusses clean room classifications, regulations and procedures. Laboratory exercises simulate working conditions in clean room operations. (GC)
- BIOT-120 Introduction to Scanning Electron Microscopy**  
54.00 hrs lab  
Units: 1.00  
Prerequisite: BIOL-130 with a grade of B or better  
Advisory: BIOL-101A  
Accepted For Credit: CSU  
Students will learn the principles of, and the procedures associated with, the microscope. Biological specimens will be collected and prepared for microscopic viewing. Students will also use the Scanning Electron Microscope (SEM). Repeatable = 2 times (GR)
- BIOT-121 Biotechnology Careers**  
18.00 hrs lecture  
Units: 1.00  
Corequisite: BIOT-110A, BIOT-110B, BIOT-111, or BIOT-112  
Advisory: Eligible for ENGL-151B and MATH-151  
Accepted For Credit: CSU  
This course is designed to offer an in-depth view of the emerging careers in Biotechnology including agricultural, environmental, forensics, industrial, pharmaceutical, and medical biotechnology careers. Students will have an opportunity to meet many professionals in various biotechnology positions and to discuss the range of career options available, and educational training required, for each career. Repeatable = 1 time (CR)
- BIOT-122 Introduction to Nanotechnology**  
54.00 hrs lecture  
Units: 3.00  
Accepted For Credit: CSU  
Nanotechnology explores exciting potential applications of science pertaining to tiny structures. Students will be introduced to fundamentals of biology, chemistry, and engineering. (GC)
- BIOT-123 Writing SOPs**  
9.00 hrs lecture  
Units: 0.50  
Prerequisite: BIOT-105 and ENGL-101A  
Accepted For Credit: CSU  
This is a short training course on the writing of Standard Operating Procedures (SOPs) for biotechnology. The course investigates the rationale for writing SOPs, and discusses the standards and regulations that need to be taken into account in planning SOPs. The course also covers the procedures, formats, writing styles employed in writing, implementing and evaluating SOPs. (GC)

- BIOT-131 Computing Concepts in Biotechnology**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Cross-referenced Course: CS-131  
Accepted For Credit: CSU  
This course introduces the basic computing concepts, the most commonly used computer algorithms, and programming languages in biotechnology. (GC)
- BIOT-131D Review of Biotechnology Concepts**  
18.00 hrs lecture  
Units: 1.00  
Corequisite: BIOT-106A and/or BIOT-106B and/or BIOT-106M  
This course reviews concepts from selected biotechnology courses. This course also introduces study techniques. Students' questions are answered and difficult topics are clarified; extra drill is provided where needed. (GR)
- BIOT-132 DNA Computing**  
18.00 hrs lecture  
Units: 1.00  
Cross-referenced Course: CS-132  
Accepted For Credit: CSU  
This course introduces DNA-related matters, the basics of biochemistry, language, and computing theory. (GC)
- BIOT-133 SAS Programming**  
45.00 hrs lecture, 27.00 hrs lab  
Units: 3.00  
Cross-referenced Course: CS-133  
Accepted For Credit: CSU  
The SAS system has become the international standard for data management, manipulation, storage, retrieval, and statistical analysis. This course offers a rigorous exposure to statistical bio-data analysis by using core elements of the SAS system programming language and procedures. (GC)
- BIOT-141B SAS Graphing and ODS**  
27.00 hrs lecture, 27.00 hrs lab  
Units: 2.00  
Cross-referenced Course: CS-141B  
Advisory: CS-133 or BIOT-133  
Accepted For Credit: CSU  
This course introduces SAS/GRAPH and ODS. Learn how to design, construct, and display customized graphs quickly and efficiently. Learn how to create a data set from the results of most SAS procedures and build custom reports. Repeatable = 1 time (GC)
- BIOT-143 Advanced SAS Programming**  
45.00 hrs lecture, 27.00 hrs lab  
Units: 3.00  
Cross-referenced Course: CS-143  
Advisory: BIOT-133/CS-133 or some experience in SAS programming  
Accepted For Credit: CSU  
This course provides students with a basic understanding of macro programming and SQL procedure in SAS software. SQL and macro programming can provide more flexibility and power in data management and data analysis. (GC)

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## BROADCASTING

Division: Fine Arts, Business, and Broadcasting

- BRDC-120 Introduction to Electronic Media**  
36.00 hrs lecture  
Units: 2.00  
Accepted For Credit: CSU  
This course introduces the history, structure, function, economics, content, and evolution of radio, television, film, and the Internet, including traditional formats and emerging electronic media delivery systems. The social, political, regulatory, ethical, and occupational impacts of the electronic media are studied. (GR)
- BRDC-123A Radio Operations I**  
18.00 hrs lecture, 108.00 hrs lab  
Units: 3.00  
Accepted For Credit: CSU  
This course is an introduction to the technical operation of a radio broadcast facility. Applied concepts include preparing and producing material for broadcast, gathering and delivering local news on the air, operation of KOHL Radio by FCC standards, and creating an effective audition tape. Repeatable = 1 time (GR)
- BRDC-123B Radio Operations II**  
18.00 hrs lecture, 108.00 hrs lab  
Units: 3.00  
Prerequisite: BRDC-123A  
Accepted For Credit: CSU  
This course allows students to refine basic skills introduced in BRDC-123A. Advanced digital and analog production techniques are introduced. Additional areas of concentration include management and operations software systems, aircheck analysis, market overviews, and creating an effective employment package. Repeatable = 1 time (GR)
- BRDC-124 Broadcast Internships**  
180.00 hrs lab  
Units: 3.00  
Prerequisite: BRDC-123A  
Accepted For Credit: CSU  
This course is for students who will intern at Bay Area broadcast stations, learning various aspects of the radio broadcasting business. Repeatable = 3 times (GR)
- BRDC-127A Radio Broadcast Lab**  
54.00 hrs lab  
Units: 1.00  
Prerequisite: BRDC-123B  
Accepted For Credit: CSU  
This course focuses on laboratory practice utilizing knowledge and techniques gained in the radio programming and production courses. KOHL Radio serves as the operational lab. (GR)
- BRDC-127B Radio Broadcast Lab**  
54.00 hrs lab  
Units: 1.00  
Prerequisite: BRDC-123B  
Accepted For Credit: CSU  
This course focuses on laboratory practice utilizing knowledge and techniques gained in the radio programming and production courses. KOHL Radio serves as the operational lab. (GR)

### Did you know???

Ohlone College has 22 different clubs  
and 13 co-curricular activities.

**BRDC-127C Radio Broadcast Lab**

54.00 hrs lab  
Units: 1.00  
Prerequisite: BRDC-123B  
Accepted For Credit: CSU

This course focuses on laboratory practice utilizing knowledge and techniques gained in the radio programming and production courses. KOHL Radio serves as the operational lab. (GR)

**BRDC-127D Radio Broadcast Lab**

54.00 hrs lab  
Units: 1.00  
Prerequisite: BRDC-123B  
Accepted For Credit: CSU

This course focuses on laboratory practice utilizing knowledge and techniques gained in the radio programming and production courses. KOHL Radio serves as the operational lab. (GR)

**BRDC-128 Radio Programming and Marketing**

36.00 hrs lecture  
Units: 2.00  
Accepted For Credit: CSU

This course provides an overview of radio programming methods, strategies, promotion and evaluation techniques, and outlines the responsibilities of the professional radio program director. Repeatable = 1 time (GR)

**BRDC-129 Digital Radio Studio Systems**

36.00 hrs lecture, 18.00 hrs lab  
Units: 2.00  
Prerequisite: BRDC-123A  
Accepted For Credit: CSU

Students taking this course are introduced to advanced operational techniques of digital radio studio systems. Lab assignments are completed in the KOHL studios using the RCS Master Control platform. Repeatable = 1 time (GR)

**BRDC-130 Broadcast Announcing**

36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Accepted For Credit: CSU

Course concentration is on projection of personality, voice control, pronunciation, and related skills necessary for communication of ideas and information via broadcast. Students will learn important microphone techniques and put them to use under simulated broadcast circumstances. Repeatable = 1 time (GR)

**BRDC-132 Studio Recording**

36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Cross-referenced Course: MUS-113  
Accepted For Credit: CSU

This course is an introduction to the recording studio. The course follows the path of audio signals through the microphone, mixer, signal processors, tape recorder, and monitoring stations. The course explores various types of microphones, the functions of mixing boards, the characteristics of signal processors, and recording techniques. (GC)

**BRDC-134 Final Cut Pro Editing**

36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Accepted For Credit: CSU

Students learn the basics of editing a television package in the digital medium. Students will be trained in the use of Final Cut Pro non-linear editing system under the guidance of broadcast industry professionals. The course examines how cutting edge non-linear editing technology has its roots in film editing, explores similarities between the two, and contrasts both to video editing. The course covers the history of video storage media from 2" AMPEX tape through BETA, current formats including DV and HD. Students also develop storytelling skills. Repeatable = 1 time (GR)

**BRDC-135 After Effects for Television**

36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Advisory: BRDC-134 or BRDC-138  
Accepted For Credit: CSU

Students learn advanced techniques used in post-production of commercial television programming and commercial film production. Students work with a variety of software programs used in television sitcom post-production such as Adobe After Effects and Boris, under the guidance of broadcast industry professionals. Students learn to work with outside source material. Repeatable = 1 time (GR)

**BRDC-136 Digital Video and Lighting**

36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Accepted For Credit: CSU

Students learn the basics of shooting and editing a television package in the digital medium. Students will have the opportunity to learn to operate a DVCAM and AVID non-linear editing system under the guidance of broadcast industry professionals. The course examines how cutting edge non-linear editing technology has its roots in film editing, explores similarities between the two, and contrasts both to video editing. The course covers history of video storage medium from 2" AMPEX tape through BETA, current formats including DV and HD. Students also learn camera techniques for video production and news gathering, how to shoot interviews, video packages, and develop storytelling skills. Repeatable = 1 time (GR)

**BRDC-137 Video Field Production**

36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Prerequisite: BRDC-136  
Accepted For Credit: CSU

Students learn advanced techniques of shooting video for commercial television news. Students use DVCAM and BETACAM under the guidance of broadcast industry professionals. The course covers current trends in broadcast industry and examines strengths and weaknesses of digital video versus analog. The course includes teaching of advanced techniques of video production, lighting, and audio skills, both on location and in studio. Repeatable = 1 time (GR)

**BRDC-138 AVID Editing**

36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Accepted For Credit: CSU

Students learn the basics of editing a television package in the digital medium. Students will be trained in the use of AVID non-linear editing system under the guidance of broadcast industry professionals. The course examines how cutting edge non-linear editing technology has its roots in film editing, explores similarities between the two, and contrasts both to video editing. The course covers the history of video storage medium from 2" AMPEX tape through BETA, and current formats including DV and HD. Students also develop storytelling skills. Repeatable = 1 time (GR)

- BRDC-139 Advanced AVID Editing**  
36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Prerequisite: BRDC-138  
Accepted For Credit: CSU  
Students learn advanced non-linear editing techniques used in production and post-production of commercial television programming and commercial television news. Students work with a variety of software programs used in television sitcom post-production, including Adobe AfterEffects and Boris Red, under the guidance of broadcast industry professionals. Students learn to work with audio effects and outside source material and how to export video in a variety of formats including JPEG, CD, BETA, and DV. Repeatable = 1 time (GR)
- BRDC-140 TV Control Room Equipment**  
54.00 hrs lecture  
Units: 3.00  
Accepted For Credit: CSU  
This is a series of modules designed to train students in the operation of equipment located in the TV control rooms. Discussions include electronic application and creative uses in a practical hands-on environment. (CR)
- BRDC-141 Live TV Newscast**  
36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Accepted For Credit: CSU  
Students participate in the production of a live, weekly newscast. Students will learn the fundamentals of television news production, including both technical and air-talent functions. Repeatable = 2 times (GR)
- BRDC-142 Live TV Studio Production**  
36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Accepted For Credit: CSU  
Students enrolled in this course will participate in the production of a variety of live TV broadcasts. Students will learn the basic fundamentals of television production as it pertains to non-newscast formats. Positions for students include both technical and air-talent personnel. Repeatable = 1 time (GR)
- BRDC-143 The Newsroom Operation**  
36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Advisory: Eligible for ENGL-151B & 163  
Accepted For Credit: CSU  
This is a course in the fundamentals of operation of a television newsroom. Students will actively participate in the preparation of weekly live newscasts through research and production of news stories, editing, and compiling TV news packages. Repeatable = 2 times (GR)
- BRDC-148 Directing Live Television**  
36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Prerequisite: BRDC-141 or BRDC-142  
Accepted For Credit: CSU  
This is an advanced course for students wishing to pursue directing and technical directing for television. Students will participate in all aspects of preparing a television news program for live broadcast. Repeatable = 3 times (GR)
- BRDC-150 Music Video Production**  
162.00 hrs lab  
Units: 3.00  
Advisory: One of the following: BRDC-134, BRDC-136, BRDC-138, BRDC-141, BRDC-142, BRDC-148, BRDC-180, or TD-180  
Accepted For Credit: CSU  
Students participate in the production of a music video, receiving instruction in storyboarding, shooting digital video, recording digital sound, and audio and video editing using non-linear editing equipment, as well as information on marketing a music video. Repeatable = 2 times (GR)
- BRDC-152 Film and Video Production**  
36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Corequisite: BRDC-134, BRDC-136, BRDC-138, BRDC-141, BRDC-142, BRDC-148, or BRDC-180  
Accepted For Credit: CSU  
Introduction to filmmaking, with emphasis on lighting and steps in film production. (GR)
- BRDC-155 Mass Media and Society**  
54.00 hrs lecture  
Units: 3.00  
Cross-referenced Course: JOUR-155  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU & UC  
This course teaches the basics of how mass media works – who is saying what to whom, through which channel and why. Since we all consume mass communication, the course aims at a greater understanding of the communication process. It is useful for both communication majors and for the general consumer. Field trips and guest speakers are arranged. (GC)
- BRDC-179 History of Television Broadcasting**  
54.00 hrs lecture  
Units: 3.00  
Cross-referenced Course: TD-106  
Advisory: ENGL-151 and ENGL-163  
Accepted For Credit: CSU  
This course presents a historical overview of the emergence of television as a major cultural phenomenon in the U.S. The course will look at television's visionaries such as Zwarkin, Baird, and Farnsworth. It will also cover the rise of the networks and the giants of the Golden Age, including Lucille Ball, Sid Caesar, and Ed Sullivan. (GC)
- BRDC-180 Television Series Production**  
162.00 hrs lab  
Units: 3.00  
Cross-referenced Course: TD-180  
Advisory: TD-114  
Accepted For Credit: CSU  
In this course students will participate in the production of episodic television programs. Positions for students include both talent and technical operations. Repeatable = 2 times (GR)
- BRDC-365 Supervised Tutoring**  
180.00 hrs lab  
Units: 0.00  
Prerequisite: Instructor or counselor referral  
This course provides students with individualized tutoring. It assists students to develop a learning methodology in a subject. It includes diagnosis and consultation with tutorial coordinator and supervised tutoring by part-time instructional aides and/or student tutors. Repeatable = 3 times (NG)

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## BUSINESS ADMINISTRATION

Division: Fine Arts, Business, and Broadcasting

- BA-101A Principles of Accounting**  
90.00 hrs lecture  
Units: 5.00  
Advisory: Eligible for ENGL-151B  
Accepted For Credit: CSU & UC  
This course introduces accounting theory, procedures, and practices relating to financial accounting. (GC) (CAN BUS 2 or BA-101A + BA-101B = CAN BUS SEQ A)
- BA-101B Principles of Accounting**  
90.00 hrs lecture  
Units: 5.00  
Prerequisite: BA-101A  
Accepted For Credit: CSU & UC  
This course is an introduction to managerial accounting including the analysis and interpretation of accounting data to aid management. (GC) (CAN BUS 4 OR BA-101A + BA-101B = CAN BUS SEQ A)
- BA-102A Principles of Economics-Macroeconomics**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligibility for ENGL-151B and ENGL-163  
Accepted For Credit: CSU & UC  
Introduction to Macroeconomics. The topics explored include supply and demand, government spending, taxation, business cycles, fiscal policy, monetary policy, money and banking system, inflation, unemployment, national income, and international economics. (GC) (CAN ECON 2)
- BA-102B Principles of Economics-Microeconomics**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU & UC  
Introduction to Microeconomics. The topics explored include demand, supply, market structure, pricing policies, labor market, elasticity and its application, public goods and common resources, and environmental policy. (GC) (CAN ECON 4)
- BA-104 Computer Applications in Accounting**  
36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Prerequisite: BA-101A or BA-106  
Accepted For Credit: CSU  
This course covers the application of accounting theory on the computer using general ledger accounting software and spreadsheet software. (GC)
- BA-105 Income Tax Principles**  
72.00 hrs lecture  
Units: 4.00  
Advisory: Eligible for ENGL-151B  
Accepted For Credit: CSU  
This course provides an analysis of the principles, procedures, and terminology of income taxes on individual taxpayers. (GC)
- BA-106 Applied Accounting**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151A; concurrent enrollment in BA-123  
Accepted For Credit: CSU  
This course covers fundamentals of accounting theory and applications. (GC)
- BA-107 Cost and Managerial Accounting**  
72.00 hrs lecture  
Units: 4.00  
Prerequisite: BA-101A and BA-101B  
Accepted For Credit: CSU  
This course presents the theory, procedures, and practice relating to material, labor, and factory overhead production costs, including job order, process, and standard cost systems. It also includes analytical skills used to interpret accounting data to be used by management in planning and controlling business activities. (GC)
- BA-109A Computerized Accounting for Personal Finance**  
22.50 hrs lecture, 13.50 hrs lab  
Units: 1.50  
Advisory: Concurrent enrollment in BA-101A or BA-106  
This course is designed to prepare students for employment in a home-based or small business office. Quicken, a program for organizing and managing financial information and performing online banking and bill payment in small business and home-based offices, will be presented. (GC)
- BA-109B Computerized Accounting for Small Business**  
22.50 hrs lecture, 13.50 hrs lab  
Units: 1.50  
Advisory: Concurrent enrollment in BA-101A or BA-106  
This course is designed to meet the accounting needs of a small business. A widely-used software package (such as QuickBooks) will be presented. (GC)
- BA-115 Career Communication**  
54.00 hrs lecture  
Units: 3.00  
Cross-referenced Course: SPCH-115  
Advisory: Eligible for ENGL-101A  
Accepted For Credit: CSU  
Develop vital communication skills for global and diverse professional environments including presentational skills, interviewing, meeting management, small group communication, and leadership skills. (GC)
- BA-116 Business English and Communication**  
72.00 hrs lecture  
Units: 4.00  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU  
This course reviews the fundamentals of English grammar, punctuation, and sentence structure from a business approach. Writing skills for clear and effective business communication are developed through letters and reports. (GC)
- BA-121A Developing Your Business Plan**  
9.00 hrs lecture  
Units: 0.50  
This is a class designed for students considering starting their own businesses. All major elements of a Business Plan will be covered: financial statements, marketing, and competitive strategies. (GC)
- BA-121B Legal Aspects of Small Business**  
9.00 hrs lecture  
Units: 0.50  
This course is designed for students interested in establishing a business and needing information about the legal issues involved. The information is very practical and is presented in a clear, concise manner. Legal aspects such as forms of ownership, licensing, and taxes will be covered. (GC)

- BA-123 Math for Accounting and Business**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151B and MATH-151  
Accepted For Credit: CSU  
This course focuses on methods of problem interpretation and solving of common business calculations. Problems such as taxes, interest, depreciation, stocks, and insurance are covered by means of lecture and individual operations of calculators and computers. (GC)
- BA-125 Introduction to Business**  
54.00 hrs lecture  
Units: 3.00  
Accepted For Credit: CSU & UC  
This course examines the purposes, organization, and major activities of business operations. Emphasis is placed on understanding relationships of business, government, and the consumer in a global economy. This is a survey course designed to give students a brief outline of most of the major activities in business. (GC)
- BA-126 Introduction to Marketing**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151B  
Accepted For Credit: CSU  
This course explores all fundamental aspects of marketing and the role marketing plays in the overall context of business. How markets develop, market segmentation and target marketing, the 4Ps of marketing (product, price, promotion, placement), and marketing theory and practice are examined in detail. (GC)
- BA-129 Introduction to Advertising**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU  
This course is a study of the economic, sociological, and psychological dimensions of consumer motivation and behavior. This introductory course explores the broad fundamentals of advertising. (GC)
- BA-139 Psychology in the Workplace**  
54.00 hrs lecture  
Units: 3.00  
Cross-referenced Course: PSY-139  
Advisory: Eligible for ENGL-101A  
Accepted For Credit: CSU  
This course applies principles of psychology to the workplace. Topics include combination skills, stress, cultural diversity, teamwork, understanding self and others, motivation, leadership, and other factors crucial to functioning effectively in the workplace. (GC)
- BA-141A Business Law**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-101A and ENGL-163  
Accepted For Credit: CSU & UC  
This course is an introduction to law applicable to business including the legal environment of business, ethics, sustainability, contracts, agency, and sales law. This course also satisfies the real estate law requirement for the real estate certificate. (GC) (CAN BUS 8)
- BA-141C An Introduction to International Law**  
54.00 hrs lecture  
Units: 3.00  
Advisory: ENGL-101A and ENGL-163  
Accepted For Credit: CSU  
This course is an introduction to international business law, featuring trade (import and export), licensing agreements for the transfer and protection of patents, copyrights, trademarks and intellectual property (including franchising), and active foreign investment through mergers, acquisitions, and joint ventures. (GC)
- BA-143 Sports Marketing**  
54.00 hrs lecture  
Units: 3.00  
Cross-referenced Course: KIN-243  
Accepted For Credit: CSU  
This course examines the application of the principles of promotion and marketing to the sport and fitness industry. The areas covered will include high school/collegiate athletics, professional sports, and the fitness club industry. (GC)
- BA-144 Sports Management**  
54.00 hrs lecture  
Units: 3.00  
Cross-referenced Course: KIN-244  
Accepted For Credit: CSU  
This course provides an overview of professional sport management in North America. The political, historical, social, economic, and cultural impacts of sport management are explored. Topics will include team management, organizational administration, legal issues, public relations, and facility management. Students will become familiar with career opportunities in the sports management field. (GC)
- BA-160A Computer Graphics I**  
54.00 hrs lecture, 162.00 hrs lab  
Units: 4.00  
Cross-referenced Course: ART-160A, GA-160A, CS-160A  
Advisory: ART-104A  
Accepted For Credit: CSU & UC  
This course is an introduction to computers and to the creation of computer-generated graphics. This course examines the variety of software/hardware tools and techniques available for the production of computer-made imagery. The emphasis is on hard-copy production using printers, plotters, and other reproduction methods. This course also covers design principles, business graphics, and elementary programming principles. (GC)
- BA-160B Computer Graphics II**  
54.00 hrs lecture, 162.00 hrs lab  
Units: 4.00  
Cross-referenced Course: ART-160B, GA-160B, CS-160B  
Prerequisite: ART/BA/GA/CS-160A or equivalent  
Accepted For Credit: CSU & UC  
This course is a continuation of BA-160A. The emphasis in this course is on developing intermediate and advanced skills needed to operate a computer graphics work station. Students complete projects of their choice using more complex Paint and CAD software, printers, and plotters. Repeatable = 1 time (GC)
- BA-166 Business Ethics**  
54.00 hrs lecture  
Units: 3.00  
Accepted For Credit: CSU  
This course is an introduction to the reasoning and analytical skills needed to resolve moral issues faced in business. (GC)

