Section VI

COURSE DESCRIPTIONS
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Riverside Community College District offers a comprehensive program of instruction for students who wish to transfer to four-year institutions, complete an associate degree, train for specific occupations, or develop skills and knowledge. The information listed on courses and transferability is accurate as of the catalog publication date, but from time to time this varies based on changes that occur at four-year institutions. It is always advisable to check with a counselor and the four-year transfer institution for current updates. The following section includes a description of courses which the Board of Trustees has authorized the District to offer. The complete course outlines of record including student learning outcomes can be found at www.curricunet.com/RCCD.

UC/CSU
These designated courses are transferable to the campuses of the University of California and the California State University system. Those courses that are not marked UC are not transferable to University of California campuses. Those courses marked UC* indicate there are transfer credit limitations. Norco College’s complete UC-Transfer Course Agreement (TCA) indicating credit unit limitations can be found on the assist.org website. It is recommended that students review the UC-TCA with a counselor.

Course Identification Numbering System (C-ID)
The Course Identification Numbering System (C-ID) is a statewide numbering system independent from the course numbers assigned by local California community colleges. A C-ID number next to a course signals that participating California colleges and universities have determined that courses offered by other California community colleges are comparable in content and scope to courses offered on their own campuses, regardless of their unique titles or local course number. Thus, if a schedule of classes or catalog lists a course bearing a C-ID number, for example COMM 110, students at that college can be assured that it will be accepted in lieu of a course bearing the C-ID COMM 110 designation at another community college. In other words, the C-ID designation can be used to identify comparable courses at different community colleges. However, students should always go to www.assist.org to confirm how each college’s course will be accepted at a particular four-year college or university for transfer credit.

The C-ID numbering system is useful for students attending more than one community college and is applied to many of the transferable courses students need as preparation for transfer. Because these course requirements may change and because courses may be modified and qualified for or deleted from the C-ID database, students should always check with a counselor to determine how C-ID designated courses fit into their educational plans for transfer.

DELIVERY METHODS
A variety of delivery methods are used to offer classes a Riverside Community College District, including face-to-face classroom instruction and distance delivery methods such as hybrid classes and online classes (taught entirely online utilizing computer and Internet technology). Enrollment in online classes is limited to students who have demonstrated competency in working in the online environment. Please see the Open Campus section of the class schedule for details on meeting the limitation on enrollment for online classes.

NON-DEGREE CREDIT
Courses indicated as non-degree credit earn credit, but the credit is not counted toward the associate degree. These courses (Communication Studies 51, 85A, 85B, English 60AB, 60A1, 60A2, 60A3, 60A4, 80, 85, 90B; English as a Second Language 51, 52, 53, 65, 71, 72, 90 A-M, 91, 92, 95; Mathematics 37, 52, 63, 64, 65, 90 A-F, 98; Nursing-Continuing Education: 81; Nursing-Registered: 11B, 11C, 12B, 12C, 18, 21B, 21C, 22B, 22C; Nursing-Vocational: 52A, 52B, 52C, 62A, 62B, 62C; Reading 81, 82, 83, 86, 87, and 95) are intended to help students develop skills necessary to succeed in college level degree-applicable courses. Non-degree credit courses can be used toward the following: athletic eligibility, work study, financial aid, social security benefits, veteran’s benefits, associated student body office, and full-time status.

NON-CREDIT
These courses are numbered in the 800’s and are non-credit classes. No unit credit is earned in these courses.

REPEATING A COURSE
Students may repeat courses in which a C or better grade was earned only for the following types of courses: courses for which repetition is necessary to meet the major requirements of CSU or UC for completion of a bachelor’s degree, intercollegiate athletics, and intercollegiate academic or vocational competition courses that are related in content. The designation of whether a course is repeatable is indicated in the course description.

LIMITATIONS ON ENROLLMENT
Please check course description carefully to see if there are any prerequisites, corequisites, advisory or other limitations on enrollment.

Prerequisite - When a course has a prerequisite, it means that the corresponding discipline has determined that the student must have certain knowledge to be successful in the course. The prior knowledge may be a skill (type 40 WPM), and ability (speak and write French fluently), a preparation score (placement test and prior academic background), or successful completion of a course (grade of C or better, P or CR). Completion of the prerequisite is required prior to enrolling in the class. Successful completion of a prerequisite requires a grade of C or better, P (Pass). C-, D, F, FW, NP (No Pass), or I are not acceptable. Students currently enrolled in a prerequisite course at Riverside Community College District (i.e. Math 52) will be allowed to register for the succeeding class (i.e. Math 35). However, if the prerequisite course is not passed with at least a C grade, the student will be dropped from the succeeding class.

Corequisite - When a course has a corequisite, it means that a student is required to take another course concurrent with or prior to enrollment in the course. Knowing the information presented in the corequisite course is considered necessary for a student to be
successful in the course. (Completion of, or concurrent enrollment in, Math 1A is required for Physics 4A.)

It is the student’s responsibility to know and meet the course prerequisites and corequisites. These are stated in the course descriptions of the schedule of classes and the current college catalog. A student may be required to file proof of prerequisite and corequisite requirements.

Advisory - When a course has an advisory, it means that a student is recommended to have a certain preparation before entering the course. The preparation is considered advantageous to a student’s success in the course. Since the preparation is advised, but not required, the student will not be blocked from enrolling in a class if he/she does not meet the advisory.

Verifying Prerequisites/Corequisites - It is the student’s responsibility to know and meet the course prerequisites and corequisites. These are stated in the course descriptions within the Schedule of Classes and the college catalogs.

If you have met the prerequisites at another accredited college or university, you must provide verification through one of the following:

- Submit official transcript(s) and complete a Prerequisite Validation form.
- Submit unofficial transcript(s) or grade reports and complete a Matriculation Appeals petition. Petitions approved on an unofficial transcript will be approved for one semester only. This will provide time for the student to request official transcripts.
- Coursework must be listed on the original transcript. Coursework listed on a secondary transcript is not acceptable documentation.
- If you wish to challenge a prerequisite for courses other than English, ESL, math or reading on the basis of knowledge or ability or because of the unavailability of the prerequisite, submit a Matriculation Appeals petition at any of our campus’s counseling offices.
- Successful completion of some high school courses are accepted by the discipline as an appeal to existing prerequisites and/or corequisites.

Petitions to challenge a prerequisite are available in the Counseling Offices on all three colleges.

CREDIT COURSES
Credit courses can be degree or non-degree applicable. Unlike non-credit courses, they do carry units based on the number of hours of lecture, lab, or both that are required in the official course outline for the course. These courses are in a wide variety of areas; each requires critical thinking, reading and writing, and assignments that are completed outside of class that require the student to study and work independently. Credit courses are approved by the district and college Curriculum Committees and the Board of Trustees.

<table>
<thead>
<tr>
<th>ACCOUNTING</th>
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<tbody>
<tr>
<td>ACC-1A - Principles of Accounting, I</td>
<td>3 units</td>
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<tr>
<td>UC, CSU (C-ID ACCT 110)</td>
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<tr>
<td>Prerequisite: None.</td>
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<tr>
<td>Advisory: BUS-20.</td>
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<tr>
<td>An introduction to accounting principles and practice, as a manual and/or computerized information system that provides and interprets economic data for economic units within a global society. Includes recording, analyzing and summarizing procedures used in preparing financial statements. 54 hours lecture.</td>
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<tr>
<td>ACC-1B - Principles of Accounting, II</td>
<td>3 units</td>
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<tr>
<td>UC, CSU (C-ID ACCT 120)</td>
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<tr>
<td>Prerequisite: ACC-1A.</td>
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<tr>
<td>A study of managerial accounting principles and information systems including basic concepts, limitations, tools and methods to support the internal decision-making functions of an organization. 54 hours lecture.</td>
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<tr>
<td>ACC-38 - Managerial Accounting</td>
<td>3 units</td>
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<tr>
<td>CSU</td>
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<tr>
<td>Prerequisite: ACC-1A.</td>
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<tr>
<td>Conceptual and technical analysis of accounting information used by managers as they carry out their planning, controlling and decision-making responsibilities. Includes coverage of just-in-time systems, activity-based costing, flexible manufacturing systems, computer-integrated performance measures and the impact of automation on capital budgeting decisions. 54 hours lecture.</td>
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<tr>
<td>ACC-55 - Applied Accounting/Bookkeeping</td>
<td>3 units</td>
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<tr>
<td>(Same as CAT-55)</td>
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<tr>
<td>Prerequisite: None.</td>
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<tr>
<td>This is an introductory course for students who are non-accounting majors. The focus is basic bookkeeping and accounting principles for both merchandising and service oriented small business enterprises. Emphasis is on the development of skills to record business transactions for cash and accrual methods, as well as the procedures to prepare financial statements and complete an accounting cycle. Attention is given to special journals, subsidiary ledgers, and payroll and banking procedures. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)</td>
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<tr>
<td>ACC-61 - Cost Accounting</td>
<td>3 units</td>
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<td>CSU</td>
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<tr>
<td>Prerequisite: ACC-1B.</td>
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<tr>
<td>Studies the development of detailed cost data essential to management for controlling operations, decision making and planning. Principles of cost accounting are applied primarily to a manufacturing organization, but are also used by merchandising and service organizations. Use of computers may be required. 54 hours lecture.</td>
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ACC-62 - Payroll Accounting  3 units
CSU
Prerequisite: ACC-1A or ACC/CAT-55.
Studies accounting for payroll and examines aspects of the Social Security Act, California Unemployment Insurance Act and the California Workmen’s Compensation Insurance Act. Payroll principles applied through the use of microcomputers. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ACC-63 - Income Tax Accounting  3 units
CSU
Prerequisite: None.
Theory and method of preparation of federal income tax returns for individuals. Actual forms are studied and returns are prepared. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ACC-65 - Computerized Accounting  3 units
CSU
Prerequisite: ACC-1A or ACC/CAT-55.
Advisory: CIS-1A or 3.
An introduction to computerized accounting, integrating the principles of accounting to an automated system in use by many accounting professionals. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ACC-66 - Non-Profit and Governmental Accounting  3 units
CSU
Prerequisite: ACC-1A.
Advisory: BUS-20.
A study of the principles and practices of nonprofit and governmental entities fund accounting. Topics include accounting concepts, types and structure of funds and accounts, application of generally accepted accounting principles to nonprofit and governmental organizations. 54 hours lecture.

ACC-67 - U.S. and California Income Tax Preparation  4 units
CSU
Prerequisite: None.
U.S. and California income tax principles and tax return preparation as it relates to individuals, sole proprietorships, and other business entities. This course is certified by the California Tax Education Council (CTEC) as fulfilling the 60-hour qualifying education requirement imposed by the State of California for becoming a Registered Tax Preparer. 72 hours lecture.

ACC-200 - Accounting Work Experience  1-2-3-4 units
CSU*
Prerequisite: None.
Advisory: Students should have paid or voluntary employment.
This course is designed to coordinate the student’s occupational on-the-job training with related instruction in work-related skills. Students may earn up to four (4) units each semester for a maximum of 16 units of work experience. No more than 20 hours per week may be applied toward the work requirement. Students enrolling in WKX-200 are administratively moved to the appropriate general or occupational work experience course after the first class meeting based upon several factors, including the number of hours worked during the semester, occupational program requirements, and type of work in which the student is engaged. 18 hours orientation and 60 hours of volunteer work experience (maximum of 240 hours) or 75 hours of paid work experience (maximum of 300 hours) are required for each enrolled unit. (Letter Grade or Pass/No Pass option.)

ADMINISTRATION OF JUSTICE

ADJ-1 - Introduction to the Administration of Justice  3 units
UC, CSU (C-ID AJ 110)
Prerequisite: None.
The history and philosophy of administration of justice in America; recapitulation of the system; identifying the various subsystems, role expectations, and their interrelationships; theories of crime, punishment, and rehabilitation; ethics, education, and training for professionalism in the system. 54 hours lecture.

ADJ-2 - Principles and Procedures of the Justice System  3 units
CSU (C-ID AJ 122)
Prerequisite: None.
This course provides an examination and analysis of due process in criminal proceedings from pre-arrest through trial and appeal utilizing statutory law and state and constitutional precedents. 54 hours lecture.

ADJ-3 - Concepts of Criminal Law  3 units
UC, CSU (C-ID AJ 120)
Prerequisite: None.
Historical development, philosophy of law and constitutional provisions; definitions, classification of crimes, and their application to the system of administration of justice; legal research, study of case law, methodology, and concepts of law as a social force. 54 hours lecture.

ADJ-4 - Legal Aspects of Evidence  3 units
CSU (C-ID AJ 124)
Prerequisite: None.
Origin, development, philosophy and constitutional basis of evidence; constitutional and procedural considerations affecting arrest, search and seizure; kinds and degrees of evidence and rules governing admissibility; judicial decisions interpreting individual rights and case studies. 54 hours lecture.
ADJ-5 - Community Relations 3 units
UC, CSU (C-ID AJ 160)
Prerequisite: None.
This course examines the complex, dynamic relationship between communities and the justice system in addressing crime and conflict with an emphasis on the challenges and prospects of administering justice within a diverse multicultural population. 54 hours lecture.

ADJ-6 - Patrol Procedures 3 units
CSU
Prerequisite: None.
Responsibilities, techniques and methods of police patrol. 54 hours lecture.

ADJ-8 - Juvenile Law and Procedures 3 units
CSU (C-ID AJ 220)
Prerequisite: None.
The organization, functions, and jurisdiction of juvenile agencies; the processing and detention of juveniles; juvenile case disposition; juvenile statutes and court procedures. 54 hours lecture.

ADJ-9 - Law in American Society 3 units
CSU
Prerequisite: None.
A general survey of practical law intended as an introduction to the American legal system and to acquaint the student with elements of the law that affect everyday legal relationships: criminal and juvenile justice, consumer law, family law, housing law, and individual rights and liberties. Emphasis is placed on the philosophical and political foundations of law and on civil law. Recommended for prelaw students and for others interested in the practical application of the law. 54 hours lecture.

ADJ-10 - Introduction to Security 3 units
Prerequisite: None.
This is an introductory course into the career ladder of Private Security. This course will serve as the entry point for understanding this career field, as unique from traditional law enforcement services, e.g., police officer, deputy sheriff. The students will focus on the provision of security services for the private sector and the business world by satisfying the customer through the provision of myriad services at the security officer, supervisor and manager/administrator level. 54 hours lecture.

ADJ-13 - Criminal Investigation 3 units
CSU
Prerequisite: None.
Fundamentals of investigation; crime scene search and recording; collection and preservation of physical evidence; scientific aids; modus operandi; sources of information; interviews and interrogation; follow up and case preparation. 54 hours lecture.

ADJ-14 - Advanced Criminal Investigation 3 units
CSU
Prerequisite: ADJ/JUS-13.
Advanced training and skill development in the conduct of crime scene investigation and in the recording, collection and preservation of physical evidence. Focus is on the understanding and working knowledge of fingerprints, ballistics, firearms identification, varieties of trace evidence and a basic introduction to forensic sciences. 54 hours lecture and 24 hours laboratory.

ADJ-15 - Narcotics 3 units
CSU
Prerequisite: None.
A basic understanding of narcotics and dangerous drugs, the causes of addiction or habituation, identification of narcotics, hallucinogenics, enforcement procedure and legal aspects. 54 hours lecture.

ADJ-16 - Interviewing and Counseling 3 units
CSU
Prerequisite: None.
Introduction to approaches of behavior modification through interviewing and counseling. An overview of the techniques available to entry level practitioners in corrections in counseling and interviewing. Creates an awareness of advanced methods utilized by professional counselors. Traces the development of positive relationships between the client and corrections personnel. 54 hours lecture.

ADJ-18 - Institutional and Field Services 3 units
CSU
Prerequisite: None.
Philosophy and history of correctional services. A survey of the correctional sub-systems of institutions by type and function, probation concepts, and parole operations. A discussion of correctional employee responsibilities as applied to offender behavior modification via supervisory control techniques. Rehabilitation goals as they affect individual and inmate cultural groups in both confirmed and field settings. 54 hours lecture.

ADJ-20 - Introduction to Corrections 3 units
CSU
Prerequisite: None.
This course is designed to provide the student with an overview of the history and trends of adult and juvenile corrections, including probation and parole. The course will focus on the legal issues, specific laws and general operations of correctional institutions. The relationship between corrections and other components of the judicial system will also be examined. This course has been identified by the Correctional Peace Officer Standards and training Board of the Department of Corrections, California Youth Authority and the California Peace Officers Association to fulfill the educational requirements of the CPOST Certificate for apprentices hired after July 1, 1995 by CDC and CYA. 54 hours lecture.
ADJ-21 - Control and Supervision in Corrections 3 units
CSU
Prerequisite: None.
This course provides an overview of the supervision process of inmates in the local, state and federal correctional institutions. The issues of the control continuum from daily institutional living through crisis situations will be introduced and discussed. The course will emphasize the role played by the offender and the correctional worker. Topics will include inmate subculture, violence and effects of crowding on inmates and staff and coping techniques for correctional officers in a hostile prison environment. This course has been identified by the Correctional Peace Officers Standards and Training Board of the Department of Corrections, California Youth Authority and the California Peace Officers Association to fulfill the educational requirements of the CPOST Certificate for apprentices hired after July 1, 1995 by CDC and CYA. 54 hours lecture.

ADJ-22 - Legal Aspects of Corrections 3 units
CSU
Prerequisite: None.
This course provides students with an awareness of the historical framework, concepts and precedents that guide correctional practice. Course study will broaden the individual’s perspective of the corrections environment, the civil rights of prisoners and the responsibilities and liabilities of corrections officials. This course has been identified by the Correctional Peace Officers Standards and Training Board of the Department of Corrections, California Youth Authority and the California Peace Officers Association to fulfill the educational requirements of the CPOST Certificate for apprentices hired after July 1, 1995 by CDC and CYA. 54 hours lecture.

ADJ-23 - Criminal Justice Report Writing 3 units
CSU
Prerequisite: None.
This is an introductory course emphasizing the practical aspects of gathering, organizing and preparing written reports applicable to the criminal justice system. The course will cover the techniques of communicating facts, information and ideas effectively in a simple, clear and logical manner. Students will gain practical experience in note taking, report writing, memoranda, letters, directives and written administrative projects. Students will also gain practical experience in preparation for court appearances. This course has been identified by the Correctional Peace Officers Standards and Training Board of the Department of Corrections, California Youth Authority and the California Peace Officers Association to fulfill the educational requirements of the CPOST Certificate for apprentices hired after July 1, 1995 by CDC and CYA. 54 hours lecture.

ADJ-25 - Introduction to Probation and Parole 3 units
CSU
Prerequisite: None.
This course provides an overview of the historical development of probation and parole from early court procedures through modern practices. Course study will emphasize organization, function, goals, development and treatment theory focusing on how these concepts are utilized in California. 54 hours lecture.

ADJ-30 - Introduction to Family Support Law 3 units
CSU
Prerequisite: None.
This course introduces students to the comprehensive range of policy, procedure, philosophy and theory relevant to the practice of Family Support Law. The course examines Family Support laws as they relate to child and parental rights, establishment of paternity, the role of government and the courts and policies and procedures used in the administration of such laws in public agencies. 54 hours lecture.

ANATOMY AND PHYSIOLOGY

AMY-2A - Anatomy and Physiology I 4 units
UC, CSU
Prerequisite: BIO-1 or 1H.
First of a two course sequence that introduces students to the basic concepts and principles of anatomy and physiology. This course will provide a foundation for advanced study of the human body. The course covers body orientation and organization, cells and tissues, the skeletal and muscular system, and the eye and ear. Designed to meet the prerequisite for professional programs, e.g. nursing, dental hygiene, and physical therapy. 36 hours lecture and 108 hours laboratory.

AMY-2B - Anatomy and Physiology, II 4 units
UC, CSU
Prerequisite: AMY-2A.
Second of a two course sequence in anatomy and physiology that covers these systems: nervous, endocrine, cardiovascular, respiratory, urinary, digestive, and reproductive organ systems. 36 hours lecture and 108 hours laboratory.

AMY-10 - Survey of Human Anatomy and Physiology 3 units
UC, CSU
Prerequisite: None.
An introductory and survey course of structural and functional aspects of the human body. Emphasis is placed on cell organization, human tissues and discussion of each of the human systems. 54 hours lecture.
ANTHROPOLOGY

ANT-1 - Physical Anthropology 3 units
UC, CSU (C-ID ANTH 110)
Prerequisite: None.
An introduction to human biological evolution, physical diversity, and relationship to the animal world, using scientific and comparative methods. Incorporates the study of genetics, fossils, primates, and modern human variation within an evolutionary framework. Students may not receive credit for both ANT-1 and ANT-1H. 54 hours lecture.

ANT-2 - Cultural Anthropology 3 units
UC, CSU (C-ID ANTH 120)
Prerequisite: None.
Limitation on enrollment: Enrollment in the Honors Program.
This honors course offers an enriched introduction to human biological evolution, physical diversity, and relationship to the animal world, using scientific and comparative methods. Incorporates the study of genetics, fossils, primates, and modern human variation within an evolutionary framework. Students may not receive credit for both ANT-1 and ANT-1H. 54 hours lecture.

ANT-3 - Prehistoric Cultures 3 units
UC, CSU
Prerequisite: None.
The development of human society from the earliest evidence of culture to the beginnings of recorded history. The concepts, methods, and data of prehistoric archaeology are used to examine the major transitions in human prehistory, including the origins of culture, agriculture, and early civilization. 54 hours lecture.

ANT-4 - Native American Cultures 3 units
UC, CSU
Prerequisite: None.
A survey of Native American cultures from the pre-Columbian period through conquest and reservation life and into the present. Incorporates evidence from archaeology, oral history, personal narratives, and other sources. Emphasis will be on the growth of Native American cultures, modern communities, including urban life, social and religious institutions, and traditional cultural elements and artistic traditions. 54 hours lecture.

ANT-5 - Cultures of Ancient Mexico 3 units
UC, CSU
Prerequisite: None.
The development of civilization in ancient Mexico, integrating evidence from archaeology and the pre-hispanic and post-Conquest written records. Emphasizes the history, lifeways, and social and religious institutions of Mexico from the earliest cultures to the Aztec civilization, and their persistence in the modern world. 54 hours lecture.

ANT-6 - Introduction to Archaeology 3 units
UC, CSU (C-ID ANTH 150)
Prerequisite: None.
An examination of the basic concepts, methods, and findings of modern archaeology. Covers the history of archaeology, the application of archaeological methods of recovery and interpretation, and the analysis of archaeological evidence as it is used to reconstruct ancient societies and major trends in cultural evolution. 54 hours lecture.

ANT-7 - Anthropology of Religion 3 units
UC, CSU
Prerequisite: None.
Introduction to the anthropological study of religion in world cultures, using a cross-cultural approach to the analysis of beliefs, rituals, mythology, and the role of religion in society, particularly focusing on non-Western traditional societies. 54 hours lecture.

ANT-8 - Language and Culture 3 units
UC, CSU (C-ID ANTH 130)
Prerequisite: None.
An introduction to the anthropological study of language in world cultures. Characteristics of human verbal and non-verbal communication, language diversity and change, and the relationship of language to culture and social groups. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ANT-10 - Forensic Anthropology 3 units
UC, CSU
Prerequisite: None.
The application of the methods of physical anthropology, within a medicolegal framework, to the identification of human remains. Focuses on human osteology for the determination of age, sex, ancestry, stature, and unique features. 54 hours lecture.
ARCHITECTURE

ARE-24 - Architectural Drafting 3 units
CSU
Prerequisite: ENE-21 and 30.
Introduction to methods and techniques used in the development of architectural construction documents for light frame structures (Type V construction) including construction theory, notation, materials symbols, drawing format and general practice. Using Computer-Aided Drafting (CAD), this course will focus on the drawing of a set of plans to include a plot plan, foundation plan, floor plan(s), sections, exterior and interior elevations, electrical plan and structural details. Sketching techniques will also be covered. 27 hours lecture and 90 hours laboratory.

ARE-25 - Advanced Architectural Drafting 3 units
CSU
Prerequisite: ARE-24.
This course is designed for advanced study of architectural detailing and construction methods, including the preparation of working drawings. Other topics include the development of construction documents, study of the Uniform Building Code and practice from site selection to completion. A completed portfolio is a requirement of the course. 27 hours lecture and 90 hours laboratory.

ARE-26 - Architectural Rendering 3 units
CSU
Prerequisite: None.
This course provides study of pictorial drawing techniques necessary to produce architectural presentations. Finished renderings will include work in felt pen, pen and ink, various pencils, pastels, watercolor and other media variations. A completed portfolio is a requirement of the course. 27 hours lecture and 90 hours laboratory.

ARE-28 - Perspective Drawing 3 units
CSU
Prerequisite: None.
This course is designed to provide graphic communication skills used in Architecture and Architecture-related fields of Environmental Design, Landscape Design/Architecture, Interior Design and Community Planning. Purpose of the course is to provide students with a knowledge, understanding and ability to apply the keys to creating communication of three-dimensional form and space on the two dimensional surface. The course will emphasize the use of shade and shadow as well as perspective drawing techniques to produce desired graphic communication. 27 hours lecture and 90 hours laboratory.

ARE-35 - History of Architecture - Beginnings of 3 units
Architecture through Gothic Architecture
UC, CSU
Prerequisite: None.
An examination of Western architecture form and design from antiquity through the Gothic period. Architectural monuments of the Western world will be analyzed and interpreted in terms of religious, social, and political context. Particular emphasis is given to process and sources of design, types and purposes of buildings as well as architecture and art in the built environment by considering the source and meaning of beauty. 54 hours lecture.

ARE-36 - History of Architecture - Renaissance to Modern 3 units
UC, CSU
Prerequisite: None.
A survey of the major movements in the form, theory and design of Western architecture and art from the Renaissance through the 20th century will be studied analyzed and interpreted in terms of religious, social and political context. Particular emphasis will be placed on a comparative study of architectural monuments and architects, the sources of design, meaning of beauty, and conditions that influence the Western architectural traditions. 54 hours lecture.

ARE-37 - Architectural Design I 3 units
UC, CSU
Prerequisite: None.
This course is an introduction into the use of determining factors, which revolve around the design of mankind’s physical and visual environment. Emphasis is placed on two- and three-dimensional representation dealing with design composition, spatial relationships and the use of various media for graphic communication. 27 hours lecture and 90 hours laboratory.
ARE-200 - Architecture Work Experience 1-2-3-4 units
CSU*
Prerequisite: None.
Advisory: Students should have paid or voluntary employment.
This course is designed to coordinate the student’s occupational on-the-job training with related instruction in work-related skills. Students may earn up to four (4) units each semester for a maximum of 16 units of work experience. No more than 20 hours per week may be applied toward the work requirement. Students enrolling in WKX-200 are administratively moved to the appropriate general or occupational work experience course after the first class meeting based upon several factors, including the number of hours worked during the semester, occupational program requirements, and type of work in which the student is engaged. 18 hours orientation and 60 hours of volunteer work experience (maximum of 240 hours) or 75 hours of paid work experience (maximum of 300 hours) are required for each enrolled unit. (Letter Grade or Pass/No Pass option.)

ART
In studio classes, students are expected to pay for their own materials. Material fees are required in some classes.

ART-1 - History of Western Art: Prehistoric, Ancient, and Medieval 3 units
UC, CSU (C-ID ARTH 110)
Prerequisite: None.
Advisory: Qualification for ENG-1A.
Survey of the history of Western art: painting, architecture and sculpture, Prehistoric through the Medieval periods. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ART-2 - History of Western Art: Renaissance through Contemporary 3 units
UC, CSU (C-ID ARTH 120)
Prerequisite: None.
Advisory: Qualification for ENG-1A.
Survey of the history of Western art: painting, architecture, and sculpture, from the Renaissance through contemporary art. Students may not receive credit for both ART-2 and ART-2H. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ART-2H - Honors History of Western Art: Renaissance through Contemporary 3 units
CSU (C-ID ARTH 120)
Prerequisite: None.
Advisory: Qualification for ENG-1A.
Limitation on enrollment: Enrollment in the Honors Program.
Honors survey of the history of Western art: painting, architecture, and sculpture, from the Renaissance through contemporary art. Students may not receive credit for both ART-2 and ART-2H. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ART-3 - Art for Teachers 3 units
CSU
Prerequisite: None.
Designed to enable the student to teach basic art principles and concepts to elementary school age children (grades K-6). Intended to improve individual skills, general knowledge and confidence in teaching art. Developmental stages, creative expression and various methods and techniques will be explored with age-appropriate art projects and experiences. Intended for education, Early Childhood Studies and other non-art majors. 36 hours lecture and 54 hours laboratory. (Letter Grade, or Pass/No Pass option.) (Materials fee: $10.00)

ART-5 - History of Non-Western Art 3 units
UC, CSU
Prerequisite: None.
Advisory: Qualification for ENG-1A and college level reading.
An introductory survey of the arts of non-European cultures. History, form, functions and aesthetics will be discussed in an overview of the arts of the Americas (Pre-Columbian and North American Indian), Oceana, Islamic, Sub-Saharan Africa, Southeast Asia, China and Japan. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ART-6 - Art Appreciation 3 units
UC, CSU
Prerequisite: None.
Advisory: Qualification for ENG-1A.
An introductory course for the non-art major. The creative process and the diversity of style, technique and media evident in various art forms throughout history and culture. Students may not receive credit for both ART-6 and ART-6H. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ART-6H - Honors Art Appreciation 3 units
UC, CSU
Prerequisite: None.
Advisory: Qualification for ENG-1A.
Limitation on enrollment: Enrollment in the Honors Program.
An introductory course designed for the non-art major. The creative process and the diversity of styles, technique and media evident in various art forms throughout history and culture. Honors course offers an enriched experience for accelerated students through limited class size; seminar format; focus on primary texts; and application of higher level critical thinking skills. Students may not receive credit for both ART-6 and ART-6H. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ART-7 - Women Artists in History 3 units
UC, CSU
Prerequisite: None.
Advisory: Qualification for ENG-1A.
Survey of the contributions of women artists from the ancient era through the present. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)
ART-8 - Mexican Art History 3 units
UC, CSU
Prerequisite: None.
Survey of architecture, sculpture, painting, and minor arts of Mexico. From pre-Columbian and Colonial, through contemporary art. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ART-9 - African Art History 3 units
UC, CSU
Prerequisite: None.
A survey of the traditional through contemporary arts of African peoples. Both historical and current expressions of sculpture, body adornment, dance, architecture, painting, artifacts, ceramics and textiles, will be introduced and integrated with other aspects of life and culture in sub-Saharan Africa. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ART-10 - Modern and Contemporary Art History 3 units
UC, CSU
Prerequisite: None.
A survey of the development and history of modern art with emphasis on its major movements, leading artists and contemporary trends. Painting, sculpture and architecture will be discussed in terms of their historical, social and political context. Beginning with mid-19th century movements (Realism and Impressionism), the study will continue through the current trends and new media of the day. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ART-11 - Gallery and Exhibition Design 3 units
CSU
Prerequisite: None.
Practical experience in all aspects of design and installation of art exhibits in a gallery environment; including design theory and the evaluation and analysis of the communicative, aesthetic, managerial and technical factors involved in the production of exhibits. Students are expected to pay for their own materials. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-17 - Beginning Drawing 3 units
UC, CSU (C-ID ARTS 110)
Prerequisite: None.
An introduction to the fundamentals of drawing in a variety of media. The exploration of the elements of art, the principles of composition, perspective and the development of observational, motor and creative skills. Emphasis will be on black and white media. Students pay for their own materials. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-18 - Intermediate Drawing 3 units
UC, CSU (C-ID ARTS 205)
Prerequisite: ART-17.
Intermediate level and continued study of drawing with emphasis on the use of color media. Basic color theory, will be explored in thoughtful compositions. Students pay for their own materials. ART-18, 26 and 27 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repeatability and repetition. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-19 - Experimental Drawing 3 units
UC, CSU
Prerequisite: ART-17.
Continued study of many of the skills acquired in Beginning Drawing. Emphasis is on the use of experimental methods and materials. Less attention will be directed toward traditional and fundamental academic concerns and more focus will be placed on the cultural, interpretive, psychological, and conceptual possibilities that result from exploration and engaging alternatives. The art elements, color, composition, mark making, mixed media, expression, concept, and context will all be investigated. Students will be encouraged to explore and access less conventional solutions to a variety of projects. ART-19 and 23 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repeatability and repetition. Students pay for their own materials. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-20 - Beginning Sculpture 3 units
UC, CSU
Prerequisite: None.
An introduction to the fundamentals of sculpture design and creation. A variety of materials, such as clay, wax and plaster will be used. Additive, subtractive and construction methods for creating the sculptural pieces will be explored, as well as other traditional and contemporary forms and techniques. Students pay for their own materials. ART-20, 21 and 46 are courses related in content and are limited to four enrollment according to Title 5, section 55040. For further information see section VIII regarding course repeatability and repetition. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.) (Materials fee: $15.00)

ART-22 - Basic Design 3 units
UC, CSU (C-ID ARTS 100)
Prerequisite: None.
An introduction to the fundamentals of two-dimensional design. The organization of visual elements to the principles of design. Emphasis placed on visual perception, theory, dexterity, problem solving, analysis, application, skill and presentation. Students pay for their own materials. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)
ART-54 - Lecture 3 units
UC, CSU (C-ID ARTS 270)
Prerequisite: ART-17 or 22.
A survey of the organization of the visual elements (line, shape, space, value, texture and color) according to the principles of design. Emphasis placed on color theory and more advanced methods of communicating ideas through design. Students pay for their own materials. ART-19 and 23 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repeatability and repetition. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-24 - Three Dimensional Design 3 units
UC, CSU (C-ID ARTS 101)
Prerequisite: None.
An introduction to the fundamentals of three-dimensional design. The use of the visual elements and the practice of the principles of design as they relate to various three-dimensional art forms (i.e., sculpture, architecture and product, commercial, stage, environmental and interior design). Students pay for their own materials. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.) (Materials fee: $15.00)

ART-25A - Watercolor-Beginning 3 units
UC, CSU
Prerequisite: ART-17.
Course work that reflects the fundamentals of painting with transparent watercolors at an introductory level. Basic techniques, tools, and materials will be explored. Composition, idea, method, color, and creativity will be examined. Students pay for their own materials. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-26 - Beginning Painting 3 units
UC, CSU (C-ID ARTS 210)
Prerequisite: ART-17.
An introduction to the fundamentals of painting (oil or acrylic). An exploration of various considerations in painting; techniques, process, color theory, visual perception, composition, and creative skills. Students pay for their own materials. ART-18, 26 and 27 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repeatability and repetition. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-27 - Intermediate Painting 3 units
UC, CSU
Prerequisite: ART-23 or 26.
Intermediate level of painting (oil or acrylic). Continued exploration of various techniques and the application of color theory. Development of visual compositional, and creative skills. Students pay for their own materials. ART-18, 26 and 27 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repeatability and repetition. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-28A - Studio Painting-Portfolio Preparation 3 units
UC, CSU
Prerequisite: ART-27.
Independent painting studio for the self-motivated student with emphasis on individual art problems and portfolio development. Specific agreement identifying intent, ideas, goals, and media, to be arranged between instructor and student. Emphasis will be on independent concept, development, and portfolio preparation. ART-28A, and 48A are courses related in content and are limited to four enrollments according to Title 5, section 55040. For further information see section VIII regarding course repeatability and repetition. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-30A - Printmaking-Introduction 3 units
UC, CSU
Prerequisite: None.
Introduction to the printmaking studio and the design and creation of original prints using a variety of techniques. Methods such as silkscreen, monotype, relief (woodcut, linoleum), intaglio and others will be explored. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.) (Materials fee: $15.00)

ART-34 - Studio Three Dimensional Design 3 units
UC, CSU
Prerequisite: ART-24.
Continued three dimensional design studio work with emphasis on individual problems for the self-motivated student. Specific agreement identifying intent, ideas, goals, and media, to be arranged between instructor and student. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.) (Materials fee: $15.00)
ART-35A - Illustration-Beginning  3 units
CSU
Prerequisite: ART-17.
Advisory: ART-23 or 26.
Course work that reflects the types of entrance level assignments an illustrator may encounter in the industry, using a variety of traditional media and techniques. Emphasis is placed on the evolutionary development of visual ideas. Students pay for their own materials. ART-35A, and 38 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repeatability and repetition. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-36A - Computer Art-Introduction  3 units
UC, CSU
Prerequisite: None.
Introduction to creating fine art and design using digital media. The exploration of the visual characteristics of electronic imagery with emphasis on the essentials of fine art, design, and creative problem solving. Artwork will be developed using the computer, related software, and/or other electronic equipment. Students pay for their own materials. 36 hours of lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-38 - Studio Illustration  3 units
CSU
Prerequisite: ART-35A.
Continued illustration studio work with emphasis on individual problems for the self-motivated student. Specific agreement identifying intent, ideas, goals, and media, to be arranged between instructor and student. Students are expected to pay for their own materials. ART-35A, and 38 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repeatability and repetition. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-39 - Design and Graphics  3 units
CSU
Prerequisite: None.
Advisory: ART-17, 22 or 35A.
Fundamental design methodology for visual communication. Exploration of design principles in advertising and layout design. Type and lettering creation and techniques, corporate imagery and portfolio preparation. Students pay for their own materials. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-40A - Figure Drawing-Introduction  3 units
UC, CSU (C-ID ARTS 200)
Prerequisite: ART-17.
Introduction to drawing the human figure. Students will draw from a nude model using a variety of media. Students pay for their own materials. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-41A - Figure Painting-Introduction 3 units
UC, CSU
Prerequisite: ART-26 or 40A.
Introduction to painting from the human figure. Students will paint from a nude model using a variety of methods and materials. Students pay for their own materials. 36 hours lecture and 72 hours laboratory (Letter Grade, or Pass/No Pass option.)

