Course Numbering System

Course numbers are assigned as follows:

1-99 Preparatory Level Courses:
These are designed to prepare students for entry into academic degree programs. Courses carry no credit towards any baccalaureate degrees, and do not fulfill General Education Breadth Requirements. Courses are graded on a Credit/No Credit basis, and can be repeated. They are not used in computing a student’s grade point average (GPA).

100-199 Lower Division courses:
Open to Freshmen and Sophomores. Not acceptable for upper division credit. Usually designates Freshman status courses.

299-299 Lower Division courses:
Open to Freshmen and Sophomores. Not acceptable for upper division credit. Usually designates Sophomore status courses. May require Pre-requisites.

300-399 Upper Division courses:
Open to Juniors and Seniors. Sophomores and Freshmen may apply for entrance to class with permission of instructor.

400-499 Upper Division courses:
Open to Juniors and Seniors. Usually these courses are in the major field of study.

500-599 Post baccalaureate courses:
Open to students completing a 5th year program, certificate or credential. Seniors may register for these courses.

Some courses are offered in specific sequences as described in the catalog descriptions. If there is a Pre-requisite, students must have written permission from the Department Coordinator to take the course without the Pre-requisite, or pass an examination verifying that they have met the necessary competencies and skills required for the course.

Legend and Prefixes

The following abbreviations are used to identify courses by content area.

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COURSE DESCRIPTIONS

Anthropology

ANT 100 3 units
Introduction to Anthropology
Students will be provided with an overview of the discipline, which includes the study of the theory of evolution, the origins of mankind, early human cultures, and cultural systems in cross cultural comparison. Students will gain an appreciation of what it has meant to be human in different places during different historical eras. Students will explore how humans adapt to, interpret, and affect the world in which they live.
Pre-requisite: None

ANT 125 3 units
Human Understanding and Development
This course examines the human cycle in its socio-cultural, psychological, and biological contexts. It offers a cross-cultural perspective on the life cycle, and more generally, on what it means to be human. Successful completion of this course satisfies Area E of the General Education requirements.
Pre-requisite: None

ANT 422 3 units
Cultures of Mexico
The course is a survey and analysis of the major cultures and civilizations of Mesoamerica. Students will learn about the nature and impact of the Spanish Conquest and Colonization, along with a review of contemporary status and issues of indigenous in Mexico.
Pre-requisite: None

Art

ART 100 3 units
Art Appreciation
This course is designed to provide an introduction to an understanding of the visual arts, including works of various media such as painting, sculpture, and decorative arts (ceramics, metal, textiles, furniture, etc.). Artwork will be viewed with attention to style, meaning, materials, and techniques used by individual artists within the milieu of history and society. Students will learn to recognize aesthetic qualities and to respond to them analytically.
Pre-requisite: None

ART 238 3 units
Visual and Performing Arts
This course examines a wide range of visual and performing arts, with an emphasis on classroom application and demonstration.
Pre-requisite: None

Biology

BIO 100 4 units
General Biology
BIO 100 is an introductory level general biology course and lab that fulfill the GE life science requirement. Students are introduced to fundamental principles, methods, and concepts in the following areas: (1) molecular biology, cell biology, and human genetics; (2) DNA, evolution, and the diversity of life on earth; (3) structure and function of the human body, and genetic engineering; (4) ecology and environmental science. The course objective is to foster the ability to think critically and independently, regarding biological phenomena.
(3 units lecture and 1 unit lab).
Pre-requisite: None

Business

BUS 101 3 units
Introduction to Business
This course introduces the student to the how and why of business and management as part of our capitalist system. The structure of business and the functions of business, including management styles, manufacturing, wholesaling, retailing, marketing, finance, risk management, human and labor relations are explored. The course will also examine the role of international business, government and business ethics.
Pre-requisite: None

BUS 111 3 units
Personal and Professional Skills Integration
Overviews of language, culture, values and personal identity, are examined from the perspective of managerial and strategic success. Concepts of self-organizing theory and interpretive and conversation-based field research are explored as part of class assignments. (Formerly BUS 110)
Pre-requisite: None