- BA-169 Investment Fundamentals**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151B and MATH-151  
This course is an introduction to securities investment and includes a comprehensive study of stock exchanges and their function, over-the-counter markets, investment banking, and investment trusts. The study includes financial statements and their analysis, stock choice and selection, investment methods, technical market, and technical stock analysis. (GC)
- BA-195A1 Work Experience Education – Vocational**  
75.00 hrs lab  
Units: 1.00  
Accepted For Credit: CSU  
Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)
- BA-195A2 Work Experience Education – Vocational**  
150.00 hrs lab  
Units: 2.00  
Accepted For Credit: CSU  
Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)
- BA-195A3 Work Experience Education – Vocational**  
225.00 hrs lab  
Units: 3.00  
Accepted For Credit: CSU  
Work experience education for students employed in a job directly related to a major. Units received are based on hours worked. (GC)
- BA-195A4 Work Experience Education – Vocational**  
300.00 hrs lab  
Units: 4.00  
Accepted For Credit: CSU  
Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)

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## BUSINESS SUPERVISION MANAGEMENT

Division: Fine Arts, Business, and Broadcasting

- BSM-102 Interpersonal Relations in the Workplace**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151B  
Accepted For Credit: CSU  
This course covers interpersonal communications, employee-employer relations, ethnic cultural awareness, conflict resolution, stress, and team development. (GC)
- BSM-103 Management of Human Resources**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151B  
Accepted For Credit: CSU  
This course covers principles and practices of human resources for first line and above managerial personnel; employment/industrial relations, equal employment opportunity, sexual harassment, training/development, wage/salary/benefit administration, job performance reviews, and safety/accident prevention. (GC)
- BSM-105 Operations Management**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151B  
Accepted For Credit: CSU  
This course covers operations management: materials/production/project management, safety, total quality management principles and practices. (GC)
- BSM-106 Communication for Supervisors**  
54.00 hrs lecture  
Units: 3.00  
Accepted For Credit: CSU  
This course covers the principles and practices of the theory of communications; listening, verbal, and non-verbal communication; group dynamics and presentation. (GC)
- BSM-108 Leadership in Organizations**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151B  
Accepted For Credit: CSU  
This course covers principles of power and politics; team decision-making/problem solving; motivation coaching and counseling; law, social responsibility, and business ethics. (GC)
- BSM-195A1 Work Experience Education – Vocational**  
75.00 hrs lab  
Units: 1.00  
Accepted For Credit: CSU  
Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)
- BSM-195A2 Work Experience Education – Vocational**  
150.00 hrs lab  
Units: 2.00  
Accepted For Credit: CSU  
Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)
- BSM-101 Fundamentals of Supervision**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151B  
Accepted For Credit: CSU  
This course covers basic supervisory principles and practices: the supervisor's job; politics/power; decision making; the functions of planning, organizing, and controlling; and quality control. (GC)

**BSM-195A3 Work Experience Education – Vocational**

225.00 hrs lab

Units: 3.00

Accepted For Credit: CSU

Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)

**BSM-195A4 Work Experience Education – Vocational**

300.00 hrs lab

Units: 4.00

Accepted For Credit: CSU

Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)

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**CHEMICAL TECHNOLOGY**

Division: Science, Technology, and Engineering

**CHMT-102 Chemical Safety and Hygiene**

9.00 hrs lecture, 27.00 hrs lab

Units: 1.00

Cross-referenced Course: BIOT-102

This course is about chemical and lab safety in the workplace with emphasis on hazardous materials and chemical safety; MSDS sheets; government regulations such as OSHA, FDA, FTC, and EPA; appropriate chemical disposal and recycling methodologies; inventory and storage; classification of chemicals according to safety and health hazards; ANSI standards; workers compensation; and quality assurance. In addition, a brief overview of development of Good Laboratory Practice (GLP) and Good Manufacturing Practice (GMP) will be taught. Students will also undergo basic first aid training, fire extinguisher training, and basic CPR training. (GR)

**CHMT-103A Chemical Technology I**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Advisory: ENGL-151B, MATH-151

This is a basic course that covers chemical principles, plus career and educational aspects of chemical technology. Topics will cover chemical nomenclature, atoms and molecules and their reactions, chemical and physical properties of materials, and chemical principles. In addition, students will get hands-on training in sample preparation, keeping lab notebooks, industry-based data processing, operation of basic lab equipment, and bioanalysis. This course will also cover employment opportunities, job functions, and case studies of workplace activities with hands-on industry-based labs. (GR)

**CHMT-103B Chemical Technology II – Analytical Skills**

36.00 hrs lecture, 54.00 hrs lab

Units: 3.00

Prerequisite: CHMT-103A

Students gain extensive training in lab skills pertaining to chemistry. The course focuses on the use of chemical principles in chemical analysis. Topics include sample preparation, SOPs, gravimetric analysis, titrimetric analysis, qualitative and quantitative analysis, potentiometry, combustion analysis, atomic spectroscopy, and electrochemistry. Analytical separations such as filtration, recrystallization, sublimation, extraction, melting point analysis, chromatography (TLC and column), gel electrophoresis, and bioanalysis will also be taught. In addition, this course will cover the scientific method, statistics of sampling, error analysis, the analytical process, proper measurement protocols, data processing, lab notebook protocols, and the proper writing of industry-style lab reports. (GR)

**CHMT-104A HPLC**

4.50 hrs lecture, 13.50 hrs lab

Units: 0.50

Cross-referenced Course: BIOT-104A

This course trains students in High Pressure Liquid Chromatography, a technique used to separate and analyze chemical mixtures. The course is designed for beginners and intermediate level users in HPLC who want practical laboratory experience. The lectures, supplemental by problem sets, slides, and video presentations, provide the fundamentals needed to understand the techniques and instrumentation involved in this powerful analytical tool. Key topics include basic HPLC instrumentation, detectors, including UV/vis, photo diode array, column selection, qualitative and quantitative analysis and troubleshooting HPLC systems. (GR)

**CHMT-104B Gas Chromatography**

4.50 hrs lecture, 13.50 hrs lab

Units: 0.50

Cross-referenced Course: BIOT-104B

This course is designed for beginners and intermediate level practitioners who want practical laboratory experience in gas chromatography. This course provides the fundamentals needed to understand the technique and instrumentation involved in this powerful analytical tool and covers basic gas chromatography theory, different columns, phases, qualitative identification, data capture, quantitation, integration, practical applications, and troubleshooting. At the end of the class the student will have mastered the fundamentals of GC, participated in extensive hands-on laboratory sessions, and learned specialized techniques based on the student's specific interests. (GR)



Students receive university transfer information at Transfer Day, held each Fall at Ohlone. Photo courtesy of College Advancement.

**CHMT-104C IR and UV/Vis Spectroscopy**

4.50 hrs lecture, 13.50 hrs lab

Units: 0.50

Cross-referenced Course: BIOT-104C

Prerequisite: CHEM-106B or CHEM-109

A hands-on, lab-based course designed to introduce infrared spectroscopy, this course outlines the various sample handling methods and the numerous transmission and reflectance methods available for infrared analysis. Lab-based lectures will focus on Fourier Transform Infrared (FT-IR) spectroscopy and its advantages, instrument set-up and parameters, and FT-IR sample analysis methods. The course provides hands-on training for obtaining representative infrared spectra of analytical samples. Data manipulation, spectral analysis, and functional group identification will also be taught. The course will also focus on UV-Vis spectroscopy as a complementary method to IR analysis. The UV-Vis spectroscopy will focus on general principles such as wavelength, absorption, transmittance, standard curves, Beers-Lambert's Law, solvent effects, hypsochromic and bathochromic shifts, chromophores, conjugation, and UV spectral analysis. This course is designed for all levels of UV-Vis/IR instrument users. (GR)

**CHMT-104D Nuclear Magnetic Resonance Spectroscopy**

4.50 hrs lecture, 13.50 hrs lab

Units: 0.50

Cross-referenced Course: BIOT-104D

Prerequisite: CHEM-106B or CHEM-109

An introductory lab-based course geared towards understanding the application of NMR spectroscopy for structural elucidation of compounds in the fields of organic chemistry, physical chemistry, and biochemistry. Topics include basic principles and theory of NMR and the application of chemical shifts, coupling constants, peak splitting, and peak integration to reveal the molecular structure. Labs will include important one-dimensional experiments and their application in assignments and structure determination problems. In addition, the students will get hands-on experience in acquiring NMR spectra using fundamental concepts of instrumentation such as shimming, sample probes, integration, peak and signal parameters, and basic troubleshooting. (GR)

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**CHEMISTRY**

Division: Science, Technology, and Engineering

**CHEM-101A General Chemistry**

54.00 hrs lecture, 108.00 hrs lab

Units: 5.00

Prerequisite: CHEM-102 and MATH-152 with a grade of C or better; or student may demonstrate satisfactory performance on the Chemistry Placement test at Ohlone College to meet this prerequisite

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU &amp; UC

CHEM-101A is a general college-level inorganic chemistry course designed for students majoring in biology, chemistry, engineering, pre-med, and other fields demanding rigorous scientific preparation. Topics covered include atomic theory, stoichiometry, chemical reactions, introductory thermochemistry, theories of bonding, and the properties of solids, liquids, gases, and solutions. (GR) (CAN CHEM 2 OR CHEM-101A + CHEM-101B = CAN CHEM SEQ A)

**CHEM-101B General Chemistry**

54.00 hrs lecture, 108.00 hrs lab

Units: 5.00

Prerequisite: CHEM-101A with a grade of C or better

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU &amp; UC

CHEM-101B continues the study of chemistry taught in CHEM-101A. Theory and mathematical applications are emphasized. This course is designed for science-oriented majors including biology, chemistry, engineering, and pre-professional health. Topics include organic chemistry, kinetics, equilibrium, acids and bases, solubility, thermodynamics, electrochemistry, nuclear chemistry, and coordination compounds. (GR) (CAN CHEM 4 OR CHEM-101A + CHEM-101B = CAN CHEM SEQ A)

**CHEM-102 Preparation for General Chemistry**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Prerequisite: MATH-151

Accepted For Credit: CSU &amp; UC

This course is a preparatory chemistry course covering the fundamentals of modern inorganic chemistry with emphasis on problem solving. Topics include classification of matter, atomic and molecular structure, chemical formula and nomenclature, chemical equations and stoichiometry, thermochemistry and gas laws and solutions. Chemistry 102 is intended primarily as a preparation for students planning to take college level Chemistry 101A. This course is recommended for students who have been away from high school chemistry for more than two years or those whose previous chemistry background is inadequate for Chemistry 101A. (GR)

**CHEM-106A Principles of Chemistry**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Prerequisite: MATH-151

Accepted For Credit: CSU &amp; UC

This is an introductory chemistry course for non-science majors who plan to transfer to programs which require two semesters of chemistry, other than CHEM-101A and CHEM-101B. Topics include dimensional analysis, nomenclature, atomic theory, bonding, chemical reactions, gas laws, solutions, and colligative properties. It satisfies the general education requirements for non-science majors. (GR) (CAN CHEM 6 OR CHEM-106A + CHEM-106B = CAN CHEM SEQ B)

**CHEM-106B Principles of Chemistry**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Prerequisite: CHEM-106A with grade of C or better

Accepted For Credit: CSU &amp; UC

This an introductory chemistry course for non-science majors who plan to transfer to programs which require two semesters of chemistry, other than CHEM-101A + Chem-101B. The course includes material from organic chemistry and biochemistry, including the major classes of organic molecules, basic reactions, the major processes which take place in body fluids, proteins, nucleic acids, and a brief overview of metabolism. This course satisfies the general education requirements for non-science majors. (GR) (CAN CHEM 8 OR CHEM-106A + CHEM-106B = CAN CHEM SEQ B)

**CHEM-108 Survey of Chemistry**

54.00 hrs lecture

Units: 3.00

Accepted For Credit: CSU &amp; UC

This is a general education, non-lab course about the chemistry of everyday things. Some of the topics considered are food, medicine, petroleum, pollution, plastics, cosmetics, and poisons. The course gives information about atoms and structure to help students interpret everyday occurrences from a molecular point of view. Concepts, not calculations, are emphasized. The course is intended for non-science majors wishing to satisfy the General Education science requirement for CSU and UC transfer institutions. (GC)

**CHEM-109 Biochemistry for Health Science and Biotechnology**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Prerequisite: MATH-151

Accepted For Credit: CSU &amp; UC

This course covers the basic concepts of inorganic and organic chemistry and biochemistry as they apply to the human body. It is open to all students; no previous chemistry required. This course satisfies the requirements of nursing, biotechnology, and related majors that require one semester of chemistry. Students preparing to enroll in CHEM-101A should enroll in CHEM-102. (GR)

**CHEM-112A Organic Chemistry**

54.00 hrs lecture, 108.00 hrs lab

Units: 5.00

Prerequisite: CHEM-101B with a grade of C or better

Accepted For Credit: CSU &amp; UC

CHEM-112A is the first semester of organic chemistry for science oriented, pre-professional health and pre-engineering students. This course includes a study of important organic molecules found in living systems and man-made molecules. The course is designed primarily for students who require a full-year of organic chemistry, including multistep synthesis and heterocyclic compounds. (GR)

**CHEM-112B Organic Chemistry**

54.00 hrs lecture, 108.00 hrs lab

Units: 5.00

Prerequisite: CHEM-112A with grade of C or better

Accepted For Credit: CSU &amp; UC

CHEM-112B is the second semester of organic chemistry for science oriented, pre-professional health and pre-engineering students. This course includes a study of important organic molecules found in living systems and man-made molecules. This course is designed primarily for students who require a full year of organic chemistry, including multistep synthesis and heterocyclic compounds. (GR)

**CHEM-131D Review of Chemistry Concepts**

18.00 hrs lecture

Units: 1.00

Corequisite: Concurrent enrollment in CHEM-101A, CHEM-101B, CHEM-106B, CHEM-112A, or CHEM-112B

This course is designed to review the content in selected Chemistry course(s). It is an introduction to study techniques and more in-depth discussions of chemistry principles and problem solving. Repeatable = 3 times (CR)

**CHEM-190 Scientific Research Methodology**

9.00 hrs lecture, 27.00 hrs lab

Units: 1.00

Prerequisite: Consent of instructor

Advisory: MATH-188; major in science, technology, engineering, or math

This course introduces students to scientific research methods. It includes hypothesis writing, variable identification, experimental design, literature reviews, data interpretation and analysis, research proposal preparation, and presentation of scientific papers. (GR)

**CHEM-365 Supervised Tutoring**

90.00 hrs lab

Units: 0.00

Prerequisite: Instructor or counselor referral

This course provides students with individualized tutoring. It assists students to develop a learning methodology in a subject. It includes diagnosis and consultation with tutorial coordinator and supervised tutoring by part-time instructional aides and/or student tutors. Repeatable = 3 times (NG)

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## CHICANO STUDIES

Division: Humanities, Social Sciences, and Mathematics

**CHS-101 Chicano Culture I**

54.00 hrs lecture

Units: 3.00

Cross-referenced Course: SOC-106

Advisory: Eligible for ENGL-101A

Accepted For Credit: CSU &amp; UC

This course examines the social, cultural, political, and economic heritage of the Chicanos and their contribution to American society. (GR)

**CHS-102 Chicano History**

54.00 hrs lecture

Units: 3.00

Cross-referenced Course: HIST-112

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU &amp; UC

This course covers the development of Chicano history. Special emphasis will be placed upon the influence of Chicano history on contemporary institutions, particularly in the Southwest and California. (GC)

**CHS-106A Chicano Literature**

54.00 hrs lecture

Units: 3.00

Accepted For Credit: CSU &amp; UC

This course offers an introduction to writing by Chicanos. Through performing in-depth studies of certain authors, the students will view literature as a reflection of Chicano life. (GC)

**CHS-109 Barrio Fieldwork**

18.00 hrs lecture, 54.00 hrs lab

Units: 2.00

Accepted For Credit: CSU

Observation of selected barrios, institutions, agencies. (GR)

**CHS-112 Contemporary Issues of Chicanas**

54.00 hrs lecture

Units: 3.00

Prerequisite: Eligible for ENGL-101A and completion of ENGL-163 or equivalent

Accepted For Credit: CSU &amp; UC

This course is an examination of the historical, social-economic, and political conditions which have shaped the lives of contemporary Chicanas in the United States. It will explore cultural patterns underlying race, class, and gender-based strategies and inequities as basic elements of contemporary social structure. (GC)

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## CHINESE

Division: Humanities, Social Sciences, and Mathematics

### CHIN-101A Elementary Mandarin Chinese I

90.00 hrs lecture, 18.00 hrs lab

Units: 5.00

Accepted For Credit: CSU & UC

This course is an introduction to modern standard Chinese (Mandarin). Students will be taught to listen, speak, read, and write Chinese and study Chinese culture. (GR) (CAN CHIN 2)

### CHIN-101B Elementary Mandarin Chinese II

90.00 hrs lecture, 18.00 hrs lab

Units: 5.00

Prerequisite: CHIN-101A with a grade of C or better, or two years of high school Chinese

Accepted For Credit: CSU & UC

This course is a continuation of CHIN-101A. Students will continue to acquire listening, speaking, reading, and writing skills in Chinese (Mandarin) and will study Chinese culture. (GR)

### CHIN-102A Intermediate Mandarin Chinese I

90.00 hrs lecture, 18.00 hrs lab

Units: 5.00

Prerequisite: CHIN-101B with a grade of C or better, or three years of high school Chinese

Accepted For Credit: CSU & UC

This course is a continuation of CHIN-101B with emphasis on the four areas of listening, speaking, reading, and writing in Mandarin, as well as the study of Chinese culture with greater depth. (GR)

### CHIN-102B Intermediate Mandarin Chinese II

90.00 hrs lecture, 18.00 hrs lab

Units: 5.00

Prerequisite: CHIN-102A with a grade of C or better

Accepted For Credit: CSU & UC

This course is a continuation of CHIN-102A with emphasis on the four areas of listening, speaking, reading, and writing in Mandarin, as well as the study of Chinese culture with greater depth. (GR)

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## COMPUTER APPLICATIONS AND OCCUPATIONAL TECHNOLOGY

Division: Science, Technology, and Engineering

### CAOT-101L Computer Applications

27.00 hrs lecture, 27.00 hrs lab

Units: 2.00

Cross-referenced Course: CS-101L

Advisory: CS-101 or equivalent

Accepted For Credit: CSU & UC

Topics covered in this course include programs in word processing, spreadsheets, database, presentation graphics, information management, and integration of all the above-mentioned programs. (GC)

### CAOT-104 Basic Keyboarding

54.00 hrs lab

Units: 1.00

This self-paced introductory course develops basic keyboarding skills for students entering a variety of fields such as computer science, data processing, accounting, or any other occupation that utilizes a keyboard similar to a typewriter to input information. No typing applications will be covered. Repeatable = 3 times (CR)

### CAOT-110A Beginning Keyboarding

9.00 hrs lecture, 27.00 hrs lab

Units: 1.00

This self-paced course includes mastery of the keyboard with touch typing. Repeatable = 1 time (GC)

### CAOT-110B Beginning Keyboarding II

9.00 hrs lecture, 27.00 hrs lab

Units: 1.00

Prerequisite: CAOT-110A

This self-paced course includes an introduction to business and personal letters, tabulation, and business reports. Repeatable = 3 times (GC)

### CAOT-110C Beginning Keyboarding III

9.00 hrs lecture, 27.00 hrs lab

Units: 1.00

CAOT-110C is the final course in a three-part series where students learn mastery of creating and formatting business documents. Repeatable = 3 times (GC)

### CAOT-111 Intermediate Keyboarding

36.00 hrs lecture, 54.00 hrs lab

Units: 3.00

Advisory: CAOT-110C or one year high school typewriting

This self-paced course includes improvement of basic skills, letter production, business forms, tabulated reports, and manuscripts. (GC)

### CAOT-112 Advanced Keyboarding

18.00 hrs lecture, 54.00 hrs lab

Units: 2.00

Prerequisite: CAOT-111 or two years high school typing or equivalent

This self-paced course includes production typing with emphasis on speed and accuracy in the preparation of business letters, legal forms, financial statements, and manuscripts. (GC)

### CAOT-120 ESL and Basic Computer Skills (Part I)

18.00 hrs lecture, 27.00 hrs lab

Units: 1.50

This course combines language learning with training in basic computer skills. This course has been designed to help non-native speakers of English develop entry-level computer and communication skills. Repeatable = 3 times (GC)



Photo courtesy of Julie Polk.

**CAOT-121 ESL and Basic Computer Skills (Part II)**

18.00 hrs lecture, 27.00 hrs lab  
Units: 1.50

This is the second of two sequenced courses that combines language learning with training in basic computer skills. This course has been designed to help non-native speakers of English develop entry-level computer and communication skills. Repeatable = 3 times (GC)

**CAOT-134A Beginning Microsoft Access**

4.50 hrs lecture, 13.50 hrs lab  
Units: 0.50

Advisory: Eligible for ENGL-151B and ENGL-163

This is a beginning database course using Microsoft Access, which reviews basic database concepts and teaches beginning database skills. This course is the first of three sequencing courses in the Microsoft Office Suite. Repeatable = 2 times (GC)

**CAOT-134B Intermediate Microsoft Access**

4.50 hrs lecture, 13.50 hrs lab  
Units: 0.50

Advisory: Eligible for ENGL-151B and ENGL-163

This is an intermediate database course using Microsoft Access, which reviews basic database concepts and teaches database skills. This course is the second of three sequencing courses in the Microsoft Office Suite. Repeatable = 1 time (GC)

**CAOT-134C Advanced Microsoft Access**

4.50 hrs lecture, 13.50 hrs lab  
Units: 0.50

Advisory: CAOT-134B

This is an advanced database course using Microsoft Access, which reviews basic database concepts and teaches database skills. This course is the third of three sequencing courses in the Microsoft Office Suite. Repeatable = 2 times (GC)

**CAOT-141 PowerPoint for Legal Professionals**

18.00 hrs lecture, 54.00 hrs lab  
Units: 1.00

This course teaches students how to use PowerPoint and apply its features toward a presentation in a legal environment. Repeatable = 2 times (GC)

**CAOT-145 Microsoft Visual Basic for Applications**

36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00

Learn to use Visual Basic for Applications (VBA) to develop customized Windows applications that can be integrated with the Microsoft Office Suite. Repeatable = 2 times (GC)

**CAOT-146 Computer Applications in Engineering**

4.50 hrs lecture, 13.50 hrs lab  
Units: 0.50

Corequisite: ENGL-101

This course introduces basic computer skills necessary to perform tasks required in an introductory Engineering course. This course covers key concepts in MS Word, Excel, PowerPoint, Internet functions and etiquette. Repeatable = 1 time (GR)

**CAOT-147 Computer Applications in Biology**

4.50 hrs lecture, 13.50 hrs lab  
Units: 0.50

Corequisite: BIOL-101A

This course introduces basic computer skills necessary to perform tasks required for biology majors. This course covers key concepts in Excel, PowerPoint, and Access. This course must be taken concurrently with BIOL-101A. (GR)

**CAOT-148 Computer Applications in Biotechnology**

4.50 hrs lecture, 13.50 hrs lab  
Units: 0.50

Corequisite: BIOT-105

This course introduces basic computer skills necessary to perform tasks required in an introductory biotechnology course. This course covers key concepts in Excel, PowerPoint, and Access. Repeatable = 1 time (GR)

**CAOT-150 Computer Applications for Chemistry**

9.00 hrs lecture, 27.00 hrs lab  
Units: 1.00

Corequisite: CHEM-101A

This course introduces basic computer skills necessary to perform tasks required in an introductory Chemistry course. This course covers key concepts in Excel, PowerPoint and Word. This course must be taken concurrently with CHEM-101A. Repeatable = 1 time (GR)

**CAOT-153 Introduction to Internet**

18.00 hrs lecture

Units: 1.00

Advisory: CS-101 or equivalent

Accepted For Credit: CSU

This course is an introduction to the Internet. The course will describe the history and architecture of the Internet and will demonstrate how to use various services and tools of the Internet, including Web browsers and search engines, how to do legal research, cyberlaw, and knowledge of HTML. (GC)