ART-44A - Beginning Animation Principles  3 units
UC, CSU
Prerequisite: ART-17.
Advisory: ART-22 and 40A.
Introduction to animation, including the history and the basic concepts of classical animation. Traditional methods such as flip books, storyboards, sequential drawings, layout design, character design, and concept development will be introduced. Students pay for their own materials. ART-44A, 44B, and 44C are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repeatability and repetition. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-44B - Intermediate Animation Principles  3 units
UC, CSU
Prerequisite: ART-44A.
Advisory: ART-22 and 40A.
Intermediate level of animation principles where emphasis will be on more developed animation techniques and exercises of classical animation. Traditional methods such as flip books, storyboards, sequential drawings, layout design, character design, and concept development will be continued. Students pay for their own materials. ART-44A, 44B, and 44C are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repeatability and repetition. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)
ART-44C - Advanced Animation Principles 3 units
UC, CSU
Prerequisite: ART-44B.
Advisory: ART-22 and 40A.
Advanced animation principles with emphasis on portfolio-ready traditional animation and experimental animation methods. Developed traditional methods such as flip books, storyboards, sequential drawings, layout design, character design, and concept development will be continued. Students pay for their own materials. ART-44A, 44B, and 44C are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repeatability and repetition. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-48A - Studio Drawing-Portfolio Preparation 3 units
UC, CSU
Prerequisite: ART-18.
Continued studio drawing for the self-motivated student with emphasis on planning, independence, individualized problems, and portfolio organization and preparation. Specific agreement identifying intent, ideas, goals, and media, to be arranged between instructor and student. Students pay for their own materials. ART-28A, and 48A are courses related in content and are limited to four enrollments according to Title 5, section 55040. For further information see section VIII regarding course repeatability and repetition. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-50A - Beginning Storyboarding 3 units
CSU
Prerequisite: ART-17.
Advisory: ART-22 and 40A.
Introduction to storyboarding with animation principles. Basic concepts of writing and directing for animation, dialogue and story development will be explored in making basic story reel structure. Students pay for their own materials. ART-50A, and 50B are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repeatability and repetition. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-50B - Intermediate Storyboarding 3 units
CSU
Prerequisite: ART-50A.
Advisory: ART-22 and 40A.
Intermediate level of storyboarding with animation principles where emphasis will be on developed cinematic storytelling techniques and compositions. More developed concepts of writing and directing for animation, dialogue and story development will be explored in making a story reel with a linear computer editing. Students pay for their own materials. ART-50A, and 50B are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repeatability and repetition. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-51A - Beginning Animation Production 3 units
UC, CSU
Prerequisite: ART-17.
Advisory: ART-22 and 40A.
Introduction to animation production pipeline and film-making with animation principles. The story structure, visual design elements and film languages will be explored. Students will be assigned a short film project parallel to completing animation exercise assignments. Students pay for their own materials. ART-51A, and 51B are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repeatability and repetition. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-51B - Intermediate Animation Production 3 units
UC, CSU
Prerequisite: ART-51A.
Advisory: ART-22 and 40A.
Intermediate level of animation production pipeline and film-making with animation principles. More developed story structure, visual design elements and film languages will be explored. Students will be assigned a short film project parallel to completing animation exercise assignments. Students pay for their own materials. ART-51A, and 51B are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repeatability and repetition. 36 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ART-200 - Art Work Experience 1-2-3-4 units
CSU*
Prerequisite: None.
Advisory: Students should have paid or voluntary employment.
This course is designed to coordinate the student’s occupational on-the-job training with related instruction in work-related skills. Students may earn up to four (4) units each semester for a maximum of 16 units of work experience. No more than 20 hours per week may be applied toward the work requirement. Students enrolling in WKX-200 are administratively moved to the appropriate general or occupational work experience course after the first class meeting based upon several factors, including the number of hours worked during the semester, occupational program requirements, and type of work in which the student is engaged. 18 hours orientation and 60 hours of volunteer work experience (maximum of 240 hours) or 75 hours of paid work experience (maximum of 300 hours) are required for each enrolled unit. (Letter Grade or Pass/No Pass option.)
BIOLOGY

BIO-1 - General Biology 4 units
UC, CSU
Prerequisite: None.
This course is an introductory course designed for non-science majors, which offers an integrated study of the basic principles of biology, with emphasis on the principles of structure and function, genetics, development, evolution, and ecology. Discussions on the philosophy, concepts, and implications of modern biology will be included. Students may not receive credit for both BIO-1 and BIO-1H. 54 hours lecture and 54 hours laboratory.

BIO-1H - General Biology 4 units
UC, CSU
Prerequisite: None.
Limitation on enrollment: Enrollment in the Honors Program.
The course is designed for the non-science major. Students will explore the basic principles of biology, with particular emphasis on the molecular and cellular basis of life as well as genetics, development, evolution and ecology. Discussions on the philosophy, unifying concepts and applications/implications of biology will be included. The Honors course offers an enriched experience for accelerated students through smaller class size; a focus on the evidentiary basis of biological models; and the application of higher level critical thinking skills. Moreover, a thematic/concept-based approach to the course material will be used rather than the traditional topic-based, survey format. The laboratory component will involve completion of directed research projects that culminate in the submission and presentation of research papers, oral presentations and/or poster presentations in the appropriate scientific format. Students may not receive credit for both BIO-1 and BIO-1H. 54 hours lecture and 54 hours laboratory.

BIO-3 - Field Botany 4 units
UC, CSU
Prerequisite: None.
Introduction to the classification of native and introduced plants, with special emphasis on identification of species. Several field trips. 54 hours lecture and 54 hours laboratory.

BIO-5 - General Botany 4 units
UC, CSU
Prerequisite: None.
Introduction to the plant sciences with principal emphasis on the structures, functions, and ecology of common members of each of the major plant divisions. Designed for non-majors and majors in health science, forestry, agriculture, environmental science, landscape design, horticulture, and general nature studies. 54 hours lecture and 54 hours laboratory.

BIO-7 - Marine Biology 4 units
UC, CSU
Prerequisite: None.
An ecological study of the marine environment. Emphasis will be placed on the local marine algae, plants, and animals and their interactions with the physical environment. Frequent field trips are combined with laboratory observations to acquaint the student with the identification and understanding of the common marine organisms of the Southern California coastline. 54 hours lecture and 54 hours laboratory.

BIO-8 - Principles of Ecology 4 units
UC*, CSU
Prerequisite: None.
Ecology is the study of the interactions between organisms and their environment. Basic principles include evolution and natural selection, climate and other abiotic factors, population growth and genetics, community interactions, species diversity, biogeography, and biome recognition. Human impacts on the above will also be discussed. This course requires field trips. 54 hours lecture and 54 hours laboratory.

BIO-10 - Life Science Principles 3 units
UC*, CSU
Prerequisite: None.
For non-life science majors. An introduction to the principles of life sciences through the study of basic biological concepts of living organisms involving structure, behavior, evolutionary relationships and the social and environmental implications of life science. No credit at the University of California if taken following BIO-1 or 1H. 54 hours lecture.

BIO-11 - Introduction to Molecular and Cellular Biology 5 units
UC, CSU (C-ID BIOL 190)
Prerequisite: CHE-1A or IAH.
Advisory: MAT-35, and ENG-50 or 80 or qualifying placement level.
An intensive course for all Life Science majors designed to prepare the student for upper division courses in molecular biology, cell biology, developmental biology, evolution, and genetics. Course material includes principles of biochemistry, biological molecules, prokaryotic and eukaryotic cell structure and function, cell metabolism including photosynthesis and respiration, homeostasis, cell reproduction and its control, classical and molecular genetics, cellular communication, development, evolution and diversity of life at the cellular level. This course addresses the philosophy of science, methods of scientific inquiry and experimental design. 72 hours lecture and 54 hours laboratory.
BIO-12 - Introduction to Organismal and Population Biology (Majors)  
UC, CSU (C-ID BIOL 140)  
Prerequisite: BIO-11 or 11H.  
An intensive course designed for all Life Science majors to prepare the student for upper division courses in organismal and population biology. Course materials include plant structure and function, animal systems and behavior, ecological diversity and dynamics, and evolutionary theory, including population genetics. This course, along with BIO-11, is intended to fulfill a year of transferable lower division general biology. Some field trips are required. 72 hours lecture and 54 hours laboratory.

BIO-17 - Human Biology  
UC, CSU  
Prerequisite: None.  
A non-major introductory course in biology which offers an integrated study of the basic principles of biology as revealed in the human body. Emphasis is placed on cellular and system organization in relation to specific function and common disorders affecting the body; the interaction between the human body and its environment. Controversial, thought-provoking topics related to modern biology and medical advances involving genetic engineering will be included. This course satisfies district graduation and transfer requirements for a science lecture and laboratory course. 54 hours lecture and 54 hours laboratory.

BIO-30 - Human Reproduction and Sexual Behavior  
UC, CSU  
Prerequisite: None.  
Human anatomy, physiology and behavior as related to sexual reproduction, including discussion of fertilization, pregnancy, childbirth and birth control. Consideration also will be given to homosexuality, sexually transmitted diseases, sex education, and sexual intercourse and response. 54 hours lecture.

BIO-34 - Human Genetics  
UC, CSU  
Prerequisite: None.  
Advisory: High school biology or any college life science course with laboratory.  
A general education course for the non-biology major and allied health students who are interested in the underlying mechanisms of human heredity. Emphasis will be given to the role of genetics and environment on cells, individuals, family and human populations. Discussion on human genetic disorders and the social implications of modern human genetics will be included. 54 hours lecture.

BIO-36 - Environmental Science  
UC*, CSU  
Prerequisite: None.  
A study of humans in relation to the environment, that emphasizes population ecology, nutrient cycles and energy flow, pollution, food production, and conservation of natural resources. 54 hours lecture.

**BUSINESS ADMINISTRATION**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Units</th>
<th>Prerequisite</th>
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<tbody>
<tr>
<td><strong>BUS-3</strong> - Computer Applications for Business</td>
<td>3 units</td>
<td>(Same as CAT/CIS-3)</td>
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<td>UC, CSU (C-ID BUS 110)</td>
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<tr>
<td><strong>BUS-10</strong> - Introduction to Business</td>
<td>3 units</td>
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<td>UC, CSU (C-ID BUS 110)</td>
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<tr>
<td><strong>BUS-12</strong> - Opportunity Analysis for Entrepreneurs</td>
<td>2 units</td>
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<td>CSU</td>
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<tr>
<td><strong>BUS-13</strong> - Developing a Successful Business Plan/Model</td>
<td>2 units</td>
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<td>CSU</td>
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<tr>
<td><strong>BUS-14</strong> - Social Media and Online Marketing for Entrepreneurs</td>
<td>2 units</td>
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<td>CSU</td>
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<tr>
<td><strong>BUS-18A</strong> - Business Law I</td>
<td>3 units</td>
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<td>UC*, CSU (C-ID BUS 125)</td>
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This course introduces social media and online marketing tools for small businesses. Topics include social networking, online marketing channels, and creating an online presence for small businesses. 36 hours lecture.
BUS-18B - Business Law II  3 units  
UC*, CSU  
Prerequisite: None.  
Commercial paper, secured transactions, bankruptcy, agency and employment, business organizations, governmental regulations, international law, real and personal property and trusts and estates. 54 hours lecture.

BUS-20 - Business Mathematics  3 units  
CSU  
Prerequisite: None.  
An introduction to quantitative approaches for solving common business problems using general mathematics and first degree equations. Includes the development and solution of problems in the areas of business statistics, trade and cash discounts, markups and markdowns, perishables, payroll, taxes, simple interest, promissory notes, compound interest, present and future value, annuities and sinking funds, installment buying and credit cards, home ownership costs, insurance, stocks and bonds, mutual funds, financial reports, depreciation, inventory, and overhead. 54 hours lecture.

BUS-22 - Management Communications  3 units  
CSU  
Prerequisite: None.  
Advisory: CAT-30.  
Examines the dynamics of organizational communication including a cross cultural emphasis. Practical experience is attained in verbal, non-verbal and interpersonal communication. Includes business report writing, letter writing and resume writing. 54 hours lecture.

BUS-24 - Business Communication  3 units  
CSU (C-ID BUS 115)  
Prerequisite: ENG-IA or IAH.  
Applies the principles of ethical and effective communication to the creation of letters, memos, emails, and written and oral reports for a variety of business situations. The course emphasizes planning, organizing, composing and revising business documents using word processing software for written documents and presentation graphics software to create and deliver professional-level oral reports. Course is designed for students who have college-level writing skills. 54 hours lecture.

BUS-30 - Entrepreneurship and Small Business Management  3 units  
CSU  
Prerequisite: None.  
Identify and evaluate opportunities for start-up and existing small businesses. Investigate concepts tools and practices associated with identifying or creating new venture opportunities. Explore ways to shape and evaluate the viability of these opportunities by understanding key industry factors, market and competitive factors, and customer needs. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

BUS-47 - Applied Business and Management Ethics  3 units  
(Same as MAG-47)  
CSU  
Prerequisite: None.  
An examination of ethical concerns in business decision making. Includes corporate, personal, global, governmental, public, environmental, product, and job-related issues. Case studies and corporate ethics programs and audits also covered. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

BUS-53 - Introduction to Personal Finance  3 units  
CSU  
Prerequisite: None.  
An introduction to personal finance focusing on mastering the key concepts involved in attaining personal wealth. Personal finance focuses on the concepts, decision-making tools, and applications of financial planning. A financial plan will be utilized to guide decisions today and in years to come. Additional emphasis will be placed on interpreting financial information obtained online, the theory and practice regarding income tax law, health insurance provisions, retirement programs, and personal investing. 54 hours lecture. (Letter Grade or Pass/No Pass option)

BUS-70 - Introduction to Organization Development  3 units  
CSU  
Prerequisite: None.  
(Assigned: MAG-44)  
This is a study of organization-wide, planned efforts to increase organizational effectiveness using planned interventions by managers. Multiple intervention techniques, such as diagnostic activities, team building, process consulting, coaching and goal setting are covered. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

BUS-80 - Principles of Logistics  3 units  
CSU  
Prerequisite: None.  
An introduction to the management of business logistics functions including purchasing, inventory management, transportation, warehousing and their related technologies. Focus is on integration of logistics functions to improve overall supply chain customer service and cost performance. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

BUS-82 - Freight Claims  1.5 units  
CSU  
Prerequisite: None.  
A study of loss avoidance and mitigation in transit and the preparation, filing and resolution of freight claims. 27 hours lecture. (Letter Grade, or Pass/No Pass option.)
BUS-30 - Entrepreneurship and Small Business 3 units
CSU
Prerequisite: None.
A study of the legal and regulatory requirements applicable to contracts for product transportation and logistics functions and considerations for drafting and negotiating contracts with freight carriers, warehouses and other logistics service providers. 27 hours lecture. (Letter Grade, or Pass/No Pass option.)

BUS-85 - Warehouse Management 3 units
CSU
Prerequisite: None.
Introduction to an integrated logistics approach to warehouse management. Includes the role of warehousing within the supply chain, performance metrics, applicable leadership basics, how to interact with other logistics managers to optimize overall activity, as well as principles of warehouse location, design, layout, operating functions, and customer service. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

BUS-86 - Transportation and Traffic Management 3 units
CSU
Prerequisite: None.
A study of the freight transportation system including the demand for freight movement, laws, regulations, pricing and policies, traffic management and international transportation issues. Focuses on how transportation collaborates with other supply chain functions to optimize cost and customer service. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

BUS-87 - Purchasing and Supply Management 3 units
CSU
Prerequisite: None.
Study of the purchasing and supply manager's responsibilities including the identification, acquisition, positioning and management of materials, services and equipment that organizations need to attain their goals. Emphasis is on decision making, integration with suppliers, critical internal relationships, and customer (end user) service. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

BUS-90 - International Logistics 3 units
CSU
Prerequisite: None.
An introduction to the role of logistics in global business; including the economic and service characteristics of international transportation providers, the government’s role, documentation and terms of sale used in global business, and the fundamentals of effective export and import management. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

CHEMISTRY
CHE-1A - General Chemistry, I 5 units
UC, CSU CHE-1A + CHE-1B = (C-ID CHEM 120S) (C-ID CHEM 110)
Prerequisite: CHE-2A or 3 and MAT-35.
The student will explore simple chemical systems, their properties and how they can be investigated and understood in terms of stoichiometry, gas laws, elementary thermodynamics, atomic structure and bonding. Laboratory techniques in the investigation of chemical systems. Students may not receive credit for both CHE-1A and CHE-1AH. 54 hours lecture and 108 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CHE-1B - General Chemistry, II 5 units
UC, CSU CHE-1A + CHE-1B = (C-ID CHEM 120S)
Prerequisite: CHE-1A or 1AH.
Continued exploration of the principles of chemistry with emphasis on kinetics, thermodynamics, acid-base theory, equilibrium and electrochemistry. Special topics from descriptive inorganic chemistry, nuclear chemistry and introductory organic chemistry. Laboratory techniques in the investigation of chemical systems. Students may not receive credit for both CHE-1B and CHE-1BH. 54 hours lecture and 108 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CHE-2A - Introductory Chemistry, I 4 units
UC*, CSU
Prerequisite: MAT-52.
Introduction to the nature of chemicals, their properties, chemical bonding, reactions and mixtures. Applications to health and environmental topics. Fulfills the needs of non-science majors. 54 hours lecture and 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)
CHE-10 - Chemistry for Everyone 3 units
UC*, CSU
Prerequisite: None.
A lecture-demonstration presentation of the basic principles of chemistry with special emphasis on how chemistry applies and contributes to society. The course is designed to provide a general overview of chemistry with emphasis on historical, industrial, environmental, organic, biological and nuclear aspects. CHE-10 covers a wide variety of topics ranging from atoms and molecules, acids and bases, organic and biochemistry, to a look at genetics and nuclear chemistry. The chemistry of air and water pollution is also discussed. This course is designed for students desiring a general knowledge of the field and fulfills the natural science requirement for the Associate of Arts Degree. 54 hours lecture and 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CHE-12A - Organic Chemistry, I 5 units
UC, CSU CHE-12A + CHE-12B = (C-ID CHEM 160S)
Prerequisite: CHE-1B or 1BH.
A discussion of aliphatic hydrocarbons that focuses on their structure, reactivity, methods of synthesis, physical properties, and reaction mechanisms. Laboratory work emphasizes techniques used to identify, separate, and purify substances. 54 hours lecture and 108 hours of laboratory. (Letter Grade, or Pass/No Pass option.)

CHE-12B - Organic Chemistry, II 5 units
UC, CSU CHE-12A + CHE-12B = (C-ID CHEM 160S)
Prerequisite: CHE-12A.
Continues discussion based on the content of CHE-12A. Develops a detailed study of nucleophilic and elimination reactions from a mechanistic viewpoint. Aliphatic and aromatic chemistry will be fully integrated throughout CHE-12B. Considerable emphasis on synthesis. Laboratory includes techniques of syntheses, separation, and identification of several compounds, and an introduction to qualitative organic analysis. 54 hours lecture and 108 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CHE-12C - Organic Chemistry, III 5 units
UC, CSU CHE-12A + CHE-12B + CHE-12C = (C-ID CHEM 160S)
Prerequisite: CHE-12B.
Continues discussion based on the content of CHE-12B. Develops a detailed study of nucleophilic and elimination reactions from a mechanistic viewpoint. Aliphatic and aromatic chemistry will be fully integrated throughout CHE-12B. Considerable emphasis on synthesis. Laboratory includes techniques of syntheses, separation, and identification of several compounds, and an introduction to qualitative organic analysis. 54 hours lecture and 108 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CHE-12D - Organic Chemistry, IV 5 units
UC, CSU CHE-12A + CHE-12B + CHE-12C + CHE-12D = (C-ID CHEM 160S)
Prerequisite: CHE-12C.
Continues discussion based on the content of CHE-12C. Develops a detailed study of nucleophilic and elimination reactions from a mechanistic viewpoint. Aliphatic and aromatic chemistry will be fully integrated throughout CHE-12B. Considerable emphasis on synthesis. Laboratory includes techniques of syntheses, separation, and identification of several compounds, and an introduction to qualitative organic analysis. 54 hours lecture and 108 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CHE-12E - Organic Chemistry, V 5 units
UC, CSU CHE-12A + CHE-12B + CHE-12C + CHE-12D + CHE-12E = (C-ID CHEM 160S)
Prerequisite: CHE-12D.
Continues discussion based on the content of CHE-12D. Develops a detailed study of nucleophilic and elimination reactions from a mechanistic viewpoint. Aliphatic and aromatic chemistry will be fully integrated throughout CHE-12B. Considerable emphasis on synthesis. Laboratory includes techniques of syntheses, separation, and identification of several compounds, and an introduction to qualitative organic analysis. 54 hours lecture and 108 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CHE-12F - Organic Chemistry, VI 5 units
UC, CSU CHE-12A + CHE-12B + CHE-12C + CHE-12D + CHE-12E + CHE-12F = (C-ID CHEM 160S)
Prerequisite: CHE-12E.
Continues discussion based on the content of CHE-12D. Develops a detailed study of nucleophilic and elimination reactions from a mechanistic viewpoint. Aliphatic and aromatic chemistry will be fully integrated throughout CHE-12B. Considerable emphasis on synthesis. Laboratory includes techniques of syntheses, separation, and identification of several compounds, and an introduction to qualitative organic analysis. 54 hours lecture and 108 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CHE-12G - Organic Chemistry, VII 5 units
UC, CSU CHE-12A + CHE-12B + CHE-12C + CHE-12D + CHE-12E + CHE-12F + CHE-12G = (C-ID CHEM 160S)
Prerequisite: CHE-12F.
Continues discussion based on the content of CHE-12D. Develops a detailed study of nucleophilic and elimination reactions from a mechanistic viewpoint. Aliphatic and aromatic chemistry will be fully integrated throughout CHE-12B. Considerable emphasis on synthesis. Laboratory includes techniques of syntheses, separation, and identification of several compounds, and an introduction to qualitative organic analysis. 54 hours lecture and 108 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CHE-12H - Organic Chemistry, VIII 5 units
UC, CSU CHE-12A + CHE-12B + CHE-12C + CHE-12D + CHE-12E + CHE-12F + CHE-12G + CHE-12H = (C-ID CHEM 160S)
Prerequisite: CHE-12G.
Continues discussion based on the content of CHE-12D. Develops a detailed study of nucleophilic and elimination reactions from a mechanistic viewpoint. Aliphatic and aromatic chemistry will be fully integrated throughout CHE-12B. Considerable emphasis on synthesis. Laboratory includes techniques of syntheses, separation, and identification of several compounds, and an introduction to qualitative organic analysis. 54 hours lecture and 108 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CHE-12I - Organic Chemistry, IX 5 units
UC, CSU CHE-12A + CHE-12B + CHE-12C + CHE-12D + CHE-12E + CHE-12F + CHE-12G + CHE-12H + CHE-12I = (C-ID CHEM 160S)
Prerequisite: CHE-12H.
Continues discussion based on the content of CHE-12D. Develops a detailed study of nucleophilic and elimination reactions from a mechanistic viewpoint. Aliphatic and aromatic chemistry will be fully integrated throughout CHE-12B. Considerable emphasis on synthesis. Laboratory includes techniques of syntheses, separation, and identification of several compounds, and an introduction to qualitative organic analysis. 54 hours lecture and 108 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CHE-12J - Organic Chemistry, X 5 units
UC, CSU CHE-12A + CHE-12B + CHE-12C + CHE-12D + CHE-12E + CHE-12F + CHE-12G + CHE-12H + CHE-12I + CHE-12J = (C-ID CHEM 160S)
Prerequisite: CHE-12I.
Continues discussion based on the content of CHE-12D. Develops a detailed study of nucleophilic and elimination reactions from a mechanistic viewpoint. Aliphatic and aromatic chemistry will be fully integrated throughout CHE-12B. Considerable emphasis on synthesis. Laboratory includes techniques of syntheses, separation, and identification of several compounds, and an introduction to qualitative organic analysis. 54 hours lecture and 108 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CHE-12K - Organic Chemistry, XI 5 units
UC, CSU CHE-12A + CHE-12B + CHE-12C + CHE-12D + CHE-12E + CHE-12F + CHE-12G + CHE-12H + CHE-12I + CHE-12J + CHE-12K = (C-ID CHEM 160S)
Prerequisite: CHE-12J.
Continues discussion based on the content of CHE-12D. Develops a detailed study of nucleophilic and elimination reactions from a mechanistic viewpoint. Aliphatic and aromatic chemistry will be fully integrated throughout CHE-12B. Considerable emphasis on synthesis. Laboratory includes techniques of syntheses, separation, and identification of several compounds, and an introduction to qualitative organic analysis. 54 hours lecture and 108 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CHE-12L - Organic Chemistry, XII 5 units
UC, CSU CHE-12A + CHE-12B + CHE-12C + CHE-12D + CHE-12E + CHE-12F + CHE-12G + CHE-12H + CHE-12I + CHE-12J + CHE-12K + CHE-12L = (C-ID CHEM 160S)
Prerequisite: CHE-12K.
Continues discussion based on the content of CHE-12D. Develops a detailed study of nucleophilic and elimination reactions from a mechanistic viewpoint. Aliphatic and aromatic chemistry will be fully integrated throughout CHE-12B. Considerable emphasis on synthesis. Laboratory includes techniques of syntheses, separation, and identification of several compounds, and an introduction to qualitative organic analysis. 54 hours lecture and 108 hours laboratory. (Letter Grade, or Pass/No Pass option.)
MUC-1C - Advanced Performance Techniques for Studio Recording
CSU
Prerequisite: MUC-1B.
Advanced performance techniques for the recording studio. A continuation of the skills studied in MUC-1B the focus of this course is communication, song collaboration, studio session mapping. Students will have the opportunity to lead a collaborative group, duet or solo project toward successful completion/recording utilizing techniques such as song formation, microphone technique, mixing and production. The class will culminate in a CD recording. This class is appropriate for advanced vocalists and instrumentalists. 108 hours laboratory.

MUC-1D - Master Performance Techniques for Studio Recording
CSU
Prerequisite: MUC-1C.
Master performance techniques for the recording studio. A culmination of skills and concepts learned in MUC-1A, B and C. Students will function as studio interns and have the opportunity to operate in various roles (songwriter, studio musician, group leaders, producer, vocal coach, etc.) during a recording session. Interns will provide input for the course CD creative process. Students will integrate and utilize performance and production techniques such as vocal/instrumental technique, sound design, microphone technique, mixing and production. This class is appropriate for master vocalists and instrumentalists. 108 hours laboratory.

MUC-2 - Songwriting 1 unit
CSU
Prerequisite: MUS-3.
Introduction to commercial songwriting techniques. Topics covered include form, rhythm, melody, lyrics, chord progressions, preparing lead sheets and arranging. This course is ideal for vocalists and instrumentalists. 17 hours lecture and 32 hours laboratory.

MUC-3 - Introduction to Pro Tools: 3 units
MIDI and Audio Production
CSU
Prerequisite: None.
An introduction to MIDI (Musical Instrument Digital Interface) and digital audio using the industry-standard Pro Tools software. Students will learn the basic principles of MIDI sequencing and editing, recording and editing digital audio and Pro Tools 101 material. Students who successfully complete the course will be eligible to take the Pro Tools 101 certification exam through Digidesign. 36 hours lecture and 54 hours laboratory.

MUC-4 - Intermediate Pro Tools: 3 units
CSU
Prerequisite: MUC-3.
This course provides students with an intermediate-level approach to the Pro Tools system. Students will take a more detailed look at Pro Tools, including managing data, recording, elastic audio, editing, automation and mixing. Students who successfully complete the course will be eligible to take the Pro Tools 110 certification exam through Digidesign. 36 hours lecture and 54 hours laboratory.

MUC-5 - Sound Design I 3 units
CSU
Prerequisite: MUC-3.
This course will allow students to actively record, design, and control the audio assets for a game or multimedia project. Digital audio software programs are utilized in this course to familiarize students with the production and creative demands that will be required of them in an industry situation. Students will learn technique, production, and creative altering of sounds in texts, lectures and lab throughout the course. Students will also be introduced to sampling and manipulation of sounds and dialogue. Students will begin to develop sound libraries to keep and maintain throughout their careers. 36 hours lecture and 54 hours laboratory.

MUC-6 - Sound Design II 3 units
CSU
Prerequisite: MUC-5 and CIS/CSC-5.
Building on the technologies discussed in Sound Design I, this course allows the student to actively implement, design, and control the audio assets in a game or multimedia project. Students will review the principles of sound processing, then focus on implementation through the use of level editors, audio region authoring, and real time DSP. Common middleware tools including: Wwise, FMOD, Xact, RAD, and Flash, will continue to be used in class. Audio scripting, audio design document authoring and goals will be discussed. Typical version control techniques will be discussed including pros and cons of different schemes. 36 hours lecture and 54 hours laboratory.

MUC-7 - Introduction To Music Technology 3 units
CSU
Prerequisite: None.
This course is an introduction to the fundamental techniques, equipment and applications of contemporary music technologies. Topics will include computer and Internet basics, a variety of music software, and electronic instruments. Introductory aspects of MIDI (Musical Instrument Digital Interface), acoustic and digital audio, music notation and multi-media applications will be explored. PC and MAC based applications will be covered. A variety of software applications will be studied, which may include but not limited to Garage Band, Digital Performer, Ableton Live, Pro Tools, Finale and Sibelius. This course is ideal for any student wishing to gain more knowledge in music technology or continue in a commercial music certificate. 36 hours lecture and 54 hours laboratory.
MUC-8 - Composing Music For Video Games  3 units
CSU
Prerequisite: MUC-3 and MUS-3.
This course explores the art of creating music for video games. Students will learn composition techniques, organization, and delivery formats unique to the interactive game industry. Topics include in-game versus cinematic scoring, compositional techniques specific to video game music, mixing, composing for different game genres (MMOG, FPS, RTS). Assignments will focus on writing original adaptive music similar to works created for current games. Students will have the opportunity to compose music with industry standard software such as Pro Tools and Sibelius. 36 hours lecture and 54 hours laboratory.

MUC-9 - Voice Acting and Dialogue For Video Games  3 units
CSU
Prerequisite: None.
Advisory: COM-1, 7 or THE-32.
This course provides students with the knowledge and experience needed to record voice overs and dialogue for games and multimedia. The course will allow the student an opportunity to find the 'true voice.' Cultural awareness and perceptions of dialect will also be covered. Students will have the opportunity to collaborate with other students and faculty to record and create a demo reel. This class is for voice actors and students wishing to pursue experience in recording voice overs. 36 hours lecture and 54 hours laboratory.

MUC-10 - Norco Choir  2 units
UC, CSU
Prerequisite: None.
Limitation on enrollment: Audition on or before the first class meeting.
A mixed-voice ensemble dedicated to the performance of traditional choral music, commercial music, spirituals, choral jazz and other 20th century vocal works of the highest quality. Performances may include but are not limited to concerts on campus, community performances, studio recordings, TV tapings, movie appearances, celebrity concerts and national/international tours. Subsequent enrollment in additional semesters will provide the student with an opportunity for additional skill and competency development in the subject matter. May be taken a total of four times. 108 hours laboratory.

MUC-11 - Studio Arts Ensemble  2 units
UC, CSU
Prerequisite: None.
Designed for instrumentalists, vocalists and technical crew interested in the field of commercial music and entertainment. This ensemble is open to singers, guitarists, drummers, bassists, horn players, string players, pianists/keyboards and/or technical crew members who work collaboratively to study, perform and/or record selected musical arrangements. The music studied in this class will be chosen from a diverse library of popular music literature throughout history. Subsequent enrollment will provide students an opportunity for additional skill development and competency in the subject area. May be taken a total of four times. 108 hours laboratory.

MUC-12 - Live Sound Reinforcement  3 units
CSU
Prerequisite: None.
This course focuses on the fundamental elements of live sound reinforcement: equipment set up and configuration, mixing surfaces, signal path, signal processing, microphones, monitoring and mixing techniques, and acoustics. 36 hours lecture and 54 hours laboratory.

MUC-13 - Recording Studio Workshop I  3 units
CSU
Prerequisite: MUC-3 and 12.
This applied workshop course is a survey of the fundamental principles and practices of audio recording. Topics include sound and hearing, acoustics, and the components of various recording systems. It provides practical experience with audio hardware, software, and recording techniques. Students will engage in digital audio workstation set up (DAWs) and operation, and will run studio and live sessions from set up to tear down. 36 hours lecture and 54 hours laboratory.

MUC-200 - Commercial Music  1-2-3-4 units
Work Experience
CSU*
Prerequisite: None.
Advisory: Students should have paid or voluntary employment.
This course is designed to coordinate the student’s occupational on-the-job training with related instruction in work-related skills. Students may earn up to four (4) units each semester for a maximum of 16 units of work experience. No more than 20 hours per week may be applied toward the work requirement. Students enrolling in WKX-200 are administratively moved to the appropriate general or occupational work experience course after the first class meeting based upon several factors, including the number of hours worked during the semester, occupational program requirements, and type of work in which the student is engaged. 18 hours orientation and 60 hours of volunteer work experience (maximum of 240 hours) or 75 hours of paid work experience (maximum of 300 hours) are required for each enrolled unit. (Letter Grade or Pass/No Pass option.)
COMMUNICATION STUDIES

COM-1 - Public Speaking 3 units
UC, CSU (C-ID COMM 110)
Prerequisite: None.
Advisory: COM-51 and/or qualification for ENG-1A.
Prepares students to compose (develop outlines and research) and present a minimum of four speeches, including informative and persuasive presentations in front of a live audience. Emphasis will include: different purposes of speaking, types of speeches and organizational patterns, topic choice and audience adaptation, rhetorical principles, development and support of sound reasoning and argument, theories of persuasion, application of ethics in public speaking, listening skills, and theory and principles of effective delivery. Students will speak formally for a minimum of 20 total semester minutes. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

COM-1H - Honors Public Speaking 3 units
UC, CSU (C-ID COMM 110)
Prerequisite: None.
Advisory: COM-51 and or qualification for ENG-1A. Limitation on enrollment: Enrollment in the Honors Program.
Prepares students to compose (develop outlines and research) and present a minimum of four speeches, including informative and persuasive presentations in front of a live audience. Emphasis will include the enhanced exploration of: different purposes of speaking, types of speeches and organizational patterns, topic choice and audience adaptation, rhetorical principles, development and support of sound reasoning and argument, theories of persuasion, application of ethics in public speaking, listening skills, and theory and principles of effective delivery. Students will speak formally for a minimum of 20 total semester minutes. Honors course offers an enriched experience for accelerated students through limited class size; seminar format; focus on primary texts; and application of higher level critical thinking skills. Students may not receive credit for both COM-1 and COM-1H. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

COM-2 - Persuasion in Rhetorical Perspective 3 units
UC, CSU (C-ID COMM 190)
Prerequisite: None.
Advisory: COM-51 and/or qualification for ENG-1A.
Develops persuasion from a rhetorical perspective with emphasis on the Ciceronian Canons of Rhetoric and the Aristotelian forms of proof: ethos, pathos, and logos. Includes practical application of these rhetorical theories in understanding and analyzing classical, post renaissance, and contemporary public address. Also incorporates presentation on persuasive issues, rhetorical analyses, and role play. Students will deliver a minimum of three oral presentations. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

COM-3 - Argumentation and Debate 3 units
UC, CSU (C-ID COMM 120)
Prerequisite: None.
Advisory: COM-51 and/or qualification for ENG-1A.
Covers theoretical underpinnings of argumentation and debate including a systematic approach to the process of debate, theories of argumentation as related to topic analysis, research, case construction, rebuttals, cross-examination, utilization of sound reasoning, and the importance of ethical behavior in debate. Focus is on effective delivery of verbal and nonverbal communication as well as effective listening. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

COM-5 - Parliamentary Procedure 1 unit
CSU
Prerequisite: None.
Covers the nature, use, and function of formal parliamentary procedure in public meetings. Includes critical analysis of speaking and parliamentary discussion on contemporary public issues and focuses on the use of parliamentary procedures to facilitate group discussion. 18 hours lecture. (Letter Grade, or Pass/No Pass option.)

COM-6 - Dynamics of Small Group Communication 3 units
UC, CSU (C-ID COMM 140)
Prerequisite: None.
Advisory: COM-51 and/or qualification for ENG-1A.
Provides an introduction to the dynamics of communication in purposeful small groups (i.e. problem-solving). Theoretical knowledge of small group communication becomes the basis for the practical application of group development, problem-solving, decision-making, discussion, interaction and presentation. Develops student competence and confidence as a group member and leader. Oral group presentations required. Students will speak formally as part of a group for a minimum of 20 semester minutes. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

COM-7 - Oral Interpretation of Literature 3 units
UC, CSU (C-ID COMM 170)
Prerequisite: None.
Advisory: COM-51 and/or qualification for ENG-1A.
Preparation and presentation of interpreting literature (prose, poetry and drama). Principles and techniques of interpreting the printed page are related to preparing and presenting an oral interpretation of literature for an audience. Provides opportunities for cultural enrichment, literary analysis, creative outlet, articulate expression and improved speaking ability. Oral presentations required. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)
COM-9 - Interpersonal Communication 3 units
UC, CSU (C-ID COMM 130)
Prerequisite: None.
Advisory: COM-51 and/or qualification for ENG-1A.
Analyzes the dynamics of the two-person communication process in relationships. Students study values, communication models, listening, verbal and nonverbal communication, perception, self-concept, self-disclosure, management of emotions, relationship theories and conflict resolution. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

COM-9H - Honors Interpersonal Communication 3 units
UC, CSU (C-ID COMM 130)
Prerequisite: None.
Advisory: COM-51 and/or qualification for ENG-1A.
Limitation on enrollment: Enrollment in the Honors Program.
Analyzes the dynamics of the two-person communication process in relationships. Students study values, communication models, listening, verbal and nonverbal communication, perception, self-concept, self-disclosure, management of emotions, relationship theories and conflict resolution. This honors course offers an enriched experience for accelerated students through limited class size; seminar format; focus on primary texts; and greater application of higher level critical thinking skills. Students may not receive credit for both COM-9 and COM-9H. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

COM-11 - Storytelling 3 units
CSU
Prerequisite: None.
Advisory: COM-51 and/or qualification for ENG-1A.
A study of the history, theory, and practice of the oral art of storytelling. The historical and current practice of the oral tradition of both prose and poetry will be covered using a multicultural perspective. Students will research, prepare, and perform stories from a variety of genres and cultures. Oral presentations required. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

COM-12 - Intercultural Communication 3 units
UC, CSU (C-ID COMM 150)
Prerequisite: None.
Advisory: COM-51 and/or qualification for ENG-1A.
This course provides an introduction to the factors affecting intercultural communication. This course focuses on the communication behaviors and values common to all cultures and ethnic groups, as well as the differences that may insulate and divide people. Students will examine influences on the communication process, including aspects such as stereotyping, gender roles, values, beliefs, verbal and nonverbal communication patterns, conflict styles and much more. Students will learn to overcome the communication problems that may result when members of other cultures and/or ethnic groups communicate by evaluating their own intercultural communication patterns and learning skills to increase their effectiveness. 54 hours lecture. (Letter Grade or Pass/No Pass option.)

