### CHEMISTRY

#### CHEM 051 Fundamentals of Chemistry I (5) UC/CSU
*Recommended: One year of high school algebra, or MATH 115.*
This course is a descriptive course in inorganic and organic chemistry. Topics include the metric system of measurement; chemical symbols, formulas and nomenclature systems; chemical equations; physical properties including density, solubility and states of matter; chemical properties; acids, bases, buffers and pH; basic principles of equilibrium and an introduction to radioactivity. Organic topics focus on functional group identification including hydrocarbons, organic halides, alcohols, ketones, acids, esters, amines, carbohydrates, lipids and proteins. This course is designed for Nursing and other Allied Health majors, students in environmentally hazardous materials, elementary education or liberal arts who do not intend to take CHEM 101.

**UC Transfer Credit Limit:** A maximum of one course from CHEM 051 or 060. No credit for CHEM 051 or 060 if taken after CHEM 101.

#### CHEM 056 Chemistry for Non-science Majors (4) CSU
This course presents inorganic and biochemical chemistry for non-science majors; students learn about basic chemical principles and how they relate to current environmental issues that shape society, both globally and locally. As they gain a scientific understanding of some challenges that face humanity, such as climate change, our growing energy demands, and future health needs, students analyze how problems and solutions are impacted by human activity. Students perform experiments where they learn common laboratory techniques, including safe handling of chemicals and proper use of laboratory equipment to gain hands-on experience with how humans affect the chemistry of the Earth's natural systems.

#### CHEM 060 Introduction to General Chemistry (5) UC/CSU
*(Formerly CHEM 010)*

#### CHEM 066 Organic and Biochemistry for Allied Health (5) UC/CSU
This course covers the organic and biochemical principles found in physiology and metabolic processes. Topics include organic and biochemistry with emphasis on the role of chemistry in health and disease, as well as molecular diseases and metabolic abnormalities.

**Prerequisites:** CHEM 101 with a grade of “C” or better.
This course is a continuation of CHEM 101, with an introduction to chemical kinetics, chemical equilibrium with emphasis on aqueous equilibria, electrochemistry, nuclear chemistry, organic chemistry, and descriptive inorganic chemistry. The laboratory includes both quantitative experiments and qualitative analysis. Note: No UC credit for CHEM 051 or 060 if taken after CHEM 101.

#### CHEM 051 Directed Study - Business (2) CSU
This course allows students to pursue directed study in Business Administration on a contract basis under the direction of a supervising instructor.

#### CHEM 065 Directed Study - Business (3) CSU
This course allows students to pursue directed study in Business Administration on a contract basis under the direction of a supervising instructor.

#### CHEM 101 General Chemistry I (5) UC/CSU
*(Formerly CHEM 001)*
**Prerequisites:** (1) High school chemistry or CHEM 060 with a grade of “C” or better; (2) A minimum of two years of high school mathematics or MATH 125 or equivalent.
This is a basic course emphasizing principles and theories. It includes discussions of chemical stoichiometry, atomic and molecular structure and the periodic table, gases, liquids, solids, solutions, oxidation reduction, acids and bases, and an introduction to chemical thermodynamics. The laboratory emphasizes basic laboratory skills, chemical principles, and quantitative relationships. UC Transfer Credit Limit: No credit for CHEM 051 or 060 if taken after CHEM 101.

#### CHEM 102 General Chemistry II (5) UC/CSU
*(Formerly CHEM 002)*
**Prerequisite:** CHEM 101 with a grade of “C” or better.
This course is a continuation of CHEM 101, with an introduction to chemical kinetics, chemical equilibrium with emphasis on aqueous equilibria, electrochemistry, nuclear chemistry, organic chemistry, and descriptive inorganic chemistry. The laboratory includes both quantitative experiments and qualitative analysis. Note: No UC credit for CHEM 051 or 060 if taken after CHEM 101.

#### CHEM 185 Directed Study – Chemistry (1) CSU
This course allows students to pursue directed study in selective chemistry topics under the contractual obligation of being independent scholars. Students perform both literature and laboratory research.

#### CHEM 211 Organic Chemistry for Science Majors I (5) UC/CSU
*(Formerly CHEM 014)*
**Prerequisite:** CHEM 102 with a grade of “C” or better.
Students learn about bonding, molecular structure, stereochemistry and nomenclature of organic compounds, the chemistry of functional groups with emphasis on reactions and
reaction mechanisms. In the laboratory, students learn the essential skills of synthesis, purification, extraction, and identification of organic compounds, as well as the use and application of state-of-the-art analytical instruments such as GC, FT-IR, NMR, etc. Chemistry 211 is required as one of the premed, predental, prepharmacy etc. courses.

CHEM 212 Organic Chemistry for Science Majors II (5) UC/CSU
(Formerly CHEM 018)
Prerequisite: CHEM 211.
CHEM 212 is a continuation of CHEM 211 with additional emphasis on the remaining functional groups as well as on multi-step synthesis. Chemistry 212 is a continuation of Chemistry 211 with additional emphasis on the remaining functional groups as well as on multi-step synthesis, reaction mechanisms, stereochemistry and modern instrumental and analytical methods. Special attention is given to the molecular structures and reactions of organic compounds with biological importance. Significant laboratory time is devoted to synthesis and analysis of complex organic compounds.

CHEM 221 Biochemistry for Science Majors II (5) UC/CSU
Prerequisite: CHEM 211 with a grade of "C" or better.
This course will provide a detailed introduction to the principles, concepts and terminology of biochemistry, with an emphasis on the structure and function of biological molecules, the role of metabolism in energy production and common biochemical laboratory techniques. Topics include the fundamental structures, chemistry, and properties of four groups of biological macromolecules (carbohydrates, lipids, proteins and nucleic acids) and their building blocks. This course will also present protein structure and function, enzyme catalysis, and the details of the central metabolic pathways (glycolysis, glycogenolysis, the citric acid cycle, electron transport, and oxidative phosphorylation) including their regulation and integration. Throughout the course the organizing principles of biochemistry and the distinctive characteristics of the living state will be emphasized. The laboratory exposes the students to a variety of biochemical techniques and how they are used to evaluate biomolecules and systems. These techniques include electrophoresis, spectroscopic analysis, spectrophotometry, fractional distillation, various types of chromatography including paper, thin layer, and molecular exclusion and enzyme assays. This course prepares students for careers in physical and biological sciences, pharmacy, medical and dental professions, veterinary and agricultural sciences, nutrition and food chemistry, and related fields.

CHEM 285 Directed Study—Chemistry (2) CSU
This course allows students to pursue directed study in chemistry on a contract basis under the direction of a supervising instructor.

CHICANO STUDIES

(CHICANO)

CHICANO 002 The Mexican-American in Contemporary Society (3)
The course introduces the student to the major characteristics of the largest growing ethnic group in the United States. Special attention is given to the social, cultural, literary, artistic, economic, and political elements which differentiate Mexican-Americans in relationship to other groups in American society.

CHICANO 037 Chicano Literature (3)
This course is an introductory analysis of the literary, social, and cultural aspects of the novel, short story, essay, poetry, and drama written by Mexican-Americans. The course reveals the progression of a people and culture in American society, artistically expressed by Mexican-American writers who seek to understand themselves and the world around them.

CHICANO 047 The Mexican-American Woman in Society (3)
This course provides students with a basic understanding of the Chicana in contemporary society. Emphasis is placed on establishing an interdisciplinary framework from which to analyze the experiences and treatment of Mexican-American women in modern society. An analysis of selected Latina issues currently affecting Chicana women is included.