**CAOT-156 Microsoft Publisher**

4.50 hrs lecture, 13.50 hrs lab

Units: 0.50

Advisory: Eligible for ENGL-151B and ENGL-163

This is an introduction to desktop publishing using Microsoft Publisher software. Students will produce the following documents: flyer, newsletter, brochure, business forms, and a simple Web site. Repeatable = 1 time (GC)

**CAOT-161A Digital Graphics I**

18.00 hrs lecture, 90.00 hrs lab

Units: 2.00

Cross-referenced Course: ART-161A, GA-161A

Accepted For Credit: CSU

This course is an overview of computer graphics on desktop computers for graphic designers, artists, typographers, and for business applications. This course will cover hardware and software including: laser printers, ink jet printers, scanners, tablets, and bit-mapped and vector-based graphics programs. This course also covers design principles and business graphics. The course emphasis is on the creation of a portfolio of computer graphics drawings. Repeatable = 3 times (GC)

**CAOT-161B Digital Graphics II**

18.00 hrs lecture, 90.00 hrs lab

Units: 2.00

Cross-referenced Course: ART-161B, GA-161B

Prerequisite: GA/ART/CAOT-161A or equivalent

Accepted For Credit: CSU

This course is a continuation of CAOT-161A. The emphasis in this course is on developing intermediate and advanced skills needed to set up and operate a digital graphics work station and publish on the Web. Students complete projects of their choice using complex graphics software, scanners, tablets, and printers. The course emphasis is on the continued development of a portfolio of computer images. Repeatable = 3 times (GC)

**CAOT-164 Introduction to FrontPage**

4.50 hrs lecture, 13.50 hrs lab  
Units: 0.50

Cross-referenced Course: CS-164

Advisory: Eligible for ENGL-151B and ENGL-163; basic proficiency in Microsoft Word

This is an introduction to Microsoft FrontPage software. FrontPage is a software application that allows the ability to create, view, and edit Web pages. It can be used to maintain an entire Web site. Repeatable = 1 time (GC)

**CAOT-166 2D Drafting with AutoCAD**

45.00 hrs lecture, 27.00 hrs lab  
Units: 3.00

Accepted For Credit: CSU

This course introduces the basic drafting concepts and AutoCAD tools to create 2D drawings. (GC)

**CAOT-167 3D Drafting with AutoCAD**

45.00 hrs lecture, 27.00 hrs lab  
Units: 3.00

Advisory: CAOT-166

Accepted For Credit: CSU

This course introduces the advanced drafting concepts of AutoCAD for three dimensional designs and for connecting with other programs. (GC)

**CAOT-172A Beginning Word**

4.50 hrs lecture, 13.50 hrs lab  
Units: 0.50

Advisory: Typing speed 40 wpm

Students will use Word to develop a working knowledge of a word processing software program that includes editing text, formatting, saving, printing, spell check, thesaurus, tables, clipart, and exploring the Internet. Repeatable = 2 times (GC)

**CAOT-172B Intermediate Word**

4.50 hrs lecture, 13.50 hrs lab  
Units: 0.50

Advisory: CAOT-172A or equivalent

Students will learn more advanced applications of Word to prepare complex documents using columns, mail merge, macros, styles, outlines, footnotes, table of contents, fill-in forms, and charts. Repeatable = 2 times (GC)

**CAOT-178 Mastering MS Applications in the Real World**

18.00 hrs lecture, 54.00 hrs lab  
Units: 2.00

Advisory: CS-101L

This course focuses on discipline-specific projects for Microsoft Office using Excel, PowerPoint, Access, and Word. Repeatable = 1 time (GC)

**CAOT-187 PowerPoint Presentations**

4.50 hrs lecture, 13.50 hrs lab  
Units: 0.50

Advisory: Eligible for ENGL-151B and ENGL-163

This is an introductory course in creating presentations with Microsoft PowerPoint software on an IBM computer with mention of the MAC platform. Presentations – which include slides, lecture notes, and handout pages – will be created, edited, and printed. Repeatable = 1 time (GC)

**CAOT-188 Desktop Publishing with QuarkXpress**

18.00 hrs lecture, 54.00 hrs lab  
Units: 2.00

Cross-referenced Course: GA-188

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU

This is an introductory course in Desktop Publishing (DTP) with QuarkXpress software. Business documents that contain text and graphics will be designed, created, edited, and printed. (GC)

**CAOT-193A Beginning Excel**

4.50 hrs lecture, 13.50 hrs lab  
Units: 0.50

Advisory: Eligible for ENGL-151B and ENGL-163

This is an introductory course in the use of microcomputer spreadsheets for business applications. Topics include basic commands, developing spreadsheet models, and using printing options. Repeatable = 1 time (GC)

**CAOT-193B Intermediate Excel**

4.50 hrs lecture, 13.50 hrs lab  
Units: 0.50

Advisory: CAOT-193A; eligible for ENGL-151B, ENGL-163

This is an intermediate course in the use of microcomputer spreadsheet for business applications. Topics include using mixed cell references, large worksheets, simple database functions, charts, and working with multiple worksheets. Repeatable = 1 time (GC)

**CAOT-193C Advanced Excel**

4.50 hrs lecture, 13.50 hrs lab  
Units: 0.50

Advisory: CAOT-193B; eligible for ENGL-151B, ENGL-163

This is an advanced course in the use of Excel for business applications. Topics include working with multiple worksheets, examining cost-volume-profit relationships and “what if” analyses, importing files and tables, and retrieving data from the World Wide Web. Repeatable = 1 time (GC)

**CAOT-194A MS Office Advanced**

18.00 hrs lecture, 54.00 hrs lab  
Units: 2.00

Advisory: Eligible for ENGL-151B and ENGL-163

This is an advanced course in the use of Microsoft Office software for business applications. Topics include an introduction to Microsoft Word, Excel, Access, and PowerPoint. (GC)

**CAOT-195A1 Work Experience Education – Vocational**

75.00 hrs lab

Units: 1.00

Accepted For Credit: CSU

Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)

**CAOT-195A2 Work Experience Education – Vocational**

150.00 hrs lab

Units: 2.00

Accepted For Credit: CSU

Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)

**CAOT-195A3 Work Experience Education – Vocational**

225.00 hrs lab

Units: 3.00

Accepted For Credit: CSU

Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)

**CAOT-195A4 Work Experience Education – Vocational**

300.00 hrs lab

Units: 4.00

Accepted For Credit: CSU

Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)

**CAOT-196 Business Office Software Applications**

67.50 hrs lecture, 202.50 hrs lab  
Units: 7.50

Advisory: Eligible for ENGL-151B and ENGL-163

This course will provide an accelerated intensive training experience during which students will become proficient in the latest office software application programs used in today's workplace. Topics include operating systems (Windows), word processing (Word), spreadsheets (Excel), presentation graphics (PowerPoint), database (Access), Internet, and job search skills. Repeatable = 2 times (GC)

**CAOT-365 Supervised Tutoring**

90.00 hrs lab

Units: 0.00

Prerequisite: Instructor or counselor referral

This course provides students with individualized tutoring. It assists students to develop a learning methodology in a subject. It includes diagnosis and consultation with tutorial coordinator and supervised tutoring by part-time instructional aides and/or student tutors. Repeatable = 3 times (NG)

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## COMPUTERS, NETWORKS, AND EMERGING TECHNOLOGY

Division: Science, Technology, and Engineering

**CNET-101 Introduction to Computers and Information Technology**

54.00 hrs lecture

Units: 3.00

Cross-referenced Course: CS-101

Advisory: Eligible for ENGL-151B and ENGL-163; concurrent enrollment in CS-101L

Accepted For Credit: CSU & UC

This course is a general introduction to the area of computers and information technology and is designed for all students. This survey course will examine a broad overview of topics including software, hardware, the networking of computer systems, and information technology. Students will explore the implications of this technology with regard to today's information society. (GC)

**CNET-105 PC Hardware and Software**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Accepted For Credit: CSU

This course includes hardware and software topics relevant to personal computer (PC) troubleshooting. Emphasis is placed on developing essential troubleshooting and repair skills and preparation for the A+ certification exam. Repeatable = 3 times (GC)

**CNET-108 IT Project Management**

54.00 hrs lecture

Units: 3.00

Accepted For Credit: CSU

Learn the concepts and skills that build the foundations of project management – project integration, scope, time, cost, quality, human resources, communications, risk, and procurement – within an information technology environment. (GC)

**CNET-114 How Technology Works**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Cross-referenced Course: ENGI-114

Accepted For Credit: CSU

This course is intended for students of all disciplines who are interested in how everyday things work. It is an introduction to some of the fundamental science concepts underpinning high technology, emphasizing everyday devices and practical experience, for the development of scientific and computer literacy. Students will experiment with technology to discover principles of science. Concepts such as force, work, energy, power, liquids and gasses, heat transfer, electricity, magnetism, electronics, light, materials science, and time are explored through experimentation and observation. Students will experience through class demonstrations and hands-on laboratories the concepts presented by the instructor. Phenomena such as how computers convert data, how iPods transmit sound, how electronic thermometers measure temperature, how solar heating panels capture heat, and how GPSs use microwaves will be explored. Field trips to local tech industry displays are required. (GC)

**CNET-115 Introduction to Robotics and Automated Systems**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Cross-referenced Course: ENGI-135

Accepted For Credit: CSU

Students who take this class will understand how scientific innovation can affect their lives either directly or indirectly. The class will teach students the principles of scientific methodology as it is applied to solving problems. The application of this scientific method will be used to navigate an abundance of technical information – to obtain the information, to understand the information, and to determine how to apply it. This course describes the functional hardware and software components of automated systems. The student will experience how scientific principles are applied by building and programming robots. The emphasis is for students to learn science by actually doing science. Repeatable = 3 times (GC)

**CNET-135 Database Fundamentals I: Database Architecture and Administration**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Advisory: Knowledge of SQL or knowledge of a programming language

Accepted For Credit: CSU

In this course students learn to startup and shutdown a database, create a database, manage file and database storage, and manage users and their privileges. In addition, students learn to organize the database and to move data into and between databases. Hands-on practices help to reinforce key concepts and students have an opportunity to troubleshoot real life issues when they are given examples of typical problems encountered when operating an Oracle database. (GC)

**CNET-136 Database Fundamentals II:  
Database Backup and Recovery**

27.00 hrs lecture, 27.00 hrs lab

Units: 2.00

Accepted For Credit: CSU

This course addresses backup and recovery techniques and examines various backup, failure, restore, and recovery scenarios for current versions of Oracle databases. Participants utilize multiple strategies and Oracle tools such as Recovery Manager to perform backups and restore and recovery operations. Participants have the opportunity to apply some of the more advanced techniques within a workshop environment. In addition to lecture and hands-on learning, this class addresses answers to frequently asked questions concerning backup and recovery. Repeatable = 2 times (GC)

**CNET-137 Introduction to SQL Programming**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Cross-referenced Course: CS-137

Advisory: CS-101L or CNET-101L

Accepted For Credit: CSU

This course covers the concepts of relational databases and powerful SQL programming languages. Students are taught to create and maintain database objects and to store, retrieve, and manipulate data. Demonstrations and hands-on practice reinforce the fundamental concepts. Repeatable = 2 times (GC)

**CNET-138 PL/SQL Programming**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Prerequisite: CS-137 or CNET-137

Accepted For Credit: CSU

Students learn to program in PL/SQL and understand the use of this programming language. Students learn to create PL/SQL blocks of application code that can be used by forms and reports. Students learn to create procedures, functions, packages, to manage dependencies, to manipulate large objects, and built-in packages. Repeatable = 2 times (GC)

**CNET-139A Database Client and  
Internet Forms Developer System**

27.00 hrs lecture, 27.00 hrs lab

Units: 2.00

Prerequisite: CS-137B or CNET-138

This course addresses how to develop and deploy Internet and Client applications using Oracle Developer Forms. Working in Oracle Developer Forms, the student learns how to create and customize forms through user input items and how to control data access by creating event-related triggers. The student learns how to test and debug Client and Internet applications using Oracle Developer Forms Builder. Repeatable = 2 times (GC)

**CNET-139B Database Reports Internet Developer System**

36.00 hrs lecture, 54.00 hrs lab

Units: 3.00

Prerequisite: CS-137B or CNET-138

In this course, students build reports and run them on the Web. Working in a graphical user interface environment, students learn to retrieve, display, format data, create complex reports and embed graphical charts. The course covers building reports for the Web, using the Reports Server, calling Java applets, using reports administration and security. Repeatable = 2 times (GC)

**CNET-140A Linux Installation and Configuration**

27.00 hrs lecture, 27.00 hrs lab

Units: 2.00

Prerequisite: CNET-150; CS-146 or CNET-146

Accepted For Credit: CSU

This course introduces the functions and features of the Linux operating system including the file system, system services, processes, background processing, scheduling, and security. The course supplies students with the information they need to install and configure Linux on a personal computer. Students will get practical experience in installing, administering, and troubleshooting Linux systems. This is the first of four courses and is normally taught over an 8-week period. This course is preparation for Sair Linux and GNU certification. Repeatable = 3 times (GC)

**CNET-140B Linux System Administration**

27.00 hrs lecture, 27.00 hrs lab

Units: 2.00

Prerequisite: CNET-150; CS-146 or CNET-146

Advisory: CNET-140A

Accepted For Credit: CSU

This course introduces the fundamental knowledge and skills needed to install, manage, and maintain a Linux computer system. Advanced system management tasks like file system management, patching, rebuilding the kernel, configuring networking interfaces, and system monitoring are performed in the computer lab. Shell programming and the various shells are introduced, and students will learn to write shell script programs to perform various system tasks. This course is preparation for Sair Linux and GNU certification. This is the second of four courses and is normally taught over an 8-week period. Repeatable = 3 times (GC)

**CNET-141A Linux Apache Web Server Administration**

27.00 hrs lecture, 27.00 hrs lab

Units: 2.00

Accepted For Credit: CSU

This course is designed to give the student a working knowledge of web pages developed with Hypertext Markup Language (HTML), PHP: Hypertext Preprocessor (PHP), and Java Server Page (JSP). Students will install and configure the Apache Web server, the MySQL database for simple datastore purposes, and the Tomcat servlet container. Repeatable = 3 times (GC)

**CNET-142A Linux Networking**

27.00 hrs lecture, 27.00 hrs lab

Units: 2.00

Prerequisite: CNET-150; CS-146 or CNET-146

Advisory: CNET-140A, CNET-140B

Accepted For Credit: CSU

This course introduces the functions and features of the Linux operating system in Network. The course describes the major client and server services that are found in most networked computer systems. Students will implement in the computer lab such services as telnet, ftp, nfs, nis, web, mail, dns, samba, and dhcp. This course is preparation for Sair Linux and GNU certification. This is the third of four courses and is normally taught over an 8-week period. Repeatable = 3 times (GC)

**CNET-142B Linux Security**

27.00 hrs lecture, 27.00 hrs lab

Units: 2.00

Prerequisite: CNET-150; CS-146 or CNET-146

Advisory: CNET-140A, CNET-140B

Accepted For Credit: CSU

Students with Linux experience will gain knowledge and skills in implementing Linux security. This course is preparation for Sair Linux and GNU certification. This is the fourth of four courses and is normally taught over an 8-week period. Repeatable = 3 times (GC)

**CNET-144A Advanced Linux System Administration**

27.00 hrs lecture, 27.00 hrs lab  
Units: 2.00

Accepted For Credit: CSU

Learn to use clustering and performance monitoring to keep Linux systems running. Repeatable = 3 times (GC)

**CNET-146 Introduction to UNIX/Linux**

36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00

Cross-referenced Course: CS-146

Advisory: CNET-150

Accepted For Credit: CSU

This lecture-lab course introduces functions of and features of UNIX/Linux operating system, including origin and evolution, hardware and software, graphical user interface, files and file system structure, system services, processes, background processing, scheduling, file security, editors, file sharing, and redirection and piping. Students are introduced to networking and internetworking, internet, shell programming, and a variety of UNIX/Linux tools commonly used for software development and system administration in a UNIX/Linux environment. Repeatable = 3 times (GC)

**CNET-147 UNIX/Linux Shell Scripting**

54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00

Cross-referenced Course: CS-147

Advisory: CS-102

Accepted For Credit: CSU & UC

This hands-on course introduces a variety of tools and concepts used for working with a UNIX/Linux-based computer system. The course will present the concept of a shell and describe differences between Bourne, Berkeley C, Korn, and Bash shells. Students will be given instruction and assignments in the use of vi, sed, awk and other tools as time and interest permit. Students will write shell script programs to exercise their understanding of tools and concepts. Repeatable = 3 times (GC)

**CNET-149 PERL Programming**

54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00

Cross-referenced Course: CS-149

Advisory: CS-102, CS-104A, CS-125, CS-146, CNET-146, CS-147, or CNET-147

Accepted For Credit: CSU & UC

This course presents the fundamental knowledge and skills needed to solve problems using PERL or Python language. These languages are particularly well suited to manipulating textual data and are a favorite among UNIX system administrators for automating common administrative tasks and widespread among web masters for writing cgi applications. (GC)

**CNET-150 Network Operating Systems**

54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00

Advisory: CS-101 or CNET-101

Accepted For Credit: CSU

This course provides an in-depth study of Network Operating Systems. The web-based curriculum, sponsored by Hewlett-Packard Company, is an intensive introduction to multi-tasking network operating systems. Characteristics of the Linux, Windows 2000, NT, and XP network operating systems will be discussed. Students will explore a variety of topics including installation procedures, security issues, back up procedures, and remote access. This course provides the foundation for student preparing to take the CompTIA A+ certification exam. Repeatable = 3 times (GC)

**CNET-152 Data Communications**

36.00 hrs lecture

Units: 2.00

Cross-referenced Course: CS-152

Advisory: CS-101, CNET-101, or equivalent

Accepted For Credit: CSU

This course is an introduction to data communications. It will include Internet, e-mail, modems, communication protocol, local area networks, wide area networks, network design, and management. (GC)

**CNET-155A Network Fundamentals (Cisco Certified Networking Academy CCNA I)**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Advisory: CS-152 or CNET-152; CNET-150

Accepted For Credit: CSU

This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. It uses the OSI and TCP layered models to examine the nature and roles of protocols and services at the application, network, data link, and physical layers. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. At the end of the course, students build simple LAN topologies by applying basic principles of cabling; performing basic configurations of network devices, including routers and switches; and implementing IP addressing schemes. This course is preparation for the Cisco Certified Networking Associate (CCNA) certification. Repeatable = 3 times (GR)

**CNET-155B Routing Protocols and Concepts (Cisco Certified Networking Academy CCNA II)**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Advisory: CS-152 or CNET-152; CNET-150

Accepted For Credit: CSU

This course describes the architecture, components, and operation of routers, and explains the principles of routing and routing protocols. Students analyze, configure, verify, and troubleshoot the primary routing protocols RIPv1, RIPv2, EIGRP, and OSPF. By the end of this course, students will be able to recognize and correct common routing issues and problems. This course is preparation for the Cisco Certified Networking Associate (CCNA) certification. Repeatable = 3 times (GC)

**CNET-156A LAN Switching and Wireless**

27.00 hrs lecture, 27.00 hrs lab

Units: 2.00

Advisory: CNET-155A

Accepted For Credit: CSU

This course focuses on the technologies and protocols needed to design and implement a converged switched network. Students will learn how to configure a switch for basic functionality and implement virtual LANs, VTP, and Inter-VLAN routing in a converged network. The different implementations of Spanning Tree Protocol in a converged network are presented and students will develop the knowledge and skills necessary to implement a WLAN (wireless LAN) in a small-to-medium network. This course is preparation for the Cisco Certified Network Associate (CCNA) certification. Repeatable = 3 times (GR)

**CNET-156B Wan Design and Support**

27.00 hrs lecture, 27.00 hrs lab  
Units: 2.00

Advisory: CNET-155A, CNET-155B, and CNET-156A  
Accepted For Credit: CSU

This is the last of four courses designed to introduce students to current and emerging networking technology. The focus of this course is on Wide Area Network (WAN) technologies. This course is preparation for the Cisco Certified Networking Associate (CCNA) certification. Repeatable = 3 times (GR)

**CNET-157 TCP/IP and Internetworking**

54.00 hrs lecture

Units: 3.00

Cross-referenced Course: CS-157

Prerequisite: CS-152, CNET-152, or equivalent

Advisory: CS-101, CNET-101, or equivalent

Accepted For Credit: CSU

This course provides an introduction and overview of TCP/IP technology. Topics include TCP/IP concepts, protocol architecture, and installation techniques. It prepares the student to pass the certification exam, Internetworking Microsoft TCP/IP, to become an MCP/MCSE. Repeatable = 3 times (GC)

**CNET-158 Wireless Networks**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Prerequisite: CNET-150

Advisory: CNET-105; CNET-155A

Accepted For Credit: CSU

This introductory course to wireless communication and LANs focuses on the design, planning, implementation, operation and troubleshooting of Wireless LANs. It covers a comprehensive overview of technologies, security, and design best practices with particular emphasis on hands on skills. Repeatable = 3 times (GC)

**CNET-160A Microsoft Client Operating Systems**

27.00 hrs lecture, 27.00 hrs lab

Units: 2.00

Prerequisite: CNET-150

Advisory: CS-152 or CNET-152

Accepted For Credit: CSU

This course provides students with the knowledge and skills necessary to set up and support the Windows Client Operating System – and prepare for the corresponding Microsoft Certified Professional (MCP) – a core requirement on the new MCSA and MCSE track. Students will get practical experience installing, administering, and troubleshooting this next-generation desktop environment. This course is normally taught over an 8-week period. Repeatable = 3 times (GC)

**CNET-161A Desktop Support I – Supporting Users**

27.00 hrs lecture, 27.00 hrs lab

Units: 2.00

Accepted For Credit: CSU

This course is designed to provide individuals who are new to Microsoft Windows XP with the knowledge and skills necessary to troubleshoot the basic problems end users will face while running Microsoft Windows XP Professional in an Active Directory network environment or Windows XP Home edition in a workgroup environment. This is an introductory course designed to provide an overview of operating system concepts and how to troubleshoot Windows XP. Repeatable = 3 times (GC)



Photo courtesy of Julie Polk.