COM-13 - Gender and Communication 3 units
UC, CSU
Prerequisite: None.
Advisory: COM-51 and/or qualification for ENG-1A.
A study of theories that address communication styles including similarities and differences between masculine and feminine gender types. Integrates theories to heighten students' awareness of the importance of gender as a communication variable. Theoretical approaches to the development of gender are discussed. Gender communication issues are addressed with an emphasis on listening, perception, verbal, nonverbal communication, and conflict management in interpersonal, small group and various other contexts. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

COM-19 - Reader's Theater 3 units
CSU
Prerequisite: None.
Advisory: COM-51 and/or qualification for ENG-1A.
Study of literary genres and their applicability to various Readers' Theatre methods of presentation. Literary research and selection of material are applied in the preparation of scripts and oral presentation while adhering to Readers’ Theatre style, approach, and technique. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

COMPUTER APPLICATIONS AND OFFICE TECHNOLOGY

CAT-3 - Computer Applications for Business 3 units
(Same as BUS/CIS-3)
UC, CSU
Prerequisite: None.
This course introduces a suite of computer applications to students preparing to enter business, and office professions. Individuals who are already established in these professions may also benefit from skills emphasized which include: use of basic operating system functions, file management, word processing, spreadsheets, database management, and presentation graphics. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CAT-31 - Business Communications 3 units
UC, CSU
Prerequisite: None.
Advisory: CAT-30.
This course is designed to teach the fundamentals of written and oral communication in business by providing specific practical applications. Emphasis will be on written and oral communications, stressing the most common forms of correspondence. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)
CAT-54A - Introduction to Flash 3 units  
(Same as CIS-54A)  
CSU  
Prerequisite: None.  
Advisory: Competency in the use of a computer and familiarity with the Internet; CAT/CIS-95A.  
This course provides students with the essential knowledge and skills required to use Flash. This includes instruction on the authoring tools, drawing tools, working with symbols, creating interactive buttons and streaming sound. 54 hours lecture and 18 hours laboratory.

CAT-65 - Introduction to Microsoft PowerPoint 1.5 units  
(Same as CIS-65)  
CSU  
Prerequisite: None.  
Introduction to Microsoft PowerPoint presentation graphics program. Creation of overhead transparencies, electronic presentations or formal presentations media. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CAT-78A - Introduction to Adobe Photoshop 3 units  
(Same as CIS-78A)  
CSU  
Prerequisite: None.  
Introduction to Adobe Photoshop including mastery of digital image editing, techniques for selecting, photo correction, manipulating images and vector drawing. This course also provides instruction in retouching images, special effects, working with image color and web page illustrations. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CAT-78B - Advanced Adobe Photoshop 3 units  
(Same as CIS-78B)  
CSU  
Prerequisite: CAT/CIS-78A.  
Advanced techniques and methods for using Adobe Photoshop to produce custom graphic solutions. Focus on real-world projects, workflow foundations, adjusting, and optimizing images, and tips and tricks for enhanced image creation. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CAT-79 - Introduction to Adobe Illustrator 3 units  
(Same as CIS-79)  
CSU  
Prerequisite: None.  
Fundamentals of Adobe Illustrator, including creating objects, drawing paths and designing with type, creating freehand drawing and illustration, importing and working with graphics. Develop a working knowledge of the processes that generate graphic images: layering, shadowing, and color use. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CAT-80 - Word Processing: Microsoft Word for Windows 3 units  
(Same as CIS-80)  
CSU  
Prerequisite: None.  
Advisory: Typing knowledge/skills with at least 40 wpm.  
This course provides introductory, intermediate and advanced skill levels necessary to produce a variety of professional documents using Microsoft Word, a word processing program. Students will develop skills in word processing techniques and tasks. 54 hours lecture and 18 hours laboratory.

CAT-81 - Introduction to Desktop Publishing 3 units  
using Adobe InDesign  
(Same as CIS-81)  
CSU  
Prerequisite: None.  
Page design and layout techniques using Adobe InDesign. Mastery of beginning and intermediate techniques of document creation, including design skills. Successful incorporation of drawing and bit mapped files to create professional printed media. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CAT-93 - Computers for Beginners 3 units  
(Same as CIS-93)  
CSU  
Prerequisite: None.  
This course is designed as a practical step-by-step introduction to computer literacy topics including computer hardware and software, application skills, the Internet and Internet searching, Web page creation and computer ethics. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CAT-95A - Introduction to Internet 1.5 units  
(Same as CIS-95A)  
CSU  
Prerequisite: None.  
Skill development in the concepts of the Internet on microcomputer-based systems. This course is designed as a practical step-by-step introduction to working with the Internet using personal computers. 27 hours lecture.

CAT-98A - Introduction to Excel 1.5 units  
(Same as CIS-98A)  
CSU  
Prerequisite: None.  
Skill development in electronic spreadsheets using Excel for business and scientific related applications. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)
CAT-98B - Advanced Excel 1.5 units  
(Same as CIS-98B)  
CSU  
Prerequisite: CAT/CIS-98A.  
Advanced concepts of MS-Excel including managing large spreadsheets, creating and working with databases, creating and using templates and macro creation. Spreadsheet manipulation with advanced macro techniques, customizing Excel screen and toolbars and solving problems with goal seeker and solver. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

COMPUTER INFORMATION SYSTEMS  

CIS-1A - Introduction to Computer Information Systems 3 units  
UC, CSU (C-ID ITIS 120)  
Prerequisite: None.  
An introduction to computer concepts, theory and computer applications. Functions and capabilities of word processors, spreadsheets, databases, presentation graphics and the Internet are covered through lecture, discussion and hands-on computer assignments. Concepts covered include types of software, hardware components, and operating systems with an emphasis on terminology and functionality. 54 hours lecture and 18 hours laboratory.

CIS-1B - Advanced Concepts in Computer Information Systems 3 units  
Prerequisite: CIS-1A.  
Advanced computer applications. Advanced concepts and skills of word processing, spreadsheets, presentation graphics, the Internet and databases with an emphasis on multitasking, integrating applications, linking and embedding are covered. 54 hours lecture and 18 hours laboratory.

CIS-2 - Fundamentals of Systems Analysis 3 units  
(Same as CSC-2)  
CSU  
Prerequisite: None.  
Study of structured systems analysis techniques. Course includes the identification of problems, fact gathering, report analysis, system/data flow analysis, screen/forms design, creation of user documentation/reports, and completion of written and verbal presentations and the use of CASE tools. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CIS-3 - Computer Applications for Business 3 units  
(Same as BUS/CAT-3)  
CSU  
Prerequisite: None.  
This course introduces a suite of computer applications to students preparing to enter business, and office professions. Individuals who are already established in these professions may also benefit from skills emphasized which include: use of basic operating system functions, file management, word processing, spreadsheets, database management, and presentation graphics. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CIS-5 - Programming Concepts and Methodology I: C++ 4 units  
(Same as CSC-5)  
UC, CSU (C-ID COMP 122)  
Prerequisite: None.  
Advisory: CIS-1A.  
Introduction to the discipline of computer science incorporating problem definitions, algorithm development, and structured programming logic for business, scientific and mathematical applications. The C++ language will be used for programming problems. 54 hours lecture and 54 hours laboratory.

CIS-7 - Discrete Structures 3 units  
(Same as CSC-7)  
UC, CSU (C-ID COMP 152)  
Prerequisite: CIS/CSC-5.  
This course is an introduction to the discrete structures used in Computer Science with an emphasis on their applications. Topics covered include: Functions, Relations and Set; Basic Logic; Proof Techniques; Basics of Counting; Graphs and Trees; and Discrete Probability. 54 hours lecture and 18 hours laboratory.

CIS-11 - Computer Architecture and Organization: Assembly 3 units  
(Same as CSC-11)  
UC, CSU (C-ID COMP 142)  
Prerequisite: None.  
Advisory: CIS/CSC-5.  
An introduction to microprocessor architecture and assembly language programming. The relationship between the hardware and the software will be examined in order to understand the interaction between a program and the total system. Mapping of statements and constructs in a high-level language onto sequences of machine instructions is studied as well as the internal representation of simple data types and structures. Numerical computation is performed, noting the various data representation errors and potential procedural errors. 54 hours lecture and 18 hours laboratory.
CIS-12 - PHP Dynamic Web Site Programming 3 units  
(Same as CSC-12)  
CSU  
**Prerequisite:** None.  
**Advisory:** CIS/CSC-5 and CIS/CSC-14A or CIS-72A.  
Dynamic web site programming using PHP. Fundamentals of server-side web programming. Introduction to database-driven web sites, using PHP to access a database such as MySQL. Web applications such as user registration, content management, and e-commerce. This course is for students already familiar with the fundamentals of programming and HTML. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CIS-14A - Web Programming: JavaScript 3 units  
(Same as CSC-14A)  
CSU  
**Prerequisite:** None.  
**Advisory:** Previous programming experience and knowledge of HTML, CIS/CSC-5 and CIS-72A.  
Fundamentals of JavaScript programming for the world wide web for students already familiar with the fundamentals of programming and HTML. Language features will include control structures, functions, arrays, JavaScript objects, browser objects and events. Web applications will include image rollovers, user interactivity, manipulating browser windows, form validation and processing, cookies, creating dynamic content and Dynamic HTML programming. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CIS-14B - Web Programming: Active Server Pages 3 units  
(Same as CSC-14B)  
CSU  
**Prerequisite:** None.  
**Advisory:** CIS/CSC-5 and CIS-72A.  
Fundamentals of server-side web programming using Active Server Pages (ASP) for students already familiar with the fundamentals of programming and HTML. Language features will include control structures, functions, arrays, collections, objects and events. Focus on server-side programming to generate dynamic web content and database access. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

CIS-16A - Programming Games with DirectX and OpenGL 3 units  
(Same as CSC-16A)  
CSU  
**Prerequisite:** None.  
**Advisory:** Previous C++ programming experience such as CIS/CSC-17A.  
An advanced C++ programming course using DirectX and OpenGL to create games and high-performance multimedia applications. An emphasis will be placed on advanced programming concepts associated with two-dimensional and three-dimensional graphics, sound effects and music, input devices and networked applications. 54 hours lecture and 18 hours laboratory.

CIS-17A - Programming Concepts and Methodology II: C++ 3 units  
(Same as CSC-17A)  
UC, CSU  
(C-ID COMP 132)  
**Prerequisite:** CIS/CSC-5.  
The application of software engineering techniques to the design and development of large programs; data abstraction, structures, and associated algorithms. A comprehensive study of the syntax and semantics of the C++ language and the methodology of Object-Oriented program development. 54 hours lecture and 18 hours laboratory.

CIS-17B - C++ Programming: Advanced Objects 3 units  
(Same as CSC-17B)  
UC, CSU  
**Prerequisite:** None.  
**Advisory:** CIS/CSC-17A.  
This is an advanced C++ programming course for students familiar with object-oriented programming and utilization of basic graphical interface techniques. An emphasis will be placed on advanced concepts associated with complex Business and Gaming applications that utilize exception handling, multithreading, multimedia, and database connectivity. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CIS-17C - C++ Programming: Data Structures 3 units  
(Same as CSC-17C)  
UC, CSU  
**Prerequisite:** None.  
**Advisory:** CIS/CSC-17A.  
This course offers a thorough presentation of the essential principles and practices of data structures using the C++ programming language. The course emphasizes abstract data types, software engineering principles, lists, stacks, queues, trees, graphs and the comparative analysis of algorithms. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CIS-18A - Java Programming: Objects 3 units  
(Same as CSC-18A)  
UC, CSU  
**Prerequisite:** None.  
**Advisory:** CIS/CSC-5.  
An introduction to Java programming for students already experienced in the fundamentals of programming. An emphasis will be placed upon object-oriented programming. Other topics include graphical interface design and typical swing GUI components. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)
CIS-18B - Java Programming: Advanced Objects 3 units
(Same as CSC-18B)
UC, CSU
Prerequisite: None.
Advisory: CIS/CSC-18A.
This is an advanced JAVA programming course for students familiar with object-oriented programming and utilization of basic graphical interface techniques. An emphasis will be placed on advanced concepts associated with business, e-commerce and gaming applications that utilize exception handling, multithreading, multimedia, and database connectivity. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CIS-18C - Java Programming: Data Structures 3 units
(Same as CSC-18C)
UC, CSU
Prerequisite: None.
Advisory: CIS/CSC-18A.
This course is designed to be an advanced Java programming course for students familiar with object-oriented programming and database concepts. The major emphasis will be related to concepts of storing and retrieving data efficiently, which are the essential principles and practices of data structures. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CIS-18D - Data Structures and Algorithms 3 units
(Same as CSC-18D)
UC, CSU
Prerequisite: CIS/CSC-18A.
Data structures such as trees, priority queues, graphs, sets, and maps will be developed using Java. Sorting algorithms will be explored and coded plus random access, indexed and direct files will be created. Indexing techniques for these files will be explored. 54 hours lecture and 18 hours laboratory.

CIS-21 - Introduction to Operating Systems 3 units
(Same as CSC-21)
CSU
Prerequisite: CIS-1A.
An introduction to operating concepts, structure, functions, performance and management is covered. A current operating system, such as Windows, Linux, or UNIX is used as a case study. File multi-processing, system security, device management, network operating systems, and utilities are introduced. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CIS-24 - Video Game Prototyping 4 units
(Same as GAM-24)
CSU
Prerequisite: CIS/CSC-5 or CIS/GAM-50.
An introduction to the fundamentals of computer game prototyping with an emphasis on scripting. Students will create mockup environments and objects of interest using placeholder assets, apply game rules and interactivity, and demonstrate previsualized game concepts. Topics include layout, possibility space, content integration, scripting, team collaboration, and workflow. Students will create 3D computer game levels using one or more modern game engines. 54 hours lecture and 54 hours laboratory.

CIS-37 - Beginning Level Design for Computer Games 3 units
(Same as GAM-37)
CSU
Prerequisite: None.
An introduction to the fundamental techniques, concepts, and vocabulary of computer game level design. Students will create environments, place objects in those environments, and control those objects via a scripting language. Topics include frame rate, game flow and pacing. Students will create 3D computer games using a game engine such as Unreal. No previous computer programming experience is required. 54 hours lecture and 18 hours laboratory.

CIS-38A - Simulation and Gaming/3D Modeling for Real-Time Interactive Simulations 4 units
(Same as GAM-38A)
CSU
Prerequisite: None.
Create computationally efficient 3D digital models of both living and inanimate objects and then implement them in a real-time interactive simulation or video game. Topics include model construction using tri meshes and splines, applying basic surface detailing, understanding how model design effects computing performance, importing vertex and edge vectors into a game engine, and applying basic user and game world interactivity to one or more rigid bodies. 54 hours lecture and 54 hours laboratory.

CIS-38B - Simulation and Gaming/3D Animation for Real-Time Interactive Simulations 4 units
(Same as GAM-38B)
CSU
Prerequisite: CIS/GAM-38A.
Animate both living and inanimate objects created with a 3D modeling program and then implement them in a real-time interactive simulation or video game. Topics include linear and non-linear attribute interpolation, path, forward and reverse kinematics animation. Additional topics include understanding how animation parameters affect computing performance, importing vertex and edge vectors into a game engine, and applying basic user and game world interactivity to a rigid body. 54 hours lecture and 54 hours laboratory.
CIS-38C - Simulation and Gaming/3D Dynamics 4 units
(Same as GAM-38C)
CSU
Prerequisite: CIS/GAM-38B.
Create dramatic cinematic sequences based on 3D animations of both living and inanimate objects. Topics include combining animated models with simulations of real world dynamics such as wind, water, fire, smoke, and gravity. Short animated sequences will be modeled, animated, and then rendered into frames. Software rendered frames will then be composited and added to a game engine. 54 hours lecture and 54 hours laboratory.

CIS-39 - Current Techniques in Game Art 4 units
(Same as GAM-39)
CSU
Prerequisite: None.
Advisory: Ability to manipulate graphics including layers and textures with Photoshop or concurrent enrollment in CAT/CIS-78A or ADM-71.
Introduction to the fundamental techniques, concepts, and vocabulary of advanced sculpting for Game Art, Animation, Concept Art, and Digital Illustration. Students will modify 3D models, and create textured compositions as applied to video games, animation and concept art. 54 hours lecture and 54 hours laboratory.

CIS-43 - Survey of Media Art for Game Design/Animation 3 units
(Same as GAM-43)
CSU
Prerequisite: ART-17, CIS/GAM-38A and CAT/CIS-78A.
Survey of industry concepts, techniques, and applications for multimedia, game art, animation, and concept art. Students will learn graphic styles for interface design, texturing techniques for 3D models, digital painting techniques for stylized concept art, digital background and layout design as it applies to video games and animation. 36 hours lecture and 54 hours laboratory.

CIS-44 - Portfolio Production 2 units
(Same as GAM-44)
CSU
Prerequisite: GAM-23 or GAM-32 or GAM-46 or GAM-48 or GAM/CSC-52 or MUC-6 or ART-22, ART-39, CIS-59, CIS-66, CIS/CAT-78B, CIS/CAT-79, and CIS/CAT-81 or CIS-68 and CIS-75.
Creative organization and presentation of a body of work exhibiting portfolio-quality aptitude. Covers all aspects of creation and presentation of a professional portfolio for students of multimedia majors such as 3D modeling, animation, game design, game programming, mobile applications development and graphic design. Students will edit existing work to emphasize individual strengths and areas of specialization. Compilation of a professional resume and mock interviews will be completed by each student. 18 hours lecture and 54 hours laboratory.

CIS-50 - Introduction to Game Programming 3 units
(Same as GAM-50)
CSU
Prerequisite: None.
A first course in programming for games stressing fundamental programming principles. Students are introduced to computer programming logic with hands on game development projects using an industry standard game engine. This course will cover the logic structures and design paradigms that allow for fundamental interactions in a visual and object oriented environment. No previous computer programming experience is required. 54 hours lecture and 18 hours laboratory.

CIS-54A - Introduction to Flash 3 units
(Same as CAT-54A)
CSU
Prerequisite: None.
Advisory: Competency in the use of a computer and familiarity with the Internet; CIS/CAT-95A.
This course provides students with the essential knowledge and skills required to use Flash. This includes instruction on the authoring tools, drawing tools, working with symbols, creating interactive buttons and streaming sound. 54 hours lecture and 18 hours laboratory.

CIS-54B - Flash Scripting 3 units
CSU
Prerequisite: None.
Advisory: CIS/CAT-54A.
Learn how to design, write, and debug scripts (programs) using the Flash scripting language. Incorporate scripts into Flash projects to control sophisticated animation, import video and sound files, integrate buttons, and create compelling interactivity using powerful features such as the Motion Editor, inverse kinematics, and support for 3D. 54 hours lecture and 18 hours laboratory.

CIS-56A - Designing Web Graphics 3 units
CSU
Prerequisite: None.
Advisory: Competency in the use of a computer and familiarity with the Internet recommended, such as CIS/CAT-95A.
This course provides students with the knowledge and skills required to create, modify and prepare visual elements for placement within web pages. Focus on the understanding of file compression, color palettes, visual design and layout principles. The course uses Adobe Photoshop. 54 hours lecture and 18 hours laboratory.
CIS-59 - Typography and Graphic Design 3 units  
(Same as ADM-62)  
CSU  
Prerequisite: None.  
This course is a study of the fundamentals of typography including type anatomy, design, hierarchy, and aesthetic expression. Emphasis is placed on the process of design development from roughs to comprehensives, layout, and the use of type for effective communication. Industry standard software is used in the development of typographic and graphic design solutions appropriate for print, web and other media. 36 hours lecture and 72 hours laboratory.

CIS-61 - Introduction to Database Theory 3 units  
(Same as CSC-61)  
CSU  
Prerequisite: None.  
This course provides a comprehensive introduction to the design and development of professional database management systems. This course will demonstrate how to build database structures using “Entity-Relationship” models and relationships. The student will encounter design and development techniques for work groups and enterprise level database models. The course will cover the Systems Development Life Cycle, as well as data validation, business rules, security and disaster recovery techniques. 54 hours lecture.

CIS-63 - Introduction to Structured Query 3 units  
Language (SQL)  
(Same as CSC-63)  
CSU  
Prerequisite: None.  
This course provides an introduction to the relational database management system industry standard – Structured Query Language (SQL.) Students will analyze, design and implement database schema using the SQL programming language. SQL will be utilized to develop a database structure (DDL.) The student will use SQL to create both SELECT and action queries (DML.) Joins, Unions, Differences and subquery statements will be covered. Both the Access and Oracle DBMS SQL statements will be covered. 54 hours lecture and 18 hours laboratory.

CIS-65 - Introduction to Microsoft PowerPoint 1.5 units  
(Same as CAT-65)  
CSU  
Prerequisite: None.  
Introduction to Microsoft PowerPoint presentation graphic program. Creation of overhead transparencies, electronic presentations or formal presentations media. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CIS-66 - Web Development I 3 units  
Prerequisite: None.  
CSU  
An introduction to the web technologies and languages. This course provides in depth understanding in the roles of markup and scripting languages to display text and multimedia content for basic web pages. Demonstrates the process by which the latest standard of HTML and construction of cascading style sheets frame generic content delivery. Functional extension is then applied through the use of Javascript and other relevant scripting languages, introducing dynamic functionality to web sites. Students will also become familiar with the use of web servers and file transfer protocol applications. 54 hours lecture and 18 hours laboratory.

CIS-67 - Web Development II 3 units  
CSU  
Prerequisite: CIS-66.  
An advanced course covering the extension of static web pages through content management systems, PHP programming, and information storage and retrieval using databases. Covers the differences between modern browser technologies and teaches principles by which web content is developed for cross platform application versus single device. Course also implements a variety of popular web frameworks including incorporation with popular social networking services, e-commerce, data aggregation, and third party services. 54 hours lecture and 18 hours laboratory.

CIS-68 - Mobile Applications Development I 3 units  
Prerequisite: CIS-67 and 75.  
CSU  
Introduction to basic principles and practices of architecting and programming for mobile platforms. A variety of programming languages, technologies, and frameworks are used develop basic programs. Covers the build and deployment processes for most major mobile platforms. 54 hours lecture and 18 hours laboratory.

CIS-69 - Mobile Applications Development II 3 units  
Prerequisite: CIS-68.  
CSU  
Advanced principles and practices of architecting and programming for mobile devices. Course covers build process streamlining, incorporation of plugins and frameworks, data transmission, and overall program optimization. Covers extended usage of device capabilities including file system and application integration. 54 hours lecture and 18 hours laboratory.

CIS-72A - Introduction to Web Page Creation 1.5 units  
CSU  
Prerequisite: None.  
Advisory: Competency in the use of a computer, familiarity with the Internet; CIS/CAT-95A.  
An introduction to webpage creation using Extensible Hypertext Markup Language (XHTML). Use XHTML to design and create webpages with formatted text, hyperlinks, lists, images, tables, frames and forms. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)
CIS-72B - Intermediate Web Page Creation 1.5 units
using Cascading Style Sheets (CSS)

CSU
Prerequisite: None.
Advisory: Knowledge of HTML and the Internet; CIS-72A and CIS/CAT-95A.
Intermediate webpage creation using cascading style sheets (CSS) to format and lay out webpage content. CSS works with HTML, so HTML knowledge is recommended. Inline styles, embedded styles, and external style sheets are covered. CSS is used to format text, links, set fonts, colors, margins and position text and graphics on a page. CSS is also a component of Dynamic HTML. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CIS-72C - Introduction to XML 1.5 units

CSU
Prerequisite: None.
Advisory: Knowledge of HTML and CSS.
Introduction to XML (Extensible Markup Languages) on the World Wide Web. Understand and create XML documents, and explore the various applications of the XML technology. 27 hours lecture. (Letter Grade, or Pass/No Pass option.)

CIS-74 - Digital Design I 3 units

CSU
Prerequisite: None.
Introduction to graphic design for multimedia applications. Included is discussion of bit-map and vector art tools for image creation. Overview of project management and workflow. Details the process of manipulating and compositing images to be deployed to applications or web pages. Discusses a variety of popular image file formats, compression, and practical usage. 54 hours lecture and 18 hours laboratory.

CIS-75 - Mobile Media Design 3 units

CSU
Prerequisite: CIS-74 or 78A.
Advanced topics in graphic design for mobile media applications. Topics include creating vector art and layout and asset placement. Covers extended use of advanced design tools and techniques surrounding user interface construction. Emphasizes design consistency and style through exploration of modern graphic design process. Overview of project management and workflow. Also explores advanced production wire-framing, mockup, and asset preparation. 54 hours lecture and 18 hours laboratory.

CIS-76A - Introduction to Microsoft Expression Web 3 units

CSU
Prerequisite: None.
Advisory: CIS/CAT-95A and competency in the use of the Internet and in managing files and folders.
Provides students with the knowledge and skills required to quickly design and implement webpages, and to administer and update existing websites using Microsoft Expression Web. The course uses Microsoft Expression Web to streamline and automate website management on a website. 54 hours lecture and 18 hours laboratory.

CIS-76B - Introduction to Dreamweaver 3 units

CSU
Prerequisite: None.
Advisory: CIS/CAT-95A.
Provides students with the knowledge and skills required to quickly design and implement webpages and to administer and update existing websites using Dreamweaver. The course uses Dreamweaver to streamline and automate website management on a website. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CIS-78A - Introduction to Adobe Photoshop 3 units
(Same as CAT-78A)

CSU
Prerequisite: None.
Introduction to Adobe Photoshop including mastery of digital image editing, techniques for selecting, photo correction, manipulating images and vector drawing. This course also provides instruction in retouching images, special effects, working with image color and web page illustrations. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CIS-78B - Advanced Adobe Photoshop 3 units
(Same as CAT-78B)

CSU
Prerequisite: CIS/CAT-78A.
Advanced techniques and methods for using Adobe Photoshop to produce custom graphic solutions. Focus on real-world projects, workflow foundations, adjusting, and optimizing images, and tips and tricks for enhanced image creation. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CIS-79 - Introduction to Adobe Illustrator 3 units
(Same as CAT-79)

CSU
Prerequisite: None.
Fundamentals of Adobe Illustrator, including creating objects, drawing paths and designing with type, creating freehand drawing and illustration, importing and working with graphics. Develop a working knowledge of the processes that generate graphic images: layering, shadowing, and color use. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CIS-80 - Word Processing: Microsoft Word 3 units
for Windows
(Same as CAT-80)

CSU
Prerequisite: None.
Advisory: Typing knowledge/skills with at least 40 wpm.
This course is designed to provide introductory, intermediate and advanced skill levels necessary to produce a variety of professional documents using Microsoft Word, a word processing program. Students will develop skills in word processing techniques and tasks. 54 hours lecture and 18 hours laboratory.
CIS-93 - Computers for Beginners 3 units
(Same as CAT-93)
CSU
Prerequisite: None.
This course is designed as a practical step-by-step introduction to computer literacy topics including computer hardware and software, application skills, the Internet and Internet searching, Web page creation and computer ethics. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CIS-95A - Introduction to the Internet 1.5 units
(Same as CAT-95A)
CSU
Prerequisite: None.
Skill development in the concepts of the Internet on microcomputer-based systems. This course is designed as a practical step-by-step introduction to working with the Internet using personal computers. 27 hours lecture.

CIS-98A - Introduction to Excel 1.5 units
(Same as CAT-98A)
CSU
Prerequisite: None.
Skill development in electronic spreadsheets using Excel for business and scientific related applications. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CIS-98B - Advanced Excel 1.5 units
(Same as CAT-98B)
CSU
Prerequisite: CIS/CAT-98A.
Advanced concepts of MS-Excel including managing large spreadsheets, creating and working with databases, creating and using templates and macro creation. Spreadsheet manipulation with advanced macro techniques, customizing Excel screen and toolbars and solving problems with goal seeker and solver. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CIS-200 - Computer Information Systems 1-2-3-4 units
Work Experience
CSU*
Prerequisite: None.
Limitation on enrollment: Students must be enrolled in a minimum of 7 units including the work experience units and in a major related to the course.
This course is designed to coordinate the student’s occupational on-the-job training with related instruction in work-related skills. Students may earn up to four (4) units each semester for a maximum of 16 units of work experience. No more than 20 hours per week may be applied toward the work requirement. Students enrolling in WKX-200 are administratively moved to the appropriate general or occupational work experience course after the first class meeting based upon several factors, including the number of hours worked during the semester, occupational program requirements, and type of work in which the student is engaged. 18 hours orientation and 60 hours of volunteer work experience (maximum of 240 hours) or 75 hours of paid work experience (maximum of 300 hours) are required for each enrolled unit. (Letter Grade or Pass/No Pass option.)
CSC-7 - Discrete Structures 3 units  
(Same as CIS-7)  
UC, CSU (C-ID COMP 152)  
Prerequisite: CIS/CSC-5.  
This course is an introduction to the discrete structures used in Computer Science with an emphasis on their applications. Topics covered include: Functions, Relations and Set; Basic Logic; Proof Techniques; Basics of Counting; Graphs and Trees; and Discrete Probability. 54 hours lecture and 18 hours laboratory.

CSC-11 - Computer Architecture and Organization: 3 units  
(Same as CIS-11)  
UC, CSU (C-ID COMP 142)  
Prerequisite: None.  
Advisory: CIS/CSC-5.  
An introduction to microprocessor architecture and assembly language programming. The relationship between the hardware and the software will be studied in order to understand the interaction between a program and the total system. Mapping of statements and constructs in a high-level language onto sequences of machine instructions is studied as well as the internal representation of simple data types and structures. Numerical computation is performed, noting the various data representation errors and potential procedural errors. 54 hours lecture and 18 hours laboratory.

CSC-12 - PHP Dynamic Web Site Programming 3 units  
(Same as CIS-12)  
CSU  
Prerequisite: None.  
Advisory: CIS/CSC-5 and CIS/CSC-14A or CIS-72A.  
Dynamic web site programming using PHP. Fundamentals of server-side web programming. Introduction to database-driven web sites, using PHP to access a database such as MySQL. Web applications such as user registration, content management, and e-commerce. This course is for students already familiar with the fundamentals of programming and HTML. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CSC-14A - Web Programming: JavaScript 3 units  
(Same as CIS-14A)  
CSU  
Prerequisite: None.  
Advisory: Previous programming experience and knowledge of HTML, CIS/CSC-5 and CIS-72A.  
Fundamentals of JavaScript programming for the world wide web for students already familiar with the fundamentals of programming and HTML. Language features will include control structures, functions, arrays, JavaScript objects, browser objects and events. Web applications will include image rollovers, user interactivity, manipulating browser windows, form validation and processing, cookies, creating dynamic content and Dynamic HTML programming. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CSC-16A - Programming Games with DirectX 3 units  
and OpenGL  
(Same as CIS-16A)  
CSU  
Prerequisite: None.  
Advisory: Previous C++ programming experience such as CIS/CSC-17A.  
An advanced C++ programming course using DirectX and OpenGL to create games and high-performance multimedia applications. An emphasis will be placed on advanced programming concepts associated with two-dimensional and three-dimensional graphics, sound effects and music, input devices and networked applications. 54 hours lecture and 18 hours laboratory.

CSC-17A - Programming Concepts and Methodology II: C++ 3 units  
(Same as CIS-17A)  
UC, CSU (C-ID COMP 132)  
Prerequisite: CIS/CSC-5.  
The application of software engineering techniques to the design and development of large programs; data abstraction, structures, and associated algorithms. A comprehensive study of the syntax and semantics of the C++ language and the methodology of Object-Oriented program development. 54 hours lecture and 18 hours laboratory.

CSC-17B - C++ Programming: Advanced Objects 3 units  
(Same as CIS-17B)  
UC, CSU  
Prerequisite: None.  
Advisory: CIS/CSC-17A.  
This is an advanced C++ programming course for students familiar with object-oriented programming and utilization of basic graphical interface techniques. An emphasis will be placed on advanced concepts associated with complex Business and Gaming applications that utilize exception handling, multithreading, multimedia, and database connectivity. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CSC-17C - C++ Programming: Data Structures 3 units  
(Same as CIS-17C)  
UC, CSU  
Prerequisite: None.  
Advisory: CIS/CSC-17A.  
This course offers a thorough presentation of the essential principles and practices of data structures using the C++ programming language. The course emphasizes abstract data types, software engineering principles, lists, stacks, queues, trees, graphs and the comparative analysis of algorithms. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)
CSC-18A - Java Programming: Objects 3 units
(Same as CIS-18A)
UC, CSU
Prerequisite: None.
Advisory: CIS/CSC-5.
An introduction to Java programming for students already experienced in the fundamentals of programming. An emphasis will be placed upon object-oriented programming. Other topics include graphical interface design and typical swing GUI components. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CSC-18B - Java Programming: Advanced Objects 3 units
(Same as CIS-18B)
UC, CSU
Prerequisite: None.
Advisory: CIS/CSC-18A.
This is an advanced JAVA programming course for students familiar with object-oriented programming and utilization of basic graphical interface techniques. An emphasis will be placed on advanced concepts associated with Business, E-Commerce and Gaming applications that utilize exception handling, multithreading, multimedia, and database connectivity. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CSC-18C - Java Programming: Data Structures 3 units
(Same as CIS-18C)
UC, CSU
Prerequisite: None.
Advisory: CIS/CSC-18A.
This course is designed to be an advanced Java programming course for students familiar with object-oriented programming and database concepts. The major emphasis will be related to concepts of storing and retrieving data efficiently, which are the essential principles and practices of data structures. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CSC-18D - Data Structures and Algorithms 3 units
(Same as CIS-18D)
UC, CSU
Prerequisite: CIS/CSC-18A
Data structures such as trees, priority queues, graphs, sets, and maps will be developed using Java. Sorting algorithms will be explored and coded plus random access, indexed and direct files will be created. Indexing techniques for these files will be explored. 54 hours lecture and 18 hours laboratory.

CSC-21 - Introduction to Operating Systems 3 units
(Same as CIS-21)
UC, CSU
Prerequisite: CIS-1A.
An introduction to operating concepts, structure, functions, performance and management is covered. A current operating system, such as Windows, Linux or UNIX is used as a case study. File multi-processing, system security, device management, network operating systems, and utilities are introduced. 54 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CSC-52 - Game Engine Scripting I 3 units
(Same as GAM-52)
CSU
Prerequisite: CIS/CSC-17B, 18B, or GAM/CIS-50.
Advisory: CIS/GAM-37 or GAM-24.
Introduction to core programming concepts related to game engine scripting. Scripted languages are used in the context of industry standard game development tools to implement game functionality. 54 hours lecture and 18 hours laboratory.

CSC-53 - Game Engine Scripting II 3 units
(Same as GAM-53)
CSU
Prerequisite: CSC/GAM-52.
Advisory: CIS/GAM-37.
Extended concepts in core programming as it pertains to game engine scripting. Advanced concepts in scripted languages are explored to allow for more complex simulations to further drive industry standard game engines. 54 hours lecture and 18 hours laboratory.

CSC-61 - Intro to Database Theory 3 units
(Same as CIS-61)
CSU
Prerequisite: None.
This course provides a comprehensive introduction to the design and development of professional database management systems. This course will demonstrate how to build database structures using “Entity-Relationship” models and relationships. The student will encounter design and development techniques for work groups and enterprise level database models. The course will cover the Systems Development Life Cycle, as well as data validation, business rules, security and disaster recovery techniques. 54 hours lecture.
This course provides an introduction to the relational database management system industry standard - Structured Query Language (SQL). Students will analyze, design, and implement database schema using the SQL programming language. SQL will be utilized to develop a database structure (DDL). The student will use SQL to create both Select and action queries (DML). Joins, Unions, Differences and sub-query statements will be covered. Both the Access and Oracle SQL statements will be covered. 54 hours lecture, and 18 hours laboratory.
CON-70 - Fundamentals of Soil Technology 3 units
CSU
Prerequisite: None.
Field inspection and testing of soils and rock for grading and building contractors. A systematic approach to soil classification, strength, compressibility and expansive characteristics is covered. Methods of observation and foundation types are considered in detail. A survey of engineering and analysis is made. 54 hours lecture.

CON-71 - Energy Conservation Standards 1.5 units
CSU
Prerequisite: None.
Administrative regulations and codes that regulate the energy conservation for new residential buildings. Energy measures and mandatory features and devices that must be installed in new residential buildings and the enforcement by local building departments. 27 hours lecture.

CON-72 - California State Accessibility Standards 1.5 units
CSU
Prerequisite: None.
This course examines the provisions of Title 24 accessibility standards of the California Uniform Building Code for application in the construction industry. These legal requirements establish minimum facility accessibility standards and requirements to provide or improve access to and use by people with physical disabilities. Students will gain an understanding of the legal requirements and will interpret, analyze and apply these provisions to various construction, alteration, remodeling, repair and use of building and related facilities. 27 hours lecture.

CON-73 - Project Planning for Site Construction 3 units
CSU
Prerequisite: None.
Organization, procedures and necessary paperwork pertinent to the planning and construction of site improvements. Site analysis by evaluating the needs of the property as well as the needs of those using the property and the design correlations with scope, specifications and control of local, state and federal agencies. 54 hours lecture.

CON-74 - Construction Estimating 3 units
CSU
Prerequisite: CON-62.
Introduction to estimating will provide an overview of basic and advanced principles of construction estimating and bidding currently used in the construction industry from pre-bid to post-bid. This course will be taught utilizing Construction Specifications Institute format (www.csinet.org). 54 hours lecture.

CON-200 - Construction Work Experience 1-2-3-4 units
CSU*
Prerequisite: None.
Advisory: Students should have paid or voluntary employment.
This course is designed to coordinate the student’s occupational on-the-job training with related instruction in work-related skills. Students may earn up to four (4) units each semester for a maximum of 16 units of work experience. No more than 20 hours per week may be applied toward the work requirement. Students enrolling in WXX-200 are administratively moved to the appropriate general or occupational work experience course after the first class meeting based upon several factors, including the number of hours worked during the semester, occupational program requirements, and type of work in which the student is engaged. 18 hours orientation and 60 hours of volunteer work experience (maximum of 240 hours) or 75 hours of paid work experience (maximum of 300 hours) are required for each enrolled unit. (Letter Grade or Pass/No Pass option.)