BUS 120 3 units
Principles of Microeconomics
This course introduces the role market systems as a means of solving the problems involved in the production and distribution of goods and services in a society. An analysis of the effectiveness of the price system in providing the society with an equitable distribution of goods, services, and income is featured. It explores microeconomics problems such as consumer and producer decisions through price adjustments under alternative market structures. (Formerly BUS 310)
Pre-requisites: MAT 100, ENG 100, and BUS 101
BUS 121  3 units
Principles of Macroeconomics
This course deals with the organization of the economics order
with emphasis on macroeconomics. It is a brief summary of
the development of the study of economics with a description
of the private enterprise system.
A study of forces affecting the national economy, money and
credit, income, employment, prices, and monetary and fiscal
theories and policies are explored. (Formerly BUS 311)
Pre-requisites: MAT 100, ENG 100, and BUS 101

BUS 200  3 units
Enterprise Computing Issues
This course is a study of issues faced by businesses in
transforming a set of inputs into a set of outputs (goods or
services). Students will learn the benefits of effective business
processes and then study the use of SAP R/3 in making those
processes a reality. Topics include resources allocation,
strategic planning, order fulfillment, materials acquisition, new
product development, supply chain management: capacity,
materials, inventory management forecasting and materials
requirement planning.
Course will include concepts from SAP 20:
• Business process overview and how SAP R/3 supports
  these business processes,
• Introduction and navigation through SAP R/3,
• Concepts and features of SAP R/3 to analyze, control
  and perform business tasks, SAP R/3 and the support of
  effective business processes. Enhanced study of a model
  company: Motor Sports International.

BUS 240  3 units
General Accounting Principles
Introduction to financial accounting: the accounting
process, journal entries, adjustments, preparation of financial
statements; examination of accounting systems and different
forms of business organizations; detailed study of certain
asset accounts: cash marketable securities, accounts and notes
receivable, inventories.
Pre-requisite: MAT 45 or satisfactory score on Math
Assessment Test

BUS 245  3 units
Managerial Accounting
This course is designed to cover the fundamental s of
Managerial Accounting. The course content includes the
study of the nature and purpose of financial and managerial
accounting, cash flow and financial statement analysis, cost
behavior and break-even analysis, standard costing and
variance analysis, and problem resolution.
(Formerly BUS 340)
Pre-requisites: BUS 101 and BUS 240

BUS 250  3 units
Legal Environments of Business
The law applicable to business institutions and their operations;
social forces and other effects upon the development of
law. Introduction to the UCC, federal and state employment
law, torts, contracts, and agency relationships and business
proprietorships. (Formerly BUS 350)
Pre-requisite: BUS 101

BUS 260  3 units
Business Statistics
Introduction to the theory and application of probability
and statistics for managerial decision-making. Student will
learn to collect, analyze, and present data; evaluate explain
conclusions draw for analyzing measurements of central
tendency dispersion, and probability distributions, and perform
hypothesis testing. (Formerly BUS 360)
Pre-requisites: BUS 101 and MAT 100

BUS 294  3 units
Business Communication
Development of skills in oral and written communication.
Emphasis on clarity, authenticity, and creativity of language
in presentations, ad the role of interpretation as a key to
understanding oral and written text. Application of language
to business communication issues. Class lectures
may address specific works drawn from interpretation and
communication authors. (Formerly BUS 225)
Pre-requisites: ENG 100 and SPC 100

BUS 331  3 units
Small Business Management
Steps and processes for starting a small business, and managing
it from start-up stage into a “gazelle” and beyond. Market
Research includes Feasibility Study, Income Potential.
Environment Scanning, and SWOT Analysis. Marketing
Strategies include the “4P’s” and management operations,
taxation, financial forecasting and management.
(Formerly BUS 241)
Pre-requisite: Bus 101