**CNET-161B Desktop Support II – Supporting Applications**

27.00 hrs lecture, 27.00 hrs lab

Units: 2.00

Accepted For Credit: CSU

Students in this class will learn how to support end users who run Microsoft Windows XP Professional in a corporate environment or Microsoft Windows XP Home edition in a home environment. They gain experience using applications that are included with the operating system, such as Microsoft Internet Explorer and Microsoft Outlook Express, as well as the productivity applications used in a corporate environment, such as Microsoft Office applications. Students will learn how to resolve operating system issues by telephone, by connecting to an end user's system remotely, or by visiting an end user's desktop. They should have a working knowledge of operating in a workgroup or Active Directory domain environment and how end users are affected by each environment. Repeatable = 3 times (GC)

**CNET-162A Microsoft Server Operating Systems**

27.00 hrs lecture, 27.00 hrs lab

Units: 2.00

Prerequisite: CNET-150

Advisory: CNET-160A

Accepted For Credit: CSU

This course provides students with the knowledge and skills necessary to set up and support the Microsoft Windows Server operating system and prepare for the corresponding Microsoft Certified Professional (MCP), a core requirement on the new MCSA and MCSE track. Students will get practical experience installing, administering, and troubleshooting this powerful enterprise server system. This course is normally taught over an 8-week period. Repeatable = 3 times (GC)

**CNET-162B Windows Network Infrastructure Administration**

27.00 hrs lecture, 27.00 hrs lab

Units: 2.00

Prerequisite: CNET-150

Advisory: CNET-160A; CNET-162A; CS-152 or CNET-152; CS-157 or CNET-157

Accepted For Credit: CSU

This course prepares students as product support professionals who will be responsible for installing, configuring, managing, and supporting a network infrastructure that uses the Microsoft Windows Server products and prepare for the corresponding Microsoft Certified Professional (MCP) Exam, a core requirement on the MCSE track and elective credit on the MCSA track. This course is normally taught over an 8-week period. Repeatable = 3 times (GC)

**CNET-163 Planning a Microsoft Windows Networks Infrastructure**

27.00 hrs lecture, 27.00 hrs lab

Units: 2.00

Prerequisite: CS-180 or CNET-150

Advisory: CS-157 or CNET-157; CS-180A or CNET-160A;

CS-180B or CNET-162A; CS-182

Accepted For Credit: CSU

This course provides students with the information and skills needed to create a networking services infrastructure design that supports the required network applications in a Microsoft Windows network environment. This course prepares students for the corresponding Microsoft Certified Professional (MCP) exam, a core requirement on the MCSE track. This course is normally taught over an 8-week period. Repeatable = 3 times (GC)

**CNET-164A Microsoft Directory Services**

27.00 hrs lecture, 27.00 hrs lab  
 Units: 2.00  
 Prerequisite: CNET-150  
 Advisory: CNET-160A; CNET-162A  
 Accepted For Credit: CSU

This course prepares students to install, configure, and administer Microsoft Windows Active Directory services. The focus is on implementing Group Policy and understanding the Group Policy tasks required to centrally manage users and computers. Students are prepared for the corresponding Microsoft Certified Professional (MCP) exam, a core requirement on the MCSE track and elective credit on the MCSA track. This course is normally taught over an 8-week period. Repeatable = 3 times (GC)

**CNET-164B Designing Microsoft Windows Directory Services Infrastructure**

27.00 hrs lecture, 27.00 hrs lab  
 Units: 2.00  
 Prerequisite: CNET-150  
 Advisory: CS-157 or CNET-157; CNET-160A; CNET-162A; CNET-164A  
 Accepted For Credit: CSU

This course provides students with the knowledge and skills necessary to design a Microsoft Windows directory services infrastructure in an enterprise network. This course prepares students for the corresponding Microsoft Certified Professional (MCP) Exam, a core requirement on the MCSE track. This course is normally taught over an 8-week period. Repeatable = 3 times (GC)

**CNET-165A Designing a Secure Microsoft Windows Network**

27.00 hrs lecture, 27.00 hrs lab  
 Units: 2.00  
 Prerequisite: CNET-150  
 Advisory: CS-157 or CNET-157; CNET-160A; CNET-162A; CNET-162B; CNET-164A  
 Accepted For Credit: CSU

This course provides students with the knowledge and skills necessary to design a security framework for small, medium, and enterprise networks using Microsoft Windows technologies. This course prepares students for the corresponding Microsoft Certified Professional (MCP) Exam 70-298, a core requirement on the MCSE track. This course is normally taught over an 8-week period. Repeatable = 3 times (GC)

**CNET-165B Microsoft Internet Security and Acceleration Server (ISA)**

27.00 hrs lecture, 27.00 hrs lab  
 Units: 2.00  
 Advisory: CNET-160A; CNET-162A; CS-157 or CNET-157  
 Accepted For Credit: CSU

Students will gain the knowledge and skills to deploy and manage Microsoft Internet Security and Acceleration (ISA) Server 2000 in an enterprise environment and experience setting up a Web site. This course prepares students for MCP+Internet/MCSE certifications. This course is normally taught over an 8-week period. Repeatable = 3 times (GC)

**CNET-165C Administering Security for Windows 2003**

27.00 hrs lecture, 27.00 hrs lab  
 Units: 2.00  
 Accepted For Credit: CSU

This course provides everything students need to build the knowledge and skills necessary to install, configure, administer, and support the security services and tools in the Microsoft Windows Server 2003 operating system. In addition, this course will help students to prepare for the Microsoft Certified Professional examination 70-299: Implementing and Administering Security in a Microsoft Windows Server 2003 Network. This certification exam measures the ability to implement, manage, maintain, and troubleshoot security in a Windows Server 2003 network infrastructure and also plan and configure a Windows Server 2003 PKI. Repeatable = 3 times (GC)

**CNET-167A Network Application Administration I – Email (Exchange 2003)**

27.00 hrs lecture, 27.00 hrs lab  
 Units: 2.00  
 Advisory: CNET-160A; CNET-162A  
 Accepted For Credit: CSU

This course teaches students the knowledge and skills necessary to install, configure, and administer Microsoft Exchange and also allows them to prepare for the corresponding Microsoft Certified Professional (MPC) exam, an elective requirement on the MCSA and MCSE track. This course is usually taught over an 8-week period. Repeatable = 3 times (GC)

**CNET-168A Network Application Administration II – Database (SQL)**

27.00 hrs lecture, 27.00 hrs lab  
 Units: 2.00  
 Advisory: CNET-160A; CNET-162A  
 Accepted For Credit: CSU

This course introduces students to Microsoft SQL Server System Administration and prepares them to install and/or upgrade to SQL Server. The course also allows students to prepare for the corresponding Microsoft Certified Professional (MCP) exam, an elective requirement on the MCSA and MCSE track. This course is usually taught over an 8-week period. Repeatable = 3 times (GC)

**CNET-170 Network Security**

54.00 hrs lecture, 54.00 hrs lab  
 Units: 4.00  
 Prerequisite: CNET-150  
 Advisory: CS-146, CNET-146, CNET-160A, CNET-162A, CNET-140A, or CNET-140B  
 Accepted For Credit: CSU

This course provides an in-depth study of Network Security fundamentals and provides a comprehensive overview of network security. The class is broken down into five sections: General Security Concepts, Communication Security, Infrastructure Security, Cryptography, and Operational/Organizational Security. This course provides the foundation for students preparing to take the CompTIA Security+ certification exam. Repeatable = 3 times (GC)

**CNET-171 Information Security**

54.00 hrs lecture  
 Units: 3.00  
 Prerequisite: CNET-150  
 Advisory: CNET-170  
 Accepted For Credit: CSU

This course provides an in-depth study of Information Security fundamentals and provides a comprehensive overview of the field of Information Security. Students will be presented with both the managerial and technical aspects of information security and will cover the knowledge and skills area of the Certified Information Systems Security Professional (CISSP) certification. Repeatable = 3 times (GC)

**CNET-172A Cisco Network Security I (CCSP)**

27.00 hrs lecture, 27.00 hrs lab

Units: 2.00

Accepted For Credit: CSU

This course focuses on the overall security processes in a network with particular emphasis on hands-on skills in the following areas: security policy design and management; security technologies, products, and solutions; firewall and secure router design, installation, configuration, and maintenance; AAA implementation using routers and firewalls; and securing the network at both layers 2 and 3 of the OSI model. Repeatable = 3 times (GC)

**CNET-172B Cisco Network Security II (CCSP)**

27.00 hrs lecture, 27.00 hrs lab

Units: 2.00

Accepted For Credit: CSU

This course focuses on the overall security process in a network with particular emphasis on hands-on skills in the following areas: security policy design and management; security technologies, products, and solutions; firewall and secure router design, installation, configuration, and maintenance; intrusion prevention (IPS) implementation using routers and firewalls; VPN implementation using routers and firewalls. Repeatable = 3 times (GC)

**CNET-182 Advanced Routing (Cisco Networking Academy CCNP 1)**

27.00 hrs lecture, 81.00 hrs lab

Units: 3.00

Accepted For Credit: CSU

This is the first of four courses leading to the Cisco Certified Network Professional (CCNP) designation. This course introduces students to scaling IP networks. Students learn to use VLSM, private addressing, and NAT optimize IP address utilization. The majority of the course content is related to learning how to implement the RIPv2, EIGRP, OSPF, IS-IS, and BGP routing protocols. In addition, the course details the important techniques used for multicasting, route filtering and route redistribution. This course will prepare students for the Cisco Certified Networking Professional (CCNP) 642-901 exam. This course is normally taught in a nine-week period. (Formerly CS-188A) Repeatable = 3 times (GC)

**CNET-183 Remote Access Networks (Cisco Certified Networking Academy CCNP 2)**

27.00 hrs lecture, 81.00 hrs lab

Units: 3.00

Accepted For Credit: CSU

This is the second of four courses of the advanced study of Cisco Networking Academy. Students will gain classroom and laboratory experience in current and emerging networking technology that will prepare them for the Cisco Certified Networking Professional (CCNP) exam: 642-821 Building Cisco Remote Access Networks (BCRAN). Instruction includes ISDN, DDR, ODR, dialup networking, Frame Relay, AAA, how to build a remote access network to interconnect central sites to branch offices and home office/telecommuters, and to control access to the central site, as well as maximize bandwidth utilization over the remote links. This course is normally taught in an 8-week period. Repeatable = 3 times (GC)

**CNET-184 Advanced Switching (Cisco Certified Networking Academy CCNP 3)**

27.00 hrs lecture, 81.00 hrs lab

Units: 3.00

Accepted For Credit: CSU

This course enables learners to use appropriate technologies to build scalable multilayer switched networks, to create and deploy a global intranet, and to implement basic troubleshooting techniques in environments that use Cisco multilayer switches for client hosts and services. This course also enables learners to improve traffic flow, reliability, redundancy, and performance for LAN switching that is self-supported or transported via a service provider. This course will prepare students for the Cisco Certified Networking Professional (CCNP) exam: 642-811 (BCMSN) Building Cisco Multilayer Switching Networks. This course is normally taught over an 8-week period. Repeatable = 3 times (GC)

**CNET-185 Optimizing Converged Networks (CCNP IV)**

27.00 hrs lecture, 81.00 hrs lab

Units: 3.00

Prerequisite: CNET-155A/B and CNET-156A/B; or CCNA certification

Advisory: CS-157 or CNET-157

Accepted For Credit: CSU

This is the last of four courses of the advanced study of Cisco Networking Academy. This course is designed to provide students with classroom and laboratory experience optimizing converged networks that will prepare them for the Cisco Certified Networking Professional (CCNP) exam: 642-845 Cisco Optimizing Converged Cisco Networks). Instruction includes troubleshooting methodology, network documentation, and debug. This course is normally taught over a 9-week period. (Formerly CS-188D) Repeatable = 3 times (GC)

**CNET-195A1 Work Experience Education – Vocational**

75.00 hrs lab

Units: 1.00

Accepted For Credit: CSU

Work experience education for students employed in jobs directly related to a major. Units are based on hours worked. (GC)

**CNET-195A2 Work Experience Education – Vocational**

150.00 hrs lab

Units: 2.00

Accepted For Credit: CSU

Work experience education for students employed in jobs directly related to a major. Units are based on hours worked. (GC)

**CNET-195A3 Work Experience Education – Vocational**

225.00 hrs lab

Units: 3.00

Accepted For Credit: CSU

Work experience education for students employed in jobs directly related to a major. Units are based on hours worked. (GC)

**CNET-195A4 Work Experience Education – Vocational**

300.00 hrs lab

Units: 4.00

Accepted For Credit: CSU

Work experience education for students employed in jobs directly related to a major. Units are based on hours worked. (GC)

**CNET-365 Supervised Tutoring**

90.00 hrs lab

Units: 0.00

Prerequisite: Instructor or counselor referral

This course provides students with individualized tutoring. It assists students to develop a learning methodology in a subject. It includes diagnosis and consultation with tutorial coordinator and supervised tutoring by part-time instructional aides and/or student tutors. Repeatable = 3 times (NG)

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**COMPUTER SCIENCE**

Division: Science, Technology, and Engineering

**CS-101 Introduction to Computers and Information Technology**

54.00 hrs lecture

Units: 3.00

Cross-referenced Course: CNET-101

Advisory: Eligible for ENGL-151B and ENGL-163; concurrent enrollment in CS-101L

Accepted For Credit: CSU &amp; UC

This course is a general introduction to the area of computers and information technology and is designed for all students. This survey course will examine a broad overview of topics including software, hardware, the networking of computer systems, and information technology and surveys of programming languages. The student will explore the implications of this technology with regard to today's information society. (GC) (CS-101 + CS-101L = CAN CSCI 2)

**CS-101L Computer Applications**

27.00 hrs lecture, 27.00 hrs lab

Units: 2.00

Cross-referenced Course: CAOT-101L

Advisory: CS-101, CNET-101, or equivalent

Accepted For Credit: CSU &amp; UC

This course covers topics in word processing, spreadsheets, database, presentation graphics, information management, and integration of all the above-mentioned programs. (GC) (CS-101 + CS-101L = CAN CSCI 2)

**CS-102 Introduction to Computer Programming Using C++**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Prerequisite: MATH-152, MATH-153, or equivalent

Advisory: CS-101, CNET-101, or equivalent

Accepted For Credit: CSU &amp; UC

This course is an introduction to computer programming. Its primary objective is to teach problem solving using the C++ programming language. Emphasis will be placed on structured procedural programming with an introduction to object-oriented programming. This course is designed primarily for computer science and related transfer majors. (GC)

**CS-104A Visual Basic.NET Programming**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Advisory: MATH-152 or MATH-153; CS-101, CNET-101, or equivalent

Accepted For Credit: CSU &amp; UC

This course covers the skills necessary to create structured Windows Applications. The class uses Visual Basic for design and development. Topics covered will include Basic language syntax, event-driven programming, structured programming, most of the standard Visual Basic tools, and user interface strategies. This course is intended for a general audience with no programming experience. (Formerly CS-102B) (GC)

**CS-104B Advanced .Net Programming**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Advisory: CS-104A and CS-122 or equivalent

Accepted For Credit: CSU &amp; UC

This is an advanced course for .NET application design and development. Three major areas covered are: Graphical User Interface for Windows applications, ADO.NET and SQL for access to databases, and XML and ASP.NET for web forms and services. The .NET Framework will be used in class for program development. Students may select either C# or Visual Basic.NET to complete projects. (GC)

**CS-104C ASP.NET Programming**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Advisory: CS-104A and CS-122

Accepted For Credit: CSU

This course is an introduction to ASP.NET Programming. The primary objective is to teach students how to develop ASP.NET pages using MS SQL server or MS ACCESS, and ADO.NET. Students will design forms, a shopping cart application, automatic email programs, and Web automation by using XML, JavaScript, Visual Basic.NET or C#.NET programming languages. Security and Debugging will also be covered in class. (GC)

**CS-104D Web Services for .NET**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Advisory: CS-104A and CS-122

Accepted For Credit: CSU

This course is designed to provide students with the knowledge and skills required to develop Extensible Markup Language (XML) Web Services. The course focuses on using Microsoft Visual Studio .NET and Microsoft ASP.NET to enable students to build, deploy, locate, and consume Web services. Repeatable = 2 times (GC)

**CS-113 Discrete Mathematics for Computers**

54.00 hrs lecture

Units: 3.00

Cross-referenced Course: MATH-163

Prerequisite: MATH-188 or equivalent

Advisory: MATH-101A and MATH-101B

Accepted For Credit: CSU &amp; UC

This course is designed for majors in mathematics and computer science. It is the first course for students in discrete mathematics. The main goal of this course is to teach students to think abstractly. This requires that students learn to use logically valid different methods of proof including mathematical induction. Topics include logic, proofs, sets, relations, recurrence relations, graphs, trees, and combinatorics. Applications include Boolean Algebra, logic circuits, O-Notation, and Automata. (GC) (CAN CSCI 26)

**CS-116 Object-Oriented Programming Using C++**

54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00

Advisory: CS-102 or equivalent course is needed to be successful in this course  
Accepted For Credit: CSU & UC

This intermediate-level programming course is intended for those students who already have completed an introductory programming course. It presents a comprehensive study of the C++ programming language and its role in the realm of object-oriented programming. The C++ language supports input/output streams, class constructs, inheritance, polymorphism, function and operator overloading, function and class templates, and exception handling. (GC) (CAN CSCI 18)

**CS-117 Introduction to Wireless Programming and Technology**

54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00

Accepted For Credit: CSU

This course is an introduction to a variety of wireless programming languages and technologies, including WML, XML, and J2ME. Students will learn wireless programming and the creation of mobile business applications. Repeatable = 2 times (GC)

**CS-118 Introduction to Assembly Language Programming**

54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00

Prerequisite: CS-102

Accepted For Credit: CSU & UC

This course is an introduction to Assembly Language for Intel-based computers. Topics include numbering systems, architecture, native machine instructions, memory addressing, subroutines, interrupt handling, file I/O, and interaction between assembly language programs, the operating system, and other languages. (GC) (CAN CSCI 10)

**CS-121 Applied Programming in Visual C++**

54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00

Prerequisite: CS-102

Accepted For Credit: CSU

This course presents a comprehensive introduction to the Visual C++ programming language and its role in the Internet, database, and Windows programming. (GC)

**CS-122 C#.NET Programming**

54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00

Advisory: CS-101

Accepted For Credit: CSU

This course is an introduction to C#.NET Programming. Data types, methods, classes, control structures, loops, arrays, inheritance, exception handling, database connectivity, GUI controls, and Microsoft.NET architecture will be covered in this class. The primary objective is to teach the student how to develop C#.NET programs using Windows. Students will design forms, a shopping cart application, and Web automation by using HTML, XML, and C#.NET programming languages. Debugging will also be covered in class. (GC)

**CS-124 Programming with Data Structures**

54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00

Prerequisite: CS-116

Advisory: Completion of, or concurrent enrollment in, CS-113

Accepted For Credit: CSU & UC

This course involves the study and implementation of data structure programming techniques. The emphasis is on stacks, queues, lists, trees, and graphs; the use of recursion; and the application of these tools primarily to searching and sorting. Students will implement these concepts by writing programs in an object-oriented language such as C++. (GC) (CAN CSCI 14)

**CS-125 Introduction to Programming Using Java**

54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00

Prerequisite: MATH-152

Advisory: CS-101, CNET-101, or equivalent

Accepted For Credit: CSU & UC

This course is an introduction to computer programming. Its primary objective is to teach the fundamentals of programming using the Java programming language. Emphasis will be placed on basic Java programming concepts and skills. This course is designed primarily for computer science and related transfer majors. Repeatable = 2 times (GC)

**CS-126 Internet Security Programming**

54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00

Advisory: CS-104A and CS-170

Accepted For Credit: CSU

This course is designed to provide students with the knowledge and skills required to develop secure applications running on the Internet. The course focuses on the latest industry security mechanism including Digital Signature, Public Key Infrastructure (PKI), and Secure Sockets Layer (SSL). Repeatable = 2 times (GC)

**CS-129A Software Testing**

45.00 hrs lecture, 27.00 hrs lab  
Units: 3.00

Accepted For Credit: CSU

This is an introductory course in software testing. Students will learn the principles and techniques for software testing, including test design, testing automation, test management, test strategies, bug report, and bug tracking system. Advice on how to match the selection of practices to the circumstances of the sample projects is presented. Repeatable = 2 times (GC)

**CS-130 Systems Analysis**

54.00 hrs lecture  
Units: 3.00

Prerequisite: CS-101, CNET-101, or equivalent

Accepted For Credit: CSU

This course presents the methods involved in data processing-oriented business system planning: analysis, design, implementation, and evaluation. Problem definition, scheduling, and documentation techniques including CASE approach, structured analysis, and prototyping will also be considered. Typical MIS computer applications will be surveyed. (GC)

**CS-131 Computing Concepts in Biotechnology**

54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00

Cross-referenced Course: BIOT-131

Accepted For Credit: CSU

This course introduces the basic computing concepts, the most commonly used computer algorithms, and programming languages in biotechnology. (GC)

- CS-132 DNA Computing**  
18.00 hrs lecture  
Units: 1.00  
Cross-referenced Course: BIOT-132  
Accepted For Credit: CSU  
This course introduces DNA-related matters, the basics of biochemistry, language, and computing theory. (GC)
- CS-133 SAS Programming**  
45.00 hrs lecture, 27.00 hrs lab  
Units: 3.00  
Cross-referenced Course: BIOT-133  
Accepted For Credit: CSU  
The SAS system has become the international standard for data management, manipulation, storage, retrieval, and statistical analysis. This course offers a rigorous exposure to statistical bio-data analysis by using core elements of the SAS system programming language and procedures. (GC)
- CS-136 Advanced Database Programming**  
45.00 hrs lecture, 27.00 hrs lab  
Units: 3.00  
Prerequisite: CS-104A and CS-135 or equivalent  
Advisory: CS-104B  
Accepted For Credit: CSU  
This class is designed for the students who wish to develop professional database applications (such as Access) for the business community. Advanced topics such as VBA, DAP, and Active X will be presented. (GC)
- CS-137 Introduction to SQL and PL/SQL Programming**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Cross-referenced Course: CNET-137  
Advisory: CS-101L  
Accepted For Credit: CSU  
This course covers the concepts of relational databases and powerful SQL and PL/SQL programming languages. Students are taught to create and maintain database objects and to store, retrieve, and manipulate data. In addition, students learn to create PL/SQL blocks of application code that can be shared by multiple forms, reports, and data management applications. Demonstrations and hands-on practice reinforce the fundamental concepts. Repeatable = 2 times (GC)
- CS-137B PL/SQL Programming**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Prerequisite: CS-137 or CNET-137  
Accepted For Credit: CSU  
Students learn to program in PL/SQL and understand the use of this programming language. Students learn to create PL/SQL blocks of application code that can be used by forms and reports. Students learn to create procedures, functions, packages, to manage dependencies, to manipulate large objects, and built-in packages. Repeatable = 2 times (GC)
- CS-139 Data Mining**  
54.00 hrs lecture  
Units: 3.00  
Accepted For Credit: CSU  
This is an introductory course in Data Mining. Data Mining is an information extraction activity whose goal is to discover hidden facts contained in databases. Topics covered include data mining fundamentals, process models, applications, data warehouse, neural networks, and statistical techniques. (GC)
- CS-141B SAS Graphing and ODS**  
27.00 hrs lecture, 27.00 hrs lab  
Units: 2.00  
Cross-referenced Course: BIOT-141B  
Advisory: CS-133 or BIOT-133  
Accepted For Credit: CSU  
This course introduces SAS/GRAPH and ODS. Learn how to design, construct, and display customized graphs quickly and efficiently. Learn how to create a data set from the results of most SAS procedures and build custom reports. Repeatable = 1 time (GC)
- CS-143 Advanced SAS Programming**  
45.00 hrs lecture, 27.00 hrs lab  
Units: 3.00  
Cross-referenced Course: BIOT-143  
Advisory: BIOT-133/CS-133 or some experience in SAS programming.  
Accepted For Credit: CSU  
This course provides students with a basic understanding of macro programming and SQL procedure in SAS software. SQL and macro programming can provide more flexibility and power in data management and data analysis. (GC)
- CS-146 Introduction to UNIX/Linux**  
36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Cross-referenced Course: CNET-146  
Advisory: CNET-150  
Accepted For Credit: CSU  
This lecture-lab course introduces functions of and features of UNIX/Linux operating system, including origin and evolution, hardware and software, graphical user interface, files and file system structure, system services, processes, background processing, scheduling, file security, editors, file sharing, and redirection and piping. Students are introduced to networking and internetworking, internet, shell programming, and a variety of UNIX/Linux tools commonly used for software development and system administration in a UNIX/Linux environment. Repeatable = 3 times (GC)
- CS-147 UNIX/Linux Shell Scripting**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Cross-referenced Course: CNET-147  
Advisory: CS-102  
Accepted For Credit: CSU & UC  
This hands-on course introduces a variety of tools and concepts used for working with a UNIX/Linux-based computer system. The course will present the concept of a shell and describe differences between Bourne, Berkeley C, Korn, and Bash shells. Students will be given instruction and assignments in the use of vi, sed, awk and other tools as time and interest permit. Students will write shell script programs to exercise their understanding of tools and concepts. Repeatable = 3 times (GC)
- CS-149 PERL Programming**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Cross-referenced Course: CNET-149  
Advisory: CS-102  
Accepted For Credit: CSU & UC  
This course presents the fundamental knowledge and skills needed to solve problems using PERL or Python language. These languages are particularly well suited to manipulating textual data and are a favorite among UNIX system administrators for automating common administrative tasks and widespread among web masters for writing cgi applications. (GC)