DANCE

ACADEMIC COURSES

DAN-5 - Introduction to Movement Education for 3 units
Preschool and Elementary Children
CSU
Prerequisite: None.
An individualized approach to teaching children to become aware of their physical abilities through the use of movement and dance in the classroom. 45 hours lecture and 27 hours laboratory. (Letter Grade, or Pass/No Pass option.)

DAN-6 - Dance Appreciation 3 units
UC, CSU
Prerequisite: None.
A nontechnical course for the general student leading to the appreciation and understanding of dance as a medium of communication, entertainment, and as an art form. Students may not receive credit for both DAN-6 and DAN-6H. 54 hours lecture.

ACTIVITY COURSES

DAN-D19 - Conditioning for Dance 1 unit
UC, CSU
Prerequisite: None.
Students will develop their strength, flexibility, endurance, movement memory, balance and coordination to prepare for other dance classes or athletic activity. The course is designed to introduce basic movement skills from dance and exercise for body conditioning. 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)
This course is designed to introduce student to social dance technique. Styles to be studied will include Waltz, Cha cha, Foxtrot or Swing. DAN-D20, D30, and D31 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repetition. 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

DAN-D30 - Social Dance Styles 1 unit
UC, CSU
Prerequisite: None.
This course is designed to provide students with a concentrated focus on a particular social dance style to be chosen from among Tango, Lindy-Hop, Salsa or Nightclub Two-step. DAN-D20, D30, and D31 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repetition. 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

DAN-D31 - Hip-Hop Dance, Beginning 1 unit
UC, CSU
Prerequisite: None.
Learn, practice and apply beginning hip-hop dance skills and vocabulary. Introduction to the historical and cultural context of hip-hop culture. DAN-D20, D30, and D31 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repetition. 54 hours laboratory. (Letter Grade or Pass/No Pass option.)

DAN-D32 - Jazz, Beginning 1 unit
UC, CSU
Prerequisite: None.
Learn, practice and apply fundamental jazz dance skills and vocabulary. Introduction to the historical and cultural context of jazz dance. DAN-D32 and D33 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repetition. 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

DAN-D33 - Jazz, Intermediate 1 unit
UC, CSU
Prerequisite: None.
Limitation on enrollment: Audition on or before the first class meeting. Retention based on successful audition.
Learn, practice and apply basic jazz dance skills learned in beginning jazz to more complex movement phrases and vocabulary characteristic of intermediate level technique. Continued study of historical and cultural context of jazz dance as introduced in beginning jazz. DAN-D32 and D33 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repetition. 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

DAN-D37 - Modern Dance, Beginning 1 unit
UC, CSU
Prerequisite: None.
Learn, practice and apply fundamental modern dance skills and vocabulary. Introduction to the historical and cultural context of modern dance. May be taken a total of four times. DAN-D37, and D38 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repeatability and repetition. 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

DAN-D38 - Modern Dance, Intermediate 1 unit
UC, CSU
Prerequisite: None.
Limitation on enrollment: Audition on or before the first class meeting.
Learn, practice and apply basic modern dance skills learned in beginning modern dance to more complex movement phrases and vocabulary characteristic of intermediate level technique. Continued study of historical and cultural context of modern dance as introduced in beginning modern. May be taken a total of four times. DAN-D37, and D38 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repeatability and repetition. 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

DAN-D43 - Tap, Beginning 1 unit
UC, CSU
Prerequisite: None.
Learn, practice and apply fundamental tap dance skills and vocabulary. Introduction to the historical and cultural context of tap dance. DAN-D43, and D44 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repetition. 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

DAN-D44 - Tap, Intermediate 1 unit
UC, CSU
Prerequisite: None.
Limitation on enrollment: Audition on or before the first class meeting.
Learn, practice and apply basic tap dance skills learned in beginning tap to more complex movement phrases and vocabulary characteristic of intermediate level technique. Tap Dance improvisation will be introduced. Continued study of historical and cultural context of tap dance as introduced in beginning tap. DAN-D43, and D44 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repetition. 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)
DAN-D60 - Dance Techniques for Musical Theater  .5 unit
UC, CSU
Prerequisite: None.
Principles and techniques of various performance methods, dance genres, and styles involved in performing dance for the musical theater. Genres/styles to be studied may include jazz, tap, modern, ballet and ethnic/world dance. 27 hours laboratory. (Letter Grade, or Pass/No Pass option.)

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EARLY CHILDHOOD EDUCATION

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAR-19</td>
<td>Observation and Assessment in Early Childhood Education</td>
<td>3</td>
<td>CSU (C-ID ECE 200) None.</td>
</tr>
<tr>
<td>EAR-20</td>
<td>Child Growth and Development</td>
<td>3</td>
<td>UC, CSU (C-ID CDEV 100) None.</td>
</tr>
<tr>
<td>EAR-23</td>
<td>Family Home Child Care Program</td>
<td>3</td>
<td>CSU None.</td>
</tr>
<tr>
<td>EAR-24</td>
<td>Introduction to Curriculum</td>
<td>3</td>
<td>CSU (C-ID ECE 130) None.</td>
</tr>
<tr>
<td>EAR-25</td>
<td>Teaching in a Diverse Society</td>
<td>3</td>
<td>UC, CSU (C-ID ECE 230) None.</td>
</tr>
<tr>
<td>EAR-26</td>
<td>Health, Safety and Nutrition</td>
<td>3</td>
<td>CSU (C-ID ECE 220) None.</td>
</tr>
<tr>
<td>EAR-28</td>
<td>Principles and Practices of Teaching Young Children</td>
<td>3</td>
<td>CSU (C-ID ECE 120) None.</td>
</tr>
<tr>
<td>EAR-30</td>
<td>Practicum in Early Childhood Education</td>
<td>4</td>
<td>CSU (C-ID ECE 210) EAR-20, 24, 28 and 42.</td>
</tr>
</tbody>
</table>

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In this course the student will practice and demonstrate developmentally appropriate early childhood program planning and teaching competencies under the supervision of ECE/CD faculty and other qualified early education professionals. Students will utilize practical classroom experiences to make connections between theory and practice, develop professional behaviors, and build a comprehensive understanding of children and families. Child centered, play-oriented approaches to teaching, learning, and assessment; and knowledge of curriculum content areas will be emphasized as student teachers design, implement and evaluate experiences that promote positive development and learning for all young children. Lab hours will be completed under the direction of a qualified Master Teacher (Child Development Permit Matrix, California Commission on Teacher Credentialing) with 3 units of supervised field experience in ECE setting. 36 hours lecture and 108 hours laboratory.
This course focuses on the appropriate use of a variety of assessment...
EAR-44 - Administration I: Programs in Early Childhood Education 3 units

CSU
Prerequisite: EAR 20, 24, 28 and 42.
Introduction to the administration of early childhood programs. Covers program types, budget, management, regulations, laws, development and implementation of policies and procedures. Examines administrative tools, philosophies, and techniques needed to organize, open, and operate an early care and education program. 54 hours lecture.

EAR-45 - Administration II: Personnel and Leadership in Early Childhood Education 3 units

CSU
Prerequisite: EAR-20, 24, 28, and 42.
Effective strategies for personnel management and leadership in early care and education settings. Includes legal and ethical responsibilities, supervision techniques, professional development, and reflective practices for a diverse and inclusive early care and education program. 54 hours lecture.

EAR-46 - Curriculum and Strategies for Children with Special Needs 3 units

CSU
Prerequisite: None.
Advisory: EAR-40.
Covers curriculum and intervention strategies for working with children with special needs in partnership with their families. Focuses on the use of observation and assessment in meeting the individualized needs of children in inclusive and natural environments. Includes the role of the teacher as a professional working with families, collaboration with interdisciplinary teams, and cultural competence. 54 hours lecture.

EAR-47 - Childhood Stress and Trauma 3 units

CSU
Prerequisite: None.
This course is a comprehensive overview of concepts, theories, and issues related to childhood stress and trauma. Emphasis is on the short- and long-term effects that stress and trauma have on the physical, cognitive, language, social, and emotional stages of a child’s development. Students will be introduced to child behavior patterns and potential responses to stress and trauma. Students will examine research and innovative methods that support the child’s coping skills and healing process. This course is designed to develop an understanding of how children react and adapt to stress and trauma, and what parents and early childhood practitioners can do to assist children. 54 hours lecture.

EAR-48 - Parenting: Parents as Teachers 1 unit

Prerequisite: None.
Explores the parents’ role in a child’s process of learning. This course presents a variety of methods and techniques a parent can utilize to facilitate the development of a child’s intellectual, social, emotional and physical skills. 18 hours lecture.

EAR-53 - Parenting: Guiding Young Children - Approaches to Discipline 2 units

Prerequisite: None.
An examination of various theoretical approaches to child guidance with an overview of social and emotional development in young children and the need for guidance. Exploration about how values that people hold influence and shape the behavior of young children. Problem-solving techniques that utilize positive behavioral support methods will be examined and discussed. 36 hours lecture.

EAR-54 - Parenting: Contemporary Parenting - Issues and Problems 1 unit

Prerequisite: None.
This course is designed to explore how the concept of childhood in society and children’s position has changed. It will examine historical antecedents of change in relation to the new position of parents in society and adult/child relationships of today. It will also attempt to relate how changes in society and forces impacting on this change influence child-rearing. Issues addressed will include obesity, divorce, school structures, the sexual acceleration of childhood, and media/technology influences. 18 hours lecture.

EAR-55 - Parenting: Common Problems in Infancy and Childhood 1 unit

Prerequisite: None.
A course designed to study and examine some of the difficult behaviors that even normal and well-adjusted children exhibit. It will present common problems like disruptive children, shyness, fearfulness, aggressiveness, thumb sucking and others. 18 hours lecture.

EAR-200 - Early Childhood Studies Work Experience 1-2-3-4 units

CSU*
Prerequisite: None.
Advisory: Student should have paid or voluntary employment.
This course is designed to coordinate the student's occupational on-the-job training with related instruction in work-related skills. Students may earn up to four (4) units each semester for a maximum of 16 units of work experience. No more than 20 hours per week may be applied toward the work requirement. Students enrolling in WKX-200 are administratively moved to the appropriate general or occupational work experience course after the first class meeting based upon several factors, including the number of hours worked during the semester, occupational program requirements, and type of work in which the student is engaged. 18 hours orientation and 60 hours of volunteer work experience (maximum of 240 hours) or 75 hours of paid work experience (maximum of 300 hours) are required for each enrolled unit. (Letter Grade or Pass/No Pass option.)
ECONOMICS

ECO-4 - Introduction to Economics 3 units
UC*, CSU
Prerequisite: None.
An entry-level, general education course which introduces and surveys basic macroeconomic and microeconomic principles. This course emphasizes the causes and consequences of the business cycle on output, employment, and prices as well as, basic supply and demand analysis across different market structures. Analysis further includes the role of the government in the macro-economy and the micro-economy. 54 hours lecture.

ECO-7 - Principles of Macroeconomics 3 units
UC, CSU (C-ID ECON 202)
Prerequisite: MAT-52.
Advisory: MAT-35 and qualification for ENG-1A.
Economic theory and analysis as applied to the U.S. economy as a whole. Emphasizes aggregative economics dealing with the macroeconomic concepts of national income and expenditure, aggregate supply and demand, fiscal policy, monetary policy, and economic stabilization and growth. Students may not receive credit for both ECO-7 and ECO-7H. 54 hours lecture.

ECO-7H - Honors Principles of Macroeconomics 3 units
UC, CSU (C-ID ECON 202)
Prerequisite: MAT-52.
Advisory: MAT-35 and qualification for ENG-1A.
Limitation on enrollment: Enrollment in the Honors Program.
Economic theory and analysis as applied to the U.S. economy as a whole. Emphasizes the enhanced exploration of aggregative economics dealing with the macroeconomic concepts of national income and expenditure, aggregate supply and demand, fiscal policy, monetary policy, and economic stabilization and growth. This honors course offers an enriched experience for accelerated students through limited class size, seminar format, focus on primary texts, and application of higher order critical thinking skills. Students may not receive credit for both ECO-7 and ECO-7H. 54 hours lecture.

ECO-8 - Principles of Microeconomics 3 units
UC, CSU (C-ID ECON 201)
Prerequisite: MAT-52.
Advisory: MAT-35 and qualification for ENG-1A.
Economic theory and analysis as applied to consumer and producer behavior in markets. Emphasizes the allocation of resources and the distribution of income through the price mechanism, and deals with the microeconomic concepts of equilibrium in product and factor markets, perfect and imperfect competition, government intervention in the private sector, and international trade and finance. Students may not receive credit for both ECO-8 and ECO-8H. 54 hours lecture.

ECO-SH - Honors Principles of Microeconomics 3 units
UC, CSU (C-ID ECON 201)
Prerequisite: MAT-52.
Advisory: MAT-35 and qualification for ENG-1A.
Limitation on enrollment: Enrollment in the Honors Program.
Economic theory and analysis as applied to consumer and producer behavior in markets. Emphasizes the allocation of resources and the distribution of income through the price mechanism, and deals with the microeconomic concepts of equilibrium in product and factor markets, perfect and imperfect competition, government intervention in the private sector, and international trade and finance. This honors course offers an enriched experience for accelerated students through limited class size, seminar format, focus on primary texts, and application of higher order critical thinking skills. Students may not receive credit for both ECO-8 and ECO-SH. 54 hours lecture.

ELECTRONICS

ELE-10 - Survey of Electronics 4 units
CSU
Prerequisite: None.
Basic electronic theory including electron theory, Ohm’s Law, DC, AC, vacuum tube and solid state devices, antenna principles, power supplies, amplifiers, RE oscillators, amplitude and frequency modulation, diode detection and superheterodyne receivers, and test equipment operation (emphasis on voltmeter and oscilloscope operation). 54 hours lecture and 54 hours laboratory.

ELE-11 - DC Electronics 4 units
CSU
Prerequisite: None.
Basic electrical theory including Ohm’s Law, the Power Law, the Current and Voltage Laws of Kirchhoff, Direct Current (DC) theory, time constants, multimeter measurements, magnetism, electromagnetism, resistors, capacitors, coils, transient analysis and DC Motors, voltage, current, resistance, power, series, parallel and complex series/parallel circuits. 54 hours lecture and 54 hours laboratory.

ELE-13 - AC Electronics 4 units
CSU
Prerequisite: ELE-10, 11, 21 or 23.
Alternating Current (AC) theory, devices, circuits and applications- will include: resistance, reactance, impedance, capacitance, inductance, Ohm’s Law, Power Law, sinusoidal waveforms, Peak, Peak-to-Peak and Root-Mean-Square (RMS) measurements, using an oscilloscope, signal generator and meter; applications of series and parallel networks of resistors, capacitors, inductors, transformers and other AC components; J-Factors and phasor-vector solutions to both simple and complex AC circuits; transients reactor analysis; phase-shift, phase-angle, and power-factor calculations and measurements. 54 hours lecture and 54 hours laboratory.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
<th>CSU</th>
<th>Prerequisite</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELE-21</td>
<td>DC-AC Electronics</td>
<td>4</td>
<td></td>
<td>None.</td>
<td>Basic electrical theory including electrical circuit parameters, Ohm’s Law, DC, AC, time constants, resonant circuits, filters, and circuit parameter measurement. 54 hours lecture and 54 hours laboratory.</td>
</tr>
<tr>
<td>ELE-23</td>
<td>Electronics Devices and Circuits</td>
<td>4</td>
<td></td>
<td>None.</td>
<td>Characteristics, construction, and circuit applications of electronic devices including diodes, bipolar transistors, thyristors, integrated circuits, and optoelectronic devices. 54 hours lecture and 54 hours laboratory.</td>
</tr>
<tr>
<td>ELE-24</td>
<td>Active Circuit Analysis</td>
<td>3</td>
<td></td>
<td>None.</td>
<td>Mathematical analysis of electronic devices and circuits including power supplies, amplifiers, oscillators, and control circuits. 54 hours lecture.</td>
</tr>
<tr>
<td>ELE-25</td>
<td>Digital Techniques</td>
<td>4</td>
<td></td>
<td>None.</td>
<td>Mathematics, number systems and logic circuits as they relate to modern electronic computers and digital systems. Boolean algebra, circuit simplifications and mapping are included. Basic gate and digital circuits (MSI-LSI) will be analyzed and integrated into complete systems. Digital counters, registers, encoders/decoders, converters and timing. 54 hours lecture and 54 hours laboratory.</td>
</tr>
<tr>
<td>ELE-26</td>
<td>Microprocessors and Microcontrollers</td>
<td>4</td>
<td></td>
<td>None.</td>
<td>Computer number systems, codes, and arithmetic functions; microprocessor and microcontroller functions, architecture, instruction sets, addressing modes, internal operations, PIA interfacing, and I/O operations. Introduction to operating systems. 54 hours lecture and 54 hours laboratory.</td>
</tr>
<tr>
<td>ELE-27</td>
<td>Technical Communications</td>
<td>3</td>
<td></td>
<td>None.</td>
<td>Procedures for organizing and presenting data through informal and formal documents and presentations. Includes practice in writing memoranda, letter reports, and informal technical reports. Also includes discussion of personal resume and preparation of job applications. 54 hours lecture.</td>
</tr>
<tr>
<td>ELE-28</td>
<td>MultiSim CAD &amp; PCB Design/Fab</td>
<td>3</td>
<td></td>
<td>None.</td>
<td>This course covers MultiSim schematic capture, simulation, export to UltiBoard and UltiRoute. Basic Computer-aided Design (CAD) drafting, block diagrams, printed circuit board design-layout. The use of Computer Aided Design tools and electronics-library component templates will be emphasized. PCB design and fabrication with through-hole and SMT/SMD devices. 36 hours lecture and 54 hours laboratory.</td>
</tr>
<tr>
<td>ELE-61</td>
<td>Robotics for Manufacturing</td>
<td>3</td>
<td></td>
<td>None.</td>
<td>Robotics for the Supply Chain and Manufacturing industries. This course presents the programming and control of robotic systems typically used in industry. 36 hours lecture and 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)</td>
</tr>
<tr>
<td>ELE-63</td>
<td>LabVIEW Visual Programming</td>
<td>3</td>
<td></td>
<td>None.</td>
<td>Preparatory courses in the programming and control of robotic systems for Automated Systems. (Same as MAN-63) (Letter Grade, or Pass/No Pass option.)</td>
</tr>
<tr>
<td>ELE-64</td>
<td>Programmable Logic Controllers</td>
<td>3</td>
<td></td>
<td>None.</td>
<td>Fundamentals of programmable logic controllers, with an emphasis on introductory programming of PLCs. Problem analysis with solutions that integrate programming formats, auxiliary commands and functions, common programming languages, and popular software programs used with PLCs. Installation, maintenance, troubleshooting and repair are inherent components. 36 hours lecture and 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)</td>
</tr>
<tr>
<td>ELE-71</td>
<td>Residential Wiring for Electricians</td>
<td>4</td>
<td></td>
<td>None.</td>
<td>Explores the foundations of electrical wiring for residential dwellings. Topics include residential requirements and practices with commercial and industrial applications. Laboratory allows students to wire and test sample wall and ceiling sections. 54 hours lecture and 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)</td>
</tr>
</tbody>
</table>
ELE-72 - Commercial and Industrial Electrical  
(Same as MAN-72) 
**Prerequisite:** None. 
Focuses on the wiring of commercial and industrial buildings that use metal or concrete walls. The National Electrical Code will be stressed at it relates to grounding, soil conditions, conduits, raceways, cable-trays, fills, line/load wiring, circuit/motor protection, de-rating, tension, wire-splicing, control/power transformers, pipe-bending/supporting, lighting distribution/layout, and special considerations. Hands-on lab experiences are selected to reinforce key theories. 54 hours lecture and 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ELE-73 - Electric Motors for Electricians  
(Same as MAN-73) 
**Prerequisite:** None. 
Enables electricians to understand and effectively wire most standard DC motors, servos and steppers, as well as many AC motors, including single and poly-phase units, from fractional horsepower to multi-horsepower, industrial giants. 54 hours lecture and 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ELE-74 - Industrial Electrical Automation  
(Same as MAN-74) 
**Prerequisite:** None. 
CSU 
Automatic monitoring, control and communications for electrical systems used with various motors; pneumatics/hydraulics basics; machines/processes control; production-lines; machine-vision; QC-inspection; palletizing; robotics; inventory transport, storage, distribution and reporting control systems. Topics include open-loop vs closed-loop control with feedback; PID; A/D and D/A conversion; remote-sensing/control and programming PLCs/PACs; networking; RFID and bar-codes are also discussed. 54 hours lecture and 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ELE-75 - Electronics for Electricians  
**Prerequisite:** None. 
CSU 
Enables electricians to integrate electronic devices into electrical systems for greater efficiency, flexibility and competitive advantage. 54 hours lecture and 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ELE-76 - Electrician Specialties  
**Prerequisite:** None. 
Introduces electricians to the specialized needs and requirements of institutional, educational and government entities, along with overlapping demands of other specialty areas that include access-control, security/safety, flood, fire and gas detection, environmental controls and renewable energy systems, patient-monitoring, nurse-call, closed-circuit television (CCTV), Internet-Intercom and phone systems and remote-monitoring and control applications. 54 hours lecture and 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ELE-77 - Survey of Electrical Trades  
(Same as MAN-77) 
**Prerequisite:** None. 
An introduction to the ten primary electrical trades from residential, commercial and industrial jobs through to electrical specialties. Topics include basic electrical theory common to all electricians, such as: voltage, resistance, current, power, capacitance, inductance, reactance, impedance, blueprint symbols, Ohm's Law, Power, Power-factor, using instrumentation, interpreting measurements, wire gauges, ampacity, circuit protection, shorts, opens, troubleshooting and safety. Examines electrical trades opportunities and responsibilities along with an overview of NEC and OSHA basics. 54 hours lecture and 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ELE-91 - Fundamentals of Solar Energy  
3 units 
**Prerequisite:** None. 
This course is for students interested in a career in the solar industry. The fundamental principles and functions of photovoltaic industry will be introduced along with the planning, installation and maintenance of all necessary components for a photovoltaic system. The transmission and distribution of electric power will be reviewed and basic concepts of electricity, identification, functions and operations of components will be surveyed. 54 hours lecture.

ELE-200 - Electronics Work Experience  
1-2-3-4 units 
**Prerequisite:** None. 
CSU* 
Advisory: Students should have paid or voluntary employment. 
This course is designed to coordinate the student’s occupational on-the-job training with related instruction in work-related skills. Students may earn up to four (4) units each semester for a maximum of 16 units of work experience. No more than 20 hours per week may be applied toward the work requirement. Students enrolling in WKX-200 are administratively moved to the appropriate general or occupational work experience course after the first class meeting based upon several factors, including the number of hours worked during the semester, occupational program requirements, and type of work in which the student is engaged. 18 hours orientation and 60 hours of volunteer work experience (maximum of 240 hours) or 75 hours of paid work experience (maximum of 300 hours) are required for each enrolled unit. (Letter Grade or Pass/No Pass option.)
ENGINEERING

ENE-1A - Plane Surveying, I  
3 units  
CSU  
Prerequisite: None.  
Advisory: MAT-36.  
Fundamental surveying methods and procedures as applied to land measurement, building trades and route location. Taping, leveling and angle measurements are studied, as are the analysis and adjustment of the measurements. 36 hours lecture and 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ENE-1B - Plane Surveying, II  
3 units  
CSU  
Prerequisite: ENE-1A.  
Emphasis upon adjustment techniques and greater depth in error theory. Traverse and triangulation surveys are studied with elements of topographic surveying. Special problems similar to those encountered in actual practice. 36 hours lecture and 54 hours field laboratory. (Letter Grade, or Pass/No Pass option.)

ENE-10 - Introduction to Engineering  
1 unit  
UC, CSU  
Prerequisite: None.  
An introduction to the career opportunities and skills needed as an engineer. Various forms of engineering communication including laboratory report writing, graphical presentations, and problem solving format are presented. The scientific method of investigation is covered. This course is recommended for all students considering career possibilities in engineering and/or engineering technology. 18 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENE-18 - Legal Aspects of Surveying  
3 units  
CSU  
Prerequisite: ENE-1A and 1B or five years surveying experience.  
A study of legal aspects related to public land survey, municipal property survey, and descriptions and laws affecting a surveyor. Includes property line surveys, methods of setting missing property corners. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENE-21 - Drafting  
3 units  
UC*, CSU  
Prerequisite: None.  
Fundamentals of mechanical drawing including lettering, instruments and their uses, geometric construction, types of projection, freehand drawing, sectioning, dimensioning, auxiliary views, and pictorial drawing. Recommended for beginners and students with up to one year of drafting in high school. 27 hours lecture and 90 hours laboratory. (Letter Grade, or Pass/No Pass option.)
ENE-22 - Engineering Drawing 3 units
UC*, CSU
Prerequisite: ENE-21.
Advisory: ENE-30.
Drafting fundamentals briefly reviewed, geometric construction, orthographic projections, free-hand sketching, sectioning, auxiliary views, shop processes, dimensions and tolerances, fasteners, working and pictorial drawings, and as time permits, piping and electrical drawings. 27 hours lecture and 90 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ENE-23 - Descriptive Geometry 3 units
UC, CSU
Prerequisite: ENE-22 and MAT-36.
Graphical (drafiting) techniques applied to the solutions of vector problems, the development of surfaces as in sheetmetal work, the determination of lines of intersection between surfaces, and the solution of miscellaneous engineering problems involving points, lines, and planes. 27 hours lecture and 90 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ENE-26 - Civil Engineering Drafting 3 units
CSU
Prerequisite: ENE-21.
Advisory: ENE-60 or MAT-36.
This course is designed to provide exposure to civil engineering drafting. Emphasis will be placed upon developing topographic and contour maps, including their use in site preparation and basic earthwork calculations. Techniques for interpreting field notes and legal descriptions will also be examined. 27 hours lecture and 90 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ENE-27 - Technical Communications 3 units
(Same as ELE-27)
CSU
Prerequisite: None.
Procedures for organizing and presenting data through informal and formal documents and presentations. Includes practice in writing memoranda, letter reports, and informal technical reports. Also includes discussion of personal resume and preparation of job applications. 54 hours lecture.

ENE-28 - Technical Design 3 units
CSU
Prerequisite: ENE-22.
Advisory: ENE-30, 42 and 52.
A study of industrial design and drafting procedures relating to the basic elements of mechanisms, including drawing of machine parts in various stages of manufacturing. Studies will include terminology, power transmission, bearings, fixtures, dies, ANSI-Y-14.5 standards of drawing, geometric dimensioning and tolerancing and manufacturing processes. Related problems include design layouts, detail and assembly drawings. A portfolio of completed drawings is a project requirement for this course (drawings may be drawn using the Computer-Aided Design system or the drawing board.) 27 hours lecture and 90 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ENE-30 - Computer Aided Drafting (CAD) 3 units
UC, CSU
Prerequisite: None.
Advisory: CIS-1A.
A two-dimensional computer aided drafting class for drafters. Students will use an AUTOCAD computer drafting system to develop “computer drawn” drawings which are typical to the various fields of drafting. 27 hours lecture and 90 hours laboratory.

ENE-31 - Computer Aided Drafting and Design 3 units
CSU
Prerequisite: ENE-30.
This is the second course which presents an intensive study utilizing a two-dimensional Computer Assisted Drafting and Design (CAD) system to obtain graphic solutions, design refinements, modifications, and delineations of working technical drawings using AutoCAD. This course emphasizes basic high technology skills which are necessary to function as an entry level CAD operator. 27 hours lecture and 90 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ENE-35 - Statics (Engineering Mechanics) 3 units
UC, CSU
Prerequisite: PHY-4A.
A study of force and equilibrium problems, free body diagram techniques, friction problems, second moments and moments of inertia, and their application to engineering. Algebraic, vector and classical, and graphical methods of calculation. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENE-38 - Introduction to Programming Concepts and Methodologies for Engineers 3 units
UC, CSU
Prerequisite: MAT-10.
The purpose of this course is to expose students to the fundamental concepts of procedure-oriented programming, associated abstraction mechanisms and design processes, data structures and handling, along with interfacing software with the physical world (e.g., the use of sensors), and the application of numerical techniques. 36 hours lecture and 54 hours laboratory.

ENE-39 - Engineering Circuit Analysis 4 units
UC, CSU
Prerequisite: PHY-4B.
Corequisite: Concurrent enrollment in or prior completion of MAT-2.
An introduction to the analysis of electrical circuits. Use of analytical techniques based on the application of circuit laws and network theorems. Analysis of DC and AC circuits containing resistors, capacitors, inductors, dependent sources, operational amplifiers, and/or switches. Natural and forced responses of first and second order RLC circuits; the use of phasors; AC power calculations; power transfer; and energy concepts. 54 hours lecture and 54 hours laboratory.
ENE-42 - SolidWorks I 3 units

Prerequisite: None.

This course is designed to introduce the student to three-dimensional parametric solid modeling with SolidWorks. Students will begin with basic parametric solid modeling techniques and advance into complex assemblies requiring animation. 27 hours lecture and 90 hours laboratory.

ENE-42B - SolidWorks II 3 units

Prerequisite: ENE-42 or prior SolidWorks experience.

An advanced course in using the three-dimensional parametric solid-modeler SolidWorks. This course is designed to further 3D parametric solid modeling software techniques learned in SolidWorks I. Students will delve deeper into topics that were introduced in the first SolidWorks course such as extruding, sweeping, lofting, shelling, assemblies, and animation. 27 hours lecture and 90 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ENE-51 - Blueprint Reading 2 units

Prerequisite: None.

A beginning course in the study of blueprints and their interpretation, types of projection, symbols and abbreviations. This course is designed for students interested in print reading for the machine trades. 27 hours lecture and 27 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ENE-52 - Geometric Dimensioning and Tolerancing 2 units

Prerequisite: None.

A course presenting the basics of the Standards of Geometric Dimensioning and Tolerancing. This course will help students read, interpret and use ANSI Y14.5M, the current standard for drafting. 36 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENE-60 - Math for Engineering Technology 3 units

Prerequisite: None.

A course in mathematical problems frequently used by students enrolled in the trade and industrial and engineering programs. This course reviews basic arithmetic, linear measurement, basic algebra, basic plane geometry, trigonometry, and compound angles. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENE-200 - Engineering Work Experience 1-2-3-4 units

Prerequisite: None.

Advisory: Students should have paid or voluntary employment.

This course is designed to coordinate the student's occupational on-the-job training with related instruction in work-related skills. Students may earn up to four (4) units each semester for a maximum of 16 units of work experience. No more than 20 hours per week may be applied toward the work requirement. Students enrolling in WKX-200 are administratively moved to the appropriate general or occupational work experience course after the first class meeting based upon several factors, including the number of hours worked during the semester, occupational program requirements, and type of work in which the student is engaged. 18 hours orientation and 60 hours of volunteer work experience (maximum of 240 hours) or 75 hours of paid work experience (maximum of 300 hours) are required for each enrolled unit. (Letter Grade or Pass/No Pass option.)

ENGLISH

Most four-year colleges and universities will require transfer students to have eight units (two semesters) of composition. English 1A or 1H and 1B or 1BH at Riverside Community College District will meet this requirement.

ENG-1A - English Composition 4 units

UC, CSU (C-ID ENGL 100)

Prerequisite: ENG-50 or 80 or qualifying placement level.

Emphasizes and develops skills in critical reading and academic writing. Reading and writing assignments include exposition, argumentation, and academic research. Students will write a minimum of 10,000 words. Classroom instruction integrates Writing and Reading Center activities. Students may not receive credit for both ENG-1A and ENG-1AH. 72 hours lecture and 18 hours laboratory.

ENG-1AH - Honors English Composition 4 units

UC, CSU (C-ID ENGL 100)

Prerequisite: ENG-50 or 80 or qualifying placement level.

Limitation on enrollment: Enrollment in the Honors Program.

Emphasizes and develops skills in critical reading and academic writing. Reading and writing assignments include exposition, argumentation, and academic research. Students will write a minimum of 10,000 words. Honors course offers an enriched experience for accelerated students through limited class size; seminar format; focus on primary texts; and application of higher level critical thinking skills. Students may not receive credit for both ENG-1A and ENG-1AH. Classroom instruction integrates Writing and Reading Center activities. 72 hours lecture and 18 hours laboratory.
ENG-1B - Critical Thinking and Writing 4 units
UC, CSU (C-ID ENGL 105 and ENGL 110)
Prerequisite: ENG-1A or 1AH.
Building on the rhetorical skills learned in ENG 1A, students will analyze, interpret, and synthesize diverse texts in order to construct well-supported academic arguments and literary analyses. Composition totaling a minimum of 10,000 words serves to correlate writing and reading activities. Classroom activities integrate with Writing and Reading Center activities. Students may not receive credit for both ENG-1B and ENG-1BH. 72 hours lecture and 18 hours laboratory.

ENG-1BH - Honors Critical Thinking and Writing 4 units
UC, CSU (C-ID ENGL 105 and ENGL 110)
Prerequisite: ENG-1A or 1AH.
Limitation on enrollment: Enrollment in the Honors Program.
Building on the rhetorical skills learned in ENG-1A or 1AH, students will analyze, interpret, and synthesize diverse texts in order to construct well-supported academic arguments and literary analyses. Composition totaling a minimum of 10,000 words serves to correlate writing and reading activities. Classroom activities integrate with Writing and Reading Center activities. This honors course offers an enriched experience for accelerated students through limited class size, seminar format, focus on primary texts, and application of higher level critical thinking skills. Students may not receive credit for both ENG-1B and ENG-1BH. 72 hours lecture and 18 hours laboratory.

ENG-4 - Writing Tutor Training 2 units
CSU
Prerequisite: ENG-1A or 1AH.
Designed to prepare students to become peer tutors in the Writing Center. Participants learn specific tutoring techniques and discuss problems, questions, and challenges in tutoring writing. Tutors develop student-centered, non-intrusive tutoring skills that avoid “appropriating the text” (i.e., becoming a proofreader, editor, or co-author). Topics include theory and practice of tutoring writing, including writing as a process, interpersonal communication techniques, cross-cultural tutoring, group learning, and computer programs applicable to writing instruction. 27 hours lecture and 27 hours laboratory.

ENG-6 - British Literature I: Anglo-Saxon through Eighteenth Century 3 units
UC, CSU (C-ID ENGL 160)
Prerequisite: ENG-50 or 80 or eligibility for ENG-1A.
Advisory: ENG-1B or 1BH.
A survey of British literature from the eighth century AD to 1800, including a comprehensive exposure to the poetry, drama, and fiction of this era as well as a basic understanding of the cultural, intellectual, and artistic trends it embodies. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENG-7 - British Literature II: Romanticism through Modernism/Postmodernism 3 units
UC, CSU (C-ID ENGL 165)
Prerequisite: ENG-50 or 80 or eligibility for ENG-1A.
Advisory: ENG-1B or 1BH.
A survey of British literature from 1800 to the present, including a comprehensive exposure to the poetry, drama, and fiction of this era as well as a basic understanding of the cultural, intellectual, and artistic trends it embodies. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENG-8 - Introduction to Mythology 3 units
(Same as HUM-8)
UC, CSU
Prerequisite: None.
Advisory: ENG-1B or 1BH.
A study of Greco-Roman and other mythological traditions. Emphasizes the historical sources and cultural functions of myths and legends in ancient societies and their continuing relevance to modern thought and culture. 54 hours lecture.