CHILD DEVELOPMENT

(CH DEV)

CH DEV 001 Child Growth and Development (3) UC/CSU
Note: This course is a prerequisite for CH DEV 007, 008, 022, and 023. Required for Teaching Permit.
This course examines the major developmental milestones for children, both typical and atypical, from conception through adolescence in the areas of physical, psychosocial, and cognitive. The course will emphasize interactions between maturational process and environmental factors. While studying developmental theory and investigating research methodologies, students will observe children, evaluate individual differences, and analyze characteristics of development at various stages.
Information dealing with children with special needs and professionals. Focus on integrating the concepts into everyday communities. The importance of collaboration with families and health agencies. Curriculum related to child health safety and nutrition. The key standards, policies and procedures and early childhood education. This course is an introduction 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.

CH DEV 007 Introduction to Curriculum in Early Childhood Education (3) CSU
Prerequisite: CH DEV 001 and 002. Required for Teaching Permit.
Students learn and develop the knowledge and skills to provide appropriate curriculum and environments for young children from birth to age 8. Students examine a teacher's role in supporting development and fostering the joy of learning for all young children using observation and assessment strategies emphasizing the essential role of play, Planning, implementation and evaluation of curriculum includes but not be limited to: language and literacy, social and emotional learning, sensory learning, art and creativity, math, natural and physical sciences. (This course was formerly CH DEV 004.)

CH DEV 008 Curriculum in Early Childhood Education (3) CSU
Prerequisite: CH DEV 001 and 002. Required for Teaching Permit.
Students design and evaluate developmentally appropriate curriculum and environments for young children from birth to age 8. Based on the value of play, students demonstrate the teacher's role in applying theory to practice in supporting children's concept development. Preparing and assessing the implementation of curriculum will include but not be limited to: language and literacy, social studies, art and creativity, music and rhythm, perceptual motor development, mathematics, natural and physical sciences. (This course was formerly CH DEV 004.)

CH DEV 010 Health, Safety, and Nutrition (3) CSU
This course is an introduction to the laws, regulations, standards, policies and procedures and early childhood curriculum related to child health safety and nutrition. The key components that ensure physical health, mental health and safety for both children and staff will be identified along with the importance of collaboration with families and health professionals. Focus on integrating the concepts into everyday planning and program development for all children. Information dealing with children with special needs and cultural values and traditions that affect and support the well-being of children birth to adolescence is explored.

CH DEV 011 Child, Family, and Community (3) CSU
Recommended: CH DEV 001 and 002.
This course is an examination of the developing child in a societal context focusing on the interrelationship of family, school and community and emphasizes historical and sociocultural factors. The processes of socialization and identity development will be relationships that support and empower families. Emphasis is placed on familiarizing students with techniques used in parent-teacher conferences and to perceive parents as partners in their child's educational experience.

CH DEV 022 Practicum in Child Development I (4) CSU
Prerequisites: CH DEV 001, 002, 007, 011, and 034 with a grade of "C" or better. TB test clearance is required. Corequisite: CH DEV 042.
This course is a supervised practicum experience in an approved Early Childhood educational program, such as a preschool, child development center, elementary school, special education center or other early care/early intervention natural environments. Practicum students will be expected to demonstrate developmentally appropriate early childhood teaching competencies under guided supervision. Students 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, assessment and knowledge of curriculum content areas is emphasized as student teachers design, implement and evaluate experiences that promote positive development and learning. An overview of content areas will include but not be limited to: language and literacy, social and emotional learning, sensory learning, art, crafts, music, movement, dramatic play, small and large motor, as well as group time. Students will design and implement lesson plans under the supervision of a college instructor and a Master teacher at their Practicum site.

CH DEV 023 Practicum in Child Development II (4) CSU
Prerequisite: Child Development 022.
Corequisite: Child Development 065.
A tuberculosis test and fingerprinting are required. This course is a demonstration of developmentally appropriate early childhood teaching competencies under guided supervision in a preschool, child development center, elementary school, special education center, or other early care/early intervention natural environments and educational setting. 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
CH DEV 030 Infant and Toddler Studies I (3) CSU
Prerequisite: CH DEV 001.
This course provides an in-depth study of cognitive/language, social/emotional and perceptual/motor development domains and milestones of infants from birth to 36 months, as well as, an overview of major theories including attachment, brain development. The value of play, early intervention and relationship-based care in the context of family systems: culture, home language, and traditions. Students will be introduced to the laws and regulations of safe healthy environments and the rights of all infants and toddlers including children at-risk for disabilities. Class instruction includes objective observations of infants and toddlers in diverse settings.

CH DEV 031 Infant and Toddler Studies II (3) CSU
Prerequisite: CH DEV 001. Advisory: CH DEV 030.
This course implements the principles of inclusive, respectful caregiving for infants and toddlers within a variety of program designs, routines and schedules. Topics cover typical and atypical development, principles of early intervention, preschool transition services, design, implantation and assessment of developmentally appropriate curriculum and environment; health and safety and licensing issues. Coursework includes documentation of learning through observation, guidance toward self-regulation, family communications and community resources. Current research related to benefits of early intervention services and treatments will be addressed.

CH DEV 034 Observing and Recording Children’s Behavior (3) CSU
This course includes observing, recording and interpreting children’s behavior in a variety of settings. Dairies, anecdotes and other forms of written and oral records are explored and used. This course includes observing children from the ages of 1 month through school aged children. The student will be expected to become familiar with tools such as: Desired Results and DLM for purposes of assessing the growth and development of children. The students will also become familiar with the Environmental Rating Scale for: infants and Toddlers, Early Childhood and School Aged children. This course will provide the student with information dealing with full inclusion and children with special needs as well.

CH DEV 038 Administration and Supervision of Early Childhood Programs I (3) CSU
Recommended: CH DEV 001, 002 and 011.
This course examines and defines the principles and practices of Early Childhood programs organizational structure and administrative responsibilities. It will provide students with the opportunity to study and design budgets, personnel policies, record keeping, reporting techniques and utilizing community resources in preparation for administering and either starting a program or understanding how to operate an established program. The course will expose students to licensing requirements (Title 5 and Title 22), Early Childhood Environment Rating Scale, Program Administration Scale, Desired Results, NAEC Developmentally Appropriate Practices, the Pre-K Guidelines and N.A.E.Y.C. Code of Ethics.

CH DEV 039 Administration and Supervision of Early Childhood Programs II (3) CSU
Recommended: CH DEV 038.
This course is designed to reinforce the concepts that were studied in CH DEV 038 and to give the student an opportunity to implement the knowledge that they acquired. The course builds on the materials that the student studied and expands into more detail and complexity the responsibility of administering an Early Childhood program. The course will provide information that will assist them in designing a proposal for operating an experimental program. Every area that is involved in operating a program will be included in the content of the course. The course will require the student to write a grant proposal with all the elements involved in developing a Child Care facility.

CH DEV 042 Teaching in a Diverse Society (3) CSU
Corequisite: CH DEV 022.
This course presents the philosophy and methods related to working with young children and families within a diverse society, including race, language, culture, gender, age social class and children with special needs. Curriculum development and environmental designs will be studied from an inclusive perspective. This course takes an in depth and retrospective approach in processing the student to a position where they have the skills and knowledge necessary to infuse multicultural activities and literature as well as anti-bias perspective into the fabric of the curriculum, teaching modalities, and materials in an Early Childhood educational program.