- CS-151 Internet for Research**  
9.00 hrs lecture  
Units: 0.50  
Cross-referenced Course: LS-151  
Advisory: CAOT-153 or equivalent  
Accepted For Credit: CSU  
This course presents instruction in the use of the Internet as an alternate to traditional college-level learning resources. It will teach skills and strategies for finding and retrieving information on the Internet. This course is normally offered in a short-term format. (CR)
- CS-152 Data Communications**  
36.00 hrs lecture  
Units: 2.00  
Cross-referenced Course: CNET-152  
Advisory: CS-101, CNET-101, or equivalent  
Accepted For Credit: CSU  
This course is an introduction to data communications. It will include Internet, e-mail, modems, communication protocol, local area networks, wide area networks, network design, and management. (GC)
- CS-157 TCP/IP and Networking**  
54.00 hrs lecture  
Units: 3.00  
Cross-referenced Course: CNET-157  
Prerequisite: CS-152, CNET-152, or equivalent  
Advisory: CS-101, CNET-101, or equivalent  
Accepted For Credit: CSU  
This course provides an introduction and overview of TCP/IP technology. Topics include TCP/IP concepts, protocol architecture, and installation techniques. It prepares the student to pass the certification exam, Internetworking Microsoft TCP/IP, to become an MCP/MCSE. Repeatable = 3 times (GC)
- CS-160A Computer Graphics I**  
54.00 hrs lecture, 162.00 hrs lab  
Units: 4.00  
Cross-referenced Course: ART-160A, BA-160A, GA-160A  
Advisory: ART-104A  
Accepted For Credit: CSU & UC  
This course is an introduction to microcomputers and to the creation of computer-generated graphics. This course examines the variety of software/hardware tools and techniques available for the production of computer-made imagery. The emphasis is on hard-copy production using printers, plotters, and other reproduction methods. This course also covers design principles, business graphics, and elementary programming principles. Repeatable = 3 times (GC)
- CS-160B Computer Graphics II**  
54.00 hrs lecture, 162.00 hrs lab  
Units: 4.00  
Cross-referenced Course: ART-160B, BA-160B, GA-160B  
Prerequisite: GA, ART, BA, or CS-160A or equivalent  
Accepted For Credit: CSU & UC  
This course is a continuation of 160A. The emphasis in this course is on developing intermediate and advanced skills needed to operate a computer graphics work station. The students complete projects of their choice using more complex Paint and CAD software, printers, and plotters. Repeatable = 3 times (GC)
- CS-162 XHTML**  
36.00 hrs lecture, 108.00 hrs lab  
Units: 4.00  
Cross-referenced Course: MM-162  
Advisory: CS-101, CNET-101, or CS-101L  
Accepted For Credit: CSU  
Students will use XHTML to create multimedia Web pages using hypertext links, tables, frames, forms, cascading style sheets (CSS), JavaScript, and JavaScript objects and events. Other topics include Dynamic Hypertext Markup Language (DHTML) techniques and working with eXtensible Markup Language (XML) and eXtensible Stylesheet Language (XSL). Repeatable = 1 time (GC)
- CS-164 Introduction to FrontPage**  
4.50 hrs lecture, 13.50 hrs lab  
Units: 0.50  
Cross-referenced Course: CAOT-164  
Advisory: Eligible for ENGL-151B and ENGL-163; basic proficiency in Microsoft Word  
This is an introduction to Microsoft FrontPage software. FrontPage is a software application that allows the ability to create, view, and edit Web pages. It can be used to maintain an entire Web site. This course is normally offered in a short-term format. Repeatable = 1 time (GC)
- CS-170 Java Programming**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Advisory: CS-102 and CS-125  
Accepted For Credit: CSU & UC  
This intermediate-level programming course is intended for those students who already have completed an introductory programming course. It presents a comprehensive study of the object-oriented programming in Java. Fundamentals of encapsulation, inheritance, polymorphism, abstraction, method overloading and overriding, exception handling, GUI components, event handling, multimedia programming, and input/output streams are introduced. Repeatable = 2 times (GC)
- CS-172 Servlets and JSP**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Advisory: CS-170  
This is an Internet programming and application course using Java technology, including Servlet, JSP, Session tracking, JavaBeans, and JDBC. Repeatable = 2 times (GC)
- CS-173 Java EE and EJB**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Advisory: CS-170 or equivalent  
This course is an introduction to Java EE and EJB (Enterprise Java Beans). Students will design and develop the business applications and Web Services using Java EE and EJB. (GR)
- CS-175 Script Technology for Web Development**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Accepted For Credit: CSU  
This is an introductory to intermediate course for the scripting language JavaScript, the glue between Web interactivity tools. The topics span from basic programming concepts to specific JavaScript syntax and methods used to manipulate information and code, which allow web forms validation, rewriting of HTML pages on the fly, and access to XML and other server information. (GC)



Photo courtesy of Julie Polk.

**CS-176 Introduction to PERL CGI Programming Development**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Accepted For Credit: CSU

This course is an introduction to CGI (Common Gateway Interface) programming with PERL. The primary objective is to teach how to create interactive Web pages using CGI. Students will learn the fundamental concepts of CGI, the basics of design and integration with HTML, and sufficient PERL to be able to create CGI programs. (GC)

**CS-177 E-Commerce**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

This course is designed to provide complete coverage of key business and technology elements of electronic commerce with emphasis on both the theory and practices of conducting business over the Internet. Students will integrate business and technology elements by developing and administering their own E-Commerce Web site. Repeatable = 1 time (GC)

**CS-178 XML**

54.00 hrs lecture

Units: 3.00

Advisory: CS-170

Accepted For Credit: CSU

This course is designed to teach students the technologies of XML (the eXtensible Mark-up Language), XSL (eXtensible Style Language), and DSSSL (Document Style Symantics and Specification Language). Repeatable = 1 time (GC)

**CS-179 Dynamic Web with ColdFusion**

54.00 hrs lecture

Units: 3.00

Advisory: CS-162

Learn to use ColdFusion, one of the most efficient web development applications, to create database driven websites. There is no cost to install ColdFusion Server and other necessary software on a computer. Prior HTML knowledge is helpful as ColdFusion CFML code is imbedded in webpages and forms source code. Use MySQL, Oracle, or other relational databases. (GC)

**CS-195A1 Work Experience Education – Vocational**

75.00 hrs lab

Units: 1.00

Accepted For Credit: CSU

Work experience education for students employed in jobs directly related to a major. Units are based on hours worked. (GC)

**CS-195A2 Work Experience Education – Vocational**

150.00 hrs lab

Units: 2.00

Accepted For Credit: CSU

Work experience education for students employed in jobs directly related to a major. Units are based on hours worked. (GC)

**CS-195A3 Work Experience Education – Vocational**

225.00 hrs lab

Units: 3.00

Accepted For Credit: CSU

Work experience education for students employed in jobs directly related to a major. Units are based on hours worked. (GC)

**CS-195A4 Work Experience Education – Vocational**

300.00 hrs lab

Units: 4.00

Accepted For Credit: CSU

Work experience education for students employed in jobs directly related to a major. Units are based on hours worked. (GC)

**CS-365 Supervised Tutoring**

90.00 hrs lab

Units: 0.00

Prerequisite: Instructor or counselor referral

This course provides students with individualized tutoring. It assists students to develop a learning methodology in a subject. It includes diagnosis and consultation with tutorial coordinator and supervised tutoring by part-time instructional aides and/or student tutors. Repeatable = 3 times (NG)

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## CONSUMER FAMILY SCIENCES

Division: Health Sciences and Environmental Studies

**CFS-100 Introduction to Nutrition**

36.00 hrs lecture

Units: 2.00

This course covers the principles of good nutrition and their application to all stages of human development. Focus is on the physiological need for food and the promotion of good eating practices as they relate to optimum body function. The importance of psychological and social aspects of eating at each developmental level is discussed. Nutrition myths and misinformation are explored and evaluated. (GC)

**CFS-104A Current Issues in Child Nutrition**

36.00 hrs lecture

Units: 2.00

Advisory: Eligible for ENGL-151B

The role and requirements of nutrients for children are reviewed. Current issues regarding nutrition and feeding of children are discussed. Legislation regarding feeding of children is updated. It is recommended for school food service, child care, WIC personnel, and parents. (GC)

- CFS-108 Nutrition and Fitness**  
54.00 hrs lecture  
Units: 3.00  
Accepted For Credit: CSU  
This course reviews in depth the relationship between the nutrients and muscular performance. Food sources and meal plans for optimum performance, fitness, weight maintenance, weight loss, and weight gain are explored. The need for supplements and popular diets are evaluated. (GC)
- CFS-109 Nutrition**  
54.00 hrs lecture  
Units: 3.00  
Accepted For Credit: CSU & UC  
This course studies the concepts and applications of nutrition in health and disease. Essential nutrients and their functions, food sources, requirements, digestion, absorption, and metabolism are covered. This course is recommended for pre-nursing and other health majors. (GC) (CAN FCS 2)
- CFS-112 Nutrition in Health and Disease**  
54.00 hrs lecture  
Units: 3.00  
Prerequisite: CFS-109 or equivalent  
This course examines in depth the nutritional aspects of health and disease. It covers the principles of a dietary modification necessitated by various diseases, disorders, and special circumstances such as pregnancy, growth, development, diabetes, cancer, and aging. It is recommended for the health professions and the food service industry as well as for general interest. (GC)
- CFS-195A1 Work Experience Education – Vocational**  
75.00 hrs lab  
Units: 1.00  
Accepted For Credit: CSU  
Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)
- CFS-195A2 Work Experience Education – Vocational**  
150.00 hrs lab  
Units: 2.00  
Accepted For Credit: CSU  
Work experience education for students employed in jobs directly related to a major. Units are based on hours worked. (GC)
- CFS-195A3 Work Experience Education – Vocational**  
225.00 hrs lab  
Units: 3.00  
Accepted For Credit: CSU  
Work experience education for students employed in jobs directly related to a major. Units are based on hours worked. (GC)
- CFS-195A4 Work Experience Education – Vocational**  
300.00 hrs lab  
Units: 4.00  
Accepted For Credit: CSU  
Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)

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**DANCE**

Division: Fine Arts, Business, and Broadcasting  
(See Theatre and Dance)

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**DEAF PREPARATORY PROGRAM**

Division: Deaf Studies and Special Services

- DEAF-110A Introduction to English as a Second Language in American Sign Language**  
72.00 hrs lecture  
Units: 4.00  
This course introduces basic English skills, emphasizing reading comprehension, writing, and communication using American Sign Language. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)
- DEAF-110B Developing English as a Second Language in American Sign Language**  
72.00 hrs lecture  
Units: 4.00  
Advisory: DEAF-110A; Fluency in ASL  
This course encourages the development of basic English skills emphasizing reading comprehension, writing, and communication using American Sign Language. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)
- DEAF-120A Basic Grammar I**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Fluency in ASL  
This is the first of two courses designed for students who wish to develop their English grammar skills through exposure and practice. Students will have opportunities to learn basic grammar rules through interactive exercises and studying sentence parts and writing sentences. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)
- DEAF-120B Basic Grammar II**  
54.00 hrs lecture  
Units: 3.00  
Advisory: DEAF-120A  
This is the second of two courses designed for students who wish to develop their English grammar skills through exposure and practice. Students will have opportunities to learn basic grammar rules through interactive exercises and studying sentence parts. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)
- DEAF-121A Intermediate Grammar I**  
54.00 hrs lecture  
Units: 3.00  
Advisory: DEAF-120A and DEAF-120B  
This course is the first of two courses designed for Deaf/HH students who wish to further develop their grammar skills through practice and application. Students will have opportunities to learn grammar rules through interactive exercises, studying sentence parts, and writing sentences. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-121B Intermediate Grammar II**

54.00 hrs lecture  
Units: 3.00

This course is designed for Deaf/Hard of Hearing students who wish to continue to develop their grammar skills through practice and application. They will have opportunities to apply grammar rules through interactive exercises, studying sentence parts, and writing sentences. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-130A Literacy I**

54.00 hrs lecture  
Units: 3.00  
Advisory: Fluency in ASL

The focus of this course is on development of practical reading and practical language skills in applied settings. This course is the first of a two-semester English Literacy program for students in preparation for employment. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GC)

**DEAF-130B Literacy II**

54.00 hrs lecture  
Units: 3.00  
Advisory: DEAF-130A; Fluency in ASL

The focus of this course is on development of practical reading and practical language skills in applied settings. This course is the second semester of a two-semester English Literacy program for Deaf and HOH students. This course is taught in ASL only. The emphasis is on increased practical reading skills and vocabulary. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GC)

**DEAF-131A Intermediate Literacy I**

54.00 hrs lecture  
Units: 3.00  
Advisory: DEAF-130A/B; DEAF-120A/B

This course is the first of two courses designed for Deaf/HOH students who wish to increase vocabulary and expand knowledge about various topics related to the world we live in. It will also promote practice in reading. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-131B Intermediate Literacy II**

54.00 hrs lecture  
Units: 3.00  
Advisory: DEAF-130A/B; DEAF-120A/B

This course is the second of two courses designed for Deaf/HOH students who wish to further increase vocabulary and knowledge about various topics related to the real world. It will also promote practice in reading. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-140A Lifeskills Mathematics I**

36.00 hrs lecture  
Units: 2.00  
Advisory: ASL Fluency

This course provides students with real world application of basic math skills in the areas of money management, banking, and consumerism. This is the first part of a two-semester course. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-140B Lifeskills Mathematics II**

36.00 hrs lecture  
Units: 2.00  
Advisory: DEAF-140A; Fluency in ASL

This course provides students with real world application of basic math skills in the areas of money management, banking, consumerism, and employment. This is the second part of a two-semester course. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-141A Workplace Communication I**

54.00 hrs lecture  
Units: 3.00  
Advisory: ASL Fluency

This course focuses on workplace communication skills for employment preparation. Emphasis will be on both written and signed communication with hearing co-workers and supervisors. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-141B Workplace Communication II**

54.00 hrs lecture  
Units: 3.00  
Advisory: DEAF-141A; ASL Fluency

This course is taught in continuation of workplace communication skills for employment preparation. Emphasis will be on both written and signed communication with hearing co-workers and supervisors. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-143 Deaf Vocational Awareness**

18.00 hrs lecture, 54.00 hrs lab  
Units: 2.00  
Advisory: DEAF-145A and/or DEAF-145B

This course provides deaf students opportunities to visit and tour a variety of Bay Area businesses. Students will learn to contact employers by using an interpreter on the phone to set up the field trips. While touring the work site students will apply practical informational interviewing skills using an interpreter for communication purposes to gather facts about work requirements, job duties, application procedures, and employment protocol. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-145A Deaf Vocational Planning**

54.00 hrs lecture  
Units: 3.00  
Advisory: DEAF-143; ASL Fluency

This course allows student job seekers to evaluate their own interests and the skills necessary for a successful job hunt to result in gainful employment. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-145B Job Seeking Strategies for Deaf Students**

54.00 hrs lecture  
Units: 3.00  
Advisory: ASL Fluency

This course allows student job seekers to evaluate their own interests, skills, and aptitudes and relate them to employment. Students will develop strategies and practice specific skills necessary for a successful job hunt to result in gainful employment. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-146 Work Experience Seminar**

36.00 hrs lecture

Units: 2.00

Advisory: DEAF-195; ASL Fluency

Designed for students to get training while having their work experience class at Ohlone College. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-147A Citizenship: Introduction**

54.00 hrs lecture

Units: 3.00

This course is the first of four courses designed for Deaf/Hard of Hearing students who need to develop pre-employment readiness. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-147B Citizenship: One's Role**

54.00 hrs lecture

Units: 3.00

Prerequisite: DEAF-147A

This course is the second of four courses in the Direct Employment Program designed for Deaf/Hard of Hearing students who need to develop next level of skills in job readiness. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-148 Community Service**

18.00 hrs lecture, 54.00 hrs lab

Units: 2.00

This course will focus on the concept and experience of community service and provide hands-on-community-based learning experience. The course will introduce the definition and importance of community service and volunteerism, and their importance in career development, and will address safe practices in new environments and using tools. Performance expectations will be applied to community service participation. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-160A Personal and Social Awareness I**

36.00 hrs lecture

Units: 2.00

Advisory: ASL Fluency

This is a practical course designed to explore issues relevant to Deaf college students. Group activities will focus on personal challenge and growth. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (CR)

**DEAF-160B Personal and Social Awareness II**

36.00 hrs lecture

Units: 2.00

Prerequisite: Deaf students only; DEAF-160A

This is a continuation of DEAF-160A and is designed to explore issues relevant to Deaf college students. Group activities will focus on personal challenge and growth. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (CR)

**DEAF-161 Introduction to the Deaf Community**

54.00 hrs lecture

Units: 3.00

Advisory: ASL Fluency

This is a basic course on the culture of American Deaf people. Cultural norms of Deaf people are examined and current issues within the Deaf community are discussed. Community resources are presented. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-165 Study Techniques:****Ms Word, Ms Excel and Ms Access**

36.00 hrs lecture, 54.00 hrs lab

Units: 3.00

Prerequisite: Fluency in ASL

Introductory use of Microsoft Word, Microsoft Excel, and Microsoft Access to prepare students for college-level work. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-166 Study Techniques: Introduction to Multimedia Photoshop, MS Powerpoint, and MS Publisher**

36.00 hrs lecture, 54.00 hrs lab

Units: 3.00

Advisory: Fluency in ASL, DEAF-165

Introductory course in the use of PhotoShop, Microsoft PowerPoint, MS Publisher, and use of digital camera to prepare students for college-level work. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-175 Advanced English Grammar for Mainstreamed Students**

54.00 hrs lecture

Units: 3.00

Advisory: ASL fluency; ENGL-151A or higher

This course is designed for students who already have an intermediate to advanced knowledge of English sentence structure but who need further refinement of grammar and other language skills. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-176A Academic Vocabulary I**

36.00 hrs lecture

Units: 2.00

Advisory: ASL fluency

This course is the first of two courses designed for students who wish to improve their vocabulary through exposure to words found in academic coursework. Students will strengthen their understanding of words through thematic reading and interactive exercises, by studying word parts, synonyms, and analogies, and by analyzing their meanings in various written contexts. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 3 times (GR)

**DEAF-176B Academic Vocabulary II**

36.00 hrs lecture

Units: 2.00

Advisory: ASL fluency

This course is the second of two courses designed for students who wish to improve their vocabulary through exposure to words found in academic coursework. Students will strengthen their understanding of words through thematic reading and interactive exercises, by studying word parts, synonyms and antonyms, and analogies, and by analyzing their meanings in various written contexts. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 3 times (GR)

**DEAF-188A Intensive University Preparation – Academic Writing I**

72.00 hrs lecture

Units: 4.00

Advisory: ASL fluency

This course is the first course in a three-semester program in writing with an emphasis on composition, critical reading skills, and the development of natural English expression. This course reviews the fundamentals of sentence types and mechanics and focuses on reading critically and writing well-developed and well-organized paragraphs and essays. The course is designed to prepare students who are fluent in ASL for college-level English composition and academic course work. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 3 times (GR)

**DEAF-188B Intensive University Preparation – Academic Writing II**

72.00 hrs lecture

Units: 4.00

Advisory: ASL fluency

This course is the second course in a three-semester program in writing with an emphasis on composition, critical reading skills, and the development of natural English expression. This course reviews the fundamentals of paragraph development and focuses on reading critically and writing well-developed and well-organized paragraphs and essays. The course is designed to prepare students who are fluent in ASL for college-level English composition and academic course work. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 3 times (GR)

**DEAF-188C Intensive University Preparation – Academic Writing III**

72.00 hrs lecture

Units: 4.00

Prerequisite: ASL fluency

This course is the third course in a three-semester program in writing with an emphasis on composition, critical reading skills, and the development of natural English expression. This course reviews the fundamentals of essay development and focuses on reading critically and writing summaries and well-developed, well-organized essays. The course is designed to prepare students who are fluent in ASL for college-level English composition and academic course work. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 3 times (GC)

**DEAF-189A Intensive University Preparation – Academic Reading I**

54.00 hrs lecture

Units: 4.00

Advisory: ASL fluency

This course is the first course of a three-semester academic reading program. This course provides an introduction to reading and study techniques. Students learn to analyze, annotate, and summarize a variety of readings including essays, news articles, and textbook chapters. The course is designed to prepare students for college-level course work. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-189B Intensive University Preparation – Academic Reading II**

54.00 hrs lecture

Units: 3.00

Advisory: ASL Fluency

DEAF 189B is the second course of a three-semester reading program. This course on improvement of reading and study skills. Students analyze, annotate, and summarize readings of greater length and complexity. The course is designed to prepare students for college-level course work. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 3 times (GR)

**DEAF-191 Human Potential Seminar**

36.00 hrs lecture

Units: 2.00

Prerequisite: Limitation on enrollment – Limited to Deaf students only

This practical course is specifically designed to meet the personal growth needs of Deaf students finding their place as Deaf adults in a hearing society. Emphasis will be on issues encountered in everyday life. Group and individual activities will encourage self-exploration and awareness, values clarification, conscious choice, decision making, and interpersonal communication. The course is taught in ASL only and is not applicable to the associate degree. Repeatable = 5 times (GR)

**DEAF-195A2 Work Experience Education – Vocational**

150.00 hrs lab

Units: 2.00

Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. Repeatable = 5 times (GC)

**DEAF-195A3 Work Experience Education – Vocational**

225.00 hrs lab

Units: 3.00

Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC) Repeatable = 5 times (GC)

**DEAF-195A4 Work Experience Education – Vocational**

300.00 hrs lab

Units: 4.00

Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC) Repeatable = 5 times (GC)

**DEAF-311 Introduction to American Deaf Culture**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-151B, 163; fluency in ASL

Accepted For Credit: CSU Gallaudet

Introduction to the social, cultural, and sociolinguistic characteristics of Deaf people. Taught in ASL. Repeatable = 5 times (GC)

**DEAF-312 Linguistics of ASL**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-151B, ENGL-163; ASL fluency

Accepted For Credit: CSU

This is an introduction to the language of American Deaf people. Grammar, morphology, phonology, and semantics of American Sign Language are covered. The course is taught in ASL. Repeatable = 5 times (GR)

**DEAF-330 Educating the Deaf**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-151B, ENGL-163; ASL fluency

Accepted For Credit: CSU

This is an orientation to the field of Deaf education with a focus on historical and current objectives, techniques, and results. The course is taught in ASL. Repeatable = 5 times (GR)

**DEAF-331 Counseling the Deaf**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-151B, ENGL-163; ASL fluency

This course is designed to provide students with skills that are needed to work with deaf students in a school setting. The course is taught in ASL. Repeatable = 5 times (GR)

**DEAF-332 Development of the Deaf Child**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-151B, ENGL-163; ASL fluency

Accepted For Credit: CSU

This course provides students with an overview of child development theories as they relate to the Deaf experience. Taught in ASL. Repeatable = 5 times (GR)

**DEAF-343 Field Work in Deaf Education**  
 162.00 hrs lab  
 Units: 3.00  
 Prerequisite: Enrollment in the Deaf Education Certification Program  
 Advisory: Eligible for ENGL-151B, ENGL-163  
 This course is designed to provide Deaf Education students with hands-on experience in a deaf school setting. A weekly seminar is included for group discussion of practicum experience. The course is taught in ASL. Repeatable = 5 times (GR)

**DEAF-365 Supervised Tutoring**  
 180.00 hrs lab  
 Units: 0.00  
 Prerequisite: Instructor or counselor referral  
 This course provides students with individualized tutoring. It assists students to develop a learning methodology in a subject. It includes diagnosis and consultation with tutorial coordinator and supervised tutoring by part-time instructional aides and/or student tutors. Repeatable = 5 times (NG)

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## EARLY CHILDHOOD STUDIES

Division: Humanities, Social Sciences, and Mathematics

**ECS-195A1 Work Experience Education – Vocational**  
 75.00 hrs lab  
 Units: 1.00  
 Accepted For Credit: CSU  
 Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)