ENG-9 - Introduction to Shakespeare 3 units
UC, CSU
Prerequisite: None.
Advisory: ENG-1B or 1BH.
A survey of Shakespeare’s plays and poetry, with the primary emphasis on exposing students to a representative sampling of his dramatic works and to the cultural, intellectual, and artistic contexts for his work. Both students who have read Shakespeare before and students who have no experience with Shakespeare are encouraged to take this class. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENG-10 - Special Studies in Literature 3 units
CSU
Prerequisite: None.
Advisory: ENG-1B or 1BH.
Designed to provide students with opportunities to focus on specialized areas of literature and/or specific authors, genres or literary themes. Topics are selected according to student and instructor interest and needs. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENG-11 - Creative Writing 3 units
UC, CSU (C-ID ENGL 200)
Prerequisite: ENG-1A or 1AH.
Studies in fundamental principles and practice of writing fiction and poetry. Lectures and discussions emphasize analysis of professional examples of creative writing and study of creative writing theory. In-class workshops provide practice in creative writing techniques. In-class and out-of-class class writing assignments provide practice in writing techniques and in peer- and self-analysis. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)
ENG-14 - American Literature I: Pre-Contact 3 units through Civil War
UC, CSU (C-ID ENGL 130)
Prerequisite: ENG-50 or 80 or eligibility for ENG-1A.
Advisory: ENG-1B or 1BH.
A survey of American literature from the pre-contact period to the Civil War, including a comprehensive exposure to the prose, poetry, and fiction of this era as well as a basic understanding of the cultural, intellectual, and artistic trends it embodies. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENG-15 - American Literature II: 1860 to the Present 3 units
UC, CSU (C-ID ENGL 135)
Prerequisite: ENG-50 or 80 or eligibility for ENG-1A.
Advisory: ENG-1B or 1BH.
A survey of American literature from 1860 to the present, including a comprehensive exposure to the prose, poetry, fiction and drama of this era as well as a basic understanding of the cultural, intellectual and artistic trends it embodies. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENG-16 - Introduction to Linguistics 3 units
CSU
Prerequisite: None.
Advisory: Qualification for ENG-1A.
A survey of language structure, theory and development, including a study of phonetics, phonology, morphology, semantics and syntax, language variation and change, language acquisition, and the psychological and social issues involved in language learning. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENG-18 - Survey of Native American Literature 3 units
UC, CSU
Prerequisite: None.
Advisory: ENG-1B or 1BH.
A survey of Native American literature from early oral narrative to contemporary literature. Includes a comprehensive exposure to Native American prose, poetry, oratory, essay and modern fiction and a basic introduction to the cultural, social, intellectual and artistic trends of Native American culture and their relationship to contemporary literature. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENG-20 - Survey of African American Literature 3 units
UC, CSU
Prerequisite: None.
Advisory: ENG-1B or 1BH.
A survey of African American literature from the early oral tradition to the present, including a comprehensive exposure to African American prose, poetry, and fiction as well as a basic understanding of the cultural, intellectual, and artistic trends of African American culture and the relationship to contemporary literature. Students who have taken both ENG-21 and ENG-22 may not receive credit for ENG-20. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENG-23 - The Bible as Literature 3 units
(Same as HUM-23)
UC, CSU
Prerequisite: None.
Advisory: ENG-1B or 1BH and REA-83.
A survey of the Hebrew Bible and New Testament with emphasis on literary form, styles, and themes. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENG-30 - Children’s Literature 3 units
UC (C-ID ENGL 180)
Prerequisite: ENG-50 or 80 or eligibility for ENG-1A.
Advisory: ENG-1B or 1BH.
A general survey of children’s literature from early times, with emphasis on contemporary works, including fantasy/science fiction, realistic, multicultural, and historical fiction. Both oral and written assignments are required. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENG-35 - Images of Women in Literature 3 units
UC, CSU
Prerequisite: None.
Advisory: ENG-1B or 1BH.
A study of images of women in literature which includes male and female authors and explores the cultural, sociological, political and economic bases for historical and contemporary literary images of women. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENG-40 - World Literature I: From Ancient Literature to the Seventeenth Century 3 units
UC, CSU (C-ID ENGL 140)
Prerequisite: ENG-50 or 80 or eligibility for ENG-1A.
Advisory: ENG-1B or 1BH.
Significant works of world literature from Ancient literatures to 17th Century, including a comprehensive exposure to the poetic, dramatic, and prose forms of early cultures as well as a basic understanding of the cultural, intellectual, and artistic trends these works embody. Primary emphasis is on literature in translation. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENG-41 - World Literature II: Seventeenth Century Through the Present 3 units
UC, CSU (C-ID ENGL 145)
Prerequisite: ENG-50 or 80 or eligibility for ENG-1A.
Advisory: ENG-1B or 1BH.
Significant works of world literature from the Seventeenth Century through the present, including a comprehensive exposure to the poetry, drama, and fiction of these periods as well as a basic understanding of the cultural, intellectual, and artistic trends these works embody. Emphasis on literature in translation. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)
ENG-44 - Poetry from the Twentieth Century 3 units
to the Present
UC, CSU
Prerequisite: None.
Advisory: ENG-1B or 1BH.
The study of major voices and trends in poetry of the twentieth and twenty-first century, examining the cultural and artistic contexts from which this poetry emerged. Topics include poetic structure and development and thematic elements. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENG-45 - Modern Drama 3 units
UC, CSU
Prerequisite: None.
Advisory: ENG-1B or 1BH.
A survey of drama from roughly 1870 to the present, including appraisal of modern theatrical movements, examination of drama’s function as a form of creative expression, exploration of ideas, societal factors and technology that have influenced modern drama, and investigation into the practice of the playwright and dramaturge. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENG-48 - Short Story and Novel from the Twentieth Century to the Present 3 units
UC, CSU
Prerequisite: None.
Advisory: ENG-1B or 1BH.
A study of prose fiction from the twentieth century to the present, with an emphasis on writers of international standing whose work embodies significant formal developments and thematic concerns of prose narrative in the last century. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

ENG-50 - Basic English Composition 4 units
Prerequisite: ENG-60B, ESL-55 or qualifying placement level.
Emphasizes and develops skills in critical reading and academic writing as preparation for college-level composition. Students will write a minimum of 5,000 words. Classroom instruction integrates Writing and Reading Center activities. 72 hours lecture and 18 hours laboratory.

ENG-57 - Basic Literature and Composition 4 units
Prerequisite: None.
This class offers instruction of effective writing related to literature, emphasizing the short story, novel, drama and poetry. Instruction and assignments in writing correlate with reading, the study of composition techniques and include a review of the grammar, mechanics and usage of standard American English. Classroom activities integrate with Writing and Reading Center activities. 72 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ENG-60A - English Fundamentals: Sentence to Paragraph 4 units
Prerequisite: None.
Develops student’s writing, active-reading and grammar skills to basic-level performance. Emphasis is on correct writing at the sentence and paragraph level. 72 hours lecture and 18 hours laboratory. (Non-degree credit course. Pass/No Pass only.)

ENG-60B - English Fundamentals: Paragraph to Essay 4 units
Prerequisite: ENG-60A or qualifying placement level.
Develops the student’s basic-level writing, active-reading and grammar skills to intermediate-level performance. Emphasis is on correct writing at the paragraph and short-essay level. 72 hours lecture and 18 hours laboratory. (Non-degree credit course. Pass/No Pass only.)

ENG-80 - Preparatory Composition 6 units
Prerequisite: None.
Accelerated preparation for English Composition (ENG 1A), this course offers intensive instruction in the academic reading, reasoning, and writing expected in transfer and associate-degree courses. Students will read college-level texts and write a minimum of 10,000 words. Classroom instruction integrates Writing and Reading Center activities. 108 hours lecture and 18 hours laboratory. (Non-degree credit course.)

ENG-85 - Writing Clinic .5 unit
Prerequisite: None.
Intended for students who need concentrated attention in various areas of grammar, punctuation, and composition. Self-paced, open-entry/open-exit, with no traditional lecture-based component. Instead, it requires students to do the majority of their coursework independently. Each student follows a sequential series of modules based on his or her diagnosis. Students meet with their instructor in the Writing and Reading Center for the pre-and post-test and as needed for one-on-one instruction or small group study for the duration of the students’ enrollment in the course. 27 hours laboratory. (Non-degree credit course. Pass/No Pass only)
ENGLISH AS A SECOND LANGUAGE

ESL-51 - Basic Writing and Grammar 4 units
Prerequisite: None.
Emphasizes elementary competency in standard written English with a focus on basic writing and grammar skills. Instruction will also include vocabulary and reading skills necessary for success in basic English as a Second Language courses. 72 hours lecture and 18 hours laboratory. (Non-degree credit course. Pass/No Pass only.)

ESL-52 - Low-intermediate Writing and Grammar 4 units
Prerequisite: Qualifying placement level on a state-approved placement instrument, or successful completion of ESL-51.
Develops competency in standard written English with a continued focus on basic writing and grammar skills. Instruction includes vocabulary and reading skills necessary for success in low-intermediate English as a Second Language courses. 72 hours lecture and 18 hours laboratory. (Non-degree credit course. Pass/No Pass only.)

ESL-53 - Intermediate Writing and Grammar 4 units
Prerequisite: Qualifying placement level on a state-approved placement instrument, or successful completion of ESL-52.
Increases competency in standard written English with a focus on intermediate and writing grammar skills. Instruction includes vocabulary and reading skills necessary for success in intermediate English as a Second Language courses. 72 hours lecture and 18 hours laboratory. (Non-degree credit course. Pass/No Pass only.)

ESL-54 - High-intermediate Writing and Grammar 5 units
Prerequisite: Qualifying placement level on a state-approved placement instrument, or successful completion of ESL-53.
Emphasizes competency in standard written English with a focus on high-intermediate grammar and writing skills. Instruction includes an intensive review of vocabulary and reading skills necessary for success in high-intermediate English as a Second Language courses. 90 hours lecture and 18 hours laboratory. (Degree credit course. Letter grade, or Pass/No Pass option.)

ESL-55 - Advanced Writing and Grammar 5 units
Prerequisite: Qualifying placement level on a state-approved placement instrument, or successful completion of ESL-54.
Emphasizes competency in standard written English with a focus on developing paragraphs and essays in preparation for English composition classes. Instruction includes continued development of vocabulary, reading and academic skills necessary for success in college classes. 90 hours lecture and 18 hours laboratory. (Degree credit course. Letter Grade, or Pass/No Pass option.)

ESL-71 - Basic Reading and Vocabulary 4 units
Prerequisite: None.
Advisory: Enrollment in ESL-51 or 52 or qualifying placement level on a state-approved placement instrument.
Emphasizes the acquisition of simple reading skills, expansion of receptive and productive vocabulary, developing dictionary skills, and comprehension of short, adapted reading selections. 72 hours lecture and 18 hours laboratory. (Non-degree credit course. Pass/No Pass only.)

ESL-72 - Intermediate Reading and Vocabulary 4 units
Prerequisite: None.
Advisory: Enrollment in ESL-53 or 54.
Emphasizes the continued acquisition of reading skills needed for college level courses, expansion of receptive and productive vocabulary, and comprehension of medium-length adapted reading selections. 72 hours lecture and 18 hours laboratory. (Non-degree credit course. Pass/No Pass only.)

ESL-73 - High-intermediate Reading and Vocabulary 4 units
Prerequisite: None.
Advisory: Enrollment in ESL-53, 54, 55 or qualifying placement level on a state-approved placement instrument.
Emphasizes the acquisition of higher level reading skills needed for college level courses, expansion of receptive and productive vocabulary, further development of library skills, and comprehension of both adapted and authentic reading selections of varying lengths. 72 hours lecture and 18 hours laboratory. (Degree credit course. Letter Grade, or Pass/No Pass option.)

ESL-90C - Special Topics in ESL: Preposition Review 1 unit
Prerequisite: None.
Advisory: Qualification for ESL-53 or higher.
Provides students with basic instruction and practice in the use of prepositions and phrasal verbs. Attention will focus on specialized usage and problem areas. Topics include two- and three-part verbal idioms, two-part adjectives, adjectival and adverbial idioms, and prepositions used in normal discourse. 18 hours lecture. (Non-degree credit course. Pass/No Pass only.)

ESL-90D - Special Topics in ESL: Verb Tense Review 2 units
Prerequisite: None.
Advisory: Qualification for or enrollment in ESL-54 or higher.
Provides students with intensive review, practice, and use of all the basic English verb tenses. 36 hours lecture. (Non-degree credit course. Pass/No Pass only.)

ESL-90G - Special Topics in ESL: Mastering Articles: A, An, and The 1 unit
Prerequisite: None.
Advisory: Qualification for or enrollment in ESL-53 or higher.
Provides students with extensive review of and practice using definite and indefinite articles in English. 18 hours lecture. (Non-degree credit course. Pass/No Pass only.)
ESL-90H - Special Topics in ESL: Phrases and Clauses  1 unit
Prerequisite: None.
Advisory: Qualification for or enrollment in ESL-53 or higher.
Provides students with basic instruction and practice in using phrases and clauses to write well-structured sentences. Enhances the students’ competence in identifying types of phrases and clauses in English and in using proper punctuation with compound and complex sentence structures. 18 hours lecture. (Non-degree credit course. Pass/No Pass only.)

ESL-90I - Special Topics in ESL: Punctuation Review  1 unit
Prerequisite: None.
Advisory: Qualification for ESL-53 or higher.
Provides students with the conventions of punctuation use in American English. Students will analyze and apply the rules of punctuation. 18 hours lecture. (Non-degree credit course. Pass/No Pass only.)

ESL-90J - Special Topics in ESL: Spelling Review  1 unit
Prerequisite: None.
Advisory: Qualification for ESL-53 or higher.
Improves students’ spelling skills. Students will analyze and apply the rules and principles of spelling in American English. 18 hours lecture. (Non-degree credit course. Pass/No Pass only.)

ESL-90L - Special Topics in ESL: Punctuation of  2 units
Phrases and Clauses
Prerequisite: None.
Advisory: Qualification for or enrollment in ESL-53 or higher.
Provides students with the conventions of punctuation use in American English. Enhances the students’ competence in identifying types of phrases and clauses in English and in using proper punctuation in compound and complex sentence structures. 36 hours lecture. (Non-degree credit course. Pass/No Pass only.)

ESL-90M - Special Topics in ESL: Articles and  2 units
Prepositions
Prerequisite: None.
Advisory: Qualification for or enrollment in ESL-53 or higher.
Provides students with basic instruction and practice in the use of prepositions and articles. Attention will focus on prepositional phrases, verbal and adverbial idioms, and the use of definite and indefinite articles. 36 hours lecture. (Non-degree credit course. Pass/No Pass only.)

ESL-91 - Oral Skills I: Beginning Oral  3 units
Communication
Prerequisite: None.
Advisory: Concurrent enrollment in ESL-51 or 52.
This course emphasizes beginning conversation, pronunciation and idiomatic skills along with basic listening comprehension. Conversational and idiomatic skills focus on fluent and appropriate use of common words and functional expressions in life skills areas — shopping, food, clothing, money/banking, car/license, travel, medicine. Pronunciation focuses on the articulation of English vowels and consonants and on the development of basic English patterns of stress and intonation. Listening stresses understanding verbal instructions and questions, common vocabulary and daily functions in an aural context, main ideas and details in monologues and dialogues. 54 hours lecture and 18 hours laboratory. (Non-degree credit course. Pass/No Pass only.)

ESL-92 - Oral Skills II: Intermediate Oral  3 units
Communication
Prerequisite: None.
Advisory: Concurrent enrollment in ESL-53 or 54.
This course develops intermediate conversation, pronunciation, idiomatic and aural comprehension skills. It is intended for non-native speakers of English who can make themselves understood but are not yet proficient in self-expression. Conversational and idiomatic skills focus on fluent and appropriate use of oral communication skills in a variety of social, business and/or academic situations. Pronunciation focuses on clearer articulation of English vowels and consonants and on increased control of the stress, intonation and rhythm of English. Listening comprehension stresses understanding verbal instructions and questions on campus and in the workplace. Students continue to learn appropriate verbal and non-verbal behavior as well as conversation management techniques to exchange ideas in small and large group communication. 54 hours lecture and 18 hours laboratory. (Non-degree credit course. Pass/No Pass only.)

ESL-93 - Oral Skills III: Advanced Oral  3 units
Communication
Prerequisite: None.
Advisory: Concurrent enrollment in ESL-54, 55 or ENG-50.
This course develops advanced conversation, pronunciation, idiomatic and aural comprehension skills. Conversational and idiomatic skills focus on increasingly fluent communication and interaction skills in complex speaking situations and comfortable use of English in a variety of situations, both academic and professional. Pronunciation focuses on improved clarity of speech and on increased control of the stress, intonation and rhythm of English. Listening comprehension stresses understanding complex syntax, register, nuance and tone in conversations on campus and in the workplace. Students will learn how to speak at length on a given topic, both prepared and extemporaneous, and to understand the subtleties of conversational English. 54 hours lecture and 18 hours laboratory. (Degree credit course. Letter Grade, or Pass/No Pass option.)
**ESL-95 - Pronunciation and Accent Reduction 3 units**

Prerequisite: None.
Advisory: Qualification for ESL-52 or higher.
Provides students with basic instruction and practice in the oral production of English. Listening activities focus on comprehension of sentences, dialogues and paragraphs at normal speed and on discrimination of sound patterns in American English. Pronunciation focuses on stress, intonation, rhythm, phrasing, reduction, and linking as well as consonants, vowels and digraphs. The course emphasizes overall pronunciation improvement to make spoken communication more intelligible and to approximate more closely native rhythms and intonation. 54 hours lecture and 18 hours laboratory. (Non-degree credit course. Pass/No Pass only.)

**FRENCH**

**FRE-1 - French 1 5 units**

UC*, CSU
Prerequisite: None.
This course concentrates on developing basic skills in listening, reading, speaking and writing. Emphasis is placed on acquisition of vocabulary, structures and grammatical patterns necessary for comprehension of native spoken and written French at the beginning level. This course includes discussion of French culture and daily life. 90 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

**FRE-2 - French 2 5 units**

UC*, CSU
Prerequisite: FRE-1.
Further development of basic skills in listening, reading, speaking and writing. A continued emphasis on the acquisition of vocabulary, structures and grammatical patterns necessary for comprehension of standard spoken and written French at the beginning level. This course includes an expanded discussion of French culture and daily life. 90 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

**FRE-3 - French 3 5 units**

UC*, CSU
Prerequisite: FRE-2.
Development of intermediate skills in listening, reading, speaking and writing. A continued emphasis on the acquisition of vocabulary, structures and grammatical patterns necessary for comprehension of standard spoken and written French at the intermediate level. This course includes an expanded discussion of French culture and daily life. 90 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

**FRE-8 - Intermediate Conversation 3 units**

UC*, CSU
Prerequisite: FRE-2 or 3.
Intermediate-level vocabulary building and improvement of speaking proficiency in the context of French culture; daily life and topics of current interest. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

**FRE-11 - Culture and Civilization 3 units**

UC, CSU
Prerequisite: None.
Introductory survey of French culture and civilization as reflected in language, literature, art, history, politics, customs and social institutions. Class conducted in English. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

**GAME DEVELOPMENT**

**GAM-21 - History of Video Games 3 units**

CSU
Prerequisite: None.
A comprehensive study of the evolution of video games throughout history including arcade games, console games, computer games and mobile applications. Students will become acquainted with representative game designs through playing games, analyzing games, reading and writing about games. 54 hours lecture.

**GAM-22 - Game Design Principles 4 units**

UC, CSU
Prerequisite: None.
An introduction to the fundamental techniques, concepts, and vocabulary of game design. Students will design original non-digital prototypes and games, using iteration and playtesting best practices. Topics include formal elements of games, mechanics and dynamics, decision-making, flow states and player psychology, the MDA Framework, the iterative process, and rapid prototyping. 54 hours lecture and 54 hours laboratory.

**GAM-23 - Digital Game Design 4 units**

UC, CSU
Prerequisite: GAM-22.
An introduction to digital game design, including planning, designing and developing an original digital game. Topics include analyzing the target audience, pitching an original game concept, design documentation, the iterative process, and rapid digital prototyping. 54 hours lecture and 54 hours laboratory.

**GAM-24 - Video Game Prototyping 4 units**

(Same as CIS-24)

CSU
Prerequisite: CIS/CSC-5 or CIS/GAM-50.
An introduction to the fundamentals of computer game prototyping with an emphasis on scripting. Students will create mockup environments and objects of interest using placeholder assets, apply game rules and interactivity, and demonstrate previsualized game concepts. Topics include layout, possibility space, content integration, scripting, team collaboration, and workflow. Students will create 3D computer game levels using one or more modern game engines. 54 hours lecture and 54 hours laboratory.
GAM-31 - Introduction to 3D Modeling 3 units  
CSU  
Prerequisite: None.  
This course introduces the concepts of 3D Modeling in a virtual environment. Emphasis is on the introduction of three-dimensional concepts, the use of modeling tools, and menu structures within applications of 3D design systems. Skills taught in this course will give students the ability to create original three-dimensional computer generated models of organic or mechanical design. 54 hours lecture and 18 hours laboratory.

GAM-32 - Designing Game Characters 3 units  
CSU  
Prerequisite: GAM-31 or CIS/GAM-38A.  
Advisory: GAM-72.  
This course provides continued study of the application of 3D modeling techniques within a computer animation environment. Students will learn the production work flow of Maya to ZBrush and complete game ready character models. The focus will be on character design principles, low poly modeling and the creation of both bipedal and quadruped characters. 54 hours lecture and 18 hours laboratory.

GAM-33 - Advanced Digital Sculpting 3 units  
CSU  
Prerequisite: GAM-32.  
Continued study to perfect character modeling techniques with advanced sculpting methods. This course concentrates on the production work flow of ZBrush to Maya and complete high end cinematic quality 3D models. The focus will be on high level detail and animation models. 54 hours lecture and 18 hours laboratory.

GAM-34 - Character Rigging 3 units  
CSU  
Prerequisite: GAM-32 or 47.  
Prepare an animation rig accurately and anatomically in a 3D simulation environment. Prepare previously created humanoid and creature 3D models for an animation-ready state using professional production techniques. 54 hours lecture and 18 hours laboratory.

GAM-35 - Introduction to Simulation and Game Development 3 units  
CSU  
Prerequisite: None.  
An introduction to the field of simulation and computer gaming. Course provides an introductory look at the fundamentals of simulation and computer games used in various industries-entertainment, military, finance, medical, education, and law enforcement. Topics include licensing and franchising, marketing, business development, game design, storytelling, and development life cycle. 54 hours lecture

GAM-37 - Beginning Level Design for Computer Games 3 units  
(Same as CIS-37)  
CSU  
Prerequisite: None.  
An introduction to the fundamental techniques, concepts, and vocabulary of computer game level design. Students will create environments, place objects in those environments, and control those objects via a scripting language. Topics include frame rate, game flow and pacing. Students will create 3D computer games using a game engine such as Unreal. No previous computer programming experience is required. 54 hours lecture and 18 hours laboratory.

GAM-38A - Simulation and Gaming/3D Modeling 4 units  
for Real-Time Interactive Simulations  
(Same as CIS-38A)  
CSU  
Prerequisite: None.  
Create computationally efficient 3D digital models of both living and inanimate objects and then implement them in a real-time interactive simulation or video game. Topics include model construction using tri meshes and splines, applying basic surface detailing, understanding how model design effects computing performance, importing vertex and edge vectors into a game engine, and applying basic user and game world interactivity to one or more rigid bodies. 54 hours lecture and 54 hours laboratory.

GAM-38B - Simulation and Gaming/3D Animation 4 units  
for Real-Time Interactive Simulations  
(Same as CIS-38B)  
CSU  
Prerequisite: CIS/GAM-38A.  
Animate both living and inanimate objects created with a 3D modeling program and then implement them in a real-time interactive simulation or video game. Topics include linear and non-linear attribute interpolation, path, forward and reverse kinematics animation. Additional topics include understanding how animation parameters affect computing performance, importing vertex and edge vectors into a game engine, and applying basic user and game world interactivity to a rigid body. 54 hours lecture and 54 hours laboratory.

GAM-38C - Simulation and Gaming/3D Dynamics 4 units  
and Rendering for Real-Time Interactive Simulations  
(Same as CIS-38C)  
CSU  
Prerequisite: CIS/GAM-38B.  
Create dramatic cinematic sequences based on 3D animations of both living and inanimate objects. Topics include combining animated models with simulations of real world dynamics such as wind, water, fire, smoke, and gravity. Short animated sequences will be modeled, animated, and then rendered into frames. Hardware and software rendered frames will then be composited and added to a game engine. 54 hours lecture and 54 hours laboratory.
GAM-39 - Current Techniques in Game Art 4 units (Same as CIS-39)  
CSU  
Prerequisite: None.  
Advisory: Ability to manipulate graphics including layers and textures with Photoshop or concurrent enrollment in CIS-78A or ADM-71.  
Introduction to the fundamental techniques, concepts, and vocabulary of advanced sculpting for Game Art, Animation, Concept Art, and Digital Illustration. Students will modify 3D models, and create textured compositions as applied to video games, animation and concept art. 54 hours lecture and 54 hours laboratory.

GAM-41 - Game Asset and Engine Integration 3 units  
CSU  
Prerequisite: GAM-49.  
An intermediate 3D modeling class with a strong focus in low poly modeling, texture mapping and importing art assets into an industry standard game engine. Topics also include the basics of lighting an object, creating custom textures and presentation skills. 54 hours lecture and 18 hours laboratory.

GAM-42 - Photoshop for Game Art and Animation 3 units  
CSU  
Prerequisite: None.  
Introduction to Adobe Photoshop including mastery of digital image editing and techniques for painting custom textures for Game Art and Animation. Use of Layers, Layer Styles, Adjustment Layers and Blending Modes. Adjusting and correcting colors for textures and images to be used in 3D modeling software such as Autodesk Maya and in game engines such as Unity or UDK, as well as an introduction to all aspects of Adobe Photoshop for use in digital image editing. 54 hours lecture and 18 hours laboratory.

GAM-43 - Survey of Media Art for Game Design/Animation 3 units  
(Same as CIS-43)  
CSU  
Prerequisite: ART-17, CIS/GAM-38A and CAT/CIS-78A.  
Survey of industry concepts, techniques, and applications for multimedia, game art, animation, and concept art. Students will learn graphic styles for interface design, texturing techniques for 3D models, digital painting techniques for stylized concept art, digital background and layout design as it applies to video games and animation. 36 hours lecture and 54 hours laboratory.

GAM-44 - Portfolio Production 2 units  
(Same as CIS-44)  
CSU  
Prerequisite: GAM-23 or GAM-32 or GAM-46 or GAM-48 or GAM-52 or MUC-6 or [ART-22, ART-39, CIS-59, CIS-66, CIS/CAT-78B, CIS/CAT-79 and CIS/CAT-81] or [CIS-68 and CIS-75]  
Creative organization and presentation of a body of work exhibiting portfolio-quality aptitude. Covers all aspects of creation and presentation of a professional portfolio for students of multimedia majors such as 3D modeling, animation, game design, game programming, mobile applications development and graphic design. Students will edit existing work to emphasize individual strengths and areas of specialization. Compilation of a professional resume and mock interviews will be completed by each student. 18 hours lecture and 54 hours laboratory.

GAM-45 - Materials and Lighting 3 units  
CSU  
Prerequisite: GAM-31 or CIS/GAM-38A.  
An intermediate class with a strong focus in applications of lighting and lighting theory, materials and texture mapping of both procedural and bitmap textures utilizing both software and mental ray render engines for game environments. Students learn the different types of lights used in both real world lighting scenarios and in game environment lighting as it applies to game design and mood. Students study different materials and surface treatments including, specularity, reflections, refractions, subsurface scattering, Mental Ray shaders and Mental Ray lights. Mapping will be discussed in depth with various techniques for Bump, Normal Bump, Specular, Alpha and other key mapping techniques used in the game and animation industry as well as advanced concepts in Ambient Occlusion, HDRI (High Dynamic Range Imaging), Final Gather and Global Illumination. 54 hours lecture and 18 hours laboratory.

GAM-46 - Environment and Vehicle Modeling 3 units  
(Same as CIS-46)  
CSU  
Prerequisites: CIS/GAM-38A or GAM-31.  
Advisory: ART-17.  
A comprehensive study of game industry modeling techniques for both hard surface and organic models. Advanced 3D modeling techniques in creating environment and vehicle models with specific limitations on tri/poly count. Topics include Polygonal modeling tools, Subdivision Surface tools, and NURBS (Non Uniform Rational B Splines) modeling tool sets. An introduction to background design and layout as well as shot planning and composition as it applies to storytelling in a game/simulation environment with a focus on creating architectural interiors and exteriors representing houses, buildings and entire worlds contained under a roof. 54 hours lecture and 18 hours laboratory.
GAM-47 - Introduction to 3D Animation  3 units  
UC, CSU  
Prerequisite: GAM-31 or CIS/GAM-38A.  
An introductory 3D animation course which applies classic animation principles to objects in a 3D environment. Introduces tools used for 3D animation as well as the best working practices for animating objects and characters. 54 hours lecture and 18 hours laboratory.

GAM-48 - 3D Character Animation  3 units  
UC, CSU  
Prerequisite: CIS/GAM-38B or GAM-47.  
An advanced 3D animation course that applies real-life action sequences to characters. Topics include game cycle animation, weight, actions and personality for the character including advanced techniques with key frame animation including incorporating audio as well as dynamic animation to assist the character driven animation. 54 hours lecture and 18 hours laboratory.

GAM-49 - Game Modeling and Texturing  3 units  
CSU  
Prerequisite: GAM-31 or CIS/GAM-38A and one of the following, CIS-78A or GAM-42.  
An intermediate 3D modeling class focusing on low poly modeling and texture mapping for games. Topics include the basics of lighting an object, advanced Photoshop skills and presentation skills. 54 hours lecture and 18 hours laboratory.

GAM-50 - Introduction to Game Programming  3 units  
(Same as CIS-50)  
UC, CSU  
Prerequisite: None.  
A first course in programming for games stressing fundamental programming principles. Students are introduced to computer programming logic with hands on game development projects using an industry standard game engine. This course will cover the logic structures and design paradigms that allow for fundamental interactions in a visual and object oriented environment. No previous computer programming experience is required. 54 hours lecture and 18 hours laboratory.

GAM-51 - Game Mechanics and Simulation  3 units  
CSU  
Prerequisite: MAT-35 and CIS/CSC-5 or GAM/CIS-50.  
Introduction to practical applications of mathematics and physics techniques related to various areas of game programming. This course provides a specialized focus on core fundamentals in game engine programming and gameplay scripting. 54 hours lecture and 18 hours laboratory.

GAM-52 - Game Engine Scripting I  3 units  
(Same as CSC-52)  
CSU  
Prerequisite: CIS/CSC-17B, 18B or GAM/CIS-50.  
Advisory: CIS/GAM-37 or GAM-24.  
Introduction to core programming concepts related to game engine scripting. Scripted languages are used in the context of industry standard game development tools to implement game functionality. 54 hours lecture and 18 hours laboratory.

GAM-53 - Game Engine Scripting II  3 units  
(Same as CSC-53)  
CSU  
Prerequisite: GAM/CSC-52.  
Advisory: GAM/CIS-37.  
Extended concepts in core programming as it pertains to game engine scripting. Advanced concepts in scripted languages are explored to allow for more complex simulations to further drive industry standard game engines. 54 hours lecture and 18 hours laboratory.

GAM-70 - Computer Skills for Game Art  1 unit  
CSU  
Prerequisite: None.  
Corequisite: Concurrent enrollment in or prior completion of GAM-31 or 42.  
Introduction to fundamental computer concepts related to typical functions required of a game artist. Understanding computer navigation and peripherals used to input information which is unique to Game Design and Digital Media will be the focus. Standard file management, navigation, storage, and multiple backup techniques for files are taught as well as basic scanning techniques, appropriate use of internet resources, copyright issues and an introduction to graphic file formats. 18 hours lecture and 6 hours laboratory.

GAM-71 - Perspective for Game and Animation  3 units  
CSU  
Prerequisite: ART-17.  
This is a perspective drawing class which focuses on creating believable environments, both interior and exterior, through the proper implementation of correct one point, two point and three point perspective while setting up a dynamic composition. Students learn to draw three-dimensional forms through observation and application of perspective principles. Students learn to conceptualize, create quick sketches and then focus on developing complete perspective drawings. 36 hours lecture and 54 hours laboratory.

GAM-72 - Anatomy for Game Art  3 units  
CSU  
Prerequisite: ART-17.  
An intensive study of the human figure and animal anatomy in preparation for construction of 3D models for the Game Industry. Students draw using live clothed and nude models. 36 hours lecture and 54 hours laboratory.
GAM-73 - Storyboarding for Games  3 units 
CSU  
Prerequisite: ART-17.  
Application of strong composition, posing, and camera techniques to tell an engaging story in a video game environment. Students plan interactive scripted events and cut-scenes using beginning level drawing skills and storyboard software. 36 hours lecture and 54 hours laboratory.

GAM-79A - Game Studio: Animation  4 units 
CSU  
Prerequisite: GAM-48.  
This is the culminating class in the area of animation for game development. Students work in interdisciplinary teams to develop and complete an original digital game. The classroom production environment utilizes game industry production practices and constructs including milestones and deliverables. Upon completion of the course students will have an original working digital game demo, that is feature and content complete and portfolio ready. 54 hours lecture and 54 hours laboratory.

GAM-79B - Game Studio: Character Modeling  4 units 
CSU  
Prerequisite: GAM-34.  
This is the culminating class in the area of character modeling for game art. Students work in interdisciplinary teams to develop and complete an original digital game. The classroom production environment utilizes game industry production practices and constructs including milestones and deliverables. Upon completion of the course students will have an original working digital game demo, that is feature and content complete and portfolio ready. 54 hours lecture and 54 hours laboratory.

GAM-79C - Game Studio: Environments and Vehicles  4 units 
CSU  
Prerequisite: GAM-46.  
This is the culminating class in the area of developing environments and vehicles for games. Students work in interdisciplinary teams to develop and complete an original digital game. The classroom production environment utilizes game industry production practices and constructs including milestones and deliverables. Upon completion of the course students will have an original working digital game demo, that is feature and content complete and portfolio ready. 54 hours lecture and 54 hours laboratory.

GAM-79D - Game Studio Production: Audio  4 units 
CSU  
Prerequisite: MUC-6.  
This is the culminating class in the area of game audio. Students work in interdisciplinary teams to develop and complete an original digital game. The classroom production environment utilizes game industry production practices and constructs including milestones and deliverables. Upon completion of the course students will have an original working digital game demo, that is feature and content complete and portfolio ready. 54 hours lecture and 54 hours laboratory.

GAM-79E - Game Studio: Game Design Capstone  4 units 
CSU  
Prerequisite: GAM-23.  
This is the culminating class in the game design track of game development. Students work in interdisciplinary teams to develop and complete an original digital game. The classroom production environment utilizes game industry production practices and constructs including milestones and deliverables. Upon completion of the course students will have an original working digital game demo, that is feature and content complete and portfolio ready. 54 hours lecture and 54 hours laboratory.

GAM-79F - Game Studio Production: Game Programming  4 units 
CSU  
Prerequisite: CIS/CSC-17B, CIS/CSC-18B, or GAM/CSC-52.  
This is the culminating class in the game programming track. Students work in interdisciplinary teams to develop and complete an original digital game. The classroom production environment utilizes game industry production practices and constructs including milestones and deliverables. Upon completion of the course students will have an original working digital game demo, that is feature and content complete and portfolio ready. 54 hours lecture and 54 hours laboratory.

GAM-200 - Simulation and Game Development  1-2-3-4 units 
Work Experience  
CSU*  
Prerequisite: None.  
Advisory: Students should have paid or voluntary employment.  
This course is designed to coordinate the student’s occupational on-the-job training with related instruction in work-related skills. Students may earn up to four (4) units each semester for a maximum of 16 units of work experience. No more than 20 hours per week may be applied toward the work requirement. Students enrolling in WKX-200 are administratively moved to the appropriate general or occupational work experience course after the first class meeting based upon several factors, including the number of hours worked during the semester, occupational program requirements, and type of work in which the student is engaged. 18 hours orientation and 60 hours of volunteer work experience (maximum of 240 hours) or 75 hours of paid work experience (maximum of 300 hours) are required for each enrolled unit. (Letter Grade or Pass/No Pass option.)
GEOGRAPHY

GEG-1 - Physical Geography 3 units
UC, CSU (C-ID GEOG 110)
Prerequisite: None.
The interacting physical processes of air, water, land, and life which impact Earth’s surface. Topics include weather and climate, the water cycle, landforms and plate tectonics, and the characteristics of plant and animal life. Emphasis is on interrelationships among systems and processes and their resulting patterns and distributions. There is a heavy emphasis on maps as descriptive and analytical tools. Students may not receive credit for both GEG-1 and GEG-1H. 54 hours lecture.

GEG-1H - Honors Physical Geography 3 units
UC, CSU (C-ID GEOG 110)
Prerequisite: None.
Limitation on enrollment: Enrollment in the Honors Program.
The interacting physical processes of air, water, land, and life which impact Earth’s surface. Topics include weather and climate, the water cycle, landforms and plate tectonics, and the characteristics of plant and animal life. Emphasis is on interrelationships among systems and processes and their resulting patterns and distributions. There is a heavy emphasis on maps as descriptive and analytical tools. The honors course offers an enriched experience for accelerated students by limited class size, seminar format, student generated and led discussions and projects, the application of higher level thinking, reading, and writing skills—analysis, synthesis, and evaluation. Students may not receive credit for both GEG-1 and GEG-1H. 54 hours lecture.

GEG-1L - Physical Geography Laboratory 1 unit
UC, CSU (C-ID GEOG 111)
Prerequisite: None.
Corequisite: Concurrent enrollment in or prior completion of GEG-1 or 1H.
Practical application of scientific principles through geographically based in-class exercises using a variety of tools, such as maps, photos, and data in various forms. 54 hours laboratory.

GEG-2 - Human Geography 3 units
UC, CSU (C-ID GEOG 120)
Prerequisite: None.
The geographic analysis of the human imprint on the planet. A study of diverse human populations, their cultural origins, diffusion and contemporary spatial expressions emphasizing demography, languages, religions, urbanization, landscape modification, political units and nationalism, economic systems and development. Emphasis is given to interrelationships between human activities and the biophysical environment. 54 hours lecture.

GEG-3 - World Regional Geography 3 units
UC, CSU (C-ID GEOG 125)
Prerequisite: None.
A study of major world regions, emphasizing current characteristics and issues including cultural, economic, political, and environmental conditions. Topics may include the natural environment, population distribution, cultural practices, political institutions, economic development, agricultural practices, and urbanization. 54 hours lecture.

GEG-4 - Geography of California 3 units
UC, CSU (C-ID GEOG 140)
Prerequisite: None.
An introduction to California’s physical and cultural diversity as well as the issues facing individual regions and the state. The course emphasizes ethnic diversity, human alteration of the landscape, and contemporary social, economic, and environmental issues using maps and other geographic tools. Topics include regions, demographic trends, politics, climate, landforms, natural vegetation, water resources, the cultural landscape, our Native American past, urbanization, agriculture, and the challenges of the future. 54 hours lecture.

GEG-5 - Weather and Climate 3 units
(Same as PHS-5)
UC, CSU (C-ID GEOG 130)
Prerequisite: None.
The nature and causes of common meteorological phenomena, severe weather occurrences, and climatic patterns. Topics include: atmospheric structure, solar radiation and energy balances, atmospheric moisture, clouds and fog, air pressure, winds air masses and fronts, cyclones, tornadoes, hurricanes, weather forecasting, climate classification, and climate change. 54 hours lecture.

GEG-6 - Geography of the United States and Canada 3 units
UC, CSU
Prerequisite: None.
An overview of the regions of the United States and Canada. Topics include including regional interactions and current political, economic, demographic, and cultural issues. 54 hours lecture.
GUIDANCE

GUI-45 - Introduction to College  1 unit
UC*, CSU
Prerequisite: None.
Guidance 45 is designed to introduce academic and occupational programs, college resources and personal factors that contribute to success as a college student. This course includes an extensive exploration of Riverside Community College District resources and policies, orientation to college life, student rights and responsibilities, as well as certificates, graduation and transfer requirements. Students will prepare a Student Educational Plan (S.E.P.). Outcomes of higher education will be discussed through the exploration and application of sociological and psychological principles that lead to success in college and in accomplishing goals. As a result of class activities and exploration of factors influencing educational decisions, class members will be able to utilize the information obtained in class to contribute to their college success. 18 hours lecture. (Pass/No Pass only.)

GUI-46 - Introduction to the Transfer Process  1 unit
UC*, CSU
Prerequisite: None.
Provides an introduction to the transfer process. This course includes an in-depth exploration of transfer requirements, admission procedures, requirements for majors, and financial aid opportunities. The information learned will enable students to make informed choices on majors, four-year institutions and in academic planning. 18 hours lecture. (Letter Grade, or Pass/No Pass option.)