CH DEV 044 Early Intervention for Children with Special Needs (3) CSU
This course focuses on accommodating and adapting the physical environment, instructional strategies and curriculum to meet the needs of differently-abled children and their families. Legal mandates and the impact of laws and legislation will be examined in respect to the impact on children and their families. Understanding the process of assessment and developing an Individual Family Service Plan will be analyzed and discussed. This course covers the theoretical aspects of working with children with special needs. This course will focus on children ages 0-8 to encompass school age children as well infants through preschool age children.
### COURSE DESCRIPTIONS

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>CH DEV 045</td>
<td>Programs for Children with Special Needs II (3) CSU</td>
<td>Overview of programs providing special education services for children with special needs focusing on preschool through school age. It will include a study of various early care early intervention natural environments and educational settings, legislation, characteristics of various exceptionalities and educational implications. Observation in schools will be required. This course identifies the political and social implications that affect special education, and it identifies the different categories of disabilities. The Individual Education Plan is discussed and evaluated. Students are exposed to techniques for identifying and implementing goals and objectives for children with special needs. Teaching techniques and curriculum activities are discussed, designed and implemented in the class projects. The course focuses on children ages infancy through ages 8 to encompass school age children as well.</td>
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<td>CH DEV 046</td>
<td>School Age Programs I (3) CSU</td>
<td>The student will be introduced to school-age programs. It is designed for those planning to work in before and after school childcare. Topics to be covered will include growth and development, creative experiences, and developmentally appropriate practices and environments. Techniques for guiding children's behavior and communication will be discussed. Appropriate administration and staffing for school age programs will be analyzed and discussed. This course deals with children kindergarten through school age.</td>
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<td>CH DEV 047</td>
<td>School Age Programs II (3) CSU</td>
<td>Students will be introduced to the different types of school age childcare programs. Topics to be covered will include the child in context to the family, community and society. The physical environment and the modalities for facilitating learning will be discussed and analyzed. Opportunities to develop and implement age and content appropriate curriculum activities for school aged children will be executed in classroom projects. Students will be required to create curriculum activities in the format of lesson plans for school age children.</td>
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<td>CH DEV 065</td>
<td>ADULT SUPERVISION/EARLY CHILDHOOD MENTORING (2) CSU</td>
<td>This course is a study of the modalities and principles of supervising teachers, staff and student-teachers in an early childhood program. Emphasis is placed on the role of the director, teacher, staff and student-teacher. The course will review leadership styles, communication skills, conflict resolution techniques, as well mentoring responsibilities and techniques. This course includes reviewing and utilizing the ECERS Rating Scale in evaluating and assessing the classroom and teacher effectiveness and appropriateness. This course will discuss the NAEYC Developmentally Appropriate Practices, the Pre-K Guidelines and N.A.E.Y.C. Code of Ethics.</td>
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<tr>
<td>CH DEV 072</td>
<td>Introduction to Careers in Child Development (1)</td>
<td>Introduces students to the variety of career options available to Child Development majors. It explores career opportunities, qualifications required, resources available, as well as academic and professional support systems.</td>
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<tr>
<td>CINEMA 001</td>
<td>Introduction to Motion Picture Production (3) UC/CSU</td>
<td>A comprehensive introduction to film video production techniques and equipment. Proper procedures are explained for the use of cameras, lenses, filters, film stocks, lights, microphones, audio recorders, and other motion editing picture equipment. Attention is also given to production planning and postproduction as well.</td>
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<tr>
<td>CINEMA 002</td>
<td>Beginning Motion Picture Workshop (3) CSU</td>
<td>This is an introductory course in practical filmmaking, including script, storyboard, direction, cinematography, sound and editing techniques. Each student will be responsible for the making of short films.</td>
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<tr>
<td>CINEMA 003</td>
<td>History of Motion Pictures (3) UC/CSU</td>
<td>History of the development of motion pictures, with examples, from their beginnings to the present day. Emphasis is placed on the American feature film.</td>
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<td>CINEMA 004</td>
<td>History of the Documentary Film (3) UC/CSU</td>
<td>The development of films dealing with the truth. Films types seen and discussed include: historical, animated, propaganda, educational, commercial, cinema vérité and direct cinema. Students will develop critical standards for judging documentary films.</td>
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<tr>
<td>CINEMA 005</td>
<td>Introduction to Screenwriting (3) UC/CSU</td>
<td>Course work consists of writing screenplays based on the Hollywood technique known as “The Heroes Journey.” Students will pitch their script to a studio and/or network executive.</td>
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<tr>
<td>CINEMA 006</td>
<td>Introduction to Cinematography (3) UC/CSU</td>
<td>Prerequisite: CINEMA 001 and 003 with a grade of &quot;C&quot; or better. Introduction to cinematography, including optics, camera operation, laboratory procedures, terminology and aesthetics. Students will do individual and group projects using digital video camera equipment.</td>
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<tr>
<td>CINEMA 007</td>
<td>Advanced Cinematography and Creative Techniques (3) CSU</td>
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film and TV. The course will introduce students to the history, outlets requirements for intellectual property, financing, contracts, in production and has broadened distribution possibilities for CINEMA 025 Producing Motion Picture Features (3) CSU from the perspective of the film industry.

A survey of the business aspects of motion pictures ranging in this course, students will explore the major categories of movies, including comedy, science fiction, suspense, the western, horror, and the musical. Most weeks feature in-class screenings of significant feature films.

CINEMA 107 Understanding Motion Pictures (3) UC/CSU
Analysis of the elements that make motion pictures an art form, including visual composition, color, music, acting, editing, lighting, story and sound. This course includes regular screening of classic and contemporary motion pictures, television programs and other videos.

CINEMA 111 Cinema: Developing Content for Movies (3) CSU
This course will enable students to gain a practical knowledge of how mass media is created, produced and marketed. It will enable the student to develop their own original concept, or other source material for a film, TV or internet project into a professional written proposal and oral "pitch". The course will survey the art and business of major media production, including network, cable, studio and independent film production. It will discuss the creative steps and commercial practices of project development from the creation or acquisition of source material through script development, production, marketing, distribution and exhibition. The course will survey the power and influence of mass entertainment on society, and its place in popular culture.

CINEMA 112 Script Analysis (3) CSU
Prerequisite: ENGLISH 101 with a grade of “C” or better. This course will enable students to analyze screenplays and other literary material that is considered for production by studios, and other producers of mass entertainment. Students will be required to read classic screenplays, and screen the principles and practice of editing from early film-based editing systems to modern day non-linear editing software. Coursework will include hands on activities using industry standard editing software and techniques.

CINEMA 009 Motion Picture Sound (3) CSU
Prerequisite: CINEMA 001 with satisfactory grades or better. Students learn the basics of motion picture production and postproduction sound. Students use digital audio recorders, microphones and booms and learn how to properly record sound. Students learn to loop and mix sound using a digital audio program.

CINEMA 010 Introduction to Film Directing (3) UC/CSU
Prerequisite: CINEMA 001 and 003 with satisfactory grades or better. Introduction to the crafts of acting and directing for the film medium; with emphasis on the visualization of the screen play, the junction of the actor in interpreting the script, and the role of the director in handling actors in the production of a film.

CINEMA 015 Advanced Motion Picture Workshop (3) CSU
Prerequisites: CINEMA 001, 002. Advanced Students perform practical work in film or digital video production. This lecture and laboratory workshop emphasizes the creative use of the camera, editing, sound, and production activities in relation to the fiction or documentary film format. Each student will be responsible for making a short film.

CINEMA 018 Main Currents in Motion Pictures (3) UC/CSU
In this course, students will explore the major categories of movies, including comedy, science fiction, suspense, the western, horror, and the musical. Most weeks feature in-class screenings of significant feature films.

CINEMA 020 Business Aspects of Motion Picture Production (3) CSU
A survey of the business aspects of motion pictures ranging from the production, distribution and exhibition of a film, this course will provide students with a working knowledge of the necessary management skills. This information is presented from the perspective of the film industry.

CINEMA 025 Producing Motion Picture Features (3) CSU
Digital video has transformed traditional feature film production and has broadened distribution possibilities for independent productions. Students explore new frontiers and requirements for intellectual property, financing, contracts, production, formats, marketing and alternative distribution outlets.