**ECS-195A2 Work Experience Education – Vocational**  
 150.00 hrs lab  
 Units: 2.00  
 Accepted For Credit: CSU  
 Work experience education for students employed in jobs directly related to a major. Units are based on hours worked. (GC)

**ECS-195A3 Work Experience Education – Vocational**  
 225.00 hrs lab  
 Units: 3.00  
 Accepted For Credit: CSU  
 Work to a major. Units receive are based on hours worked. (GC)

**ECS-195A4 Work Experience Education – Vocational**  
 300.00 hrs lab  
 Units: 4.00  
 Accepted For Credit: CSU  
 Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)

**ECS-300 Introduction to Early Childhood Studies**  
 54.00 hrs lecture, 54.00 hrs lab  
 Units: 4.00  
 Advisory: Eligible for ENGL-101A  
 Accepted For Credit: CSU  
 This is the introductory course in the field of Early Childhood Studies. This course covers the history and development of educational programs for young children. The role of adults, developmental theory and domains, play and the development of relationships between adult and child, and child and child, are included, as are the various early childhood curriculums. (GC)

**ECS-301 Early Childhood Growth and Development**  
 54.00 hrs lecture  
 Units: 3.00  
 Advisory: Eligible for ENGL-101A; ECS-300 and ECS-304  
 Accepted For Credit: CSU & UC  
 This course is the study of the developing human being from conception through school age. It clearly focuses on developmental characteristics, influences on development, individual differences, physical, social, emotional, and cognitive development, and application in the field of early childhood education. Research methods and observation and assessment are covered. (GR)

**ECS-302 Introduction to Early Childhood Curriculum**  
 72.00 hrs lecture  
 Units: 4.00  
 Advisory: Eligible for ENGL-101A; ECS-300, ECS-301, and ECS-304  
 Accepted For Credit: CSU  
 This course is an overview of the application of principles of human growth and development to individual issues in early childhood educational programs including appropriate play, aesthetic and learning experiences including program content, use of materials and equipment, planning and guidance of assessment and documentation. (GC)

**ECS-303 Child, Family, and Community**  
 54.00 hrs lecture  
 Units: 3.00  
 Advisory: Eligible for ENGL-101A; ECS-300 or ECS-301  
 Accepted For Credit: CSU  
 This course examines family living patterns and lifestyles in today's society. The diversity of family composition and interactions of family members and the factors affecting family life, child-rearing practices, family-school-community relationships and partnerships. Resources available within the school and community, as well as social services, health service, and recreational facilities within the community are explored. (GR)

**ECS-304 Observation and Assessment of Young Children**  
 54.00 hrs lecture, 54.00 hrs lab  
 Units: 4.00  
 Advisory: Eligible for ENGL-101A; ECS-300, ECS-301  
 Accepted For Credit: CSU  
 This course deals with observation methods focusing on major areas of child development such as emotional, social, physical, and cognitive. Extensive observation in this course aids students in the ability to learn and utilize assessment strategies and develop curricula to support children's growth. (GR)

- ECS-305 Health and Safety Practices in Programs For Young Children**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-101A; ECS-300  
Accepted For Credit: CSU  
This course familiarizes and focuses students on universal health precautions and health and safety practices for the early childhood classroom, nutrition, disease and injury prevention, care of sick children, and the recognition of child abuse. Topics and skills include infant and child CPR and first aid techniques. (GC)
- ECS-306 Guidance and Discipline of Young Children**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-101A  
Accepted For Credit: CSU  
The principles of positive guidance and discipline based on contemporary research and child development will be discussed in this course. Application of the principles of effective communication, understanding child development and behavior, appropriate limits and rules, structuring problem solving, and consequences will be discussed. This course is appropriate for teachers and parents. (GC)
- ECS-307A3 Beginning Practicum Working with Young Children in the Child Lab**  
36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Advisory: Eligible for ENGL-101A; completion of, or concurrent enrollment in, ECS-300  
This lab offers direct experience working with and observing young children. Students will be trained in the planning, implementing, and evaluating program components and activities for young children. Students must complete this course in the Ohlone Child Care Lab. Students will perform the competencies of an assistant teacher. (GR)
- ECS-307A4 Beginning Practicum Working with Young Children in the Child Lab**  
36.00 hrs lecture, 108.00 hrs lab  
Units: 4.00  
Advisory: Eligible for ENGL-101A; ECS-300  
This lab offers direct experience working with and observing young children. Students will be trained in the planning, implementing, and evaluating program components and activities for young children. Students must complete this course in the Ohlone Child Care Lab. Students will perform the competencies of an assistant teacher. (GR)
- ECS-307A5 Beginning Practicum Working with Young Children in the Child Lab**  
36.00 hrs lecture, 162.00 hrs lab  
Units: 5.00  
Advisory: Eligible for ENGL-101A; completion of, or concurrent enrollment in, ECS-300  
This lab offers direct experience working with and observing young children. Students will be trained in the planning, implementing, and evaluating program components and activities for young children. Students must complete this course in the Ohlone Child Care Lab. Students will perform the competencies of an assistant teacher. (GC)
- ECS-307B3 Intermediate Practicum Working with Young Children in the Child Lab**  
36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Prerequisite: ECS-307A3, ECS-307A4, or ECS-307A5  
Advisory: Eligible for ENGL-101A; ECS-300  
This course continues direct experience working with and observing young children. Students will plan, implement, and evaluate program components and activities for young children. Students must complete this course in the Ohlone Child Care Lab. Students will perform the competencies of a teacher. (GR)
- ECS-307B4 Intermediate Practicum Working with Young Children in the Child Lab**  
36.00 hrs lecture, 108.00 hrs lab  
Units: 4.00  
Prerequisite: ECS-307A3, ECS307A4, or ECS-307A5  
Advisory: Eligible for ENGL-101A; ECS-300  
This course continues direct experience working with and observing young children. Students will plan, implement, and evaluate program components and activities for young children. Students must complete this course in the Ohlone Child Lab. Students will perform the competencies of a teacher. (Formerly ECS-307B) (GR)
- ECS-307B5 Intermediate Practicum Working with Young Child in the Child Lab**  
36.00 hrs lecture, 162.00 hrs lab  
Units: 5.00  
Prerequisite: ECS-307A3, ECS-307A4, or ECS-307A5  
Advisory: Eligible for ENGL-101A; ECS-300  
This course continues direct experience working with and observing young children. Students will plan, implement, and evaluate program components and activities for young children. Students must complete this course in the Ohlone Child Care Lab. Students will perform the competencies of a teacher. (GR)
- ECS-307C3 Advanced Practicum Working with Young Children in the Child Lab**  
36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Prerequisite: ECS-307B3, ECS-307B4, or ECS-307B5  
Advisory: ENGL-101A; ECS-300  
This course continues direct experience with increased responsibility working with and observing young children. Students will be trained in the planning, implementing, and evaluating program components and activities for young children. Students must complete this course in the Ohlone Child Care Lab. Students will perform the competencies of a lead teacher. (GR)
- ECS-307C4 Advanced Practicum Working with Young Children in the Child Lab**  
36.00 hrs lecture, 108.00 hrs lab  
Units: 4.00  
Prerequisite: ECS-307B3, ECS-307B4, or ECS-307B5  
Advisory: ENGL-101A; ECS-300  
This course continues direct experience with increased responsibility working with and observing young children. Students will be trained in the planning, implementing, and evaluating program components and activities for young children. Students must complete this course in the Ohlone Child Care Lab. Students will perform the competencies of a lead teacher. (GR)

- ECS-307C5 Advanced Practicum Working with Young Children in the Child Lab**  
36.00 hrs lecture, 162.00 hrs lab  
Units: 5.00  
Prerequisite: ECS-307B3, ECS-307B4, or ECS-307B5  
Advisory: ENGL-101A; ECS-300  
This course continues direct experience with increased responsibility working with and observing young children. Students will be trained in the planning, implementing, and evaluating program components and activities for young children. Students must complete this course in the Ohlone Child Care Lab. Students will perform the competencies of a lead teacher. (GR)
- ECS-308 Administration of Programs for Young Children**  
54.00 hrs lecture  
Units: 3.00  
Prerequisite: ECS-300, ECS-301, and ECS-303  
Advisory: Eligible for ENGL-151B and ENGL-163; MATH-190 or equivalent  
Accepted For Credit: CSU  
This course covers principles in organization and management of preschools and childcare centers. Subject matter includes program planning, organization, budgeting, personnel, records, relationships with community resources, regulatory agencies, and working with parents. The legal requirements for operating programs for young children in California provide a framework for course work. Repeatable = 1 time (GR)
- ECS-309 Cultural Diversity in Programs for Young Children**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-101A  
Accepted For Credit: CSU  
Students will study the diversity and development of ethnic, linguistic, cultural, and religious backgrounds of families in relationship to the education of young children. Students will examine and plan curriculum to reflect the diversity of racial, cultural, and linguistic influences children and families bring to school settings. Repeatable = 1 time (GR)
- ECS-310 Music and Movement Curriculum for Young Children**  
54.00 hrs lecture  
Units: 3.00  
Prerequisite: ECS-300 or ECS-301; ECS-302  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU  
This course provides a survey of music, materials, and movement activities for young children (2-10 years). Students learn effective techniques for using songs, rhythm, instruments, creative dance, and games. The use of a variety of musical media and props will be demonstrated. Repeatable = 1 time (GR)
- ECS-311 Art for the Young Child**  
54.00 hrs lecture  
Units: 3.00  
Prerequisite: ECS-300 or ECS-301; ECS-302  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU  
This course includes practice in using age-appropriate methods with commonly available creative art media for children of various developmental stages, infancy through eight years old. Students learn to make, collect, and use various materials to develop an understanding of how art expression and skills change as children mature. Evaluation and appreciation of art activities as opportunities for self-expression and sensory stimulation will be explored. Repeatable = 1 time (GR)
- ECS-312 The Development of Literacy in Early Childhood Education**  
54.00 hrs lecture  
Units: 3.00  
Prerequisite: ECS-300, ECS-301, ECS-302  
Advisory: Eligible for ENGL-101A  
Accepted For Credit: CSU  
This course examines how children gain oral language and listening skills leading to the development of writing and reading. It will include curriculum development for an emergent literacy environment. (GR)
- ECS-313 Science and Math Curriculum for Young Children**  
54.00 hrs lecture  
Units: 3.00  
Prerequisite: ECS-300 or ECS-301; ECS-302  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU  
This course provides guidelines for preparing curriculum centering on science and environmental studies. Math and science interrelationships will be explored as well as gender differences, current research, and the use of hands-on approach. Repeatable = 1 time (GR)
- ECS-314 Literature for the Young Child**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-101A  
Accepted For Credit: CSU  
This course provides an in-depth experience with literature for ages 0-8. The course introduces students to the development of reading in young children, their interests, diversity, and reading skill levels. Content to be covered includes the historical development of children's literature, effective techniques used to introduce literature, books, poetry, other reading media, and story telling and reading to children. Students will learn how to extend literature into other curriculum areas. (GR)
- ECS-316 Children with Special Needs in Programs for Young Children**  
54.00 hrs lecture  
Units: 3.00  
Prerequisite: ECS-300, ECS-301, and ECS-304  
Advisory: Eligible for ENGL-101A  
Accepted For Credit: CSU  
The course focuses on recognizing and distinguishing the variety of special needs exhibited by children 0 through 10 years. Factors affecting and contributing to the causes and needs of these children will be explored, including genetic, environmental, physical, cognitive, and social. (GR)
- ECS-317 Infant and Toddler Development and Care**  
36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Prerequisite: ECS-301  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU  
Students will study infant and toddlers' physical growth, social adjustment, and the psychological and social roots from which children develop. Students practice planning environments and equipment selection, health, safety, caregiving routines, and communication skills in group settings, working with infants and toddlers. (GR)
- ECS-319 Work Experience Seminar**  
36.00 hrs lecture  
Units: 2.00  
Prerequisite: ECS-300 and ECS-301  
This course will be a discussion and analysis of problems encountered on the job. Legal issues, case studies, and principles of participation in on-the-job training in early childhood programs will be discussed. Repeatable = 3 times (GC)

**ECS-320 Introduction to Family Child Care Homes**

18.00 hrs lecture  
Units: 1.00

This course will cover the operation of child care in a home setting. Topics will include home setup, business practices and policies, program planning, parent relations, and communications. California licensing regulations will be covered. (CR)

**ECS-321 Supervision in Early Childhood Programs**

54.00 hrs lecture  
Units: 3.00

Prerequisite: ECS-300, ECS-301, and ECS-303

Advisory: Eligible for ENGL-101A

Accepted For Credit: CSU

This course covers group dynamics, supervision of staff and parents, development of motivation and morale, leadership skills, and functions of personnel. It includes interviews, interpersonal and group conflict resolution, staff evaluations, and working with parents and boards. It is designed to provide knowledge and methods for those working in supervisory capacities in early childhood programs. (GR)

**ECS-322 Mentoring and Supervision in Early Childhood Programs**

36.00 hrs lecture  
Units: 2.00

Prerequisite: ECS-300, ECS-301, ECS-308

Accepted For Credit: CSU

This course is a study of the methods and principles of supervising student teachers, assistant teachers, parents, and volunteers in early childhood education programs. Emphasis is on the role of master teachers who function as both supervisors and mentors while addressing the needs of children, parents, and other staff. Repeatable = 1 time (GR)

**ECS-323 Advanced Training in Infant-Toddler Care**

54.00 hrs lecture  
Units: 3.00

Prerequisite: ECS-300, ECS-301, ECS-317

Accepted For Credit: CSU

Advanced ECS students will study infant/toddler growth and development in all domains. Specific consideration will be given to planning environments, recognizing and diagnosing delays, relationships with parents, effect of nurturing, and the group setting on very young children. Repeatable = 1 time (GR)

**ECS-324 Parenting**

54.00 hrs lecture  
Units: 3.00

Advisory: Eligible for ENGL-151B

Accepted For Credit: CSU

This introductory course is an exploration of the role and relationships involved in parenting. It explores the historical context and changes in perceptions and responsibilities assigned to parents in American society. Topics include history of parenting, parenting styles, beliefs and values, skills and methods, relationships, and basic child development. Repeatable = 1 time (GR)

**ECS-325A Workshop Series for Parents and Teachers**

9.00 hrs lecture  
Units: 0.50

This course is a workshop for parents and teachers covering specific topics in the field of Early Childhood Studies. The theme and content varies and is determined by the Early Childhood Studies instructors. Repeatable = 3 times or 4 units (CR)

**ECS-325A1 Workshop Series for Parents and Teachers**

18.00 hrs lecture  
Units: 1.00

This course is a workshop for parents and teachers covering specific topics in the field of Early Childhood Studies. The theme and content varies and is determined by the Early Childhood Studies instructors. Repeatable = 3 times or 4 units (CR)

**ECS-326A Parent Participation**

9.00 hrs lecture, 27.00 hrs lab

Units: 1.00

Corequisite: Enrollment of child in Ohlone College Children's Programs

Presented in this course are a variety of topics which deal with the physical, emotional, social, and intellectual development of the young child and ways in which parents can be involved in the learning process. Participation in the Child Development programs is required. This course is required of parents of children in the Ohlone Child Development Programs. Repeatable = 3 times (CR)

**ECS-326B Parent Participation**

9.00 hrs lecture, 27.00 hrs lab

Units: 1.00

Prerequisite: Completion of 4 units of ECS-326A

Corequisite: Enrollment of child in Ohlone College Children's Programs

In this course parents will continue their participation in the children's programs. Exploration and enhancement of specific parenting skills will be facilitated. Participation in the Ohlone Child Development Programs is required. This course is for returning parents of children who have been enrolled in ECS-326A for at least four previous semesters. Repeatable = 3 times (CR)

**ECS-326C Advanced Parent Participation**

9.00 hrs lecture, 27.00 hrs lab

Units: 1.00

Prerequisite: Completion of 4 units of ECS-326B

Corequisite: Enrollment of child in Ohlone College Children's Programs

In this course parents play a greater role in the planning and implementation of their children's preschool experience. Under the direction of the instructor and children's teachers, parents share skills and information with ECS-326A and ECS-326B students. Participation in the Ohlone College Child Development Programs is required. This course is for returning parents of children who have been enrolled in ECS-326B for at least four previous semesters. Repeatable = 3 times (CR)

**ECS-327 School Age Child Development**

54.00 hrs lecture

Units: 3.00

Prerequisite: ECS-300, ECS-301

Advisory: Eligible for ENGL-151B

Accepted For Credit: CSU

This course is the study of the developing child during the school-age years. It focuses on the developmental characteristics; influences on development; individual differences; physical, social-emotional, cognitive, and creative development. It examines the role of the teacher in programs designed for the school-age child. Repeatable = 1 time (GC)

**ECS-328 Curriculum for the School Age Child**  
 54.00 hrs lecture  
 Units: 3.00  
 Prerequisite: ECS-300, ECS-301  
 Advisory: Eligibility for ENGL-151B  
 Accepted For Credit: CSU  
 This course studies the fundamentals of planning, implementing, and evaluating curriculum for programs serving school-age children and their families. The emphasis is on developing and providing age appropriate activities, environment, and relationships in the context of an integrated and active curriculum. Repeatable = 1 time (GC)

**ECS-329 Early Childhood Director's Seminar**  
 36.00 hrs lecture  
 Units: 2.00  
 Prerequisite: ECS Certificate of Achievement  
 Advisory: Current employment as Director/Administrator  
 Accepted For Credit: CSU

This course provides on-going professional support, information, and resources for students who are currently administering Early Childhood Programs. A combination of dialogue, professional guest speakers, exposure to community resources, network building activities, current information on research, trends, and issues of the field will contribute to the student's competence, performance, and effectiveness in his/her supervisor role. Repeatable = 3 times (GC)

**ECS-330 Second Helping for Family Childcare Providers**  
 36.00 hrs lecture  
 Units: 2.00  
 Prerequisite: ECS-320, 18 months experience in a licensed program

This is the second course for Family Child Care Providers. It covers the role of the provider, the task of managing, relationships between caregivers and parents, and providing environments for children. Repeatable = 1 time (GC)

## EDUCATION

Division: Humanities, Social Sciences, and Mathematics

**EDUC-101 Exploring Education**  
 54.00 hrs lecture, 54.00 hrs lab  
 Units: 4.00  
 Advisory: Eligible for ENGL-151B  
 Accepted For Credit: CSU & UC  
 This course will introduce students to the field of teaching. The class will include reports and discussions related to direct observations of pre-school, elementary, secondary, higher education, and non-school educational settings. Changing issues in education and their implications for future teaching practices and theories will be examined. (GR)

**EDUC-191A Tutor Training Part I**  
 9.00 hrs lecture  
 Units: 0.50  
 Corequisite: Employment as a tutor at Ohlone College for at least 25 hours.  
 This course covers effective methods for tutoring. The do's and don'ts of tutoring, study skills, and questioning techniques are a few of the topics covered. Students enrolling in this course must be concurrently employed as a tutor at Ohlone College. CRLA has approved this course for certification, and students who receive CRLA certification are qualified to tutor at any of the over 500 colleges in the U.S. and Canada that have CRLA programs. Repeatable = 1 time (CR)

**EDUC-191B Tutor Training Part II**  
 9.00 hrs lecture  
 Units: 0.50  
 Corequisite: Employment as a tutor at Ohlone College for at least 25 hours  
 This course continues on from Part I with additional effective methods of tutoring. Learning styles, structuring the learning experience, handling challenging situations, and being inventive are among the topics covered. Students enrolling in this course must be concurrently employed as a tutor at Ohlone College. Leads to CRLA certification. Repeatable = 1 time (CR)

## ENGINEERING

Division: Science, Technology, and Engineering

**ENGI-101 Introduction to Engineering**  
 36.00 hrs lecture, 54.00 hrs lab  
 Units: 3.00  
 Advisory: Eligible for ENGL-151B and ENGL-163  
 Accepted For Credit: CSU & UC  
 This course examines the engineering career: requirements, ethics, salaries, organization, management, registration, and degree planning. (GC)

**ENGI-114 How Technology Works**  
 54.00 hrs lecture, 54.00 hrs lab  
 Units: 4.00  
 Cross-referenced Course: CNET-114  
 Accepted For Credit: CSU  
 This course is intended for students of all disciplines who are interested in how everyday things work. It is an introduction to some of the fundamental science concepts underpinning high technology, emphasizing everyday devices and practical experience, for the development of scientific and computer literacy. Students will experiment with technology to discover principles of science. Concepts such as force, work, energy, power, liquids and gasses, heat transfer, electricity, magnetism, electronics, light, materials science, and time are explored through experimentation and observation. Students will experience through class demonstrations and hands-on laboratories the concepts presented by the instructor. Phenomena such as how computers convert data, how iPods transmit sound, how electronic thermometers measure temperature, how solar heating panels capture heat, and how GPSs use microwaves will be explored. Field trips to local tech industry displays are required. (GC)

**ENGI-115 Engineering Communication**  
 54.00 hrs lecture, 54.00 hrs lab  
 Units: 4.00  
 Advisory: Eligible for ENGL-151B and ENGL-163  
 Accepted For Credit: CSU & UC  
 This course covers the principles of graphic expression by means of technical sketching, instrument drawing, and computer aided drafting. (GR)

**ENGI-120 Engineering Mechanics – Statics**  
 54.00 hrs lecture  
 Units: 3.00  
 Prerequisite: PHYS-140 and MATH-101B  
 Accepted For Credit: CSU & UC  
 This course is a study of force systems and equilibrium in two and three dimensional structures, distributed forces, friction, and virtual work. (GR) (CAN ENGR 8)

- ENGI-130 Electric Circuit Analysis**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Prerequisite: MATH-101B, PHYS-141  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU & UC  
This course is a study of DC and AC linear circuits and transient and steady state analysis. Experimental techniques, instrumentation, and circuit simulation will be covered in the lab. (GR) (CAN ENGR 6)
- ENGI-131D Review of Engineering Concepts**  
18.00 hrs lecture  
Units: 1.00  
This course is designed to review course content in selected engineering course(s). This course introduces study techniques, problem solving techniques, and more in-depth discussions of engineering principles and applications in selected courses. Repeatable = 3 times (CR)
- ENGI-135 Introduction to Robotics and Automated Systems**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Cross-referenced Course: CNET-115  
Accepted For Credit: CSU  
Students who take this class will understand how scientific innovation can affect their lives either directly or indirectly. The class will teach students the principles of scientific methodology as it is applied to solving problems. The application of this scientific method will be used to navigate an abundance of technical information – to obtain the information, to understand the information, and to determine how to apply it. This course describes the functional hardware and software components of Automated Systems. The student will experience how scientific principles are applied by building and programming robots. The emphasis is for students to learn science by actually doing science. Repeatable = 3 times (GC)
- ENGI-140 Materials Engineering**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Prerequisite: CHEM-101A with grade of C or better, PHYS-140 with grade of C or better  
Accepted For Credit: CSU & UC  
This course covers atomic and crystal structures; imperfections; diffusion and relation between microstructure; the properties of engineering materials such as metals, polymers, ceramics and composites; phase equilibrium and transformations; mechanical, electrical, thermal, magnetic and optical properties; corrosion; and material degradation. (GC) (CAN ENGR 4)
- ENGI-195A1 Work Experience Education – Vocational**  
75.00 hrs lab  
Units: 1.00  
Accepted For Credit: CSU  
Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)
- ENGI-195A2 Work Experience Education – Vocational**  
150.00 hrs lab  
Units: 2.00  
Accepted For Credit: CSU  
Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)