GUI-47 - Career Exploration and Life Planning  3 units
UC*, CSU
Prerequisite: None.
In depth career and life planning: topics include extensive exploration of one’s values, interests and abilities; life problem-solving and self-management skills; adult development theory and the changes that occur over the life span; self-assessment including identifying one’s skills and matching personality with work. An intensive career investigation; decision making, goal setting and job search strategies, as well as resume writing and interviewing skills will also be addressed. This course is designed to assist those students considering the transition of a career change or undecided about the selection of a college major. 54 hours lecture.

GUI-48 - College Success Strategies  2 units
UC*, CSU
Prerequisite: None.
This comprehensive course integrates personal growth and values, academic study strategies and critical thinking techniques. Students will obtain skills and personal/interpersonal awareness necessary to succeed in college. 36 hours lecture.

HEALTH SCIENCE

HES-1 - Health Science  3 units
UC, CSU
Prerequisite: None.
This course is a general education course that offers a basic study of human health and health care as revealed in the anatomy and physiology of the body, nutrition, exercise, stress management, weight management, protection from degenerative and communicable diseases, personal safety, environmental health, and professional medical care. The scientifically discussed dimensions of wellness include body, mind and spirit. Students will explore making responsible decisions regarding all aspects of healthy lifestyle including getting fit, disease prevention and treatments, substances use and abuse, human sexuality, and selection of health providers. This course satisfies the California requirement in drug, alcohol, tobacco and nutrition education for teacher certification. 54 hours lecture.

HISTORY

HIS-1 - History of World Civilizations I  3 units
UC, CSU (C-ID HIST 150)
Prerequisite: None.
Advisory: REA-83 and qualification for ENG-1A.
A survey of the historical development of global societies, major social, political and economic ideas and institutions from their origins until the 16th century. Principal areas to be covered are: African civilizations of the Nile and sub-Saharan areas, Mesopotamian civilizations, Greek and Roman civilizations, Medieval and Reformation Europe, the Indus River, China and Japan. 54 hours lecture.

HIS-2 - History of World Civilizations II  3 units
UC, CSU (C-ID HIST 160)
Prerequisite: None.
Advisory: REA-83 and qualification for ENG-1A.
A survey of the evolution of modern world civilizations from the 16th century emergence of new global, political, economic, social and intellectual patterns, through the era of industrialization and imperialism, to the world wars of the 20th century and the present. 54 hours lecture.

HIS-6 - Political and Social History of the United States  3 units
UC, CSU (C-ID HIST 130)
Prerequisite: None.
Advisory: REA-83 and qualification for ENG-1A.
Political, social and economic development of the United States from colonial foundations to 1877; the evolution of American thought and institutions; principles of state and local government. Students may not receive credit for both HIS-6 and HIS-6H. 54 hours lecture.
HIS-6H - Honors Political and Social History of the United States  
UC, CSU (C-ID HIST 130)  
Prerequisite: None.  
Advisory: REA-83 and qualification for ENG-1A.  
Limitation on enrollment: Enrollment in the Honors Program.  
Political, social, and economic development of the United States from precolumbian background and colonial foundations to 1877; the evolution of American thought and institutions; principles of national, state, and local government. The honors course offers an enriched experience for accelerated students through limited class size, seminar format, focus on primary texts, and application of higher level critical thinking. Students may not receive credit for both HIS-6 and HIS-6H. 54 hours lecture.

HIS-7 - Political and Social History of the United States  
UC, CSU (C-ID HIST 140)  
Prerequisite: None.  
Advisory: REA-83 and qualification for ENG-1A.  
Political, social and economic development of the United States from 1877 to the present; the evolution of American thought and institutions; principles of national, state and local government. Students may not receive credit for both HIS-7 and HIS-7H. 54 hours lecture.

HIS-7H - Honors Political and Social History of the United States  
UC, CSU (C-ID HIST 140)  
Prerequisite: None.  
Advisory: REA-83 and qualification for ENG-1A.  
Limitation on enrollment: Enrollment in the Honors Program.  
Political, social and economic development of the United States from 1877 to the present; the evolution of American thought and institutions; principles of national, state and local government. The honors course offers an enriched experience for accelerated students through limited class size, seminar format, focus on primary texts, and application of higher level critical thinking, skills. Students may not receive credit for both HIS-7 and HIS-7H. 54 hours lecture.

HIS-14 - African American History I  
UC, CSU  
Prerequisite: None.  
Advisory: REA-83 and qualification for ENG-1A.  
A selected study of the complex continent from which African Americans came with special emphasis on the historical, political and socioeconomic aspects of African civilizations in Egypt and the western Sudan; the transformation of the continent and of Africans through the transatlantic slave trade; and a study of the African American experience during their confinement as slaves in British North America and the early national and antebellum periods through the Civil War and Emancipation. 54 hours lecture.

HIS-25 - History of Mexico  
UC, CSU  
Prerequisite: None.  
Advisory: REA-83 and qualification for ENG-1A.  
Mexico’s social, political, economic, and cultural evolution with a consideration of its place in world affairs. This introductory survey will stress the mosaic cultural influences from the pre-Columbian period to the present with an emphasis on the native cultures, wars of independence, the Mexican Revolution and Mexico in the 20th century. 54 hours lecture.

HIS-26 - History of California  
UC, CSU  
Prerequisite: None.  
A history of California from the pre-Columbian period to the present, with emphasis on the period since statehood in 1850. 54 hours lecture.

HIS-31 - Introduction to Chicano/a Studies  
UC, CSU  
Prerequisite: None.  
Advisory: REA-83 and qualification for ENG-1A.  
A survey of regional Chicano/a population historical and cultural roots, and social problems from the Spanish and Mexican colonial period to the present. Included is an examination of the principles of state and local government as well as political, economic and social forces as they relate to contemporary Chicano/a problems. Considers the Constitution of the United States and its relevance to the Chicanos in America’s second largest minority group. 54 hours lecture.

HIS-34 - History of Women in America  
UC, CSU  
Prerequisite: None.  
Advisory: REA-83 and qualification for ENG-1A.  
A survey of the political, social, and cultural institutions which have shaped the role and character of women in America. The historical role of women in the development of the nation, and the ongoing struggle to achieve political, economic, and social equality will be examined. 54 hours lecture.
### HUMANITIES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Degree Credit</th>
<th>Prerequisite</th>
<th>Advisory</th>
<th>Enrollment Limitation</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUM-4</td>
<td>Arts and Ideas: Ancient World through the Late Medieval Period</td>
<td>3</td>
<td>UC, CSU</td>
<td>None</td>
<td>REA-83 and qualification for ENG-1A</td>
<td>-</td>
<td>An interdisciplinary study of the cultural movements in art, architecture, literature, music, philosophy, and religion of Western Civilization. The cultural achievements of the ancient world and the middle ages are studied to develop an understanding of their philosophical ideas, values, cultural meaning, artistic form, and contributions to modern thought. Students may not receive credit for both HUM-4 and HUM-4H. 54 hours lecture.</td>
</tr>
<tr>
<td>HUM-4H</td>
<td>Honors Arts and Ideas: Ancient World through the Medieval Period</td>
<td>3</td>
<td>UC, CSU</td>
<td>None</td>
<td>REA-83 and qualification for ENG-1A</td>
<td>Enrollment in the Honors Program</td>
<td>An interdisciplinary study of the cultural movements in art, architecture, literature, music, philosophy, photography, cinema, media, and religion of Western civilization. The cultural achievements of the Renaissance, Enlightenment, Romantic, Modern and post-Modern periods are studied to develop an understanding of their philosophical ideas, values, cultural meaning, artistic form, and contributions to modern thought. The honors course offers an enriched experience for accelerated students by means of limited class size, seminar format, discussions and projects generated and led by students, a focus on primary texts in translation, and the applications of higher-level thinking and writing skills—analysis, synthesis, and evaluation. Students may not receive credit for both HUM-4 and HUM-4H. 54 hours lecture.</td>
</tr>
<tr>
<td>HUM-5</td>
<td>Arts and Ideas: The Renaissance through the Modern Era</td>
<td>3</td>
<td>UC, CSU</td>
<td>None</td>
<td>REA-83 and qualification for ENG-1A</td>
<td>-</td>
<td>An interdisciplinary study of the cultural movements in art, architecture, literature, music, philosophy, photography, cinema, media, and religion of Western civilization. The cultural achievements of the Renaissance, Enlightenment, Romantic, Modern and post-Modern periods are studied to develop an understanding of their philosophical ideas, values, cultural meaning, artistic form, and contributions to modern thought. Students may not receive credit for both HUM-5 and HUM-5H. 54 hours lecture.</td>
</tr>
<tr>
<td>HUM-5H</td>
<td>Honors Arts and Ideas: The Renaissance through the Modern Era</td>
<td>3</td>
<td>UC, CSU</td>
<td>None</td>
<td>REA-83 and qualification for ENG-1A</td>
<td>Enrollment in the Honors Program</td>
<td>An interdisciplinary study of the cultural movements in art, architecture, literature, music, philosophy, photography, cinema, media, and religion of Western civilization. The cultural achievements of the Renaissance, Enlightenment, Romantic, Modern and post-Modern periods are studied to develop an understanding of their philosophical ideas, values, cultural meaning, artistic form, and contributions to modern thought. The honors course offers an enriched experience for accelerated students by means of limited class size, seminar format, discussions and projects generated and led by students, a focus on primary texts in translation, and the applications of higher-level thinking and writing skills—analysis, synthesis, and evaluation. Students may not receive credit for both HUM-5 and HUM-5H. 54 hours lecture.</td>
</tr>
<tr>
<td>HUM-8</td>
<td>Introduction to Mythology</td>
<td>3</td>
<td>UC, CSU</td>
<td>None</td>
<td>REA-83 and ENG-1B or 1BH</td>
<td>-</td>
<td>A study of Greco-Roman and other mythological traditions. Emphasizes the historical sources and cultural functions of myths and legends in ancient societies and their continuing relevance to modern thought and culture. 54 hours lecture.</td>
</tr>
<tr>
<td>HUM-9</td>
<td>American Voices</td>
<td>3</td>
<td>CSU</td>
<td>None</td>
<td>REA-83 and qualification for ENG-1A</td>
<td>-</td>
<td>An interdisciplinary study of American voices across class, racial, ethnic, religious, and other boundaries. Close reading of American biographies and autobiographies of writers, artists, musicians, and other artists to analyze the evolving character of American identity. 54 hours lecture.</td>
</tr>
<tr>
<td>HUM-10</td>
<td>World Religions</td>
<td>3</td>
<td>UC, CSU</td>
<td>None</td>
<td>REA-83 and qualification for ENG-1A</td>
<td>-</td>
<td>Thought and concepts of the major religious systems, including primal religions, extinct religions, Hinduism, Buddhism, Jainism, Sikhism, Confucianism, Taoism, Shintoism, Zoroastrianism, Judaism, Christianity, and Islam. Students may not receive credit for both HUM-10 and HUM-10H. 54 hours lecture.</td>
</tr>
</tbody>
</table>
HUM-10H - Honors World Religions 3 units
UC, CSU
Prerequisite: None.
Advisory: REA-83 and qualification for ENG-1A.
Limitation on enrollment: Enrollment in the Honors Program.
The thought and concepts of the major religious systems, including primal religions, extinct religions, Hinduism, Buddhism, Jainism, Sikhism, Confucianism, Taoism, Shintoism, Zoroastrianism, Judaism, Christianity, and Islam. This honors course offers an enriched experience for students through limited class size, seminar format, discussions and projects generated and led by students, a focus on primary texts in translation and the application of higher level thinking and writing skills – analysis, synthesis and evaluation. Students may not receive credit for both HUM-10 and HUM-10H. 54 hours of lecture.

HUM-11 - Religion in America 3 units
UC, CSU
Prerequisite: None.
Advisory: HUM-10, REA-83 and qualification for ENG-1A.;
Thought and practice of American religious traditions, including Native American practices, Protestantism, American religious sects (Mormons, Seventh-Day Adventists), Catholicism, Judaism and Asian religions. Attention is also directed to the relationship between religion and politics, and religion and the different ethnic and racial groups of American culture. Course requires participant observation in different religious settings. 54 hours lecture.

HUM-16 - Arts and Ideas: American Culture 3 units
UC, CSU
Prerequisite: None.
Advisory: REA-83 and qualification for ENG-1A.
An interdisciplinary survey of the cultural movements in art, architecture, literature, music, philosophy, and religion of American culture. American culture is studied in the context of American political culture, economic and industrial transformation, and the changing shape of American society. American arts and ideals are examined from the colonial period through the present. 54 hours lecture.

HUM-18 - Death: An Interdisciplinary Perspective 3 units
UC, CSU
Prerequisite: None.
Advisory: REA-83 and qualification for ENG-1A.
An interdisciplinary study of death from historical, mythological, religious, philosophical and biological perspectives. The evolving way in which world cultures have understood the problem of death is studied through works of literature, art, and philosophy. 54 hours lecture.

HUM-20C - Arts and Ideas: Special Studies 3 units
in Humanities
UC, CSU
Prerequisite: None.
Advisory: Qualification for ENG-1A.
An interdisciplinary survey of the cultural movements in art, architecture, literature, music, philosophy or religion organized around first-hand observation of relevant works and/or lecture. Topics vary and take advantage of resources in study abroad programs, available museum and performance resources and needs and interests of students and faculty. 54 hours lecture.

HUM-23 - The Bible as Literature 3 units
(Same as ENG-23)
UC, CSU
Prerequisite: None.
Advisory: ENG-1B or 1BH and REA-83.
A survey of the Hebrew Bible and New Testament with emphasis on literary form, styles, and themes. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

HUM-35 - Philosophy of Religion 3 units
(Same as PHI-35)
UC, CSU
Prerequisite: None.
Advisory: PHI-10 or 10H or 11 and REA-83 and qualification for ENG-1A.
An introduction to the examination of religious claims from a philosophical perspective. Emphasis will be placed upon examining the rational justification for various traditional faith claims, and upon examining the relationship between rationality and faith. The course presumes a basic knowledge of philosophical argumentation. 54 hours lecture.

Additional Humanities Courses
Examples of courses which are often classified as Humanities by other colleges and universities are:

- ART-1, 2, 2H - History and Appreciation of Art
- ENG-6, 7 - English Literature
- ENG-14, 15 - American Literature
- ENG-40, 41 - Masterpieces of World Literature
- MUS-19, 19H, 20, 21 - Music History and Literature
- Any Philosophy course
See also Humanities A.A. Degree requirements
INTERDISCIPLINARY STUDIES
ILA-1 - Introduction to Tutor Training I 1 unit
Prerequisite: None.
Advisory: Qualification for ENG-1A.
Introduction to tutoring, with an emphasis on tutoring strategies, learning styles, problem solving, and working with diverse student populations. Designed to prepare students to become peer tutors in a variety of subject areas. Tutors develop student-centered, non-intrusive tutoring skills to meet a wide variety of student needs. Topics include theory, practice and ethics of tutoring, interpersonal communications techniques, tutoring diverse student populations, and group tutorial methods and practical field work. 18 hours lecture. (Letter Grade, or Pass/No Pass option.)

JAPANESE
JPN-1 - Japanese 1 5 units
UC*, CSU
Prerequisite: None.
This course concentrates on developing basic skills in listening, reading, speaking, and writing. Emphasis is placed on acquisition of vocabulary, structures, and grammatical patterns necessary for comprehension of native spoken and written Japanese at the beginning level. This course includes discussion of Japanese culture and daily life. 90 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

JPN-2 - Japanese 2 5 units
UC*, CSU
Prerequisite: JPN-1.
Further development of basic skills in listening, reading, speaking, and writing. A continued emphasis on acquisition of vocabulary, structures, and grammatical patterns necessary for comprehension of standard spoken and written Japanese at the beginning level. This course includes an expanded discussion of Japanese culture and daily life. 90 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

JPN-3 - Japanese 3 5 units
UC*, CSU
Prerequisite: JPN-2.
Development of intermediate skills in listening, reading, speaking, and writing. A continued emphasis on acquisition of vocabulary, structures, and grammatical patterns necessary for comprehension of standard spoken and written Japanese at the intermediate level. This course includes an expanded discussion of Japanese culture and daily life. 90 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

JPN-4 - Japanese 4 5 units
UC*, CSU
Prerequisite: JPN-3.
Further development of intermediate skills in listening, reading, speaking, and writing. A review of the vocabulary, structures, and grammatical patterns necessary for comprehension of standard spoken and written Japanese at the intermediate level. An emphasis on the reading of novels, short stories, poems, and plays in Japanese as a means of enhancing basic Japanese language skills. This course includes an expanded discussion of Japanese culture and daily life. 90 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

JPN-11 - Culture and Civilization 3 units
UC, CSU
Prerequisite: None.
Introductory survey of Japanese culture and civilization as reflected in language, literature, art, history, politics, customs and social institutions. Class conducted in English. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

JOURNALISM
JOU-1 - Introduction to Journalism 3 units
CSU (C-ID JOUR 110)
Prerequisite: None.
Advisory: ENG-1A or 1AH.
An introduction to gathering, synthesizing/organizing, and writing news in journalistic style across multiple platforms. Includes role of the journalist and related legal and ethical issues. Students will report and write based on their original interviews and research to produce news content. Experiences may include covering speeches, meetings and other events, writing under deadline, and use of AP Style. 54 hours lecture. 54 hours lecture.

JOU-7 - Mass Communications 3 units
UC, CSU (C-ID JOUR 100)
Prerequisite: None.
Survey of mass communication and the interrelationships of media with society including history, structure, and trends in a digital age. Discussion of theories and effects, economics, technology, law and ethics, global media, media literacy, and social issues, including gender and cultural diversity. 54 hours lecture.

JOU-20A - Newspaper: Beginning 3 units
CSU (C-ID JOUR 130)
Prerequisite: None.
Advisory: ENG-1A or ENG-1AH and/or JOU-1 and/or PHO-8.
Beginning-level college newspaper production with an emphasis on both theory and practice. Qualified students may serve in various capacities, ranging from writing to photography to art. Students may not take JOU-20 and/or JOU-20A/B/C/D for more than a combined total of four times. 27 hours lecture and 81 hours laboratory.
JOU-20B - Newspaper: Intermediate  
3 units  
CSU  
Prerequisite: JOU-20A.  
Advisory: ENG-1A or ENG-1AH and/or JOU-1 and/or PHO-8.  
Intermediate-level college newspaper production with an emphasis on both theory and practice. Qualified students may serve in various capacities, ranging from writing to photography to art. Students may not take JOU-20 and/or JOU-20A/B/C/D for more than a combined total of four times. 27 hours lecture and 81 hours laboratory.

JOU-20C - Newspaper: Advanced  
3 units  
CSU  
Prerequisite: JOU-20B.  
Advisory: ENG-1A or ENG-1AH and/or JOU-1 and/or PHO-8.  
Advanced-level college newspaper production with an emphasis on both theory and practice. Qualified students may serve in various capacities, ranging from writing to photography to art. Students may not take JOU-20 and/or JOU-20A/B/C/D for more than a combined total of four times. 27 hours lecture and 81 hours laboratory.

JOU-20D - Newspaper: Professional  
3 units  
CSU  
Prerequisite: JOU-20C.  
Advisory: ENG-1A or ENG-1AH and/or JOU-1 and/or PHO-8.  
Professional-level college newspaper production with an emphasis on both theory and practice. Qualified students may serve in various capacities, ranging from writing to photography to art. Students may not take JOU-20 and/or JOU-20A/B/C/D for more than a combined total of four times. 27 hours lecture and 81 hours laboratory.

Also see PHOTOGRAPHY

KINESIOLOGY  
(formerly Physical Education-PHP)  
It is recommended that students enroll in kinesiology activity courses or academic kinesiology courses (that satisfy the Self Development requirement of the Associate of Arts Degree) during the first two semesters of full-time enrollment until the two or three unit requirement is completed. For further information, students should read the Associate of Arts Degree requirements in this catalog.

UNIFORMS  
Students are requested to wear attire appropriate to the activity as requested by the instructor.

LOCKERS  
A lock and locker for which the student is responsible will be issued to each student. A $5.00 charge will be assessed for a lost lock.

ACADEMIC COURSES

KIN-4 - Nutrition  
3 units  
UC*, CSU  
Prerequisite: None.  
The principles of modern nutrition and its application. The importance of a scientific knowledge of nutrition, specific food nutrients and nutritional controversies. A study of modern convenience foods and their impact on present day diets. 54 hours lecture.

KIN-10 - Introduction to Kinesiology  
3 units  
UC*, CSU (C-ID KIN 100)  
Prerequisite: None.  
This course is an introduction to the interdisciplinary approach to the study of human movement. An overview of the importance of the sub-disciplines in Kinesiology will be discussed along with career opportunities in the areas of teaching, coaching, allied health and fitness professions. 54 hours lecture.

KIN-16 - Introduction to Athletic Training  
3 units  
UC*, CSU  
Prerequisite: None.  
This course will teach the basic concepts of athletic training with emphasis in the prevention and care of athletic injuries. Basic taping techniques will be presented and practiced. 45 hours lecture and 27 hours laboratory.

KIN-29 - Soccer Theory  
3 units  
UC*, CSU  
Prerequisite: None.  
This course includes the study of various aspects of coaching the sport of soccer. Students will learn rules, principles for training, team management, communication skills, how to recruit players and techniques for teaching individual skills, offensive and defensive play and team strategies. 54 hours lecture.

KIN-30 - First Aid and CPR  
3 units  
UC*, CSU (C-ID KIN 101)  
Prerequisite: None.  
This course involves the theory and detailed demonstration of first aid of the injured by the citizen responder. Students will learn how to assess a victim’s condition and incorporate proper treatment. Students who successfully pass all National Safety Council requirements will receive a National safety council Advanced First Aid Certificate. Students who successfully pass all American Heart Association requirements will receive a Healthcare Professional CPR Certificate. A fee of $20.00 for required certificates will be charged to the student and is not covered by BOGW. 54 hours lecture.
KIN-35 - Foundation for Fitness and Wellness  
3 units  
UC*, CSU  
Prerequisite: None.  
This course will provide students with the ability to make informed choices and to take responsibility for those choices in the areas of fitness, nutrition and stress management. Emphasis is on the application of health and physical fitness principles. Each student will develop a personalized plan for the overall maintenance of their own wellness. 45 hours lecture and 27 hours laboratory.

KIN-36 - Wellness: Lifestyle Choices  
3 units  
UC*, CSU  
Prerequisite: None.  
The course content focuses upon the dynamic and inter-related dimensions of wellness and how choices made by the individual may encourage an enhanced quality of life. The dimensions of wellness include the social, physical, emotional, occupational, intellectual, environmental, and spiritual. Potential student benefits include learning positive life skills through expanding self-awareness and the opportunity to enhance one’s personal, family and community wellness. 54 hours lecture.

KIN-38 - Stress Management  
3 units  
UC*, CSU  
Prerequisite: None.  
This course addresses the nature, physiology, and psychology of stress. Students will explore perceptions, attitudes, beliefs, and lifestyle factors that may be pre-cursors and contributors to distress. Students will also explore a variety of coping strategies and relaxation techniques. The lab portion of this class provides the opportunity for students to practice techniques and develop a personalized stress management program. 45 hours lecture and 27 hours laboratory.

ACTIVITY COURSES  
Besides fulfilling the Self Development requirement, activity classes can be used as electives for the Associate of Arts Degree and the Associate of Science Degree.

KIN-A03 - Adaptive Physical Fitness  
1 unit  
UC*, CSU  
Prerequisite: None.  
Limitation on enrollment: Medical approval and verification of a physical disability.  
Provides physical education for students with a physical disability to promote the total growth including better self-awareness, physical development and fitness. This course facilitates the student’s participation in his/her environment. 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

KIN-A20 - Golf, Beginning  
1 unit  
UC*, CSU  
Prerequisite: None.  
Designed to serve as an opportunity for the students to develop fundamental skills such as grip, stance, address and swing. Class competitive play and skill contests are conducted to further develop the students’ interest in the game. KIN-A20 and A21 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repetition. 54 hours laboratory.

KIN-A21 - Golf, Intermediate  
1 unit  
UC*, CSU  
Prerequisite: None.  
Advisory: KIN-A20.  
This course is designed to serve as an opportunity for students to develop golf skills at the intermediate level. The mental approach to golf as well as intermediate drills and practice techniques will be employed to further enhance the students’ skill level. KIN-A20 and A21 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repetition. 54 hours laboratory.

KIN-A40 - Karate, Beginning  
1 unit  
UC*, CSU  
Prerequisite: None.  
This course in beginning karate will develop the basic skills needed for the art of unarmed self-defense. This includes the use of blocking, shifting, punching, striking, and kicking. Karate will also develop speed, grace of movement, self-confidence, poise, mental alertness, strength, endurance, and muscular control. Karate is a physical art and a sport that anyone, irrespective of size, age, or sex, can practice according to his or her own capabilities. KIN-A40, and A41 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repetition. 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

KIN-A41 - Karate, Intermediate  
1 unit  
UC*, CSU  
Prerequisite: None.  
Advisory: Course is designed for students with proficient skills in blocking, shifting, punching, striking and kicking and the knowledge of basic katas or for those who have completed KIN-A40.  
This course in intermediate karate is designed for the student wishing to review basic self defense skills and begin work on higher skills, develop intermediate level skills in unarmed self defense, and learn basic skills in kumite (free fighting). KIN-A40, and A41 are courses related in content and are limited in enrollment according to Title 5, section 55040. 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)
KIN-A46 - Hatha Yoga, Beginning  1 unit
UC*, CSU
Prerequisite: None.
This course offers beginning Hatha yoga exercises to improve students' physical and mental wellness. The yoga exercises will be taught to promote improvement in yoga breathing techniques, concentration, muscular flexibility, strength and endurance, balance and meditation techniques. KIN-A46 and A47 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repetition. 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

KIN-A47 - Hatha Yoga, Intermediate  1 unit
UC*, CSU
Prerequisite: None.
Advisory: KIN-A46.
This course offers intermediate Hatha yoga exercises to improve students’ physical and mental wellness. The yoga exercises will be taught to promote improvement in yoga breathing techniques, concentration, muscular flexibility, strength and endurance, balance and meditation techniques. KIN-A46 and A47 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repetition. 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

KIN-A55 - Slow Pitch Softball  1 unit
UC*, CSU
Prerequisite: None.
Designed to give students the basic skills, rules and strategies for team play in the sport of slow pitch softball. For further information see section VIII regarding course repetition. 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

KIN-A64 - Soccer  1 unit
UC*, CSU
Prerequisite: None.
This course is designed to introduce students to the rules, basic skills, and offensive/defensive strategy in soccer. Emphasis will be placed on improving individual skills and applying these skills to game situations. 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

KIN-A75A - Walking for Fitness: Beginning  1 unit
UC*, CSU
Prerequisite: None.
This course is designed for all students with an emphasis on cardiovascular fitness, setting personal fitness goals and understanding the physiological benefits of a walking program. Walking programs will be established to improve cardiorespiratory endurance. KIN-A75A, A75B and A77 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repetition. 54 hours laboratory. (Letter Grade or Pass/No Pass option.)

KIN-A75B - Walking for Fitness: Intermediate  1 unit
UC*, CSU
Prerequisite: None.
Advisory: KIN-A75A.
This course is designed for students of intermediate fitness levels who would like to enhance and improve their cardiovascular fitness, basic strength and flexibility with more advanced walking strategies. Intermediate walking techniques will be utilized in establishing walking programs designed to promote improvements in cardiorespiratory endurance and body composition. KIN-A75A, A75B and A77 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information, see section VIII regarding course repetition. 54 hours laboratory. (Letter grade or Pass/No Pass option.)

KIN-A77 - Jogging for Fitness  1 unit
UC*, CSU
Prerequisite: None.
Advisory: KIN-A75B.
This course is designed to introduce basic fitness concepts to improve each individual’s physical health and general well being. The course is geared to all ages and is concerned with aspects of cardiovascular health and weight control. Emphasis will be on building endurance and strength through stretching, muscle strengthening and jogging for conditioning. KIN-A75A, KIN-A75B, and A77 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repetition. 54 hours laboratory. (Letter grade, or Pass/No Pass option.)

KIN-A81 - Physical Fitness  1 unit
UC*, CSU
Prerequisite: None.
This course is designed to give the student an overview of the basic concepts that affect total fitness. Personalized exercise programs in cardiovascular endurance, muscular endurance and flexibility will be developed. KIN-A81 and A89 are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII regarding course repetition. 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

KIN-A83 - Kickboxing Aerobics  1 unit
UC*, CSU
Prerequisite: None.
This course is designed to introduce basic fitness concepts as well as basic movement skills and exercises. Students will develop strength, flexibility, endurance, movement memory, balance, coordination, and cardiovascular fitness. For further information see section VIII regarding course repetition. 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)
VARITY SPORTS
Students intending to participate in a varsity sport should contact the coach of that sport before enrolling. Students are limited to 350 hours of attendance in each fiscal year for each sport for which no more than 175 hours is dedicated to the sport and no more than 175 hours is for conditioning or skill development in the sport. The varsity sports are:

KIN-V10 - Soccer, Varsity Men 2 units UC*, CSU
Prerequisite: None.
Limitation on enrollment: Retention based on successful tryout.
This course prepares the student athletes to practice and compete at the intercollegiate level in soccer. Athletes will demonstrate proficiency and knowledge of advanced principles of offensive and defensive team concepts. Student athletes will participate in a physical conditioning program designed to prepare them for intercollegiate competition in soccer. Repeating this course provides the student an opportunity for added skill competency development. May be taken a total of four times. 175 hours laboratory. (Letter Grade, or Pass/No Pass option.)

KIN-V25 - Soccer, Varsity, Women 2 units UC*, CSU
Prerequisite: None.
Limitation on enrollment: Retention based on successful tryout.
This course prepares the student athlete to practice and compete at the intercollegiate level in soccer. Athletes will demonstrate proficiency and knowledge of advanced principles of offensive and defensive team concepts. Student athletes will participate in a physical conditioning program designed to prepare them for intercollegiate competition in soccer. Repeating this course provides the student an opportunity for added skill and competency development. May be taken a total of four times. 175 hours laboratory. (Letter Grade, or Pass/No Pass option.)

KIN-V95 - Out-of-Season Varsity Sport Conditioning 1 unit UC*, CSU
Prerequisite: None.
Limitation on enrollment: Retention based on successful tryout.
This course is designed to teach advanced conditioning principles for the design and implementation of our out-of-season training programs in preparation for varsity sport competition. Subsequent enrollment in additional semesters will provide the student an opportunity for added skill competency development. May be taken a total of four times. 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

LIBRARY
LIB-1 - Introduction to Information Literacy 1 unit
UC, CSU
Prerequisite: None.
Presents the fundamentals of the effective use of libraries to find, evaluate, interpret, and organize information from a variety of formats, both online and in print, to answer research questions and develop new ones. Through the use of information retrieval systems students will develop an understanding of and practices for the legal access to and ethical use of information. 18 hours lecture. (Letter Grade, or Pass/No Pass option.)

MANAGEMENT
MAG-44 - Principles of Management 3 units
CSU
Prerequisite: None.
For those who are in management, preparing for a potential promotion or interested in the management process. Includes the primary functions of planning, organizing, controlling and leading as well as related skills such as team development, motivation and communication techniques, and quality management. Also social responsibility and a global perspective are emphasized. 54 hours lecture.

MAG-47 - Applied Business and Management Ethics 3 units
(“Same as BUS-47”)
CSU
Prerequisite: None.
An examination of ethical concerns in business decision making. Includes corporate, personal, global, governmental, public, environmental, product, and job-related issues. Case studies and corporate ethics programs and audits also covered. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

MAG-51 - Elements of Supervision 3 units
Prerequisite: None.
Gives an overview of responsibilities of a supervisor in industry including organizational structure, training, work assignments, productivity, quality control, evaluations, and management-employee relations. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

MAG-52 - Employee Training and Development 3 units
Prerequisite: None.
This course examines the forces influencing employee development through various methods such as training, strategic thinking, needs assessments, training evaluation, learning theories, e-learning and career development. 54 hours lecture.

MAG-53 - Human Relations 3 units
Prerequisite: None.
A practical application of basic psychology in building better employer/employee relationships. Examines effective human relation techniques. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)
MAG-54 - Employee Labor Relations 3 units
Prerequisite: None.
This course provides a framework for studying labor relations, the objective of employee relationships, industrial relations, right of labor and management, labor law, bargaining, unions, employment contracts, grievances, developing effective new processes, history of labor relations and ethics. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

MAG-56 - Human Resources Management 3 units CSU
Prerequisite: None.
Examines the manager’s responsibility for implementing human resources applications involving the selection, training, evaluation, motivation and promotion of personnel. Compares and contrasts alternatives leading to innovative and socially responsible solutions to current employee relations issues with the workplace. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

MAG-70 - Introduction to Organization Development 3 units (Same as BUS-70) CSU
Prerequisite: None.
Advisory: MAG-44.
This is a study of organization-wide, planned efforts to increase organizational effectiveness using planned interventions by managers. Multiple intervention techniques, such as diagnostic activities, team building, process consulting, coaching and goal setting are covered. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

MAG-200 - Management Work Experience 1-2-3-4 units CSU*
Prerequisite: None.
Advisory: Students should have paid or voluntary employment.
This course is designed to coordinate the student’s occupational on-the-job training with related instruction in work-related skills. Students may earn up to four (4) units each semester for a maximum of 16 units of work experience. No more than 20 hours per week may be applied toward the work requirement. Students enrolling in WKX-200 are administratively moved to the appropriate general or occupational work experience course after the first class meeting based upon several factors, including the number of hours worked during the semester, occupational program requirements, and type of work in which the student is engaged. 18 hours orientation and 60 hours of volunteer work experience (maximum of 240 hours) or 75 hours of paid work experience (maximum of 300 hours) are required for each enrolled unit. (Letter Grade or Pass/No Pass option.)

MAG-55 - Occupational Safety and Health 2 units Administration (OSHA) Standards for General Industry
Prerequisite: None.
This course covers OSHA policies, procedures, and standards, as well as safety for general industry and health principles. Topics include scope and application of the OSHA general industry standards. Special emphasis is placed on those areas that are the most hazardous, using OSHA standards as a guide. Upon successful completion, the student will receive either an OSHA 10 or 30 hour general industry or construction training completion card. 36 hours lecture. (Letter Grade, or Pass/No Pass option.)

MAG-56 - CNC Machine Set-up and Operation 4 units
Prerequisite: None.
Fundamental skills related to the setup and operation of CNC (Computer Numerically Control) machine tools. Students will setup and operate CNC machine tools exposing them to CNC controllers and some CNC manual programming. Students will gain hands-on experience with CNC machine tools. 54 hours lecture and 54 hours laboratory.

MAG-57 - CNC Program Writing 3 units
Prerequisite: None.
Introduction to manual CNC program writing. This course includes the Cartesian coordinate system, absolute/incremental programming, circular interpolation, cutter radius compensation, canned cycles, and other programming techniques related to CNC machine tools. Students will gain hands-on experience with CNC machine tools. 40 hours lecture and 72 hours laboratory.

MAG-59 - Computer Aided Manufacturing-GibbsCAM 4 units
Prerequisite: None.
Advisory: CIS-IA.
A course in computer aided manufacture of parts and assemblies using GibbsCAM software. Applications of Numerical Control (NC) programming in machine processes with a focus on turning centers and milling operations. This course allows the student the opportunity to fabricate parts using computer interfaces with machining operations. 54 hours lecture and 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)
MAN-60 - Hydraulic and Pneumatic Systems  3 units
Prerequisite: None.
Advisory: ENE-60 or MAT 52.
Basics of hydraulic and pneumatic systems including physical properties of liquids under pressure. Pumps, motors, accumulators, valves and drive cylinders are studied. The design and assembly of both high and low pressure fluid control systems from standard components is experienced. Applications of fluids in robotic and industrial equipment systems are presented. 40 hours lecture and 72 hours laboratory. (Letter Grade, or Pass/No Pass option.)

MAN-61 - Robotics for Manufacturing  3 units
(Same as ELE-61)
Prerequisite: None.
Advisory: CIS-1A.
Robotics for the Supply Chain and Manufacturing industries. This course presents the programming and control of robotic systems typically used in industry. 36 hours lecture and 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

MAN-63 - LabVIEW Visual Programming for Automated Systems  3 units
(Same as ELE-63)
CSU
Prerequisite: None.
Advisory: CIS 1A.
Prepares students to develop measurement and test systems, data acquisition, instrument control, data logging, and measurement analysis applications using LabVIEW. Students will create applications that acquire, process, display and store real world data. 36 hours lecture and 54 hours laboratory.

MAN-64 - Programmable Logic Controllers  3 units
(Same as ELE-64)
CSU
Prerequisite: None.
Advisory: ELE-10 or 21.
Fundamentals of Programmable Logic Controllers (PLCs), with an emphasis on introductory programming of PLCs. Problem analysis with solutions that integrate programming formats, auxiliary commands and functions, common programming languages, and popular software programs used with PLCs. Installation, maintenance, troubleshooting and repair are inherent components. 36 hours and 54 hours laboratory. (Letter Grade, or Pass/No Pass option.)

MAN-67 - Commercial and Industrial Electrical  4 units
(Same as ELE-72)
Prerequisite: None.
Focuses on the wiring of commercial and industrial buildings that use metal or concrete walls. The National Electrical Code will be stressed at it relates to grounding, soil conditions, conduits, raceways, cable-trays, fills, line/load wiring, circuit/motor protection, de-rating, tension, wire-splicing, control/power transformers, pipe-bending/supporting, lighting distribution/layout, and special considerations. Hands-on lab experiences are selected to reinforce key theories. 54 hours lecture and 54 hours laboratory.

MAN-73 - Electric Motors for Electricians  4 units
(Same as ELE-73)
Prerequisite: None.
Enables electricians to understand and effectively wire most standard DC motors, servos and steppers, as well as many AC motors, including single and poly-phase units, from fractional horsepower to multi-horsepower, industrial giants. 54 hours lecture and 54 hours laboratory.

MAN-74 - Industrial Electrical Automation  4 units
(Same as ELE-74)
CSU
Prerequisite: None.
Automatic monitoring, control and communications for electrical systems used with various motors; pneumatics/hydraulics basics; machines/processes control; production-lines; machine-vision; QC-inspection; palletizing; robotics; inventory transport, storage, distribution and reporting control systems. Topics include open-loop vs closed-loop control with feedback; PID; A/D and D/A conversion; remote-sensing/control and programming PLCs/PACs; networking; RFID and bar-codes are also discussed. 54 hours lecture and 54 hours laboratory.