CINEMA 032 Editing Fundamentals (3) CSU
Prerequisite: CINEMA 001 with satisfactory grades or better. This course will explore the pivotal role that editing plays in film and TV. The course will introduce students to the history, course will enable students to analyze screenplays and other literary material that is considered for production by studios, and other producers of mass entertainment. Students will be required to read classic screenplays, and screen the
COURSE DESCRIPTIONS

films on which they are based to understand and identify the strengths and weaknesses of source material. They will learn the critical and writing skills necessary to write a professional evaluation of scripts and treatments, known as “coverage.” The course will instruct the student in the skills of the “reader,” or “Story Analyst,” so the student recognizes how material is selected, evaluated and revised in the feature film and TV series development. Student’s sample coverage may be used for their professional portfolio.

COMMUNICATION STUDIES

(COMM)

COMM 101 Public Speaking (3) UC/CSU
This beginning course provides a study of the principles of communication and audience analysis. These principles are applied to everyday social and business relationships. Students are trained in the principle and practice of effective speech composition and delivery. (This course was formerly SPEECH 101.)

COMM 104 Argumentation and Debate (3) UC/CSU
This course is an introduction to critical thinking and seeks to explore the various steps in the critical thinking process. Emphasis is placed on both how and why we make decisions as we do. Topics covered include claims, logic, definitions, evidence, reasoning, fallacies and persuasion. (This course was formerly SPEECH 104.)

COMM 111 Voice and Articulation (3) UC/CSU
This introductory course teaches effective voice production, accurate American English pronunciation and effective sound identification using the International Phonetic Alphabet. Discovery of one’s natural voice coordinated with proper breathing techniques through group and individual exercises is emphasized through sense-memory techniques. (This course was formerly SPEECH 111.)

COMM 121 Interpersonal Communication (3) UC/CSU
This is an advanced course in the analysis of the principles and significance of interpersonal social interactions in all areas of life. Perception, building positive relationships, personal disclosure, self-fulfilling prophecies, effective listening, communication apprehension, verbal and non-verbal communication, the impact of gender and culture on communication, expressing emotion, assertiveness, aggression, and conflict management will be examined. (This course was formerly SPEECH 121.)

COMM 122 Intercultural Communications (3) UC/CSU
This course examines communication in the context of intercultural interactions, explores verbal and nonverbal communication, similarities and differences in communication across cultures, and provides strategies to enhance interpersonal communication skills within the context of intercultural communication. This course is an introduction to intercultural communication in domestic and/or global contexts. The influence of cultures, languages, and social patterns on how members of groups relate with members of different ethnic and cultural groups is examined. The course also studies the theory and knowledge of effective communication within and between cultures. Focus will also include appreciation and comparison of communication among diverse groups within the larger context of American culture.

COMM 151 Small Group Communication (3) UC/CSU
This course provides an analysis of the purposes, principles and types of discussions. Emphasis is placed on developing skills to assume roles of leadership and active participation. Creative decision making, groupthink, the nature of power, conflict management, anger management and problem solving are explored. (This course was formerly SPEECH 151.)

COMM 190 Communication and New Media (3) CSU
This course introduces computer-mediated communication. Students examine how the Internet, specifically popular culture, social media, websites, blogs, podcasts, and social networks, have reshaped communication practices. The course offers an overview of relevant theories and critical issues while providing students with the opportunity to apply communication skills using new media.

COMPUTER APPLICATIONS AND OFFICE TECHNOLOGIES

(CAOT)

CAOT 001 Computer Keyboarding and Document Applications I (3) CSU
Mastery of the keyboard and the operations of computers are developed. Emphasis is placed on formatting and producing letters and tables using a popular word processing program.

CAOT 001A Computer Keyboarding and Document Applications IA (1) CSU
This course instructs students in proper keyboarding techniques to accomplish mastery of the computer keyboard by touch. Students will develop speed and accuracy.
CAOT 023 Legal Office Procedures I (5) CSU
This course covers law office procedures for the legal secretary including discussion of different kinds of law practices; legal office staff and technology used in today’s law firm; development of legal vocabulary and legal correspondence; the history of law and of the court structure; codes and court rules; and preparation of civil lawsuit pleadings from initial filing to trial.

CAOT 023A Legal Secretarial Procedures IA (1) CSU
This course covers law office procedures for the legal secretary including discussion of different kinds of law practices; legal office staff and technology used in today’s law firm; development of legal vocabulary and legal correspondence; the history of law and of the court structure; codes and court rules; and preparation of civil lawsuit pleadings from initial filing to trial.

CAOT 023B Legal Secretarial Procedures IB (1) CSU
This course covers law office procedures for the legal secretary including discussion of different kinds of law practices; legal office staff and technology used in today’s law firm; development of legal vocabulary and legal correspondence; the history of law and of the court structure; codes and court rules; and preparation of civil lawsuit pleadings from initial filing to trial.

CAOT 023C Legal Secretarial Procedures IC (1) CSU
This course covers law office procedures for the legal secretary including discussion of different kinds of law practices; legal office staff and technology used in today’s law firm; development of legal vocabulary and legal correspondence; the history of law and of the court structure; codes and court rules; and preparation of civil lawsuit pleadings from initial filing to trial.

CAOT 039 Word Processing: Keyboarding and Operations (3) CSU
This course teaches word processing skills, including inputting, editing, formatting and printing documents using word processing programs.

CAOT 048 Customer Service (3) CSU
This course is designed to raise awareness, prompt thinking, give step-by-step suggestions for improvement, and provide information on how an organization can deliver service excellence. The information is beneficial whether one is new to dealing with others in a business setting or is more experienced with internal customers (e.g., coworkers or other employees) and external customers (e.g., consumers, vendors, or other end users of products). Emphasis is placed on communication, diversity, technology, time management, stress management, and customer retention.

CAOT 079 Word Processing Applications (3)
Advanced word processing skills such as mail merge, advanced formatting, tables, & graphics will be taught utilizing a popular word processing program on PC compatible computers. Students choose either MS Word or WordPerfect. CAOT 39 or CAOT 84 should be completed in preparation for this course.

CAOT 084 Microcomputer Office Applications: Word Processing (3) CSU
This course teaches word processing skills, including inputting, editing, formatting and printing documents using Microsoft Word.

CAOT 085 Microcomputer Office Applications: Spreadsheet (3) CSU
Students learn office spreadsheet applications using a PC and spreadsheet application software, such as Excel. Students are taught to create, edit, format, and print worksheets, construct graphs, and build databases that use the data table function.

CAOT 093 Legal Document Production (2) CSU
Selection and preparation of formatted documents specific to law offices.

CAOT 114 Adobe Acrobat for the Office and Web (2)
Use Adobe Acrobat to create, review, and modify PDFs (Portable Document Files) from Microsoft Office files, including Word and PowerPoint, as well as from Web pages. Emphasizes the use of PDFs on the Web for various purposes, including creating multimedia presentations, adding interactive features, creating electronic forms, and adding electronic security to documents.

COMPUTER INFORMATION SYSTEMS (CIS)

For all Computer Science Information Technology courses, a maximum of six courses is acceptable for transfer to UC campuses.

CIS 101 Introduction to Computers and Their Uses (3) UC/CSU
Formerly Co Sci 901. Examination of information systems and their role in business. Focus on information systems, database management systems, networking, e-commerce, ethics and security, computer systems hardware and software components. Application of these concepts and methods through hands-on projects developing computer-based solutions to business problems.

CIS 104 Microcomputer Application Software (4) CSU
Recommended: CIS 101 or equivalent experience.
This course (formerly Co Sci 930) teaches the student how to use intermediate and advanced features of the Microsoft Office suite of programs to solve typical business problems. Complex documents will be formatted and printed with WORD. Students will learn how to write Excel formulas to deal with business and accounting analysis. Students will learn how to use PowerPoint to enhance their presentation skills. Concepts of relational data base management will be taught with Access.