- ENGI-195A3 Work Experience Education – Vocational**  
225.00 hrs lab  
Units: 3.00  
Accepted For Credit: CSU  
Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)
- ENGI-195A4 Work Experience Education – Vocational**  
300.00 hrs lab  
Units: 4.00  
Accepted For Credit: CSU  
Work experience education for students employed in jobs directly related to a major. Units received are based on hours worked. (GC)
- ENGI-365 Supervised Tutoring**  
90.00 hrs lab  
Units: 0.00  
Prerequisite: Instructor or counselor referral  
This course provides students with individualized tutoring. It assists students to develop a learning methodology in a subject. It includes diagnosis and consultation with tutorial coordinator and supervised tutoring by part-time instructional aides and/or student tutors. Repeatable = 3 times (NG)

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**ENGLISH**

Division: Humanities, Social Sciences, and Mathematics

- ENGL-101A Reading and Written Composition**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Prerequisite: ENGL-151B and ENGL-163 with a grade of C or better, or equivalent, or appropriate skill level demonstrated through the placement test process  
Accepted For Credit: CSU & UC  
This course focuses on reading and writing of expository and argumentative works and introduction to research skills and documentation to develop students' ability to think critically and advocate ideas forcefully and accurately. Students will increase practical fluency by developing sentence, paragraph, thesis, and essay writing skills. (GR) (CAN ENGL 2 or ENGL-101A + ENGL-101B = CAN ENGL SEQ A)
- ENGL-101B Reading and Composition (Introduction to Literature)**  
72.00 hrs lecture  
Units: 4.00  
Prerequisite: Completion of ENGL-101A with a grade of C or better  
Accepted For Credit: CSU & UC  
Students will read and evaluate literature in a critical, logical way. The emphasis will be upon critical analysis of literary works (novels, short story, poetry, and drama) and upon the students' development of an appreciation of literature. (GR) (CAN ENGL 4 or ENGL-101A + ENGL-101B = CAN ENGL SEQ A)

**ENGL-101C Critical Thinking and Composition**

54.00 hrs lecture

Units: 3.00

Prerequisite: Completion of ENGL-101A with a grade of C or better

Accepted For Credit: CSU &amp; UC

Students will learn critical thinking skills and use them to read and evaluate essays in a precise, logical way. The emphasis will be upon critical analysis and upon the students' development of effective, written arguments. (GR)

**ENGL-104 The Short Story**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-101A

Accepted For Credit: CSU &amp; UC

Students read and discuss a wide variety of short stories. The short story is seen as a reflection of historical and contemporary concerns, as a happy entertainment alternative to television, and as a traditional and experimental literary form. (GC)

**ENGL-105B English Literature: From Romanticism to Modernism**

54.00 hrs lecture

Units: 3.00

Prerequisite: ENGL-101A

Accepted For Credit: CSU &amp; UC

The course encompasses several revolutions in style and sensibility that have shaped English literature from Romantic nature poets like Wordsworth, Keats, and Shelley to Modernist writers like James Joyce, Virginia Woolf, and T.S. Eliot. (GR)

**ENGL-106 Censorship and Literature**

54.00 hrs lecture

Units: 3.00

Cross-referenced Course: JOUR-106

Advisory: Eligible for ENGL-101A

Accepted For Credit: CSU &amp; UC

This literature course focuses on the issues of censorship and obscenity. Selected works will be closely examined in an attempt to encourage students to formulate their own standards in this controversial area. (GC)

**ENGL-107 Literature and Film**

54.00 hrs lecture

Units: 3.00

Advisory: ENGL-101A

Accepted For Credit: CSU &amp; UC

"Lights, camera, action!" Hundreds of works of literature have been made into films, with varying degrees of success. If you've ever been disappointed (or thrilled) by the film version of a book you've read, you know that film adaptations range from "two thumbs way up" to "had me gagging on my popcorn." This course will examine the relationships between literature and film, comparing and contrasting the two media. (GC)

**ENGL-108 Writing Short Fiction**

54.00 hrs lecture

Units: 3.00

Prerequisite: ENGL-111A

Advisory: Eligible for ENGL-101A

Accepted For Credit: CSU &amp; UC

This course will review the fundamentals of fiction writing, provide an in-depth study of intermediate short fiction writing techniques, and offer exercises designed to stimulate creativity. (GC)

**ENGL-111A Beginning Creative Writing**

54.00 hrs lecture

Units: 3.00

Prerequisite: ENGL-101A

Accepted For Credit: CSU &amp; UC

This course includes experimentation with creative principles such as fiction, non-fiction, drama, and poetry, and a critical analysis of the student's work. (GC) (CAN ENGL 6)

**ENGL-111B Intermediate Creative Writing**

54.00 hrs lecture

Units: 3.00

Prerequisite: ENGL-111A or equivalent or a beginning writing course from another college is acceptable

Accepted For Credit: CSU &amp; UC

This course provides students the opportunity to experiment with creative principles such as fiction, non-fiction, drama, and poetry, and a critical analysis of student's work. (GC)

**ENGL-112 Modern Fiction**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-101A

Accepted For Credit: CSU &amp; UC

The themes of love and sexuality, family conflict, coming of age, and the individual in society are explored in the fiction of modern writers such as Toni Morrison, Amy Tan, John Updike, Franz Kafka, and others. (GC)

**ENGL-113 Poetry**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-101B

Accepted For Credit: CSU &amp; UC

This course examines traditional and contemporary poetry and poets. It includes discussion of sound, symbol, and spirit in poems by major poets like Shakespeare, Sylvia Plath, Wordsworth, Frost, Emily Dickinson, and others. (GR) (CAN ENGL 20)

**ENGL-114 World Mythology**

54.00 hrs lecture

Units: 3.00

Advisory: Completion of ENGL-151B

Accepted For Credit: CSU &amp; UC

This course is a study of significant myths and legends with emphasis on Greek/Roman, Nordic (Norse), and Hebrew/Christian. Students also study other mythological systems of various cultures through independent research. Focus is on literature. (GC)

**ENGL-115 Women in Literature**

54.00 hrs lecture

Units: 3.00

Cross-referenced Course: WS-115

Advisory: Eligible for ENGL-101A

Accepted For Credit: CSU &amp; UC

Students will read, discuss, and write about short stories, novels, poetry, drama, and essays of British and American women writers past and present. (GC)

**ENGL-117 Science Fiction and Fantasy**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-101A

Accepted For Credit: CSU &amp; UC

A sampling of science fiction and fantasy from traditional space voyages, sword and sorcery to more sophisticated, modern forms are studied in this course. (GC)

**ENGL-118 Introduction to Shakespeare**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-101A

Accepted For Credit: CSU &amp; UC

This course introduces the students to the Elizabethan era, to drama as a literary form, and to the plays and poems of William Shakespeare. (GC)

**ENGL-119 The Gothic Novel**

54.00 hrs lecture  
Units: 3.00

Advisory: Eligible for ENGL-101A  
Accepted For Credit: CSU & UC

This course examines selected gothic novels in English and American Literature in order to analyze and discuss their importance in the development of fiction. Course focus is on the gothic impulse in nineteenth century literature. Classics like *Frankenstein*, *Dracula*, *Jane Eyre*, and *Dr. Jekyll and Mr. Hyde* will be studied in connection with the preoccupations of the Romantic and Victorian eras. Vintage films will be shown. (GC)

**ENGL-120A Survey of American Literature: Beginning to 1865**

54.00 hrs lecture  
Units: 3.00

Prerequisite: ENGL-101A  
Accepted For Credit: CSU & UC

This course focuses on the literary productions of America from its beginning to 1865. Students will read and discuss American oral traditions, short stories, poetry, drama, and novels and will become familiar with great American writers. (GC)

**ENGL-120B Survey of American Literature: 1865 to Present**

54.00 hrs lecture  
Units: 3.00

Prerequisite: ENGL-101A  
Accepted For Credit: CSU & UC

This course focuses on the literary productions of the United States from 1865 to the present. Students will read and discuss classic American short stories, poetry, drama, and novels and will become familiar with great American writers. (GC)

**ENGL-127 Autobiography: Writing Journals and Memoirs**

54.00 hrs lecture  
Units: 3.00

Advisory: Eligible for ENGL-101A  
Accepted For Credit: CSU

This is an autobiography course for those who wish to write about their personal and family experiences in journals and memoirs. The course encourages students to remember, consider, and write about their own and their family's past and present, to learn basic research techniques, to organize their material, and to write effectively. Students will also discuss extracts from published autobiographical works. (GC)

**ENGL-129 Psychology and Literature**

54.00 hrs lecture  
Units: 3.00

Advisory: Eligible for ENGL-101A  
Accepted For Credit: CSU & UC

This literature course focuses on character motivation, the variety of human behavior, and the encouragement of reading as a way of understanding life. Course content will be at least partly dictated by students' interests. Repeatable = 1 time (GC)

**ENGL-130 American Stories: Multicultural Autobiograph and Memoir**

54.00 hrs lecture  
Units: 3.00

Advisory: Eligible for ENGL-101A  
Accepted For Credit: CSU & UC

This course explores the lives of multicultural Americans, such as Native Americans, African Americans, Asian Americans, and Latinos, as told through autobiography or memoir. (GC)



Photo courtesy of Julie Polk.

**ENGL-135 Emerging Voices: Literature Reflecting The Diversity of the U.S.**

54.00 hrs lecture  
Units: 3.00

Advisory: Eligible for ENGL-101A  
Accepted For Credit: CSU & UC

This course explores how four historically underrepresented groups (African-American, Asian-American, Chicano/Latino, and Native-American) have chronicled and celebrated their cultures in poetry, drama, and fiction. (GC)

**ENGL-151A Fundamentals of Composition**

54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00

Prerequisite: ESL-184RW with a grade of C or better, equivalent course, or appropriate skill level demonstrated through the placement test process  
Advisory: Concurrent enrollment in ENGL-162 or ENGL-175

This course focuses on fundamentals of English grammar, punctuation, and acceptable usage as applied to writing clear sentences, paragraphs, and informal essays. Not applicable to the associate degree. (GR)

**ENGL-151B Fundamentals of Composition**

54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00

Prerequisite: ENGL-151A with a grade of C or better, or equivalent, or appropriate skill level demonstrated through the placement test process  
Advisory: Concurrent enrollment in ENGL-163 or ENGL-175

This course reviews fundamentals of English grammar, punctuation, and sentence structure and focuses on reading critically and writing well-developed and well-organized paragraphs and essays (descriptive, expository, and argumentative). (GR)

**ENGL-156 Introduction to Report and Technical Writing**

54.00 hrs lecture  
Units: 3.00

Advisory: ENGL-151B or BA-116 or equivalent writing experience  
Accepted For Credit: CSU

This course focuses on the basics of technical writing and covers how to write effective workplace documents such as memos, procedures, and reports, as well as formal proposals. (GC)

**ENGL-161 Basic Reading Skills for Second Language Learners**

54.00 hrs lecture, 18.00 hrs lab  
Units: 3.00

Cross-referenced Course: ESL-161  
Advisory: Concurrent enrollment in ESL-182; completion of ENGL/ESL-160 with a grade of C or better

This course is designed for learners of English as a second language who need to improve basic word attack, reading comprehension, and vocabulary skills. Repeatable = 1 time (GC)

**ENGL-162 Developmental Reading**

54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00

Advisory: Accuplacer assessment or completion of ESL-184RW with a grade of C or better; concurrent enrollment in ENGL-151A encouraged to enhance combined reading and writing skills

English 162 is an introduction to college reading and study techniques. Students learn to analyze, annotate, and summarize a variety of college readings, including essays, textbooks chapters, news articles, and stories. Emphasis is on analytical reading: recognizing main ideas, discerning underlying patterns of thought, making inferences and drawing conclusions. Repeatable = 1 time (GR)

**ENGL-163 Techniques of College Reading**

54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00

Prerequisite: Score between 71.5 and 87.5 on the reading portion of Accuplacer Assessment or completion of ENGL-162 with a grade of C or better

Advisory: Concurrent enrollment in ENGL-151B encouraged

ENGL-163 is the most advanced in the series of reading and study skills courses. In this course students will develop college level skills in vocabulary, comprehension, critical reading and thinking, study strategies, reading rate, and written response to reading. Repeatable = 1 time (GR)

**ENGL-167 Critical and Analytical Reading**

54.00 hrs lecture  
Units: 3.00

Accepted For Credit: CSU

A college-level reading course with emphasis on the development of critical analytical thinking. Focus is placed on the student's ability to understand inferential reading passages, including the ability to understand the author's point of view and to engage in textual analysis. In addition, the student should develop the ability to successfully critique college-level reading material by analyzing a variety of prose structures. (GC)

**ENGL-172 Vocabulary Improvement**

54.00 hrs lab  
Units: 1.00

This course is designed for students of all levels of achievement who wish to improve their vocabulary through an individualized program. Students will be asked to work 54 hours in the lab at their convenience. Materials are assigned after pretesting. Not applicable to the associate degree. Repeatable = 3 times (GC)

**ENGL-173 Improvement of Learning Techniques**

54.00 hrs lab  
Units: 1.00

ENGL-173 is for students who wish to improve learning skills through individualized practice of effective reading, studying, and listening. Students will be asked to work 54 hours or complete three assigned programs in the lab at their convenience. Materials are assigned after pretesting. Not applicable to the associate degree. Repeatable = 3 times (GC)

**ENGL-174 Spelling Improvement**

54.00 hrs lab  
Units: 1.00

ENGL-174 is for students who wish to improve spelling skills through individualized practice. Students will be asked to work 54 hours or complete three assigned programs in the lab at their convenience. Materials are assigned after pretesting. Not applicable to the associate degree. Repeatable = 3 times (GC)

**ENGL-175 Reading and Comprehension Improvement**

54.00 hrs lab  
Units: 1.00

ENGL-175 is for students who wish to improve reading comprehension through individualized work on specific weaknesses. Students will be asked to work 54 hours or complete three assigned programs in the lab at their convenience. Materials are assigned after pretesting. Not applicable to the associate degree. Repeatable = 3 times (GC)

**ENGL-176 Rapid Reading**

54.00 hrs lab  
Units: 1.00

Advisory: Ninth grade reading comprehension level

This course is for the student who has at least a ninth grade level of comprehension and who wishes to increase reading rate while maintaining or improving the level of comprehension. Students will be asked to complete three programs equivalent to 54 hours at their convenience. Materials are assigned after pretesting. Not applicable to the associate degree. Repeatable = 3 times (GC)

**ENGL-191 Grammar and Editing Skills**

54.00 hrs lecture  
Units: 3.00

Cross-referenced Course: ESL-191

Prerequisite: ESL-183RW with grade of C or better or placement into ESL-184RW, ENGL-151A, or higher level English course

This course is designed to help non-native speakers of English improve their grammar and editing skills, but is open to native speakers as well. It is open to students who are enrolled in or have completed any of the following courses: ESL-184W, ENGL-151A, ENGL-151B, or ENGL-101A. (CR)

**ENGL-365 Supervised Tutoring**

90.00 hrs lab  
Units: 0.00

Prerequisite: Instructor or counselor referral

This course provides students with individualized tutoring. It assists students to develop a learning methodology in a subject. It includes diagnosis and consultation with tutorial coordinator and supervised tutoring by part-time instructional aides and/or student tutors. Repeatable = 3 times (NG)

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**ENGLISH AS A SECOND LANGUAGE**

Division: Humanities, Social Sciences, and Mathematics

**ESL-120 Intensive English Grammar Review**

18.00 hrs lecture  
Units: 1.00

Prerequisite: Completion of ESL-181 with grade of C or better, or placement into ESL-182 or higher

This course is designed to improve grammatical accuracy and fluency in English speaking and writing. This course covers difficult grammatical structures with which students who have studied grammar often struggle. It is recommended for students whose native language is not English. Not applicable to the associate degree. (GR)

**ESL-121 English Idioms**

36.00 hrs lecture  
Units: 2.00

Prerequisite: Students must place into ESL-181 or higher on the ESL Placement Test.

This course helps students learn idiomatic expressions that are commonly used by native speakers in English conversation. Students will listen to and read dialogues containing English idioms and practice producing them in informal dialogues of their own. Not applicable to the associate degree. (GC)

**ESL-122 News and Current Events for ESL Students**

36.00 hrs lecture  
Units: 2.00

Prerequisite: ESL-181RW, or placement into ESL-182RW or higher on the ESL Placement Test

Read and discuss news stories and current events. Simplified and standard newspapers will be used. Some writing will be required. Not applicable to the associate degree. (GC)

- ESL-123 English Verb Tenses**  
54.00 hrs lecture  
Units: 3.00  
Prerequisite: Completion of ESL-181RW, or placement into a higher level of ESL or English by means of placement testing  
This course is designed for non-native speakers of English who want a review of the English verb tense system. It emphasizes accurate use of verb tenses in writing, but it will include oral practice as well. Not applicable to the associate degree. (GC)
- ESL-124 Article and Preposition Use for Non-Native Speakers of English**  
36.00 hrs lecture  
Units: 2.00  
This course is designed to provide non-native speakers of English with review and practice in the correct usage of English articles and prepositions. Emphasis will be equally divided between written and oral usage. Not applicable to the associate degree. Repeatable = 3 times (GC)
- ESL-125 Using the Internet for ESL Practice**  
36.00 hrs lecture  
Units: 2.00  
This course is designed for non-native speakers of English to learn how to make good use of the rich internet resources available for learning and practicing English. Students will learn about a variety of ESL Web sites, and will learn the computer skills necessary to most effectively interact with those resources. Not applicable to the associate degree. (GC)
- ESL-150 Basic English Pronunciation/Accent Reduction**  
36.00 hrs lecture, 54.00 hrs lab  
Units: 3.00  
Cross-referenced Course: SPCH-150  
Advisory: Concurrent enrollment in ESL-181LS  
Practice in pronunciation in idiomatic expressions, phraseology, and rhythmic inflections. Emphasis on individual needs in achieving effective oral communication. Not applicable to the associate degree. (GC)
- ESL-151 Introduction to Speech Communication Skills**  
54.00 hrs lecture  
Units: 3.00  
Cross-referenced Course: SPCH-151  
Prerequisite: SPCH/ESL-150  
This course provides an introduction to basic communication skills for non-native speakers of English for use in classroom presentations. Emphasis will be on communication skills relating to school, personal, and job situations. Not applicable to the associate degree. (GC)
- ESL-153 Integrated Communications Skills for Learners of English**  
36.00 hrs lecture  
Units: 2.00  
Prerequisite: Students must qualify for ESL-181  
This course is designed for ESL students to practice integrated English communication skills. It is open to all students whose native language is not English. There will be practice of reading, writing, speaking, and listening skills through hands-on language tasks. Not applicable to the associate degree. (GC)
- ESL-154 Integrated Communication Skills for Learners of English B**  
36.00 hrs lecture, 18.00 hrs lab  
Units: 2.00  
Prerequisite: Students must qualify for ESL-181  
This course is designed for ESL students to continue practice integrated English communication skills begun in ESL-153. It is open to all students whose native language is not English. There will be practice of reading, writing, speaking, and listening skills through hands-on language tasks. Not applicable to the associate degree. (GC)
- ESL-178 ESL Skills Lab**  
54.00 hrs lab  
Units: 1.00  
English language learners can improve their language skills through individualized practice in reading skills, grammar, and listening. Students work 54 hours in the lab at their convenience. Materials are assigned after pretesting. Not applicable to the associate degree. Repeatable = 3 times (CR)
- ESL-181LS Listening and Speaking, Level I**  
90.00 hrs lecture  
Units: 5.00  
Prerequisite: Based on ESL Placement Test score  
This course is designed to develop communication skills in American English. It is open to students whose native language is not English. There is practice in the skills of listening and speaking with an emphasis on fluency and vocabulary development. Not applicable to the associate degree. (GC)
- ESL-181RW Reading and Writing, Level I**  
90.00 hrs lecture  
Units: 5.00  
Prerequisite: Based on ESL Placement Test score  
This course is designed to develop reading, writing, and grammar skills in American English. It is open to students whose native language is not English. There is practice in the skills of reading, writing, and grammar with an emphasis on fluency, vocabulary development, verb tenses, and basic sentence structure. Not applicable to the associate degree. (GC)
- ESL-182LS Listening and Speaking, Level II**  
90.00 hrs lecture  
Units: 5.00  
Prerequisite: ESL-181LS and/or appropriate score on the ESL Placement Test  
This course is designed to develop skills in American English. It is open to students whose native language is not English. There is practice in the skills of listening and speaking with an emphasis on fluency, vocabulary development, verb tenses, and basic sentence structure. Not applicable to the associate degree. (GC)
- ESL-182RW Reading and Writing, Level II**  
90.00 hrs lecture  
Units: 5.00  
Prerequisite: ESL-181RW and/or appropriate score on ESL Placement Test  
This course is designed to develop skills in American English. It is open to students whose native language is not English. There is practice in the skills of reading, writing, and grammar with an emphasis on fluency, vocabulary development, verb tenses, and basic sentence structure. Not applicable to the associate degree. (GC)
- ESL-183LS Listening and Speaking, Level III**  
72.00 hrs lecture  
Units: 4.00  
Prerequisite: ESL-182LS and/or appropriate score on ESL Placement Test  
This course is designed to develop aural/oral skills in American English for students whose native language is not English. There is practice in the skills of listening and speaking with an emphasis on fluency, comprehension, vocabulary development, verb tenses, beginning notetaking, and intermediate sentence structure. This is one of two combined skills courses in the third level of the ESL sequence. Not applicable to the associate degree. (GC)

**ESL-183RW Reading and Writing, Level III**

72.00 hrs lecture  
Units: 4.00  
Prerequisite: ESL-182RW or placement through ESL Placement Test

This course is designed to help non-native speakers of English to improve their reading and writing skills in English. It emphasizes academic English skills that are necessary for higher levels of college study, and it is part of the third level of the ESL sequence. Not applicable to the associate degree. (GC)

**ESL-184RW Reading and Writing, Level IV**

72.00 hrs lecture  
Units: 4.00  
Prerequisite: ESL-183RW or appropriate score on the ESL Placement Test

This is the fourth level in the ESL sequence. It will emphasize reading and writing skills for academic purposes, but it will require oral presentations as well. Not applicable to the associate degree. (GC)

**ESL-191 Grammar and Editing Skills**

54.00 hrs lecture  
Units: 3.00  
Prerequisite: ESL-183RW with grade of C or better or placement into ESL-184RW, ENGL-151A, or higher level English course

This course is designed to help non-native speakers of English improve their grammar and editing skills, but is open to native speakers as well. It is open to students who are enrolled in or have completed any of the following courses: ESL-184W, ENGL-151A, ENGL-151B, or ENGL-101A. Not applicable to the associate degree. (CR)

**ESL-365 ESL – Supervised Tutoring**

90.00 hrs lecture  
Units: 0.00  
Prerequisite: Instructor or Counselor referral

This course provides students with individualized tutoring. It assists students to develop a learning methodology in a subject. It includes diagnosis and consultation with a tutorial coordinator and supervised tutoring by part-time instructional aides and/or student tutors. Repeatable = 3 times (NG)

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**ENVIRONMENTAL STUDIES**

Division: Health Sciences and Environmental Studies

**ENVS-101 Natural Resource Management**

54.00 hrs lecture  
Units: 3.00  
Accepted For Credit: CSU

Quantitative analysis of earth's natural resources and the role of human populations in their use, sustainable development, and exploitation. Topics typically include the status and trends of resources such as topsoil degradation, agriculture, water, energy, and wildlife. Emphasis is on problem solving and computational methods applied to resource management problems. (GC)

**ENVS-102 Environmental Law and Regulations**

54.00 hrs lecture  
Units: 3.00  
Accepted For Credit: CSU

This course explores fundamental legal and policy issues in environmental law. Legislative, judicial, and administrative controls over public and private actions impacting on the environment are discussed. The course examines the statutory, administrative, and judicial decisions relating to the environment and the government actors, agencies, and citizens making these decisions. (GC)

**ENVS-103 The Environment and Human Health**

54.00 hrs lecture  
Units: 3.00  
Accepted For Credit: CSU

A by-product of human population growth is the modification of habitat and the surrounding environment. This course examines the close link between human health and environmental health, particularly focusing on how pollution of the air, water, and land, as well as contamination of food and ecosystems impacts the human body. (GC)

**ENVS-108 Human Ecology**

54.00 hrs lecture  
Units: 3.00  
Cross-referenced Course: BIOL-108  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU

Human Ecology is an interdisciplinary, general education course that identifies problems created by man's modification of his environment, presents solutions to these problems, and offers appropriate alternatives. (GC)

**ENVS-122 Environmental GIS**

18.00 hrs lecture, 54.00 hrs lab  
Units: 2.00  
Cross-referenced Course: GEOG-122  
Prerequisite: GEOG-121  
Advisory: CS-101L  
Accepted For Credit: CSU

GIS skills applied to issues such as air pollution, urban design, environmental health, and water resources. (GC)

**ENVS-142 Environmental Biology**

54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Cross-referenced Course: BIOL-142  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU

This lecture and lab course is an introduction to the biological sciences focusing on diversity; organismal interactions with their environment and with other organisms (ecology), the effects humans have had on biological diversity and ecosystems, and efforts to protect species and their habitats (conservation). (GC)

**Did you know???**

Ohlone College's name honors the Ohlone Indians of the Costanoan tribe, also known as "the people of the West," who lived in the Fremont and Newark areas.