BUS 351  3 units
Business Ethics
Ethical problems and conflicts encountered in both the
American and International Business scene. Explores the
Judeo-Christian ethical system; values and ethics, situation
ethics, the link between personal and business ethics; codes of
ethics, and ethics and culture in international business. Under-
standing the relationship between knowing, doing, and being,
and its implications for business in a multicultural world.
(Formerly BUS 251)
Pre-requisite: ENG 100
BUS 368 3 units
Project Management
Project management from both the strategic and operations point of view. Quantitative methods also include project planning, budgeting, evaluation, selection, scheduling and control. Qualitative methods include project organization structure, staffing and team building. The role and responsibilities of the project manager and interface with other managers. Students are required to carry out a group project. (Formerly BUS 168)
Pre-requisite: BUS 101

BUS 370 3 units
Principle of Marketing
Marketing principles and policies; Marketing functions, price policies and controls; trade channels, merchandising, market research, government regulations, and competitive practices; integration of Marketing with other activities of the business enterprise. (Formerly BUS 270)
Pre-requisites: ENG 100 and BUS 101

BUS 372 3 units
Sales Techniques and Management
Importance of good salesmanship, personal qualifications and management required for effective selling; psychological principles involved in selling; the sales interview; the salesman as a merchandiser; use of advertising; customer services; sales correspondence and records; conducting a sales meeting.
Pre-requisite: BUS 270

BUS 375 3 units
Consumer Behavior
The course will review the cultural differences that exist among consumers within a Multicultural community. The analysis of cultural identity: its origins, customs, values, beliefs, philosophy, and language-based research methods and will focus on ways to use this knowledge to better understand the consumer issues and challenges stemming from market globalization. (Formerly BUS 332)
Pre-requisites: BUS 101 and BUS 370

BUS 377 3 units
Hispanic Marketing
The study of marketing management, with focus on the Hispanic consumers as significant factor for marketing management considerations in the United States. This course will focus on the traits, circumstances and opportunities of the Latin American consumer market as well as explore the unique attributes and cultural differences that help differentiate this market from other ethnic groups.
Pre-requisite: BUS 370

BUS 381 3 units
Management and Organization Behavior
A multidisciplinary and integrative approach to organizational action based on theories of culture, theory of self-organization (autopoiesis) in social systems, theories of language, and theory of action. Applications for organizational research and organizational development. (Formerly BUS 281)
Pre-requisite: BUS 101

BUS 382 3 units
Human Resource Management
The design of systems of rewards, assessment, and manpower development. The interaction of selection, placement, training, personnel evaluation, and career ladders within the on-going organization. Role of the staff manage. A critical examination of behavioral research versus language-oriented (interpretive) approaches for solving human resource management problems.
Pre-requisites: BUS 101 and BUS 381

BUS 431 3 units
International Business
A survey of the basic characteristics of international business. The exploration of how differences in religion, culture, and political, social and legal environments affect the way business is conducted internationally and provides a conceptual framework for analyzing international business problems. (Formerly BUS 371)
Pre-requisite: BUS 101

BUS 440 3 units
Financial Management
Introduction to financial management presented in terms of its most important functions: raising funds at minimum cost and risk, and allocating those funds between competing short and long term uses. Key concepts include working capital management, capital budgeting, long-term capital structure, securities evaluation, and divided policy. Techniques of financial analysis are introduced.
Pre-requisites: BUS 101 and BUS 360

BUS 450 3 units
Strategic Management
Integrative study, case analysis, and discussion analyzing the interrelationships of managerial decisions and/or actions with and between the firm and its environment(s). Applies multi-disciplinary techniques to diagnose and recommend actions.
Pre-requisite: Senior Standing
BUS 476  3 units
International Marketing
Problems international business people must deal with and the ways they may be resolved and analyzed via case studies. Institutions principles and methods; effect of national differences on business practices; exporting and importing. (Formerly BUS 376)
Pre-requisite: BUS 370

BUS 480  3 units
Leadership
This course emphasizes the development of leadership attributes and skills for promoting managerial effectiveness in problem solving and decision-making within organizations. Focus is on developing abilities and insights for re-examining existing leadership styles and ways of thinking, anticipating change, and communicating a corporate vision clearly. The discussion of topics is guided by theories of self-organization and interpretive approaches to organization development. (Formerly BUS 380)
Pre-requisite: BUS 101