CIS 110 Apple Administration (3) CSU
This course (formerly Co Sci 951). Apple Administration provides a comprehensive curriculum covering Apple products and technologies. The course includes Apple-developed diagnostic tools to help diagnose and prevent problems on Apple hardware running Mac OS X. The course will also cover the Mac OS X operating system, OS X server installation, Apple architecture, and system components. The course will include setup, configuration, administration, customization and troubleshooting on the OS X server and Apple iPad Platforms. This will also include directory setup, account administration and device management using mobile device manager for desktops and iPads. The foundation provided with the course provides students with the information needed to implement, configure, manage and maintain computer systems, mobile devices and servers running Mac OS X and iOS operating systems. The course will also provide the background needed to become an Apple Certified Support Professional. Each student will be assigned a Mac computer for use during class.

CIS 113 Intermediate Linux (3) CSU
Recommended: CIS 213 or equivalent experience.
This course (formerly Co Sci 935). This course gives students a solid foundation in the fundamentals of the Linux operating system which plays a crucial role in academic, corporate and super computing. In fact, Unix/Linux powers more Internet server and corporate networks than Microsoft. The topics include Linux Overview and Architecture, The Kernel and Shell, File System, Users and Groups Management, Permission and Ownership Management, Services and Processes Management. Students gain system-level experience through problem-solving hands-on lab exercises at the command line and in the graphical user interface.

CIS 115 Advance Linux and Applications (3) CSU
Recommended: CIS 113 or equivalent experience.
This course (formerly Co Sci 967) intends to provide students with core Linux Administration skills. This is an advanced hands-on Linux course, using Enterprise Linux such as CentOS or RHEL as base operating system, students will learn Linux directories and file systems concepts, files and directories permissions and access control, file systems and package management, Linux networking, secured remote access using OpenSSH, host based security, Security Enhanced Linux, shell scripting as well as Web development with LAMP (Linux, Apache, MySQL & PHP) software stack, virtualization (KVM) as well as system deployment using kickstart.

CIS 120 Introduction to Database (3) CSU
This course (formerly Co Sci 933) explains the concept of Relational Database Management System. It illustrates how the MICROSOFT ACCESS data base management system may be used in common business applications such as report and screen design, database design, and computer-aided decision making. This course covers advanced ACCESS features including SQL Programming.

CIS 147 CSU CIWA WEB PAGE AUTHORIZING FUNDAMENTALS (3)
This course (formerly Co Sci 958). Students learn basic internet concepts and technologies. Students learn to develop web sites by applying concepts like tables, layers, cascading styles sheets, frame sets, image maps, lists, forms, and dynamic content using basic JavaScript and JQuery. Website folder structures are covered to ensure students learn how to organize and maintain their website appropriately. Students also learn how to upload and maintain their websites.

CIS 148 Introduction to Web Development Using HTML5 & CSS (3) CSU
This course (formerly Co Sci 957) teaches students to build web pages using HTML5. It will give students hands-on experience in building web pages from scratch. The topics covered include designing basic layout of the page, Creating pages with images, links, Forms, Tables, and Media elements. The advance topics such as Cascading Style sheets JavaScript and JQuery are also covered.

CIS 150 Advanced Website Development Using JavaScript and Ajax (3) CSU
Recommended: CIS 148.
This course (formerly Co Sci 958) teaches the development and management of web applications using dynamic web programming techniques, including the document object model (DOM), client-side (JavaScript, JQuery, Ajax), server-side and database processing. Emphasis will be placed on current client-side and server-side languages.

CIS 166 Computer Forensics I (3) CSU
This course (Formerly Co Sci 922) is an introduction to the methods used to properly conduct a computer forensics investigation and handling of evidence from both corporate and criminal perspectives. It begins with a discussion of ethics while mapping to the objectives of the International Association of computer Investigative Specialists (IACIS) certification. Topics covered include an overview of
COURSE DESCRIPTIONS

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<th>Course Code</th>
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<tbody>
<tr>
<td>CIS 185</td>
<td>Directed Study - Computer Information Systems</td>
<td>CIS 1 or equivalent experience</td>
<td>1</td>
<td>This course (formerly Co Sci 185) helps students pursue on their own an in-depth study of a subject of special interest in the field of computer science, computer network &amp; security management, web support &amp; database administration topic(s). Consultation with the instructor on a weekly basis, plus independent work is required.</td>
</tr>
<tr>
<td>CIS 190</td>
<td>E-Commerce Essentials</td>
<td>CIS 148 or equivalent experience</td>
<td>3</td>
<td>This course (formerly Co Sci 937). This course provides complete coverage of the key business and technology elements of electronic commerce. It introduces students to both the theory and practice of conducting business over the Internet and World Wide Web. Topics include Technology Infrastructure, Selling &amp; Marketing on the Web, Business-to-Business Strategies, Virtual Communities &amp; Web portals, Web Server Hardware and software, Electronic Commerce Software and Electronic Commerce Security.</td>
</tr>
<tr>
<td>CIS 192</td>
<td>Introduction to Cloud Computing</td>
<td>CIS 192 or equivalent experience</td>
<td>3</td>
<td>This course (formerly Co Sci 923). This course introduces the fundamentals of cloud computing including the different cloud computing models; Infrastructure as a Service, Platform as a Service and Software as a Service on the Amazon Web Services platform. This course reviews the basic concepts of server, networking, and storage virtualization. We will go over what are the current industry trend of computing, storage and application migration to cloud computing. The course will cover the advantages and disadvantages of cloud computing. Students will also study cloud careers and discusses industry demand for cloud computing skills.</td>
</tr>
<tr>
<td>CIS 193</td>
<td>Database Essentials in Amazon Web Services</td>
<td>CIS 192 or equivalent experience</td>
<td>3</td>
<td>This course (formerly Co Info 924). This course introduces Amazon Web Services data storage services. The course will cover both an introduction of AWS database technologies and AWS block and object-based storage services. A range of AWS SQL and NoSQL database technologies will be covered, including the principles of database design and management. In addition, AWS block and object-based storage options will be introduced which includes the principles of block and object-based storage options and the various use case scenario for AWS data storage services.</td>
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<tr>
<td>CIS 194</td>
<td>Computer Engines in Amazon Web Services</td>
<td>CIS 192 or equivalent experience</td>
<td>3</td>
<td>This course (formerly Co Info 925) introduces Amazon Web Services computing related services. Students will learn the core computing technologies offered by Amazon Web Services. The computing services students will learn will follow the computing models: Infrastructure as a Service, Platform as a Service, Function as a Service or Micro-services. You will learn how to set up and manage computing services, auto scale computing services and configure computing load balancing. You will also learn how to code auto deployment scripts for the AWS infrastructure.</td>
</tr>
<tr>
<td>CIS 195</td>
<td>Security in the Cloud</td>
<td>CIS 192 or equivalent experience</td>
<td>3</td>
<td>This course (formerly Co Info 926) explores Amazon Web Services security at both the AWS services layer and Amazon data center infrastructure layer. This course will go over how Amazon Web Services implemented security measures in their global data center infrastructure. The course will also look at the AWS security shared responsibility model and how to use Amazon security monitoring tool to ensure security in an AWS cloud infrastructure. The course will provide an understanding of how AWS security tools can provide hardware, service, network and user activity monitoring, key management services, server and application firewall services and an introduction to implementing private and public subnets.</td>
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<tr>
<td>CIS 211</td>
<td>Security+ Certification Preparation</td>
<td>CIS 213 or equivalent experience</td>
<td>3</td>
<td>This course (formerly Co Sci 980). This course introduces students for CompTIA Security+ certification exam. Security+ is the industry standard for validating baseline skills needed to perform core security functions and pursue an IT security career. Security+ also covers the Junior IT Auditor job role in addition to the previous job roles for System Administrator, Network Administrator and Security Administrator. These professionals are typically responsible for helping to implement and maintain layered security and best practices. CompTIA Security+ is compliant with ISO 17024 standards and approved by US DoD to meet directives 8140/8570.01-M requirements. Topics include Security Basics, Policies, Procedures &amp; Awareness, Physical Security, Perimeter Security, Network Security, Host and Application Security and Data security.</td>
</tr>
</tbody>
</table>
| CIS 212 | A+ Certification Preparation-Hardware | CIS 196 or equivalent experience | 3 | This course (formerly Co Sci 916). This course prepares for CompTIA A+ examination. It covers PC hardware and peripherals, mobile device hardware, networking, and troubleshooting hardware & network connectivity issues. Students will learn hardware technologies associated with computers such as BIOS/UEFI, Motherboards and Components, RAM, Video, Audio, Network, USB, Firewire, Thunderbolt, Modem, Wireless, Storage devices, HDD, SSD, CD, DVD, Blue-ray, CPU, Hyper-threading, and more. This course also introduces the Internet of things, or IoT, which is a system of interrelated computing devices, mechanical and digital machines and their ability to transfer data over a network. Students will develop skills such
as the installation of hard drives, memory, interface cards, network cards, switches, and IoT hardware integration.