MAN-75A - Robotic Systems  4 units
Prerequisite: None.
Advisory: MAT-36 or ENE-60 and MAN-56.
The application of numerical control programming to perform multiple manufacturing process operations by positioning tools, material and robots for machining, assembly and inspection. Live robots will be programmed and used to complete automated manufacturing and assembly of simple products. 36 hours lecture and 108 hours laboratory.

MAN-77 - Survey of Electrical Trades  4 units
(Same as ELE-77)
Prerequisite: None.
An introduction to the ten primary electrical trades from residential, commercial and industrial jobs through to electrical specialties. Topics include basic electrical theory common to all electricians, such as: voltage, resistance, current, power, capacitance, inductance, reactance, impedance, blueprint symbols, Ohm's Law, Power Law, Power-factor, using instrumentation, interpreting measurements, wire gauges, ampacity, circuit protection, shorts, opens, troubleshooting and safety. Examines electrical trades opportunities and responsibilities along with an overview of NEC and OSHA basics. 54 hours lecture and 54 hours laboratory.
MAN-200 - Manufacturing Work Experience 1-2-3-4 units
CSU*
Prerequisite: None.
Advisory: Students should have paid or voluntary employment.
This course is designed to coordinate the student’s occupational on-the-job training with related instruction in work-related skills. Students may earn up to four (4) units each semester for a maximum of 16 units of work experience. No more than 20 hours per week may be applied toward the work requirement. Students enrolling in WKX-200 are administratively moved to the appropriate general or occupational work experience course after the first class meeting based upon several factors, including the number of hours worked during the semester, occupational program requirements, and type of work in which the student is engaged. 18 hours orientation and 60 hours of volunteer work experience (maximum of 240 hours) or 75 hours of paid work experience (maximum of 300 hours) are required for each enrolled unit. (Letter Grade or Pass/No Pass option.)

MKT-20 - Principles of Marketing 3 units
CSU
Prerequisite: None.
Advisory: BUS-10.
Examines the role of marketing as it relates to society and economic development. The course will analyze products, consumer, marketing research, and strategic market planning. The course will survey, with a global perspective, the selection of target markets as well as the development of the marketing mix - place, product, price and promotion. 54 hours lecture.

MKT-40 - Advertising 3 units
CSU
Prerequisite: None.
Economic, professional, persuasive and technical aspects of advertising, publicity and propaganda, and their relation to sociology and psychology. Campaign organization, research, and media of communication. Analysis and discussion of situation problems, mass motivation, consumer action and legal restraints. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

MKT-41 - Techniques of Selling 3 units
CSU
Prerequisite: None.
Examines the key topics of how to locate, qualify and approach prospects; how to deliver the sales presentation, how to meet objections and how to close the sale. The analysis of behavioral, ethical and philosophical factors as applied to the selling function globally. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

MKT-42 - Retail Management 3 units
CSU
Prerequisite: None.
Merchandising analysis of the changing concepts and business objectives of retailing. Management philosophies, strategies, and functions (from individual to multi-unit firms). Social and economic forces on decisions concerning location and operational policies. Analysis of forms of retailing, such as foods, motels, service stations, and direct channels. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

MKT-50 - Marketing Research 3 units
Prerequisite: None.
An introduction to various research methodologies useful in the marketing environment. This course will focus on development, execution and application of marketing research, pulling it all together with completion of a marketing research project. 54 hours lecture.

MKT-200 - Marketing Work Experience 1-2-3-4 units
CSU*
Prerequisite: None.
Advisory: Students should have paid or voluntary employment.
This course is designed to coordinate the student’s occupational on-the-job training with related instruction in work-related skills. Students may earn up to four (4) units each semester for a maximum of 16 units of work experience. No more than 20 hours per week may be applied toward the work requirement. Students enrolling in WKX-200 are administratively moved to the appropriate general or occupational work experience course after the first class meeting based upon several factors, including the number of hours worked during the semester, occupational program requirements, and type of work in which the student is engaged. 18 hours orientation and 60 hours of volunteer work experience (maximum of 240 hours) or 75 hours of paid work experience (maximum of 300 hours) are required for each enrolled unit. (Letter Grade or Pass/No Pass option.)

MATHEMATICS

MAT-1A - Calculus I 4 units
UC*, CSU (C-ID MATH 900S=MAT-1A + MAT-1B)
Prerequisite: MAT-10 or qualifying placement level.
Functions, limits, continuity, differentiation, applications of the derivative and integration, the fundamental theorem of calculus and basic integration. 72 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

MAT-1B - Calculus II 4 units
UC, CSU (C-ID MATH 220) (C-ID MATH 900S=MAT-1A + MAT-1B)
Prerequisite: MAT-1A.
Techniques of integration, applications of integration, improper integrals, infinite sequences and series, parametric equations, and polar coordinates. 72 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)
MAT-1 - Calculus III  
UC, CSU (C-ID MATH 230)  
Prerequisite: MAT-1B.  
Vectors in a plane and in space, vector functions, calculus on functions of multiple variables, partial derivatives, multiple integrals, line and surface integrals, Green’s theorem, Stokes’ theorem, Divergence theorem, and elementary applications to the physical and life sciences. 72 hours lecture. (Letter Grade, or Pass/No Pass option.)

MAT-2 - Differential Equations  
UC, CSU (C-ID MATH 240)  
Prerequisite: MAT-1B.  
This is a course in differential equations including both quantitative and qualitative methods as well as applications from a variety of disciplines. Introduces the theoretical aspects of differential equations, including establishing when solution(s) exists, and techniques for obtaining solutions, including linear first and second order differential equations, series solutions, Laplace transforms, linear systems, and elementary applications to the physical and biological sciences. 72 hours lecture. (Letter Grade, or Pass/No Pass option.)

MAT-3 - Linear Algebra  
UC, CSU (C-ID MATH 250)  
Prerequisite: MAT-1B.  
This course examines elementary vector space concepts and geometric interpretations and develops the techniques and theory to solve and classify systems of linear equations. Solution techniques include Gaussian and Gauss-Jordan elimination, Cramer's rule and inverse matrices. Investigates the properties of vectors in two, three and finite dimensions, leading to the notion of an abstract vector space. Vector space and matrix theory are presented including topics such as determinants, linear independence, bases and dimension of a vector space, linear transformation and their matrix representations, inner products, norms, orthogonality, eigenvalues, eigenvectors, and eigenspaces. Selected applications of linear algebra are included. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

MAT-4 - Finite Mathematics  
UC, CSU (C-ID MATH 130)  
Prerequisite: MAT-35.  
Linear functions, systems of linear equations and inequalities, linear programming, matrices, sets and Venn diagrams, combinatorics, probability, and the mathematics of finance. Applications in business, economics, and social sciences. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

MAT-5 - Calculus for Business and Life Science  
UC*, CSU (C-ID MATH 140)  
Prerequisite: MAT-35 or qualifying placement level.  
A study of the techniques of calculus for majors in business, business administration, life and social sciences. Emphasis on problem solving and applications. Topics include: functions, graphs, limits, derivatives, integrals, exponential and logarithmic functions. 72 hours lecture. (Letter Grade, or Pass/No Pass option.)

MAT-6 - Discrete Mathematics for Computer Science  
UC, CSU  
(Same as CSC-6)  
Prerequisite: MAT-10.  
Advisory: CIS/CSC-5.  
Fundamental topics for Computer Science, such as logic, proof techniques, sets, basic counting rules, relations, functions and recursion, graphs and trees. 54 hours lecture.

MAT-10 - Precalculus  
UC*, CSU (C-ID MATH 155)  
Prerequisite: MAT-36 or qualifying placement level.  
Preparation for calculus: polynomial, absolute value, radical, rational, exponential, logarithmic, and trigonometric functions, and their graphs; analytic geometry, polar coordinates, sequences, and series. 72 hours lecture. (Letter Grade, or Pass/No Pass option.)

MAT-11 - College Algebra  
UC*, CSU  
Prerequisite: MAT-35 or qualifying placement level.  
This course is intended for students majoring in Liberal Arts and Humanities. The topics covered in this course include polynomial, radical, rational, absolute value, exponential and logarithmic functions; systems of equations; polynomial equations; permutations and combinations; analytic geometry; and linear programming. 72 hours lecture. (Letter Grade, or Pass/No Pass option.)

MAT-12 - Statistics  
UC, CSU (C-ID SOCI 125)(C-ID MATH 110)  
Prerequisite: MAT-35 or qualifying placement level.  
A college-level survey course of selected topics from the history and development of mathematics, patterns and inductive reasoning, the logical reasoning skills. Students may not receive credit for both MAT-12 and MAT-12H. 72 hours lecture. (Letter Grade, or Pass/No Pass option.)

MAT-65 - Arithmetic and Pre-Algebra  
(Non-degree credit course. Letter Grade, or Pass/No Pass option.)

MAT-53 - College Geometry  
UC, CSU (C-ID MATH 155)  
Prerequisite: MAT-63 (formerly MAT-51), 90C, or qualifying placement level.  
Experience program.  
Limitation on enrollment: Concurrent enrollment in First-Year Experience program.  
Prerequisite: None.  
An introduction to the notion of algebra and its uses. Includes equations and polynomials. 90 hours lecture.  
Student creation of geometric figures, including perimeter, area and volume. Students create geometric experiences, and develop the techniques and theory to solve and classify systems of linear equations. Solution techniques include Gaussian and Gauss-Jordan elimination, Cramer's rule and inverse matrices. Investigates the properties of vectors in two, three and finite dimensions, leading to the notion of an abstract vector space. Vector space and matrix theory are presented including topics such as determinants, linear independence, bases and dimension of a vector space, linear transformation and their matrix representations, inner products, norms, orthogonality, eigenvalues, eigenvectors, and eigenspaces. Selected applications of linear algebra are included. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

MAT-12H - Honors Statistics  
4 units  
Limitation on enrollment: Enrollment in the Honors Program.

MAT-10H - Honors Precalculus  
4 units  
Limitation on enrollment: Enrollment in the Honors Program.
MAT-12H - Honors Statistics 4 units
UC, CSU (C-ID MATH 110)
Prerequisite: MAT-35 or qualifying placement level.
Limitation on enrollment: Enrollment in the Honors Program.
A comprehensive study of measures of central tendency and variation, correlation and linear regression, probability, the normal distribution, the t-distribution, the chi-square distribution, estimation, testing of hypotheses, analysis of variance, and the application of statistical software to data, including the interpretation of the relevance of the statistical findings. Applications using data from business, education, health science, life science, psychology, and the social sciences will be included. Honors course offers an enriched experience for accelerated students through limited class size, seminar format, focus on primary texts, and application of higher-level critical thinking skills. Students may not receive credit for both MAT-12 and MAT-12H. 72 hours lecture. (Letter Grade, or Pass/No Pass option.)

MAT-25 - Mathematics for the Liberal Arts Student 3 units
UC, CSU
Prerequisite: MAT-35 or qualifying placement level.
A college-level survey course of selected topics from the history and development of mathematics, patterns and inductive reasoning, set theory and deductive reasoning, the real number system, algebra, geometry, probability, statistics, and problem solving. It is designed for students majoring in liberal arts, education, or communication. Calculators or computers may be used for selected topics. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

MAT-32 - Introduction to Symbolic Logic 3 units
(Same as PHI-32)
UC, CSU (C-ID PHIL 210)
Prerequisite: None.
Limitation on enrollment: May not be taken if credit for PHI-32 has been granted.
Introduces the principles of deductive reasoning, including the practical application of modern symbolic techniques. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

MAT-35 - Intermediate Algebra 5 units
Prerequisite: MAT-52 or qualifying placement level.
The concepts introduced in beginning algebra are presented again, but in greater depth. In addition to the basic operations, logarithms, exponential equations, systems of linear and nonlinear equations, Cramer's Rule, the Binomial Theorem, the complex number system, and sequences and series are included. 90 hours lecture. (Letter Grade or Pass/No Pass option)

MAT-36 - Trigonometry 4 units
CSU
Prerequisite: MAT-35 and 53 or qualifying placement level.
The study of trigonometric functions, their inverses and their graphs; identities and proofs related to trigonometric expressions; solving trigonometric equations; solving right triangles; solving oblique triangles using the Law of Cosines and the Law of Sines; elements of geometry important to the foundation of trigonometry; polar coordinates; and introduction to vectors. 72 hours lecture. (Letter Grade or Pass/No Pass option)

MAT-52 - Elementary Algebra 4 units
Prerequisite: MAT-64 (formerly MAT-50), 65, 90F or qualifying placement level.
Examines real numbers and variables as they are involved in polynomials, fractions, linear equations, quadratic equations, systems of equations, inequalities, exponential and radical expressions, and absolute value. Factoring, graphing and word problem applications will also be included. 72 hours lecture. (Non-degree credit course. Letter Grade, or Pass/No Pass option.)

MAT-53 - College Geometry 3 units
Prerequisite: MAT-52 or qualifying placement level.
A course covering the study of plane geometry and three-dimensional figures. These topics include angles, triangles, quadrilaterals, circles and solids, their formulas for measuring such figures, including perimeter, area and volume. Students create proofs of geometric concepts using postulates and theorems associated with geometric objects and their characteristics. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

MAT-63 - Arithmetic 3 units
Prerequisite: None.
A course covering the decimal system of numeration and the four basic mathematical operations as they apply to whole numbers, fractions, mixed numbers, and decimals. Factoring, percentage applications, geometric figures, and measurements are included. Emphasis is placed on applications to real world problems. Computations will be performed without the use of any calculating device. 54 hours lecture. (Non-degree credit course. Letter Grade, or Pass/No Pass option.)

MAT-64 - Pre-Algebra 3 units
Prerequisite: MAT-63 (formerly MAT-51), 90C, or qualifying placement level.
An introduction to the notion of algebra and its uses. Includes integers, equations, and polynomials as well as topics from arithmetic. Designed as a transition from arithmetic to elementary algebra. 54 hours lecture. (Non-degree credit course. Letter Grade, or Pass/No Pass option.)

MAT-65 - Arithmetic and Pre-Algebra 5 units
Prerequisite: None.
A combination course covering the decimal system of numeration and the four basic mathematical operations as they apply to whole numbers, fractions, mixed numbers, and decimals without the use of any calculating device. Integers, factoring, geometric figures, and measurements are included. Emphasis is placed on applications to real world problems. An introduction to the notion of algebra and its uses. Includes equations and polynomials. 90 hours lecture. (Non-degree credit course. Letter Grade, or Pass/No Pass option.)

MAT-98 - Academic Excellence Seminar .5 unit
Prerequisite: None.
Limitation on enrollment: Concurrent enrollment in First-Year Experience program.
Interactive seminar designed to enhance students' learning skills and experience in mathematics. 27 hours laboratory. (Non-degree credit course. Pass/No Pass only.)
MUSICAL PERFORMANCE

MUS-1 - Teaching Music to Young Children  3 units
UC, CSU
Prerequisite: None.
Instruction in teaching music to young children. Emphasis will be on music for early childhood ages 3 - 8. Musical elements and theory will be introduced through activities appropriate for children. 54 hours lecture.

MUS-2 - Keyboard I  4 units
UC, CSU (C-ID MUS 110)
Prerequisite: None.
This beginning course focuses on developing the skills needed for playing on piano, including playing major and minor scales, keyboard techniques required for playing major and minor scales, rhythm study, technique, expression, improvisation, harmonization, performing on piano, including reading from music notation, accompanying, score reading, reading chord symbols, sight reading diatonic chord progressions, harmonizing melodies, transposing, and simple score reading. 54 hours lecture and 54 hours laboratory.

MUS-3 - Fundamentals of Music  4 units
UC, CSU (C-ID MUS 110)
Prerequisite: None.
Basic course in music theory designed to develop an understanding of notation, rhythm, pitch, keys, modes, scales, intervals, chords and music terminology. Basic sight singing, dictation and music reading at the piano. 54 hours lecture and 54 hours laboratory.

MUS-4 - Music Theory I  4 units
UC, CSU
Prerequisite: MUS-3 or the equivalent.
Advisory: Concurrent enrollment in an appropriate level piano class.
Through guided composition and analysis this course incorporates the following concepts: rhythm and meter, basic properties of sound, intervals, diatonic scales and triads, diatonic chords, basic cadential formulas and phrase structures, figured bass, non-harmonic tones, first species counterpoint, and voice leading involving 4-part chorale writing. Development of skills in handwritten notation is expected. Lab includes diatonic sight singing and ear training including melodic, harmonic and rhythmic dictation. Keyboard requirements include playing chord progressions, modes, and scales in all major and minor keys. 54 hours lecture and 54 hours laboratory.

MUS-5 - Music Theory II  4 units
UC, CSU (C-ID MUS 140)
Prerequisite: MUS-4 or the equivalent.
Advisory: Concurrent enrollment in an appropriate level piano course.
This course incorporates the concepts from Music Theory I. In addition, through guided composition and analysis, the course will include: Common Practice period voice leading involving four-part chorale writing; diatonic harmony; chromatic harmony; secondary/applied chords; modulation; borrowed chords; the Neapolitan chord; augmented sixth chords; and an introduction to binary and ternary forms. Lab includes chromatic sight singing and ear training including melodic, harmonic and rhythmic dictation. Keyboard requirements include playing chromatic chord progressions. 54 hours lecture and 54 hours laboratory.

The following is a list of the classes that qualify for the “two unit performance class” corequisite requirement for MUS-12, 39, 79 and P12:

- MUS-28 Riverside Community Symphony
- MUS-33 Vocal Jazz Ensemble
- MUS-41 Chamber Singers
- MUS-42 Wind Ensemble
- MUS-44 Jazz Ensemble
- MUS-48 Marching Band
- MUS-68 Community Symphony
- MUS-73 Vocal Jazz Ensemble
- MUS-77 Guitar Ensemble
- MUS-81 Consort Singers
- MUS-82 Wind Symphony
- MUS-84 Jazz Orchestra
- MUS-88 Pageantry Ensemble
- MUS-P28 Symphony Strings
- MUS-P77 Advanced Guitar Ensemble
- THE-37 Musical Theater Techniques

MUS-19 - Music Appreciation  3 units
UC, CSU (C-ID MUS 100)
Prerequisite: None.
A broad survey of music in the Western world, including terminology for describing musical elements, forms, and styles. Organized to acquaint students with the roles of music and musicians in society and with representative musical selections through listening, reading, writing, and live performance. 54 hours lecture.
MUS-19H – Honors Music Appreciation 3 units
UC, CSU
Prerequisite: None.
Limitation on enrollment: Enrollment in the Honors Program.
A broad survey of music in the Western world, including terminology for describing musical elements, forms, and styles. This Honors course is organized to acquaint students with the roles of music and musicians in society and with representative musical selections. It offers an enriched experience for accelerated students by means of limited class size, seminar format, discussions and projects generated and led by students, a focus on primary texts in translation, and the applications of higher-level thinking and writing skills—analysis, synthesis, and evaluation. Students may not receive credit for both MUS-19 and MUS-19H. 54 hours lecture.

MUS-23 - History of Rock and Roll 3 units
UC, CSU
Prerequisite: None.
A comprehensive study of rock and roll music from its origins to the present with emphasis on the historical, musical, and sociological influences. Study includes listening to music and identifying stylistic trends and influential artists—54 hours lecture.

MUS-25 - Jazz Appreciation 3 units
UC, CSU
Prerequisite: None.
A comprehensive study of jazz from its origins to the present day. Study will be centered on influential composers, instrumentalists, vocalists and arrangers. There will also be an introduction to and study of musical elements such as instrumentation, lyrics, form, rhythm and harmony. 54 hours lecture.

MUS-26 - Film Music Appreciation 3 units
UC, CSU
Prerequisite: None.
A study of film music in the United States from 1927 to the present day. Study will be centered on originally composed scores by prominent composers and arrangers. 54 hours lecture.

MUSICAL PERFORMANCE

MUS-30 - Class Voice 1 unit
UC, CSU
Prerequisite: None.
Group study of vocal production, voice techniques, diction and interpretation. 54 hours laboratory.

MUS-31 - College Choir 1 unit
UC, CSU (C-ID MUS 180)
Prerequisite: None.
Limitation on enrollment: Audition on or before the first class meeting.
A vocal ensemble of mixed voices dedicated to the study, rehearsal and performance of a variety of choral literature. May be taken a total of four times. 54 hours laboratory.

MUS-32A, B, C, and D are courses related in content and are limited in enrollment according to Title 5, section 55040. For further information see section VIII of the catalog regarding course repeatability and repetition.

MUS-32A - Class Piano I 1 unit
UC, CSU
Prerequisite: None.
This beginning course focuses on developing the skills needed for performing on piano, including reading from music notation, rhythm study, technique, expression, improvisation, harmonization, transposition, repertoire and style study. 54 hours laboratory.

MUS-32B - Class Piano II 1 unit
UC, CSU
Prerequisite: MUS-32A or the equivalent.
Continuation of the skills studied in MUS-32A focusing on techniques needed for performing on piano, including playing select major and parallel minor scales, reading music on the grand staff, tapping rhythms, harmonizing melodies using simple accompaniments, transposing, and simple score reading. 54 hours laboratory.

MUS-32C - Class Piano III 1 unit
UC, CSU
Prerequisite: MUS-32B or the equivalent.
Continuation of the skills studied in MUS-32B focusing on keyboard techniques required for playing major and minor scales, diatonic chord progressions, harmonizing melodies, modulating, transposing, accompanying, score reading, reading chord symbols, sight reading and performance of intermediate-level piano learning pieces. 54 hours laboratory.

MUS-32D - Class Piano IV 1 unit
UC, CSU
Prerequisite: MUS-32C or the equivalent.
Culmination of keyboard skills previously studied focusing on increasing keyboard facility for playing major and minor scales and arpeggios, diatonic chord progressions, harmonizing melodies, modulating, transposing, accompanying, simple score reading, sight reading and performance of piano pieces from the standard classical piano teaching literature. 54 hours laboratory.

MUS-33 - Vocal Jazz Ensemble 2 units
UC, CSU
Prerequisite: None.
Limitation on enrollment: Audition on or before the first class meeting.
This course is for the study, rehearsal, and public performance of vocal jazz literature, with an emphasis on the development of skills needed to perform within an ensemble. Different literature will be studied each semester. Participation in public performances is required. May be taken a total of four times. 108 hours laboratory.
MUS-34 - Vocal Jazz Lab 1 unit
UC, CSU (C-ID MUS 180)
Prerequisite: None.
Corequisite: Concurrent enrollment in MUS-33 or 73.
Limitation on enrollment: Audition on or before the first class meeting.
A course for select vocal students dedicated to the study, rehearsal and public performance of music in vocal jazz in smaller groups. May be taken a total of four times. 54 hours laboratory.

MUS-35 - Vocal Music Ensembles 1 unit
UC, CSU (C-ID MUS 180)
Prerequisite: None.
Limitation on enrollment: Audition on or before the first class meeting.
This course is for the study, rehearsal, and public performance of baroque and classical vocal literature, with an emphasis on the development of skills needed to perform within an ensemble. Different literature will be studied each semester. Participation in public performances is required. May be taken a total of four times. 54 hours laboratory.

MUS-37 - Class Guitar 1 unit
UC, CSU
Prerequisite: None.
Fundamentals of guitar performance and basic musicianship. Introduction to music notation, basic guitar technique and development of basic repertoire. 17 hours lecture and 32 hours laboratory.

MUS-38 - Beginning Applied Music I 2 units
UC, CSU (C-ID MUS 160)
Prerequisite: None.
Limitation on enrollment: Audition on or before the first class meeting.
Vocal or instrumental instruction for students who are proficient performers and could benefit from individualized instruction as determined by audition. Each student must complete a minimum of 6.75 hours a week in a combination of individualized practice, lessons and concert attendance. Not designed for beginning students. May be taken a total of four times. 108 hours laboratory.

MUS-39 - Applied Music I 3 units
UC, CSU
Prerequisite: None.
Corequisite: Enrollment in a two-unit performance class.
Limitation on enrollment: Audition on or before the first class meeting.
Vocal or instrumental instruction for students who are proficient performers and could benefit from individualized instruction as determined by audition. Each student must complete 10.125 hours per week in a combination of individualized practice, lessons, concert attendance and individual performance. Not designed for beginning students. May be taken a total of four times. 162 hours laboratory.

MUS-43A - Jazz Improvisation and Theory I 1 unit
UC, CSU
Prerequisite: None.
This beginning course focuses on basic jazz improvisation skills and theory. Instruction is delivered within a jazz combo setting. 54 hours laboratory.

MUS-43B - Jazz Improvisation and Theory II 1 unit
UC, CSU
Prerequisite: MUS-43A.
This intermediate course further develops the skills introduced in MUS-43A, focusing on intermediate jazz improvisation skills and theory. Instruction is delivered within a jazz combo setting. 54 hours laboratory.

MUS-43C - Jazz Improvisation and Theory III 1 unit
UC, CSU
Prerequisite: MUS-43B.
This advanced course further develops the skills introduced in MUS-43B, focusing on advanced jazz improvisation skills and theory. Instruction is delivered within a jazz combo setting. 54 hours laboratory.

MUS-51 - Men's Ensemble 1 unit
UC, CSU (C-ID MUS 180)
Prerequisite: None.
Advanced student and community chamber choir dedicated to the study, rehearsal and public performance of chamber music. There is opportunity for public performance and solo recital concerts. Subsequent enrollment will provide the student an opportunity for additional competency development within the subject matter. May be taken a total of four times. 108 hours laboratory.

MUS-55 - Piano Class 3 units
UC, CSU (C-ID MUS 180)
Prerequisite: None.
An introduction to the basic knowledge and skills necessary to develop the ability to read music. Study of basic skills in music reading, ear training, sight-singing, melodic and harmonic dictation. 36 hours lecture.

MUS-65 - Basic Musicianship 2 units
UC, CSU
Prerequisite: None.
An introduction to the basic knowledge and skills necessary to develop the ability to read music. Study of basic skills in music reading, ear training, sight-singing, melodic and harmonic dictation. 36 hours lecture.

MUS-72 - Group Keyboarding Skills 1 unit
UC, CSU
Prerequisite: None.
Keyboard skills for advanced performance on keyboards in all keys. Includes skills for accompanying individuals and groups. Opportunity provided for group and individual performance. 17 hours lecture and 32 hours laboratory.
MUS-73 - Vocal Jazz Singers  
2 units  
UC, CSU  
Prerequisite: None.  
Advisory: Concurrent enrollment in MUS-29, 41, 51, 69 or 81.  
Limitation on enrollment: Audition on or before the first class meeting.  
An advanced vocal jazz ensemble of singers dedicated to the further study and performance in jazz styles arranged for vocal jazz ensemble. Appearances at public and private functions will be made throughout the year. May be taken a total of four times. 108 hours laboratory.

MUS-75 - Advanced Vocal Ensembles  
1 unit  
UC, CSU (C-ID MUS 180)  
Prerequisite: None.  
Limitation on enrollment: Audition on or before the first class meeting.  
This course is for advanced students who need more work on small group literature. There is opportunity for public performance and solo recital concerts. Subsequent enrollment will provide the student an opportunity for additional competency development within the subject matter. May be taken a total of four times. 54 hours laboratory.

MUS-77 - Guitar Ensemble  
2 units  
UC, CSU  
Prerequisite: None.  
Limitation on enrollment: Audition on or before the first class meeting.  
This course is for the study, rehearsal, and public performance of literature for classical guitar ensemble, with an emphasis on the development of skills needed to perform within an ensemble. Different literature will be studied each semester. Participation in public performances is required. May be taken a total of four times. 108 hours laboratory.

MUS-78 - Beginning Applied Music II  
2 units  
UC, CSU  
Prerequisite: None.  
Limitation on enrollment: Audition on or before the first class meeting.  
Advanced vocal or instrumental instruction for students who are proficient performers and could benefit from individualized instruction as determined by audition. Course includes individual lessons, supervised practice, jury evaluations, and public performance. Not designed for beginning students. Course may be taken a total of four times. 108 hours laboratory.

MUS-83 - Advanced Chamber Choir  
1 unit  
UC, CSU (C-ID MUS 180)  
Prerequisite: None.  
Limitation on enrollment: Audition on or before the first class meeting.  
Advanced student and community chamber choir dedicated to the study, rehearsal and public performance of a variety of chamber choral literature. Activities will include concerts, festivals, radio and TV broadcasts and private appearances. May be taken a total of four times. 54 hours laboratory.

MUS-87 - Applied Music Training  
1 unit  
UC, CSU (C-ID MUS 160)  
Prerequisite: None.  
Limitation on enrollment: Audition on or before the first class meeting.  
Vocal or instrumental instruction for students who are proficient performers and could benefit from individualized instruction as determined by audition. Each student must complete 54 hours in a combination of individualized practice, lessons, concert attendance and individual performance. Not designed for beginning students. Course may be taken a total of four times. 54 hours laboratory.

MUS-89 - Music of Multicultural America  
3 units  
UC, CSU  
Prerequisite: None.  
A comparative and integrative study of the multicultural musical styles of the United States. Includes the music of Native Americans, European Americans, African Americans, Chicano/Latino Americans, and Asian Americans from their historical roots to the present. Analysis of musical traditions from a technical and cultural perspective; and sequential development of listening and descriptive skills through a variety of media including films, recordings and computer-assisted instruction. 54 hours lecture.

MUS-89H - Honors Music of Multicultural America  
3 units  
UC, CSU  
Prerequisite: None.  
Limitation on enrollment: Enrollment in the Honors Program.  
An honors course that offers a comparative and integrative study of the multicultural musical styles of the United States. Includes the musics of Native Americans, European Americans, African Americans, Chicano/Latino Americans, and Asian Americans, from their historical roots to the present. Analysis of musical traditions from a technical and a cultural perspective; and sequential development of listening and descriptive skills through a variety of media including films, recordings, and computer-assisted instruction. Students may not receive credit for both MUS-89 and MUS-89H. 54 hours lecture.
This course is designed to coordinate the student’s occupational on-the-job training with related instruction in work-related skills. will be studied each semester. Participation in public performances skills needed to perform within an ensemble. Different literature jazz ensemble literature, with an emphasis on the development of meeting.

Prerequisite: None

Grade or Pass/No Pass option.) (maximum of 300 hours) are required for each enrolled unit. (Letter (maximum of 240 hours) or 75 hours of paid work experience the first class meeting based upon several factors, including the appropriate general or occupational work experience course after enrolling in WKX-200 are administratively moved to the maximum of 16 units of work experience. No more than 20 hours Students may earn up to four (4) units each semester for a

MUS-200 - Music Work Experience 1-2-3-4 units
CSU*

Prerequisite: None.

Advisory: Students should have paid or voluntary employment.

This course is designed to coordinate the student’s occupational on-the-job training with related instruction in work-related skills. Students may earn up to four (4) units each semester for a maximum of 16 units of work experience. No more than 20 hours per week may be applied toward the work requirement. Students enrolling in WKX-200 are administratively moved to the appropriate general or occupational work experience course after the first class meeting based upon several factors, including the number of hours worked during the semester, occupational program requirements, and type of work in which the student is engaged. 18 hours orientation and 60 hours of volunteer work experience (maximum of 240 hours) or 75 hours of paid work experience (maximum of 300 hours) are required for each enrolled unit. (Letter Grade or Pass/No Pass option.)

MUS-P44 - Jazz Lab Band 1 unit
UC, CSU (C-ID MUS 180)

Prerequisite: None

Limitation on enrollment: Audition on or before the first class meeting.

This course is for the study, rehearsal, and public performance of jazz ensemble literature, with an emphasis on the development of skills needed to perform within an ensemble. Different literature will be studied each semester. Participation in public performances is required. May be taken a total of four times. 54 hours laboratory.

### PHILOSOPHY

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHI-10</td>
<td>Introduction to Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>UC, CSU</td>
<td>(C-ID PHIL 100)</td>
<td></td>
</tr>
<tr>
<td>Prerequisite: None.</td>
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<td></td>
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<tr>
<td>Advisory: ENG-50 or 80.</td>
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<tr>
<td>A survey and exploration of significant questions in the Western philosophical tradition. Questions are drawn from the various branches of philosophy: metaphysics, theory of knowledge, ethics, aesthetics, political philosophy and/or philosophy of religion. Students may not receive credit for both PHI-10 and PHI-10H. 54 hours lecture.</td>
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<td></td>
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<tr>
<td>PHI-10H</td>
<td>Honors Introduction to Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>UC, CSU</td>
<td>(C-ID PHIL 100)</td>
<td></td>
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<tr>
<td>Prerequisite: None.</td>
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<tr>
<td>Limitation on enrollment: Enrollment in the Honors Program. A survey and exploration of significant questions in the Western philosophical tradition through an examination of primary sources. Questions are drawn from the various branches of philosophy: metaphysics, theory of knowledge, ethics, aesthetics, political philosophy and/or philosophy of religion. The honors course offers an enriched experience for accelerated students by means of limited class size, seminar format, discussions and projects generated and led by students, the application of higher level thinking and writing skills--analysis, synthesis, and evaluation. Students may not receive credit for both PHI-10 and PHI-10H. 54 hours lecture.</td>
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<tr>
<td>PHI-11</td>
<td>Critical Thinking</td>
<td>3</td>
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<tr>
<td>UC, CSU</td>
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<tr>
<td>Prerequisite: None.</td>
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<tr>
<td>Advisory: REA-82.</td>
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<tr>
<td>This course presents critical thinking as a skill to be used for better understanding, evaluating and constructing arguments. The focus will be on developing and enhancing the student’s ability to identify, analyze and present arguments. Topics covered through analysis and writing include the nature of argument, inductive and deductive reasoning, rhetoric, theory of knowledge, scientific method, informal fallacies. 54 hours lecture.</td>
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<tr>
<td>PHI-12</td>
<td>Introduction to Ethics: Contemporary Moral Issues</td>
<td>3</td>
</tr>
<tr>
<td>UC, CSU</td>
<td>(C-ID PHIL 120)</td>
<td></td>
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<tr>
<td>Prerequisite: None.</td>
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<tr>
<td>Contemporary problems in ethics. An examination of the moral problems of today in light of ethical theory. Problems examined may include abortion, euthanasia, the death penalty, affirmative action, war, racism, sexism, and others. 54 hours lecture.</td>
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<tr>
<td>PHI-22</td>
<td>Philosophy of Science</td>
<td>3</td>
</tr>
<tr>
<td>UC, CSU</td>
<td></td>
<td></td>
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<tr>
<td>Prerequisite: None.</td>
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<tr>
<td>Advisory: Qualification for ENG-1A.</td>
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<tr>
<td>An examination of philosophical ideas about the nature of scientific knowledge, how it enables us to understand the world, and the role of values in science. Historical and current examples from the various sciences will be used to explore these questions. The dependence of contemporary policy and personal decisions on scientific knowledge will also be explored. 54 hours lecture.</td>
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</tbody>
</table>
PHI-32 - Introduction to Symbolic Logic 3 units  
(Same as MAT-32)  
UC, CSU (C-ID PHIL 210)  
Prerequisite: None.  
Limitation on enrollment: May not be taken if credit for MAT-32 has been granted.  
Introduces the principles of deductive reasoning, including the practical application of modern symbolic techniques. 54 hours lecture.

PHI-33 - Introduction to Social and Political Philosophy 3 units  
UC, CSU  
Prerequisite: None.  
Advisory: Qualification for ENG-1A.  
An introduction to issues in social and political philosophy. Discusses both the development of political philosophy in response to varying historical problems and the application of political philosophy to contemporary issues; topics studied include ancient Greek, social contract, communist and modern political philosophy. 54 hours lecture.

PHI-35 - Philosophy of Religion 3 units  
(Same as HUM-35)  
UC, CSU  
Prerequisite: None.  
Advisory: PHI-10 or 10H, or 11 and REA-83 and qualification for ENG-1A.  
An introduction to the examination of religious claims from a philosophical perspective. Emphasis will be placed upon examining the rational justification for various traditional faith claims, and upon examining the relationship between rationality and faith. The course presumes a basic knowledge of philosophical argumentation. 54 hours lecture.

PHOTOGRAPHY  
PHO-20 - Introduction to Digital Photography 3 units  
CSU  
Prerequisite: None.  
Theory and practice in the basic techniques of producing digital photographs with technical and artistic merit. Acquire competency in the use of cameras with an emphasis on understanding the relationship of shutter, aperture and focal length. Software utilized may include Adobe Photoshop, Adobe Lightroom and others. Students are required to supply their own digital single lens reflex (SLR) camera with manual controls. 36 hours lecture and 54 hours laboratory.

Also see JOURNALISM

PHYSICAL EDUCATION  
See KINESIOLOGY

PHYSICAL SCIENCE  
PHS-1 - Introduction to Physical Science 3 units  
UC*, CSU  
Prerequisite: None.  
Fundamental concepts of earth, space and environmental science (geology, oceanography, meteorology, and astronomy) and principles of physics and chemistry especially as they relate to these fields. Emphasis is placed on the application of science in the understanding and solution of environmental problems. 54 hours lecture.

PHYSICS  
PHY-2A - General Physics I 4 units  
UC*, CSU (C-ID PHYS 100S = PHY-2A + PHY-2B)  
Prerequisite: None.  
Corequisite: Concurrent enrollment in or prior completion of MAT-1A.  
Meets the requirements for students majoring in biological science, including pre-medical or pre-dental students. This course examines: properties of matter; study of kinetics and mechanics, including Newton’s laws, energy, momentum and rotational motion; fluid mechanics; gravitation; study of oscillatory motion; study of wave motion, including sound waves. 54 hours lecture and 54 hours laboratory.

PHY-2B - General Physics II 4 units  
UC*, CSU (C-ID PHYS 100S = PHY-2A + PHY-2B)  
Prerequisite: PHY-2A.  
Meets the requirements for students majoring in biological science, including pre-medical and pre-dental students. This course includes: study of thermodynamics, including temperature, methods of heat transfer, calorimetry, ideal gas law, laws of thermodynamics, entropy, and heat engines; study of electricity and magnetism, including electric field and potential, Gauss’ Law, current, Ohm’s Law, capacitance and inductance, Faraday’s Law; study of optics, including electromagnetic waves, reflection, refraction, interference, and diffraction; study of modern physics, including the photoelectric effect, de Broglie wavelength, quantum numbers, and radioactive decay. 54 hours lecture and 54 hours laboratory.