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## FRENCH

Division: Humanities, Social Sciences, and Mathematics

- FREN-101A Elementary French**  
90.00 hrs lecture, 18.00 hrs lab  
Units: 5.00  
Advisory: Eligible for ENGL-101A  
Accepted For Credit: CSU & UC  
This course is an introduction to the reading, writing, speaking, and understanding of French. (GR) (FREN-101A + FREN-101B = CAN FREN SEQ A)
- FREN-101B Elementary French**  
90.00 hrs lecture, 18.00 hrs lab  
Units: 5.00  
Prerequisite: FREN-101A with a grade of C or better or 2 years of high school French  
Accepted For Credit: CSU & UC  
This course is a continuation of FREN-101A. It covers the fundamentals of French grammar in addition to reading, writing, and speaking the language. (GR) (FREN-101A + FREN-101B = CAN FREN SEQ A)
- FREN-102A Intermediate French**  
90.00 hrs lecture, 18.00 hrs lab  
Units: 5.00  
Prerequisite: FREN-101B with a grade of C or better or 3 years of high school French  
Accepted For Credit: CSU & UC  
This course is a review of grammar, oral, and written composition and a study of French culture. (GR) (FREN-102A + FREN-102B = CAN FREN SEQ B)
- FREN-102B Intermediate French**  
90.00 hrs lecture, 18.00 hrs lab  
Units: 5.00  
Prerequisite: FREN-102A with a grade of C or better  
Accepted For Credit: CSU & UC  
This course is a continuation of FREN-102A that covers advanced grammar, oral and written composition and the study of the French civilization. (GR) (FREN-102A + FREN-102B = CAN FREN SEQ B)
- FREN-110 Beginning Conversational French**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151B and ENGL-163  
This course focuses on the essentials of French conversation leading to the development of the ability to use the French language in everyday situations. Extensive oral practice of the language is combined with fundamental grammatical concepts. Repeatable = 3 times (GC)
- FREN-111 Individualized French Lab**  
27.00 hrs lab  
Units: 0.50  
Accepted For Credit: CSU  
This course involves individual and independent laboratory studies to increase students' proficiency in oral and written French. Repeatable = 3 times to a maximum of 4 units (GR)
- FREN-112 Individualized French Lab**  
54.00 hrs lab  
Units: 1.00  
Accepted For Credit: CSU  
This course involves individual and independent laboratory studies to increase students' proficiency in oral and written French. Repeatable = 3 times to a maximum of 4 units (GR)

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## GEOGRAPHY

Division: Science, Technology, and Engineering

- GEOG-101 Physical Geography**  
54.00 hrs lecture, 54.00 hrs lab  
Units: 4.00  
Accepted For Credit: CSU & UC  
This course will focus on the interaction between humans and their physical environment emphasizing the natural features of weather and climate, land forms, soil, vegetation, earthquakes, and volcanism, water quality and environmental management, and pollution. (GC)
- GEOG-102 Cultural Geography**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU & UC  
This course will focus on the study of the origin, spread, and regional differences of human cultures as they relate to the use of the earth and how they relate to their physical environments. The course explores how different people use and/or abuse or otherwise change the earth as the home of humanity. (GC) (CAN GEOG 4)
- GEOG-104 The World's Nations**  
54.00 hrs lecture  
Units: 3.00  
Advisory: Eligible for ENGL-151B and ENGL-163  
Accepted For Credit: CSU & UC  
This course deals with the regional variations of the world and its effects of human modification of the physical environment. The factors contributing to landscape change such as settlement patterns, transportation networks, types of agriculture, and the various types of land tenure systems; current world problems and environmental issues are also discussed. (GC)
- GEOG-105 California Geography**  
54.00 hrs lecture  
Units: 3.00  
Accepted For Credit: CSU & UC  
This course investigates California's physical, cultural, and economic environments, analyzing changes resulting from both natural and human interaction. The emphasis is on cultural diversity, human alteration of the landscape, and contemporary problems resulting from accelerated competition for natural, financial, and human resources. (GC)
- GEOG-121 Introduction to Geographic Information Systems (GIS)**  
18.00 hrs lecture, 54.00 hrs lab  
Units: 2.00  
Advisory: Some knowledge of desktop computing is advantageous  
Accepted For Credit: CSU  
The objective of this introductory course is to gain basic knowledge of GIS concepts, techniques, and applications. Emphasis is to provide a hands-on instruction on the functionality of GIS as an effective tool for modeling and analyzing complex spatial relationships. (GC)
- GEOG-122 Environmental GIS**  
18.00 hrs lecture, 54.00 hrs lab  
Units: 2.00  
Cross-referenced Course: ENV5-122  
Prerequisite: GEOG-121  
Advisory: CS-101L  
Accepted For Credit: CSU  
GIS skills applied to issues such as air pollution, urban design, environmental health, and water resources. (GC)

**GEOG-123 GIS Projects**

18.00 hrs lecture, 54.00 hrs lab

Units: 2.00

Prerequisite: GEOG-121

Advisory: Familiarity with Windows OS and some knowledge of database programs is advantageous  
Accepted For Credit: CSU

This course enables students to manage small or large GIS projects using student-initiated or work-related database by using basic knowledge acquired in GEOG-121. Emphasis is on developing skills needed for solving real-world problems and for analysis of spatial relationships using GIS. Repeatable = 1 time (GC)

**GEOG-365 Supervised Tutoring**

90.00 hrs lab

Units: 0.00

Prerequisite: Instructor or Counselor Referral

This course provides students with individualized tutoring. It assists students to develop a learning methodology in a subject. It includes diagnosis and consultation with tutorial coordinator and supervised tutoring by part-time instructional aides and/or student tutors. Repeatable = 3 times (NG)

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**GEOLOGY**

Division: Science, Technology, and Engineering

**GEOL-101 Introduction to Geology**

54.00 hrs lecture, 54.00 hrs lab

Units: 4.00

Accepted For Credit: CSU &amp; UC

Geological processes that shape the earth and its history. Special attention is given to the global geological phenomena (earthquakes, volcanoes, plate tectonics), the concept of "deep" time, natural resources, and the interaction between humans and their environment. (GC)

**GEOL-102 Introduction to Oceanography**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU &amp; UC

The study of the marine realm from the physical, biological, and cultural perspective including the origin of the oceans, plate tectonics, waves, tides, marine life, and human impact on the marine environment. Field trip includes a Bay cruise. (GC)

**GEOL-102L Oceanography Laboratory**

54.00 hrs lab

Units: 1.00

Corequisite: GEOL-102

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU &amp; UC

GEOL-102L is designed to supplement GEOL-102. The lab will consist of hands-on exercises and two Saturday field trips that illuminate various aspects of ocean science. This will include working with maps, living and fossil specimens of marine life, Web-based study of global plate tectonics, field observations of marine rocks, fossils, and living organisms in tide pools, and the study of San Francisco Bay onboard a ship. (GC)

**GEOL-103 Paleontology and Dinosaurs**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-151B and ENGL-163; GEOL-103L recommended

Accepted For Credit: CSU &amp; UC

This course is a journey through time that examines the history of life from its beginnings to the end of the last Ice Age, the changing Earth, evolution, mass extinctions, and fossils of dinosaurs and their relatives. Up to two Saturday field trips. (GC)

**GEOL-103L Paleontology Laboratory**

54.00 hrs lab

Units: 1.00

Corequisite: GEOL-103

Advisory: Eligible for ENGL-151B, ENGL-163; ENGL-172

Accepted For Credit: CSU &amp; UC

GEOL-103L is designed to supplement GEOL-103. The labs will consist of hands-on studies of actual fossil specimens of animals and plants from all over the world and representing different stages in the evolution of life on earth. The lab exercises will be supplemented by Internet assignments and a small group project. Saturday field trip(s) required in lieu of scheduled lab time. (GC)

**GEOL-365 Supervised Tutoring**

90.00 hrs lab

Units: 0.00

Prerequisite: Instructor or Counselor Referral

This course provides students with individualized tutoring. It assists students to develop a learning methodology in a subject. It includes diagnosis and consultation with tutorial coordinator and supervised tutoring by part-time instructional aides and/or student tutors. Repeatable = 3 times (NG)

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**GRAPHIC ARTS**

Division: Fine Arts, Business, and Broadcasting

**GA-109A Beginning Graphic Design I (Letter Forms and Typography)**

36.00 hrs lecture, 126.00 hrs lab

Units: 3.00

Cross-referenced Course: ART-109A

Advisory: ART-104A

Accepted For Credit: CSU

This course is an introduction to graphic design. It will cover the fundamentals of letter form design with traditional and contemporary alphabets. Studio practice will emphasize the relationships between image and message. Repeatable = 3 times (GC)

**GA-109B Beginning Graphic Design II**

36.00 hrs lecture, 126.00 hrs lab

Units: 3.00

Cross-referenced Course: ART-109B

Prerequisite: GA-109A or ART-109A

Accepted For Credit: CSU

This course is an introduction to the pictorial image and written word as basic components in a format for communications. The studio practice develops students' ability to formulate and communicate a concept into graphic form for both presentation and production. Repeatable = 3 times (GC)

**GA-110A    Advanced Graphic Design I**

36.00 hrs lecture, 126.00 hrs lab  
Units: 3.00

Cross-referenced Course: ART-110A  
Prerequisite: GA-109B or ART-109B  
Accepted For Credit: CSU

This is an advanced class. The emphasis is on students' problem-solving ability. It includes comprehensive projects in applied graphics and three-dimensional design. There is instruction in techniques for package design, product visualization, execution of 3-D design prototypes for presentation and photography. Repeatable = 3 times (GC)

**GA-110B    Advanced Graphic Design II**

36.00 hrs lecture, 126.00 hrs lab  
Units: 3.00

Cross-referenced Course: ART-110B  
Prerequisite: GA-110A or ART-110A  
Accepted For Credit: CSU

This course gives advanced attention to design solution and presentation. The class deals with the development of a single all-inclusive graphic design project. The emphasis is on effective client relationship from concept development through assignment completion. Repeatable = 3 times (GC)

**GA-160A    Computer Graphics I**

54.00 hrs lecture, 162.00 hrs lab  
Units: 4.00

Cross-referenced Course: ART-160A, BA-160A, CS-160A  
Advisory: ART-104A  
Accepted For Credit: CSU & UC

This course is an introduction to computers and to the creation of computer-generated graphics. This course examines the variety of software/hardware tools and techniques available for the production of computer-made imagery. The emphasis is on hard-copy production using printers, plotters, and other reproduction methods. This course also covers design principles, business graphics, and elementary programming principles. Repeatable = 3 times (GC)

**GA-160B    Computer Graphics II**

54.00 hrs lecture, 162.00 hrs lab  
Units: 4.00

Cross-referenced Course: ART-160B, BA-160B, CS-160B  
Prerequisite: ART/GA/BA/CS-160A or equivalent  
Advisory: ART-104A  
Accepted For Credit: CSU & UC

This course is a continuation of GA-160A. The emphasis in this course is on developing intermediate and advanced skills needed to operate a computer graphics work station. Students complete projects of their choice using more complex Paint and CAD software, printers, and plotters. Repeatable = 3 times (GC)

**GA-161A    Digital Graphics I**

18.00 hrs lecture, 90.00 hrs lab  
Units: 2.00

Cross-referenced Course: ART-161A, CAOT-161A  
Accepted For Credit: CSU

This course is an overview of computer graphics on desktop computers for graphic designers, artists, typographers, and for business applications. This course will cover hardware and software including: laser printers, ink jet printers, scanners, tablets, and bit-mapped and vector-based graphics programs. This course also covers design principles and business graphics. The course emphasis is on the creation of a portfolio of computer graphics drawings. Repeatable = 3 times (GC)

**GA-161B    Digital Graphics II**

18.00 hrs lecture, 90.00 hrs lab  
Units: 2.00

Cross-referenced Course: ART-161B, CAOT-161B  
Prerequisite: GA/ART/CAOT-161A or equivalent  
Accepted For Credit: CSU

This course is a continuation of GA-161A. The emphasis in this course is on developing intermediate and advanced skills needed to set up and operate a digital graphics work station and publish on the Web. Students complete projects of their choice using complex graphics software, scanners, tablets, and printers. The course emphasis is on the continued development of a portfolio of computer images. Repeatable = 3 times (GC)

**GA-162    Digital Graphics Lab**

54.00 hrs lab  
Units: 1.00

Cross-referenced Course: ART-162

This class is a lab component for all Graphic Arts/Computer Graphics courses. Students will produce digital graphic projects for art and graphic design classes. Repeatable = 3 times (CR)

**GA-163    Digital Arts Lab – Macintosh**

27.00 hrs lab  
Units: 0.50

Cross-referenced Course: ART-163, ID-163

This course is a lab component for all courses taught on the Macintosh and on drafting equipment in these areas: Art, Graphic Arts/Computer Graphics, Photography, and Interior Design. Students will produce digital graphic and drafting projects for art related classes. Repeatable = 3 times (CR)

**GA-169A    Beginning Digital Photography**

18.00 hrs lecture, 108.00 hrs lab  
Units: 3.00

Cross-referenced Course: ART-139A  
Accepted For Credit: CSU

This course explores the photographer's creative process from several directions. Students will undertake photographic projects designed to provide engagement with a variety of subject matter and ways of photographing, look at photographic work in online and local galleries and museums, consider current issues having to do with photographic technologies, discuss their photographs with other students in an effort to improve their creative processes. Technical instruction will include camera functions, resizing and saving digital files, and minor image modification. For intense technical instruction, see ART-138A and ART-138B. Repeatable = 3 times (GC)

**GA-169B    Intermediate Digital Photography**

18.00 hrs lecture, 108.00 hrs lab  
Units: 3.00

Cross-referenced Course: ART-139B  
Prerequisite: ART-139A or GA-169A  
Accepted For Credit: CSU

This course continues an exploration of the photographer's creative process from several directions. Students will undertake photographic projects designed to provide engagement with a variety of subject matter and ways of photographing, complete an extended photographic project of their choosing and receive guidance from the instructor and students, look at photographic work in online and local galleries and museums, consider current issues around photographic technologies, discuss their photographs with other students in an effort to improve their creative processes. Students will formalize their individual projects as books or online galleries. Technical instruction will include camera functions, resizing and saving digital files, and minor image modification. For intense technical instruction see ART-138A or ART-138B. Repeatable = 3 times (GC)

**GA-188 Desktop Publishing with QuarkXpress**

18.00 hrs lecture, 54.00 hrs lab

Units: 2.00

Cross-referenced Course: CAOT-188

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU

This is an introductory course in Desktop Publishing (DTP) with QuarkXpress software. Business documents which contain text and graphics will be designed, created, edited, and printed. (GC)

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**HEALTH**

Division: Health Sciences and Environmental Studies

**HLTH-101 Health Science**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU &amp; UC

This course promotes personal, family, and community well-being and includes ways to obtain and maintain optimum wellness. (GC)

**HLTH-120 Mind-Body Balance**

36.00 hrs lecture

Units: 2.00

This experiential course invites participants to integrate mind-body techniques into their lives to promote relaxation, balance and mindfulness. Mind-body techniques include meditation, breath work, biofeedback, imagery, reflective drawing and journaling, mindful nutrition, and exercise. (GC)

**HLTH-150 Women's Health Issues**

54.00 hrs lecture

Units: 3.00

Cross-referenced Course: WS-150

Advisory: Eligible for ENGL-101A

Accepted For Credit: CSU &amp; UC

This course is a study of the contemporary issues of women's health at home and at work, from the biological, psychological, and sociological perspectives that affect women in American culture including such topics as mental health, sexuality, parenting, nutrition, exercise, rape and battery, aging, occupational health, and cultural diversity. (GC)

**HLTH-160 Human Sexuality**

54.00 hrs lecture

Units: 3.00

Accepted For Credit: CSU

This course examines the physiological and psychological aspects of sexual health in our contemporary society. Understanding the interrelationship of attitude and behavior as it relates to sexual integrity. Emphasis will be on knowledge, attitudes and behavior that will contribute to a healthy individual. (GC)

**HISTORY**

Division: Humanities, Social Sciences, and Mathematics

**HIST-104A Western Civilization with a World Perspective Until 1600**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-101A

Accepted For Credit: CSU &amp; UC

This course is a survey of the cultural, social, and political developments of civilization in the Mediterranean through the beginning of early modern history. This course takes an interdisciplinary approach to the study of Western Civilization before 1600 and includes a world perspective. (GC) (CAN HIST 2 OR HIST-104A + HIST-104B = CAN HIST SEQ A)

**HIST-104B Western Civilization with a World Perspective From 1600**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-101A

Accepted For Credit: CSU &amp; UC

This course is a survey of the cultural, social and political developments in Western Civilization with a world perspective from the rise of the nation-state through contemporary times with a speculative look at the future. (GC) (CAN HIST 4 or HIST-104A + HIST-104B = CAN HIST SEQ A)

**HIST-105 History of California**

54.00 hrs lecture

Units: 3.00

Advisory: ENGL-101A

Accepted For Credit: CSU &amp; UC

This course covers the heritage and development of California from its beginnings to the present day with emphasis on the economic, social, ethnic, multicultural, and political forces which shaped the modern state. The Golden State's phenomenal growth and multicultural changes are emphasized. (GC)

**HIST-107 History of Film**

54.00 hrs lecture

Units: 3.00

Cross-referenced Course: TD-107

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU &amp; UC

This course examines the impact of film on our lives and history. Students will review films, and discuss and analyze techniques used. (GR)

**HIST-112 Chicano History**

54.00 hrs lecture

Units: 3.00

Cross-referenced Course: CHS-102

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU &amp; UC

This course covers the development of Chicano history. Special emphasis will be placed upon the influence of Chicano history on contemporary institutions, particularly in the Southwest and California. (GC)

**HIST-114A African American History 1619-1877**

54.00 hrs lecture

Units: 3.00

Advisory: ENGL-151B and/or ENGL-163

Accepted For Credit: CSU &amp; UC

This course covers the history of African Americans from the early 17th century to 1877. Political, social, cultural, and economic experiences will be discussed. (GC)

**HIST-114B African American History 1877 to Present**

54.00 hrs lecture

Units: 3.00

Advisory: ENGL-151B and/or ENGL-163

Accepted For Credit: CSU

A history of African Americans from 1877 to present will be covered. Political, social, cultural, and economic experiences will be discussed. (GR)

**HIST-115 Asian-American History**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-101A

Accepted For Credit: CSU &amp; UC

This course is a review of Asian Pacific Americans in the social, political, economic and cultural development of the United States from Reconstruction to the present. Groups surveyed will include Korean, Filipino, Asian Indian, Pacific Islanders, South East Asian, Japanese, and Chinese. (GC)

**HIST-117A History of the United States**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU &amp; UC

This course surveys the history of the United States from pre-colonial times through Reconstruction (1877). (GC) (CAN HIST 8 or HIST-117A + HIST-117B = CAN HIST SEQ B)

**HIST-117B History of the United States**

54.00 hrs lecture

Units: 3.00

Advisory: ENGL-101A

Accepted For Credit: CSU &amp; UC

This course surveys the history of the United States from 1877 (the end of Reconstruction) to the present. (GC) (CAN HIST 10 or HIST-117A + HIST-117B = CAN HIST SEQ B)

**HIST-118 Contemporary U.S. History: 1945-**

54.00 hrs lecture

Units: 3.00

Advisory: Eligible for ENGL-151B, ENGL-163, HIST-117A/B

Accepted For Credit: CSU &amp; UC

This course surveys the post-World War II role of the United States in world affairs and explores the socio-political development of the nation from 1945 to the present. It will emphasize the growing cultural pluralism of twentieth century America. (GC)

**HIST-119A Bad Girls: Women in America Before 1890**

54.00 hrs lecture

Units: 3.00

Advisory: ENGL-101A

Accepted For Credit: CSU &amp; UC

Women before 1890 faced numerous hardships in their struggles for equality. This course traces women of different racial and ethnic backgrounds as they challenge social, economic, political, and gender norms in North America. The course explores how women have negotiated issues such as race, class, gender, work/labor, and sexuality. (GC)

**HIST-119B Bad Girls: Women in American From 1890**

54.00 hrs lecture

Units: 3.00

Advisory: ENGL-101A

Accepted For Credit: CSU &amp; UC

Women in the United States after 1890 faced numerous hardships in their struggles for equality. This course traces women of different racial and ethnic backgrounds as they challenge social, economic, political, and gender norms in North America. The course explores how women have negotiated issues such as race, class, gender, work/labor, and sexuality. (GC)

**HIST-141 A History of Early Rock and Roll: Music and Culture of the 1950's**

54.00 hrs lecture

Units: 3.00

Cross-referenced Course: IS-142, MUS-122

Advisory: Eligible for ENGL-101A

Accepted For Credit: CSU &amp; UC

This course presents a historical overview of the emergence of rock and roll music as a cultural phenomenon in the U.S. The major figures of the 1950's – Bill Haley, Fats Domino, Elvis Presley, Chuck Berry, and Little Richard – will be studied alongside the major historical events and trends that shaped this decade. The course is designed to gradually develop a student's appreciation for this art form while simultaneously exposing the symbiotic interrelationship between rock and roll and the American Culture. The course will chart how rock & roll simultaneously reflects and affects society by grounding the key people, events, and songs within their historical context. (GC)

**HIST-142 History of Rock and Roll: Music and Culture of the 1960's**

54.00 hrs lecture

Units: 3.00

Cross-referenced Course: IS-143, MUS-123

Advisory: ENGL-101A

Accepted For Credit: CSU &amp; UC

This course charts the evolution of Rock and Roll music from the late 1950's through the 1960's focusing on the history of the period as well as a detailed analysis of the stylistic development of this important musical genre. The course is designed to gradually develop students' appreciation for this art form while simultaneously exposing the symbiotic interrelationship between rock and American society. (GC)

**HIST-143 History of Rock and Roll: Music and Culture Since 1970**

54.00 hrs lecture

Units: 3.00

Cross-referenced Course: MUS-125

Advisory: Eligible for ENGL-151B and ENGL-163

Accepted For Credit: CSU &amp; UC

This course examines the development of popular music and its relationship to general culture and society since 1970. It will include identification and analysis of art rock, disco, new wave, reggae, rap, hip-hop, worldbeat, and other musical genres through online reading, lectures, and in-class demonstrations. (GR)

**HIST-365 Supervised Tutoring**

90.00 hrs lab

Units: 0.00

Prerequisite: Instructor or Counselor referral

This course provides students with individualized tutoring. It assists students to develop a learning methodology in a subject. It includes diagnosis and consultation with tutorial coordinator and supervised tutoring by part-time instructional aides and/or student tutors. Repeatable = 3 times (NG)