CIS 213 A+ Certification Preparation-Software (3) CSU
*Recommended: CIS 101 or equivalent experience.*
This course (Formerly Co Sci 934) is designed to help students prepare for CompTIA A+ certification exam. A+ is industry recognized and is the preferred performance-based qualifying credential for technical support and IT operational roles. A+ is regularly re-invented by IT experts to ensure that it validates core skills and abilities demanded in the workplace. This course covers A+ certification requirements for operating systems. It also addresses the fundamentals of system security and operational procedures. Topics include installing, configuring and administering Windows & Linux operating systems using management tools, such as users & groups management, file management & permissions, disk & file systems, storage management, network & related protocols, back-up & recovery, security policies, scripting & automation, and using best practices.

CIS 214 Introduction to Network+ (3) CSU
*Recommended: CIS 213 or equivalent experience.*
This course (formerly Co Sci 965) is designed to provide students with a solid foundation in computer networking technology. It covers network cables, connectors & devices, network topologies & architecture, wired and wireless networking protocols & standards, OSI model, TCP/IP, wide area networks, network security & troubleshooting and client/server operating systems survey.

CIS 215 Network Security Fundamentals (3) CSU
*Recommended: CIS 211 or equivalent experience.*
This course (formerly Co Sci 985) focuses on the basics of penetration testing. It also helps the student be aware of network attack strategies and common countermeasures. This course prepares students to use various penetration testing tools to analyze networks for vulnerabilities. Knowledge of these vulnerabilities also helps students to understand how to counter these vulnerabilities and improve network security.
Topics include penetration testing process, social engineering and countermeasures, reconnaissance, scanning, enumeration, vulnerability analysis & assessment, system hacking, malware & sniffers, IDS & firewalls, web server & web application attacks, WiFi and mobile device attacks, cloud computing & Internet of Things and cryptographic attacks countermeasures.

CIS 217 Microsoft Network Infrastructure Administration (3) CSU
*Recommended: CIS 227 or equivalent experience.*
This course (formerly Co Sci 983) is the second of three courses that collectively cover implementing, managing, maintaining and provisioning services and infrastructure in a Windows Server 2016 environment. This course focuses on the networking features and functionality available in Windows Server 2016. It covers DNS, DHCP, and IPAM implementations, in addition to remote access solutions, such as VPN and Direct Access. It also covers DFS and BranchCache solutions, high-performance network features and functionality, and implementation of software-defined networking (SDN) solutions, such as Hyper-V Network Virtualization (HNV) and Network Controller. This course maps directly to the Microsoft Certified Solutions Associate (MCSA): Exam 70-741: Networking with Windows Server 2016, which is the second of three exams required for MCSA: Windows Server 2016 certification.

CIS 218 Introduction to Windows Active Directory Services (3) CSU
*Recommended: CIS 217 and 227 or equivalent experience.*
This course (formerly Co Sci 984) is the third and final course collectively cover implementing, managing, maintaining and provisioning services and infrastructure in a Windows Server 2016 environment. This course focuses on the identity functionality in Windows Server 2016. It covers the installation and configuration of Active Directory Domain Services (AD DS), in addition to Group Policy implementation for non-Nano Server environments. It also covers functionality such as Active Directory Certificate Services (AD CS), Active Directory Federations Services (AD FS), and Web Application proxy implementations. This course prepares for the Microsoft Certified Solutions Associate (MCSA): Exam 70-742: Identity with Windows Server 2016, which is the third of three exams required for MCSA: Windows Server 2016 certification.

CIS 219 Introduction to Oracle: SQL and PL/SQL (3) CSU
*Recommended: CIS 120 or equivalent experience.*
This course (formerly Co Sci 953) provides a rich environment for illustrating multi-user and client/server database concepts, such as managing concurrent users and sharing database resources using the database developer utilities. This course addressed database development activities including using SQL commands to create tables and insert, update, delete, and view date values.

CIS 227 Server Administration and Network Security (3) CSU
*Recommended: CIS 213 or equivalent experience.*
This course (formerly Co Sci 982) is the first of three courses collectively cover implementing, managing, maintaining and provisioning services and infrastructure in a Windows Server 2016 environment. Although there is some cross-over of skills and tasks across these courses; CIS227(CS982), CIS217(CS983), and CIS218(CS984). This course focuses primarily on the installation, storage, and compute features and functionality available in Windows Server 2016. It covers general installation tasks and considerations and the installation and configuration of Nano Server, in addition to the creation and management of images for deployment. It also covers local and server storage solutions, including the configuration of disks and volumes, Data Deduplication, High Availability, Disaster Recovery, Storage Spaces Direct, and Failover Clustering solutions. The course also covers Hyper-V and containers, along with the maintenance and monitoring of servers in physical and compute environments. This course maps directly to the Microsoft Certified Solutions Associate (MCSA) Exam 70-740: Installation, Storage, and Compute
with Windows Server 2016, which is the first of three exams required for MCSA: Windows Server 2016 certification.

CIS 229 Introduction to Cisco Network Fundamentals (3) CSU
Recommended: CIS 214 or equivalent experience.
This course (formerly Co Sci 972) is equivalence to the Cisco Networking Academy Semester I (Introduction to Networking) & Cisco Networking Academy Semester II (Routing and Switching Essentials). All current networking academy courses are based on the CCNA Routing & Switching curriculum 6.0 track. Course topics includes; network fundamentals, LAN switching fundamentals, routing fundamentals, infrastructure services, and infrastructure maintenance. Students completing this course are prepared to take the Cisco ICND1 Exam 100-105 and upon successfully passing that exam earn their CCENT certification.

CIS 230 Introduction to Cisco Routers (3)
Recommended: CIS 229 or equivalent experience.
This course (formerly Co Sci 974) follows CIS229 and is equivalence to the Cisco Networking Academy Semester III (Scaling Networks) & Cisco Networking Academy Semester IV (Connecting Networks). All current networking academy courses are based on the CCNA Routing & Switching curriculum 6.0 track. Course topics includes; LAN Switching Technologies, Routing Technologies, WAN Technologies, Infrastructure Services, and Infrastructure Maintenance. Students completing this course are prepared to take the Cisco ICND2 Exam 200-105 or the Cisco CCNA Exam 200-125. Upon successfully passing either exam earns the CCNA certification.