PHY-4A - Mechanics 4 units  
UC*, CSU (C-ID PHYS 205)  
Prerequisite: None.  
Corequisite: Concurrent enrollment in or prior completion of MAT-1A.  
Examines vectors, particle kinematics and dynamics, work and power, conservation of energy and momentum, rotation, oscillations and gravitation. 54 hours lecture and 54 hours laboratory.
PHY-4B - Electricity and Magnetism  
4 units  
UC*, CSU (C-ID PHYS 210)  
Prerequisite: PHY-4A.  
Corequisite: Concurrent enrollment in or prior completion of MAT-1B.  
Study of electric fields, voltage, current, magnetic fields, electromagnetic induction, alternating currents and electromagnetic waves. 54 hours lecture and 54 hours laboratory.

PHY-4C - Heat, Light and Waves  
4 units  
UC*, CSU  
Prerequisite: PHY-4A.  
Corequisite: MAT-1B.  
Examines fluid mechanics; temperature, heat transfer, thermal properties of matter, laws of thermodynamics; oscillations and waves; reflection, refraction, lenses and mirrors, interference, and diffraction. 54 hours lecture and 54 hours laboratory.

PHY-10 - Introduction to General Physics  
3 units  
UC*, CSU  
Prerequisite: MAT-52.  
A non-science major physics course covering mechanics, properties of matter, heat, sound, light, electricity and magnetism, and nuclear physics. 54 hours lecture.

PHY-11 - Physics Lab  
1 unit  
UC, CSU  
Prerequisite: None.  
Corequisite: Concurrent enrollment in or prior completion of PHY-10.  
An optional laboratory science course for the non-science major. Emphasis on laboratory techniques, student experimentation, and laboratory demonstrations. 54 hours laboratory.

POL-1H - Honors American Politics  
3 units  
UC, CSU (C-ID POLS 110)  
Prerequisite: None.  
Advisory: REA-83 and qualification for ENG-1A.  
Limitation on enrollment: Enrollment in the Honors Program.  
This course addresses the principles, institutions and critical issues of American politics, with emphasis placed on the national government. Specifically, the course offers an enhanced exploration of the philosophic and ideological sources of the American political system and its political culture, political parties and electoral system as well as political interest groups, mass movements, public policy, the media, the judicial system, and California state and local government. The honors course offers an enriched educational experience for accelerated students through limited class size, seminar format, focus on primary texts, and application of higher-order critical thinking skills. Students may not receive credit for both POL-1 and POL-1H. 54 hours lecture.

POL-2 - Comparative Politics  
3 units  
UC, CSU (C-ID POLS 130)  
Prerequisite: None.  
Advisory: REA-83 and qualification for ENG-1A.  
A comparative study of selected European, Asian, African, Latin American, and Middle Eastern political systems. Concerned with broadening and deepening the student’s understanding of the nature and variety of political systems. Course topics will include a study of institutions, issues, and policies of various countries. Students may not receive credit for both POL-2 and POL-2H. 54 hours lecture.

POL-4 - Introduction to World Politics  
3 units  
UC, CSU (C-ID POLS 140)  
Prerequisite: None.  
Advisory: REA-83 and qualification for ENG-1A.  
A study of the theories, paradigms and issues of global politics. Special attention is given to the role of the United States in the international community, the role of international organizations and international political economy. Students may not receive credit for both POL-4 and POL-4H. 54 hours lecture.

POL-4H - Honors Introduction to World Politics  
3 units  
UC, CSU (C-ID POLS 140)  
Prerequisite: None.  
Advisory: REA-83 and qualification for ENG-1A.  
Limitation on enrollment: Enrollment in the Honors Program.  
A study of the theories, paradigms, and issues of global politics. Special attention is given to the role of the United States in the international community, the role of international organizations and international political economy. This honors course offers an enriched experience for accelerated students by means of limited class size, seminar format, student-generated and -led discussions and projects, a focus on primary texts in translation, and the applications of higher-level thinking and writing skills—analysis, synthesis and evaluation. Students may not receive credit for both POL-4 and POL-4H. 54 hours lecture.
### POL-5 - The Law and Politics  
**UC, CSU**  
**Prerequisite:** None.  
**Advisory:** REA-83 and qualification for ENG-1A.  
The principles and problems of the constitution are examined, with emphasis on how the constitution impacts public policy. Also, the course looks at the constitutional considerations affecting civil rights and liberties. 54 hours lecture.

### POL-7A - Current Political Issues  
**CSU**  
**Prerequisite:** None. Sections may be taken in any sequence.  
**Advisory:** Qualification for ENG-1A.  
Current political issues are designed to provide students the opportunity to examine major national and global issues which are not fully covered in the regular department curriculum. Topics selected are defined as current critical issues facing our nation and globe and will vary with each course offering. Each issue will be covered in detail, as will potential solutions to each issue and the political bodies involved in attempting resolution. 54 hours lecture.

### POL-11 - Political Theory  
**UC, CSU**  
**Prerequisite:** None.  
**Advisory:** REA-83 and qualification for ENG-1A.  
This course will examine the major contributions of political thinkers from Socrates to the present. Political concepts such as democracy, the rule of law, justice, natural rights, sovereignty, citizenship, power, the state, revolution, liberty, reason, materialism, toleration, and the place of religion in society and politics are traced from their origins, through their development and changing patterns, to show how they influence political thinking and institutions today. 54 hours lecture.

### POL-13 - Introduction to American Foreign Policy  
**UC, CSU**  
**Prerequisite:** None.  
**Advisory:** Qualification for ENG-1A.  
The goal of this course is to provide students with comprehensive and critical coverage of U.S. foreign policy since World War II. Through a coherent chronological narrative, the course traces the evolution of U.S. foreign policy from its assumption of world leadership during and after World War II to its present concerns with sprouting democracies, a militarized policy, global economic and political interdependence. 54 hours lecture.

### PSY-1 - General Psychology  
**UC, CSU (C-ID PSY 110)**  
**Prerequisite:** None.  
Historical and philosophical antecedents of contemporary psychology; the scientific study of behavior and mental processes as systemized in learning, motivation, emotion, personality, intelligence, and thought. 54 hours lecture.

### PSY-2 - Biological Psychology  
**UC, CSU (C-ID PSY 150)**  
**Prerequisite:** PSY-1.  
The scientific study of brain-behavior relationships and mental processes. Issues addressed include: historical scientific contributions and current research principles for studying brain-behavior associations and mental processes, basic nervous system structure and function, sensory and motor systems, emotion, motivation, learning and memory, sleep and dreaming, and neurological and mental disorders. Ethical standards for human and animal research are discussed in the context of both invasive and non-invasive experimental investigations. 54 hours lecture.

### PSY-3 - Developmental Psychology  
**UC, CSU (C-ID PSY 110)**  
**Prerequisite:** None.  
A study of the theories, paradigms, and issues of global politics. 54 hours lecture.

### PSY-8 - Introduction to Social Psychology  
**UC, CSU (C-ID PSY 170)**  
**Prerequisite:** None.  
This course examines individual human behavior in relation to the social environment. It includes emphasized topics; such as, aggression, prejudice, interpersonal attraction, attitude change, gender roles, and social cognition. 54 hours lecture.

### PSY-9 - Abnormal Psychology  
**UC, CSU (C-ID PSY 120)**  
**Prerequisite:** None.  
Survey of historical and contemporary approaches to diagnosing, understanding and treating major forms of psychological disorder including: anxieties, fears, obsessions, psychoses, sexual and personality disorders, disorders of childhood and adolescence. 54 hours lecture.
### READING

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>REA-2</td>
<td>Rapid Reading</td>
<td>2</td>
<td>Designed for readers with good vocabulary skills who are interested in increasing reading speed. A qualifying placement level is recommended. Students practice utilizing a variety of rapid reading methods and comprehension-building techniques, including computer assisted instruction. 36 hours lecture. (Letter Grade, or Pass/No Pass option.)</td>
</tr>
<tr>
<td>REA-3</td>
<td>Reading for Academic Success</td>
<td>3</td>
<td>Intended to provide students with a review and study of reading skills at the college level. Students will receive instruction in fundamental, academic and discipline-specific reading skills. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)</td>
</tr>
<tr>
<td>REA-4</td>
<td>Critical Reading as Critical Thinking</td>
<td>3</td>
<td>This course is intended for students to fully understand the relationship between critical reading and critical thinking. Emphasis will be placed on the development of reading skills in the interpretation, analysis, criticism, and advocacy of ideas encountered in academic reading. 54 hours lecture.</td>
</tr>
<tr>
<td>REA-81</td>
<td>Foundations for College Reading</td>
<td>3.5</td>
<td>Intended for students in need of basic remediation. Instruction in basic reading skills, along with individually prescribed practice work in which a wide range of material will be utilized. 54 hours lecture and 36 hours laboratory. (Non-degree credit course. Letter Grade, or Pass/No Pass option.)</td>
</tr>
<tr>
<td>REA-82</td>
<td>College Reading and Strategies</td>
<td>3.5</td>
<td>Intended for students who experience significant difficulty in reading college-level materials. Instruction in reading skills at a less basic level than that required in REA-81, along with individually prescribed practice work, in which a wide range of materials will be utilized. 54 hours lecture and 36 hours laboratory. (Non-degree credit course. Letter Grade, or Pass/No Pass option.)</td>
</tr>
<tr>
<td>REA-83</td>
<td>College Reading and Thinking</td>
<td>3</td>
<td>Intended for students who experience moderate difficulty in reading college-level material. Instruction in reading skills at a more advanced level than those covered in REA-82. 54 hours lecture. (Non-degree credit course. Letter Grade, or Pass/No Pass option.)</td>
</tr>
<tr>
<td>REA-86</td>
<td>Reading Strategies for Textbooks</td>
<td>1</td>
<td>This course is intended for students currently enrolled in a lecture class where the curriculum and instruction depends on extensive textbook readings. Students will receive instruction on using different reading comprehension strategies designed for better understanding and retention of textbook material. 18 hours lecture. (Non-degree credit course. Pass/No Pass only.)</td>
</tr>
</tbody>
</table>

### REAL ESTATE

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RLE-80</td>
<td>Real Estate Principles</td>
<td>3</td>
<td>The fundamental real estate course covering the basic laws and principles of California real estate, gives understanding, background, and terminology necessary for specialized courses. Assists those preparing for the real estate sales agent license examination. 54 hours lecture.</td>
</tr>
<tr>
<td>RLE-81</td>
<td>Real Estate Practices</td>
<td>3</td>
<td>Covers basic laws and principles of California real estate, terminology and daily operations in a real estate brokerage. Includes listing, prospecting, advertising, financing, sales techniques, escrow and ethics. Applies toward state’s educational requirements for the brokers examination. 54 hours lecture.</td>
</tr>
<tr>
<td>RLE-82</td>
<td>Legal Aspects of Real Estate</td>
<td>3</td>
<td>California real estate law, including rights incident to property ownership and management, agency, contracts, and application to real estate transfer, conveyance, probate proceedings, trust deeds, and foreclosure, as well as recent legislation governing real estate transactions. Applies toward educational requirement of brokers examination. 54 hours lecture.</td>
</tr>
<tr>
<td>RLE-83</td>
<td>Real Estate Finance</td>
<td>3</td>
<td>Analysis of real estate financing, including lending policies and problems in financing transactions in residential, apartment, commercial, and special purpose properties. Methods of financing properties emphasized. 54 hours lecture.</td>
</tr>
</tbody>
</table>
RLE-84 - Real Estate Appraisal

**CSU**

Prerequisite: None.

Purposes of appraisals, the appraisal process, and the different approaches, methods, and techniques used to determine the value of various types of property. Emphasis will be on residential and single-unit properties. 54 hours lecture.

RLE-85 - Real Estate Economics

**CSU**

Prerequisite: None.

Trends and factors affecting the value of real estate; the nature and classification of land economics; the development of property, construction and subdivision, economic values and real estate evaluation; real estate cycles and business fluctuations, residential market trends, real and special purpose property trends. 54 hours lecture.

RLE-86 - Escrow Procedures I

**CSU**

Prerequisite: None.

Methods and techniques of escrow procedure for various types of real estate transactions, including the legal/ethical responsibilities engaged in escrow work. 54 hours lecture.

RLE-200 - Real Estate Work Experience

**CSU**

Prerequisite: None.

Advisory: Students should have paid or voluntary employment.

This course is designed to coordinate the student’s occupational on-the-job training with related instruction in work-related skills. Students may earn up to four (4) units each semester for a maximum of 16 units of work experience. No more than 20 hours per week may be applied toward the work requirement. Students enrolling in WXX-200 are administratively moved to the appropriate general or occupational work experience course after the first class meeting based upon several factors, including the number of hours worked during the semester, occupational program requirements, and type of work in which the student is engaged. 18 hours orientation and 60 hours of volunteer work experience (maximum of 240 hours) or 75 hours of paid work experience (maximum of 300 hours) are required for each enrolled unit. (Letter Grade or Pass/No Pass option.)

### SOCIOLGY

SOC-1 - Introduction to Sociology

**UC, CSU (C-ID SOCI 110)**

Prerequisite: None.

An introduction to the basic concepts relating to the study of society. The course includes investigation into the foundations of sociology including its overall perspective, theoretical orientations, and research methodology; the foundations of social life including the components of culture, social interaction and the process of socialization, groups, organizations, and deviance; economic social inequality based upon class, race, sex, and age; social institutions; and dimensions of social change. Students may not receive credit for both SOC-1 and SOC-1H. 54 hours lecture.

SOC-1H - Honors Introduction to Sociology

**UC, CSU (C-ID SOCI 110)**

Prerequisite: None.

Limitation on enrollment: Enrollment in the Honors Program.

An honors level introduction to the basic concepts relating to the study of social behavior and human groups. This honors level course includes investigation into the foundations of sociology including theoretical perspectives, research methodology, and the components of social structure. Social interaction, culture, and social inequality (including, but not limited to, race, gender, sex, and social class), and dimensions of social change will be examined. Students may not receive credit for both SOC-1 and SOC-1H. 54 hours lecture.

SOC-2 - American Social Problems

**UC, CSU (C-ID SOCI 115)**

Prerequisite: None.

Identification and analysis of major social problems confronting 20th century America; emphasizing, among other topics, urban and rural transformations; family life; minorities; criminal and delinquent behavior. 54 hours lecture.

SOC-3 - Social Inequality

**UC, CSU**

Prerequisite: None.

This course introduces students to the extent of inequality in its various forms in American Society, the consequences of inequality for individual life chances and society as a whole, the theoretical explanations given for the existence of inequality, and to the persistence of inequality and poverty. 54 hours lecture.

### SIMULATION AND GAME DEVELOPMENT

See GAME DEVELOPMENT
SOC-10 - Race and Ethnic Relations  3 units
UC, CSU (C-ID SOCI 150)

Prerequisite: None.

An introduction to the relevant theories and operational definitions that ground the study of race and ethnic relations in the social sciences. Extensive treatment of prejudice, discrimination, and the concept of racism. The course brings into sharper focus the history and contemporary status of White-ethics, religious minorities, American Indians, Afro-Americans, Hispanic-Americans, Asian-Americans, Jewish-Americans, and women in the United States. Social institutions such as family, education, politics, and the economy receive special attention for each group. The similarities and differences in ethnic hostilities between the United States and other societies are closely examined. 54 hours lecture.

SOC-12 - Marriage and Family Relations  3 units
UC, CSU (C-ID SOCI 130)

Prerequisite: None.

Advisory: SOC-1 and ENG-50.

Examines the major trends in marriage, families, and intimate relationships. Focuses on how inequality and diversity affect intimate and family relations. Discusses the dynamics of gender inequality among families and couples and how family life is shaped by race and ethnicity, social class, and sexuality. Discusses issues of interpersonal violence, divorce, and life in later years. 54 hours lecture.

SOC-15 - Women in American Society  3 units
UC, CSU

Prerequisite: None.

The role of American women emphasizing the social implications of the women’s movement and including the historical, political and economic roots of women’s problems. 54 hours lecture.

SOC-20 - Introduction to Criminology  3 units
UC, CSU (C-ID SOCI 160)

Prerequisite: None.

An introduction to the fundamentals of criminology. Including surveys of the theories of crime, statistical procedures and research methodology, types of crimes, criminal etiology, the origins and features of criminal law, the police, courts, and corrections. An analysis of the interrelations between social organization, the perceptions of social harm, and the dynamics of social control. 54 hours lecture.

SOC-50 - Introduction to Social Research Methods  3 units
UC, CSU (C-ID SOCI 120)

Prerequisite: SOC-1.

Examination of the fundamental elements of empirical research and the ways sociologists think critically, including attention to the nature of theory, hypothesis, variables and ethics of research. Application of qualitative and quantitative analytic tools including logic and research design, such as experimental, survey, observational, comparative historical research and case studies. 54 hours lecture.

SPANISH

SPA-1 - Spanish 1  5 units
UC*, CSU (C-ID SPAN 100)

Prerequisite: None.

Advisory: Completion of placement test to assess level of proficiency in Spanish.

This course concentrates on developing basic skills in listening, reading, speaking, and writing. Emphasis is placed on acquisition of vocabulary, structures and grammatical patterns necessary for comprehension of native spoken and written Spanish at the beginning level. This course includes discussion of Hispanic culture and daily life. Students may receive credit for only one of the following: SPA-1, SPA-1H, or SPA-1A and 1B. 90 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

SPA-1H - Honors Spanish 1  5 units
UC*, CSU (C-ID SPAN 100)

Prerequisite: None.

Advisory: Completion of placement test to assess level of proficiency in Spanish.

Limitation on enrollment: Enrollment in the Honors Program.

This course concentrates on developing basic skills in listening, reading, speaking, and writing. Emphasis is placed on acquisition of vocabulary, structures and grammatical patterns necessary for comprehension of native spoken and written Spanish at the beginning level. This course includes discussion of Hispanic culture and daily life. This honors course offers an enriched experience for accelerated students through limited class size, a seminar format, the reading of level-appropriate adapted Hispanic works and cultural studies, and the application of higher level critical thinking skills. Students may receive credit for only one of the following: SPA-1 or SPA-1H or SPA-1A and 1B. 90 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

SPA-2 - Spanish 2  5 units
UC, CSU (C-ID SPAN 110)

Prerequisite: SPA-1, 1H, or 1B or qualifying placement level on the Spanish assessment test or the equivalent.

Further development of basic skills in listening, reading, speaking, and writing. A continued emphasis on the acquisition of vocabulary, structures and grammatical patterns necessary for comprehension of standard spoken and written Spanish at the beginning level. This course includes expanded discussion of Hispanic culture and daily life. Students may not receive credit for both SPA-2 and SPA-2H. 90 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)
SPA-2H - Honors Spanish 2  
5 units  
UC*, CSU (C-ID SPAN 110)  
Prerequisite: SPA-1, 1H, or 1B or qualifying placement level on the Spanish assessment test or the equivalent.  
Limitation on enrollment: Enrollment in the Honors Program.  
Further development of basic skills in listening, reading, speaking and writing. A continued emphasis on the acquisition of vocabulary, structures and grammatical patterns necessary for comprehension of standard spoken and written Spanish at the beginning level. This course includes an expanded discussion of Hispanic culture and daily life. Honors course offers an enriched experience for accelerated students through limited class size, a seminar format, the reading of level-appropriate adapted Hispanic works and cultural studies, and the application of higher level critical thinking skills. Students may not receive credit for both SPA-2 and SPA-2H. 90 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

SPA-3 - Spanish 3  
5 units  
UC*, CSU (C-ID SPAN 200)  
Prerequisite: SPA-2 or 2H or qualifying placement level on the Spanish assessment test or the equivalent.  
Development of intermediate skills in listening, reading, speaking and writing. A continued emphasis on the acquisition of vocabulary, structures and grammatical patterns necessary for comprehension of standard spoken and written Spanish at the intermediate level. This course includes an expanded discussion of Hispanic culture and daily life. 90 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

SPA-3N - Spanish for Spanish Speakers  
5 units  
UC*, CSU (C-ID SPAN 220)  
Prerequisite: SPA-2, 2H, 3, 3N or 4.  
Enrichment and formalization of speaking, reading and writing skills in Spanish. Emphasis on vocabulary expansion, awareness of standard versus non-standard lexicon, introduction to various Spanish dialects. Intense review of grammar and linguistic terminology necessary to expand and enrich language skills. Introduction to diverse literary materials, writing styles and composition techniques. Intensive survey of Latino culture in the United States and in the Spanish-speaking world. Designed for students with near-native fluency, having acquired the language in a non-academic environment, and having received minimal or no formal instruction in Spanish. 90 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

SPA-4 - Spanish 4  
5 units  
UC*, CSU (C-ID SPAN 210)  
Prerequisite: SPA-3 or 3N or qualifying placement level on the Spanish assessment test or the equivalent.  
Further development of intermediate skills in listening, reading, speaking and writing. A review of the vocabulary, structures and grammatical patterns necessary for comprehension of standard spoken and written Spanish at the intermediate level. Enhancement of basic Spanish language skills though the reading of authentic literary and factual texts. This course includes an expanded discussion of Hispanic culture and daily life. 90 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

SPA-8 - Intermediate Conversation  
3 units  
UC*, CSU  
Prerequisite: SPA-2, 2H, 3, 3N or 4.  
Intermediate-level vocabulary building and improvement of speaking proficiency in the context of Hispanic culture, daily life and topics of current interest. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

SPA-11 - Spanish Culture and Civilization  
3 units  
UC, CSU  
Prerequisite: None.  
Introductory survey of Spanish culture and civilization as reflected in language, literature, art, history, policies, customs and social institutions. Class conducted in English. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

SPA-12 - Latin American Culture and Civilization  
3 units  
UC, CSU  
Prerequisite: None.  
Introductory survey of Latin American culture and civilization as reflected in language, literature, art, history, policies, customs and social institutions. Class conducted in English. 54 hours lecture. (Letter Grade, or Pass/No Pass option.)

SPA-13 - Spanish for Health Care Professionals  
5 units  
CSU  
Prerequisite: None.  
This course is designed for health care professionals who want to learn basic phrases in Spanish as related to their daily activities. Class conducted in Spanish. 90 hours lecture. (Letter Grade, or Pass/No Pass option.)

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SPEECH COMMUNICATION  
See COMMUNICATION STUDIES
SUPPLY CHAIN TECHNOLOGY

SCT-1 - Introduction to Automated Warehousing  3 units
Prerequisite: None.
An industrial technology overview course covering the basic knowledge and skills needed for supply chain technicians to successfully work in an automated distribution center. Introduction to the troubleshooting and maintenance of complex electromechanical systems is a major focus of this class. 36 hours lecture and 54 hours laboratory.

SCT-2 - Supply Chain Technology Analysis and Models  3 units
Prerequisite: None.
Advisory: CIS-1A.
Transactions and processes along the supply chain including technology for fulfillment of demand and order management. Analysis of supply chain planning and operations. Computer technology for materials handling, transportation, warehousing and logistics. 36 hours lecture and 54 hours laboratory.

SCT-3 - Supply Chain Technology  4 units
Prerequisite: None.
Advisory: CIS-1A.
This course examines contemporary supply chain management technologies including but not limited to technologies for supply chain visibility, facility design, transportation and logistics, materials management, warehousing and distribution; innovative use of technology for competitive advantage; structural and infrastructural policies and systems in operations strategy decisions, team-based case study and learn-by-doing exercises. 54 hours lecture and 54 hours laboratory.

SCT-4 - Transportation Technology and Vehicle Routing  3 units
Prerequisite: None.
Advisory: CIS-1A.
Hands on applications of transportation pricing models, computerized vehicle routing and scheduling software applications related to transportation planning and execution. Role of transportation in the economy and supply chain. Alternative transportation modes, rates, services and regulations. 36 hours lecture and 54 hours laboratory.

SCT-200 - Supply Chain Technology  1-2-3-4 units
Work Experience
Prerequisite: None.
Advisory: Students should have paid or voluntary employment.
This course is designed to coordinate the student’s occupational on-the-job training with related instruction in work-related skills. Students may earn up to four (4) units each semester for a maximum of 16 units of work experience. No more than 20 hours per week may be applied toward the work requirement. Students enrolling in WKP-200 are administratively moved to the appropriate general or occupational work experience course after the first class meeting based upon several factors, including the number of hours worked during the semester, occupational program requirements, and type of work in which the student is engaged. 18 hours orientation and 60 hours of volunteer work experience (maximum of 240 hours) or 75 hours of paid work experience (maximum of 300 hours) are required for each enrolled unit. (Letter Grade or Pass/No Pass option.)

SUPERVISION
See MANAGEMENT

THEATER ARTS

THE-2 - Play Practicum-Special Projects Laboratory I  1 unit
Prerequisite: None.
Advisory: Acting and production skills desirable based on a successful audition.
A course in play production from casting to performance including units in acting, set construction, lighting, costuming, house management, props and make-up on a small scale. Subsequent enrollment will provide the student an opportunity for additional skill and competency development within the subject matter. May be taken a total of four times. 54 hours laboratory.

THE-3 - Introduction to the Theater  3 units
Prerequisite: None.
A comprehensive study of theatrical styles and forms with units in directing, acting, designing, technical theater, playwriting and genres, to acquaint the student with the diverse nature of theater leading to an appreciation and understanding of the theater as a separate and distinctive art form. 54 hours lecture.

THE-4 - Play Practicum-Special Projects  2 units
Laboratory II
Prerequisite: None.
Advisory: Acting and production skills desirable based on a successful audition.
A course in play production from casting to performance including units in acting, set construction, lighting, costuming, house management, props and make-up on a small scale. Subsequent enrollment will provide the student an opportunity for additional skill and competency development within the subject matter. May be taken a total of four times. 108 hours laboratory.
THE-30 - Voice and Movement for the Stage  
3 units  
UC, CSU  
Prerequisite: None.  
Theory, principles and techniques of voice and movement needed for the actor to perform on stage: including stage movement, alignment, voice production, breathing, diction, accents, flexibility, projection and voice care. 18 hours lecture and 54 hours laboratory.

THE-32 - Acting Fundamentals-Theater  
3 units  
Games and Exercises  
UC, CSU (C-ID THTR 151)  
Prerequisite: None.  
Foundation training for actors through theater games and improvisational exercises for developing expressive freedom, creativity, relaxation, sensory awareness and concentration. Development and preparation of the actor’s instrument: voice, speech, body and imagination. Beginning of relationship and motivation. 36 hours lecture and 54 hours laboratory.

THE-33 - Scene Acting: Creating a Role  
3 units  
UC, CSU (C-ID THTR 152)  
Prerequisite: THE-32.  
Fundamentals of creating a role through beginning scene study and monologues with emphasis in modern realism. Building of character through text analysis and practical applications such as use of body, voice and imagination. Continued development of actor’s body through exercises. Advanced work in motivation, relationships and emotional discovery and release. 36 hours lecture and 54 hours laboratory.

THE-34 - Scene Study in Various Theatrical Styles  
3 units  
UC, CSU  
Prerequisite: THE-32.  
Advanced scene study with emphasis on a variety of theatrical styles, excluding classical verse. Advanced development of the emotional and character range of the actor. Development of the actor’s artistic sense and presentation with regard to text, environment, actions and choices. Public performance required. 36 hours lecture and 54 hours laboratory.

THE-35 - Classical Acting with Emphasis in  
3 units  
UC, CSU  
Shakespearean Verse  
Prerequisite: THE-32.  
Development of techniques for performing classical verse with an emphasis in Shakespearean texts. Special emphasis on actor’s physical instrument, voice, speech and body, to handle demands of elevated verse. Analysis and thematic aspects of Shakespeare and elevated verse, especially meter, rhythm, structure, imagery, antithesis, word games, patterns, stressing and inflections. Practical applications through scene and monologue work. 36 hours lecture and 54 hours laboratory.
THE-36 - Improvisational Acting 3 units
UC, CSU
Prerequisite: THE-32.
Advanced principles and techniques of improvisational acting designed to increase creativity, problem solving and performance skills. Students will develop the ability to work in short and long form, dramatic and comedic, pantomime skills, group work, spontaneity, offers, narrative, characterization and endowments. Public performance required. 36 hours lecture and 54 hours laboratory.

THE-38 - Auditioning for the Stage 1 unit
CSU
Prerequisite: None.
Principles and techniques of the various performance methods and styles involved in auditioning for the stage encompassing a variety of theatrical genres. 9 hours lecture and 27 hours laboratory.

THE-39 - Acting for the Camera 3 units
UC, CSU
Prerequisite: None.
Advisory: THE-32.
Principles and techniques of specialized methods and styles involved in acting for the camera culminating in performance on film. This course encompasses the study and exercise in the special techniques of acting for the motion picture and television cameras. Emphasis will be placed on gaining an understanding of the various camera angles, shots, positions and actor behaviors that are unique to acting before a camera. Practical work in front of a camera is required. 45 hours lecture and 27 hours laboratory.

THE-41 - Elementary Stagecraft 3 units
UC, CSU (C-ID THTR 171)
Prerequisite: None.
Advisory: Concurrent enrollment in THE-2 or 4 or 5 or 6.
Basic physical equipment of the theater, including use and safety, elementary set construction, scenic painting, drafting and critical analysis of scenic design for the theater. 36 hours lecture and 54 hours laboratory.

THE-44 - Theatrical Set Design 3 units
UC, CSU (C-ID THTR 172)
Prerequisite: None.
Advisory: Concurrent enrollment in THE-5 or 6 or 41.
The study of the principals, techniques and practices of scenic design and execution for the stage. Includes script analysis in relation to the aesthetic and dramaturgical demands of theatre art in formulating design concepts. Analysis of space, movement, mood, period, style, texture, materials and color to achieve the execution of design concepts through techniques of rendering, model-making, drafting and presentation. Working collaboratively with the director and design staff while maintaining production budget guidelines. 45 hours lecture and 27 hours laboratory.

THE-46 - Theatrical Costume Design 3 units
UC, CSU (C-ID THTR 174)
Prerequisite: None.
Advisory: ART-17 or 40.
The study of the principles, techniques and practices of theatrical costume design for stage, television and film. Includes script and character analysis to achieve characterization through design and working collaboratively with the director and design staff. The choice, use and manipulation of patterns, textiles, jewelry and accessories to imitate the historical needs of the production while maintaining production budget guidelines. Student will be assigned costume crew responsibilities for a theatrical production. 45 hours lecture and 27 hours laboratory.

THE-48 - Theatrical Lighting Design 3 units
UC, CSU (C-ID THTR 173)
Prerequisite: None.
Advisory: THE-5 or 6 or ART-23.
The study and implementation of the principles, techniques and practices of lighting design for the stage. Includes training in the creative concepts of lighting design, how to create a light plot, hang the lighting instruments for a show, as well as the practical use and operation of lighting equipment used to execute the design. Students will also be trained in industry safety standards that will prepare the student for work in the industry. Student will be assigned lighting crew responsibilities for a theatrical production. 45 hours lecture and 27 hours laboratory.

WORK EXPERIENCE

WKX-200 - Work Experience 1-2-3-4 units
CSU*
Prerequisite: None.
Advisory: Students should have paid or voluntary employment.
This course is designed to coordinate the student’s occupational on-the-job training with related instruction in work-related skills, including occupational and educational resources, career planning, resume development and interview techniques. Students may earn up to four (4) units each semester for a maximum of 16 units of work experience. No more than 20 hours per week may be applied toward the work requirement; 60 hours of volunteer work or 75 hours of paid work in the semester are required for each unit. WKX-200 is an enrolling course for General Work Experience and Occupational Work Experience courses. Students enrolling in WKX-200 are administratively moved to the appropriate general or occupational work experience course after the first class meeting. Determination of the appropriate work experience course is made by the instructor, with input from the student, based upon several factors, including the number of hours worked during the semester, occupational program requirements, and type of work in which the student is engaged. 18 hours lecture and 60 hours of volunteer work experience or 75 hours of paid work experience are required for each enrolled unit.
WKX-201 - General Work Experience  1-2-3 units  

Prerequisite: None.  
Advisory: Students should have paid or voluntary employment.  
This course is designed to coordinate the student’s occupational on-the-job training with related instruction in work-related skills, including occupational and educational resources, career planning, resume development and interview techniques. Students may earn up to three (3) units each semester for two (2) semesters for a maximum of 6 units of work experience. No more than 20 hours per week may be applied toward the work requirement; 60 hours of volunteer work or 75 hours of paid work in the semester are required for each unit. 18 hours lecture and 60 hours of volunteer work experience or 75 hours of paid work experience are required for each enrolled unit.

ELE-400 - Introduction to the Electrical Trades  3.5 units 
and Construction Safety  
Prerequisite: None.  
Focusing on electrical trades, students will examine safety issues surrounding construction job-sites and installation of electrical systems. Includes OSHA 10 Construction certification training, identification of job-site hazards, safe work practices and personal protective equipment for various construction site hazards. Care for breathing and cardiac emergencies along with basic first aid and automatic external defibrillator (AED) training for use on both adults and children. Substance abuse will be addressed. Basic math operations will be reviewed and reinforced. 45 hours lecture and 54 hours laboratory.

ELE-401 - Introduction to Electrical Theory, Basic  3.5 units 
Math Concepts, and the National Electric Code  
Prerequisite: None.  
Provides an introduction to algebraic and trigonometric concepts and application of their principles to solve basic electrical equations and layout conduit bends. Teaches the student to apply basic electrical theory to predict circuit behavior. Basic conduit bending techniques will be developed. The National Electrical Code will be introduced. 45 hours lecture and 54 hours laboratory.

ELE-402 - Advanced DC Circuit Concepts,  3.5 units 
Introduction to 3-Phase AC Circuits, Test Equipment, and 
National Electric Code Applications  
Prerequisite: None.  
Electrician circuit analysis techniques, series, parallel, and combination DC circuits, test equipment, National Electric Code (NEC), and elementary 3-Phase AC circuits will be introduced. 45 hours lecture and 54 hours laboratory.

ELE-403 - AC Circuit Concepts, Applied Electronics,  3.5 units 
and National Electric Code Applications  
Prerequisite: None.  
Electrician AC theory including an exploration of inductance and capacitance and the effect of their combined reactants on AC circuits along with the application of electronic concepts and components. 45 hours lecture and 54 hours laboratory.

ELE-404 - Digital Logic Circuits, Conductor  3.5 units 
Characteristics, Applications, and National Electric Code (NEC)  
Prerequisite: None.  
Digital logic concepts and their real-world application. Electrician identification, selection, and installation of electrical conductors in accordance with National Electrical Code (NEC). 45 hours lecture and 54 hours laboratory.

ELE-405 - Electrician Blueprint Reading with Code  3.5 units 
Applications for National Electrical Code (NEC)  
Prerequisite: None.  
Electrician studies of blueprints and specifications. Application of the National Electric Code will cover current protection, panelboards, and lighting systems. 45 hours lecture and 54 hours laboratory.

ELE-406 - Grounding Systems, Advanced  3.5 units 
Blueprints and Specifications, Motor Design and Installation, 
and National Electric Code  
Prerequisite: None.  
Advanced concepts for blueprints and specifications. Study of motor design and application and National Electric Code concepts. 45 hours lecture and 54 hours laboratory.

ELE-407 - Motor Control Principles, Generators and  3.5 units 
Power Supplies, with National Electric Code (NEC)  
Prerequisite: None.  
Techniques for controlling AC and DC motors; students examine conventional and cutting-edge technologies for power generation. 45 hours lecture and 54 hours laboratory.

ELE-408 - Transformer Theory, Leadership,  3.5 units 
Management, and Test Equipment  
Prerequisite: None.  
Explores electrician theory and field application of transformers, test equipment, including management and leadership principles for supervisors, along with special equipment for security systems for the grid. 45 hours lecture and 54 hours laboratory.

ELE-409 - Electrician Specialty Systems  3.5 units  
Prerequisite: None.  
Examines specialty electrical systems commonly found in building construction. Includes fire alarm systems, closed-circuit television (CCTV) systems, telephone systems, cable television (CATV & MATV) systems, local area networks (LANs), fiber optic data systems, heating and air conditioning control systems, and lightning protection systems. 45 hours lecture and 54 hours laboratory.
NON-CREDIT COURSES
Non-credit courses are one of several educational options offered by community colleges. They offer students access to a variety of low and no-cost courses that do not carry any unit value, but can help students in reaching personal and professional goals. They provide lifelong learning, career preparation opportunities, and skill remediation, development or proficiency. They can serve as an “educational gateway” for students who want to improve their earning power, literacy skills or access to higher education. Non-credit courses are approved by the district Curriculum Committee, the Board of Trustees and the state Chancellor’s Office.

ENGLISH
ENG-885 - Writing Clinic 0 units
Prerequisite: None.
Intended for students who need concentrated attention in various areas of grammar, punctuation, and composition. Self-paced, open-entry/open-exit, with no traditional lecture-based component. Instead, it requires students to do the majority of their coursework independently. Each student follows a sequential series of modules based on his or her diagnosis. Students meet with their instructor in the Writing and Reading Center for the pre-and post-test and as needed for one-on-one instruction or small group study for the duration of the students’ enrollment in the course. May be taken a total of four times. 27 hours laboratory.

ENGELSH AS A SECOND LANGUAGE
ESL-801 - ESL Support for Career and Technical Programs 0 units
Prerequisite: None.
Advisory: Qualification for ESL 53.
This course, designed for multi-lingual students whose primary language is not English, is intended for students currently enrolled in an entry-level vocational class. Students will receive instruction including writing, reading, speaking, vocabulary building and test taking skills designed to help them succeed in the content area course. Subsequent enrollment in an additional semester will provide the student with an opportunity for continued skills and competency development within the level and subject matter. May be taken a total of eight times. 36 hours lecture. (Non-credit course. Pass/No Pass only.)

GUIDANCE
GUI-801 - Testing for Success CAHSEE Preparation 0 units
Prerequisite: None.
Course is intended to give students a review of study skills and time management strategies in preparation for the California High School Exit Examination (CAHSEE). This course may be taken multiple times. 10 hours lecture. There is no mandatory laboratory hour requirement. (Materials fee: $16.00)

READING
REA-887 - Reading Clinic 0 units
Prerequisite: None.
This self-paced course provides practice on individually prescribed learning plans designed to improve and develop reading skills. Instruction is provided on an individualized basis through conferences with the student. Subsequent enrollment in the course will provide the student further opportunities for additional skill and competency development within the subject matter. May be taken a total of four times. 27 hours laboratory.