CIS 231 Virtualization and Cloud Computing Essentials (3) CSU
Recommended: CIS 229 and 227.
This course (formerly Co Sci 973) introduces the foundational capabilities and features of virtualization and VMware vSphere. It also provides a brief overview of the array of products available from VMware. The course will demonstrates how you can extend an existing VMware vSphere™ infrastructure to deliver IT services in a private or public cloud based on VMware products. The course starts by covering the concepts of Data Center Virtualization, including some common IT challenges faced by IT organizations. The vSphere 6.x product line is highlighted, showing the various components and features and how they help resolve business and technical challenges. The course covers the basics of cloud computing and its place in the modern enterprise. Explore public and private clouds; contrast the ‘as a service’ models for PaaS, SaaS, IaaS, or XaaS platforms; plan security; and more. The course uses hands-on labs and IT case studies to reinforce concepts. This is the first of four courses in the VMware vSphere employment and career track. Successful completion of this course will prepare students for the VMware Certified Associate (VCA) industry certification. West Los Angeles is an authorized VMware IT Academy.

CIS 232 Information Storage and Management for Computer Networks (3) CSU
This course (formerly Co Sci 975) focuses on information storage and management concepts in classic, virtualized and cloud environments. It includes data center key elements, intelligent storage systems, storage networking technologies, and various business continuity options – along with security and management of a storage infrastructure. It also covers various aspects of cloud computing. This course is very appropriate for students pursuing Linux and Windows server administration, A+ certification candidates, data center support personnel, and virtualization and cloud computing students. The course uses hands-on labs to reinforce concepts. This is the second of four courses in the VMware vSphere employment and career track. West Los Angeles is an authorized VMware IT Academy.

CIS 233 vSphere Install, Configure, and Management (3) CSU
Recommended: CIS 231 and 232 or equivalent experience.
This course (formerly Co Sci 976) is the first of two courses that explores installation, configuration, and management of VMware vSphere. The course is based on the latest versions of ESXi and vCenter Server. Additional course topics includes; ESXi networking and storage using vCenter Server, virtual machines migration, vCenter Server resource monitoring and scalability, and storage technologies as they relate to VMware vSphere. The course utilizes hands-on lab exercises and demonstrations to reinforce virtualization concepts and theories. Completion of this course authorizes and helps students prepare for current VMware Certified Associate (VCA-DCV). vSphere Foundation, and VMware Certified Professional – Data Center Virtualization (VCPx-DCV) certification exams. West Los Angeles is a fully authorized VMware IT Academy. CIS233(CS976) is the recommended prerequisite for CIS234(CS977).

CIS 235 VMware vSphere: Installation, Configuration, and Management (3) CSU
Recommended: CIS 233 or equivalent experience.
This course (formerly Co Sci 987) is a continuation of CIS233 and represents Part-II of vSphere installation, configuration, and management training. VMware also refers to this course as VMware vSphere: Optimize and Scale. Specifically this course focuses on building VMware vSphere advanced skills for configuring and maintaining a highly available and scalable virtual infrastructure. Through a mix of lecture and hands-on labs, students will configure and optimize the VMware vSphere 6.x features that builds a foundation for a truly scalable infrastructure, and students will also learn when and where these features have the greatest effect. This course will deepen your understanding of vSphere and how its advanced features and controls can benefit IT infrastructures. The course utilizes hands-on lab exercises and demonstrations to reinforce course concepts and theories. Completion of this course authorizes and prepares students for the VMware
## COURSE DESCRIPTIONS

Certified Professional 6.x – Data Center Virtualization (VCP6.x-DCV) certification exams. West Los Angles is a fully authorized VMware IT Academy.

**CIS 236 Palo Alto Network Cybersecurity Essentials (3) CSU**  
Recommended: CIS 214 or equivalent experience.  
This course (formerly Co Sci 986) covers installing, configuring and managing next generation firewalls from Palo Alto Networks as well as security, threat, networking, logging and reporting. This course begins at an introductory level and builds to an intermediate level. Aspects of configuration include security, networking threat prevention, logging, reporting of the Palo Alto Network Operating System (PANOS). Higher level concepts include Global Protect, an extension of the corporate firewalls rules to laptops outside the network, Active/Active High Availability and control over user applications and content. Security engineers, network engineers, and support staff are the targeted audience for this course.

**CIS 237 Installing, Configuring, and Administering Microsoft SQL (3) CSU**  
Recommended: CIS 120 or equivalent experience.  
This course (formerly Co Sci 988) provides students with the knowledge and skills required to install, configure, administer, and troubleshoot the client-server database management system of Microsoft Structured Query Language (SQL) Server. This course is also extremely appropriate for web site developers and database support personnel. This course is one of the required elective courses for the WLAC Microsoft Certified Systems Engineer (MCSE) training program.

**CIS 285 Directed Study – Computer Science - Information Technology (2) CSU**  
This course (formerly Co Sci 285), Computer science students will pursue their own, an in-depth study of a subject of special interest, in the field of Computer Science Information Technology and Computer Application topic(s). Consultation with the instructor on a weekly basis, plus independent work is required.

**CIS 300 Computer Laboratory (1)**  
This course (formerly Co Sci 991) is an intermediate to advanced networking lab for any current or previous Cisco, Network Security (including Palo Alto Networks), Linux, Microsoft, and VMware students. The primary goal is to help students prepare for their Cisco ICND/CCNA, CompTIA Security+, Red Hat Linux, or VMware VCA-DBT/VCP-DCV certifications. Cisco students will access practice certification exams, perform routing/switching labs, as well as, review Ethernet, IPv4, IPv6, NAT, VLANs, STP, OSPF, EIGRP networking concepts. Security students have access to Ethical Hacking, Forensics, and CompTIA Security+ lab environments. Linux students conduct RH124/RH134 related admin labs. Microsoft students conduct various Windows Server admin labs, VMware students will conduct labs and review concepts related to installation, configuration and management of ESXi servers and vCenter. Student can schedule and conduct their labs independently. Students will have 24/7 remote access to the most current versions available of real Cisco hardware, Security+ pods, Red Hat Linux pods, and VMware vSphere based-pods. WLAC is an authorized academy for all vendors listed here.

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<tr>
<th>COMPUTER SCIENCE</th>
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| **CS 101 Introduction to Computer Science (3) UC/CSU**  
This course (formerly Co Sci 902) is designed to take the student through the various aspects of writing algorithms to be used in computer programming. It introduces students to programming language Python, computer architecture and number systems. It covers functions, arrays, loops, Boolean logic, branching instructions and basic data types. |
| **CS 116 Programming in C++ (3) UC/CSU**  
**Prerequisite: CS 101 or equivalent experience.**  
This course (formerly Co Sci 939). This course teaches the student to write programs in the C++ language and introduces the object-oriented programming paradigm. After reviewing basic statement types, students learn to write functions utilizing pass by value and pass by reference. Then students are introduced to structures, classes, and objects. Students then learn how to use objects effectively in writing programs. Students learn how operator overloading and inheritance facilitate the use of objects. Pointers, memory management techniques, friend, and virtual functions are described. Finally, students examine streams and files as an example of the application of complex object-oriented programming in the C++ language. |
| **CS 118 Microcomputer Assembly Language (3) UC/CSU**  
**Prerequisite: CS 101 or equivalent experience.**  
This course (formerly Co Sci 917) covers the organization and behavior of real computer systems at the assembly-language level. The 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 examined, noting the various data representation errors and potential procedural errors. |
| **CS 119 Programming in Python (3) CSU**  
**Recommended: CS 101 or equivalent experience.**  
This course (formerly Co Sci 903) covers topics of the Python language, which include: Data types, variables, control structures, objects and object-oriented programming, standard mathematical libraries, tool-chain use and Python Frameworks, user-defined classes and abstract collections, |
single arrays, multidimensional arrays, Python lists, tuples, collections, and dictionaries.

CS 131 Discrete Structures for Computer Science (3)  
UC/CSU  
Prerequisite: CS 116 or CS 213 or equivalent experience.  
This course (formerly Co Sci 942) is an introduction to the discrete structures used in Computer Science with an emphasis on their applications. Topics covered include: Functions, Relations and Sets, Basic Logic, Proof Techniques, Basics of Counting, Graphs and Trees, and Discrete Probability.

CS 136 Introduction to Data Structures (3) UC/CSU  
Prerequisite: CS 213 or equivalent experience.  
This course is an introduction to the study of Data Structures. It introduces the student to data structures as formed from primitive data types. The role of abstract data types (including stacks, queues, lists, trees, and graphs), their definitions, implementation and application in program design and algorithm development are discussed. The course covers the broader topic of Abstract Data Types (ADTs) - the study of classes of objects whose logical behavior is defined by a set of values and a set of operations. This course is equivalent to CS2 as defined by the Association for Computing Machinery (ACM) organization.

CS 140 Programming for Mobile Application (3) CSU  
Recommended: CS 101 or equivalent experience.  
This course (formerly Co Sci 955) provides students with a solid grounding in the fundamentals of mobile application development. Students will learn how to create applications to deploy and run on mobile devices such as iPhone or Android. The latest technology will be introduced in the class and student will learn to use the latest programming language to write software to run under iOS or Android and develop their programs.

CS 141 Advanced Programming for Mobile Devices (3)  
Recommended: CIS 148, and CS 213 or equivalent experience  
This course (formerly CS959) provides students with advanced programming concepts and skills for creating mobile applications for today’s most popular platforms. Students will learn to create multi-screen, multi-touch applications; send/receive SMS and emails programmatically from within applications; read and update contacts through public contact API; use media and browser content providers; use sensors and location-based services programmatically; develop services; create a home screen widget. Students will learn about exception handling, will create manageable user preferences and will learn to incorporate security and permissions. Students will learn to sign, publish and distribute developed applications.

CS 213 Advanced Programming in Java (3) UC/CSU  
Prerequisite: CS 116 or equivalent experience.  
This course (formerly CS990) covers principles of object-oriented design and programming using Java. Additional topics include writing applets, working with exceptions, file input/output, networking, building event driven GUIs, and developing inheritance and polymorphic based object oriented programs using Unified Modeling Language.

CS 216 Object Oriented Programming in C++ (3) UC/CSU  
Prerequisite: CS 116 or equivalent experience.  
This course (formerly Co Sci 940), students learn Object-Oriented and Advanced programming with C++ including Classes, Data Abstractions, Inheritance, Composition, Virtual Functions, Operators & Functions Overloading, Templates, Exception Handling, Recursion, Pointers, Dynamic Data Types, and Linked Lists.

COUNSELING

(COUNSEL)

COUNSEL 001 Introduction to College (1) CSU  
Provides students with important information about the college and its resources, introduces them to the required skills for college success, helps them set educational and career goals, and assists them in developing a student educational plan (SEP) to meet those goals.

COUNSEL 004 Career Planning (1) CSU  
This class examines the career developmental concepts of awareness and implementation (decision-making) as they relate to the self and the world of work. Students will develop a personal decision-making strategy utilizing the skills obtained in the class. The class will emphasize the philosophy and importance of career development and personal interests, values, and skills as well as occupational resources. Other topics include the personality type/work environment relationship, a work environment analysis, and educational planning.

COUNSEL 005 College Success (2) CSU  
This course will provide students with strategies for a successful first-year experience. Emphasis will be placed on WLAC policies, student support services, study skills, time management, test taking strategies, note-taking skills, stress management, and making informed decisions. This course is highly recommended for new and returning students.

COUNSEL 006 Career Planning for Students with Disabilities (1) CSU  
This course is designed to assist students with disabilities in the exploration and development of career goals, with an emphasis on individual interests and lifestyles, values, personality traits and abilities. Topics covered include vocational assessment, career exploration, résumé writing,
interview skills, and job-seeking strategies. Workplace accessibility issues and the impact of the Americans with Disabilities Act (ADA) will be discussed.

**COUNSEL 008 Career Planning and Development (2) CSU**
This course is an introduction to career planning and is designed for students who are contemplating a job change or who are undecided about their career or vocational choices. The focus is on a comprehensive career and personal evaluation, developing an appropriate educational plan, and utilizing a personal career strategy.

**COUNSEL 017 College Survival Skills Development (1) CSU**
This course provides the student with a variety of survival skills necessary to become a successful college student. Topics include the matriculation process, library resources and usage, study skills strategies, self-esteem, time and stress management and goal setting.

**COUNSEL 020 Post-Secondary Education - The Scope of Career Planning (3) UC/CSU**
This course provides students with the information to make appropriate educational, career and lifestyle choices. Topics examined include educational programs and their requirements, career resources and the career decision making process, career planning, personal assessment, steps for success, values clarification, exploring personality and interests, skills assessment, the world of work, career options, making decisions, job search, preparing a winning resume, interviewing skills, and strategies for managing a career. Students will design their own educational plan.

**COUNSEL 040 College Success Seminar (3) UC/CSU**
This course will examine issues related to higher education that impact student success. Topics will include an overview of academic success skills, value and purpose of higher education, diversity in higher education, learning styles and memory, WLAC college policies and resources, health and wellness issues, decision making, factors that impact lifelong learning, effective oral, interpersonal and written communication strategies, critical thinking, career exploration and educational planning.

**CORRECTIONS**

(CORR)

(Also see Administration of Justice.)

**CORR 002 Correctional Institutions (3) CSU**
This course deals with the philosophy and history of corrections, including the municipal jails, state penitentiaries, federal prisons, and private prisons. Also covered is an overview of the criminal law, constitutional law, crime theories, punishment and rehabilitation. Other topics include the organization and jurisdiction of local, state and federal law enforcement agencies, role expectations and their interrelationships, a survey of professional career opportunities and the minimum qualifications required for employment as a corrections officer.

**CORR 005 Legal Aspects of Corrections (3) CSU**
This course offers a thorough study of the system of justice used in the United States: civil, criminal, juvenile, and therapeutic. It is designed for courses on the law and judicial process that transcend the disciplines of political science, sociology, and criminal justice.

**DANCE STUDIES**

(DANCEST)

(Also see Dance Techniques.)

**DANCEST 185 Directed Study - Dance (1) CSU**
This course allows students to pursue directed studies in Dance on a contract basis, under the direction of a supervising instructor.

**DANCEST 301 Choreography I (1) UC/CSU**
This course is an introduction to basic principles of dance composition and choreography. It includes theory and practice using improvisation, critical analysis, and implementation of the elements of space, time, and energy in student projects.

**DANCEST 805 History and Appreciation of Dance (3) UC/CSU**
This course provides a historical perspective of dance from ritual to contemporary theatrical dance forms. It focuses on the ethnic, cultural and ritual forms of dance as it affected and reflected the world in which people lived. This course will focus on how dance reflects the historical, social and political climate of the day. The class will consider the impact of dance on the western world and how it has been affected by the different dance traditions world-wide.

**DANCEST 814 Dance Production I (2) UC/CSU**
This course offers instruction in choreographic techniques culminating in a student dance production. Students will be responsible for choreographing and performing a variety of dances. This course is open to all levels.

**DANCEST 815 Dance Production II (2) CSU**
This course provides basic instruction and laboratory experience in methods and techniques involved in producing a dance concert; including publicity, lighting, audio, marketing, and audition and performance.