BUS 498  3 units
Supervised Senior Practicum
Coordinated training combining experience in a business field with academic analysis. Principles theory and practice applied to real life situations. Individual study and conferences with instructor. Students must analyze business organizations to determine needs, issues and problems. Major report and presentation required. By arrangement with faculty advisor. (Formerly BUS 499)
Pre-requisite: BUS 245

BUS 499  4 units
Supervised Business Practicum (Capstone Course)
Coordinated training combining experience in a business field with academic analysis. Principles, theory and practice applied to real life situations. Individual study and conferences with instructor. Students must analyze business organizations to determine needs, issues and problems. Major report and presentation required. By arrangement with faculty advisor. Prerequisites: Senior standing

CHE 150A  5 units
General Chemistry for Scientists & Engineers I
This course is the first in the chemistry sequence for majors in biology, chemistry, engineering or other physical sciences. This course covers fundamental chemical principles with emphasis on: atomic structure, bonding, periodicity, nomenclature, reactions, stoichiometry, thermochemistry, physical states of matter, molecular equilibrium, acid-base concepts, and oxidation reductions. Laboratory program complements lecture.
(4 lecture units and 1 lab unit)
Pre-requisite: Proficiency in High School Chemistry or CHE 130 (Elementary Chemistry); proficiency in High School Physics or PHY 120 (Elementary Physics); proficiency in high school algebra, geometry and trigonometry or MAT 100.

CHE 150B  4 units
General Chemistry for Scientists & Engineers II
This course is the second of a chemistry sequence for majors in biology, chemistry, engineering or other physical sciences. This course covers fundamental chemical principles with emphasis on: organic chemistry, thermodynamics, chemical kinetics, chemical equilibrium, electrochemistry, coordination compounds, and nuclear chemistry. Laboratory program complements lecture
(3 lecture units and 1 lab unit)
Pre-requisite: CHE 150A

CD 100  3 units
Child, Growth, and Development
This course focuses on the study of psychological growth and development from the prenatal stages to adolescence through first hand observations of children. It emphasizes the process through which children move toward physical, mental, social and emotional maturity, and the roles that their culture and natural learning environments play in their continuing development. The impact of cultural/ethnic variations upon the lives of children, families and society are explored. Individual differences in learning are discussed from within a culturally sensitive framework.
Pre-requisite: None

CHE 130  3 units
Chemistry
Fundamentals of elementary chemistry. Includes nature and characterization of matter, chemical changes, formulas, gas laws, concept of the mole, solution and ionic equilibrium reactions, atomic structure and chemical bonding.
Pre-requisite: High School Chemistry or MAT 100

CD 200  3 units
Child, Development, and Community Relationships
A study of the relationship between the child, family, community, and educators, including a study of parent education and involvement, family and community lifestyles, child abuse, and current family life issues. Special attention will be given to the role of the school and childcare communities as social agents within a changing society.
Pre-requisite: CD 100
CD 351 3 units
Cultural Dimensions Related to Child Development
This course examines the concept of culture, its components and dimensions, and its implications for the education of students in a diverse society. These concepts will be integrated into instructional strategies and the curriculum. Particular attention will be given to the value and importance of implementing an anti-bias curriculum. Field based instructional activities required.
Pre-requisite: Upper Division Standing

CD 352 3 units
Cognitive and Language Development
Examination of the development of language and its relationship to school learning, cognitive development and social development. Both linguistic and communication competence are included. Specific attention will be given to second language acquisition and principles underlying effective instruction for linguistically diverse children. Students will have practical experience in collecting and analyzing children's language learning in educational settings.
Pre-requisite: Upper Division Standing

CD 453 3 units
Research in Child Development
The course is an introduction to research methods used to understand processes of child development. Content includes framework and methodology of research, concepts associated with experimental, co-relational, ethnographic and qualitative designs, various techniques used to collect data, and basic statistical concepts. Emphasis will be placed on developing skills needed to locate, understand, critique, and report research findings. Students also will conduct and present a research project.
Pre-requisites: 12 units in Child Development Emphasis and Senior Standing

CD 454 3 units
Practicum in Early Childhood Education II
This course combines field experience in various types of early childhood programs with a seminar approach relating theory and research to practice. It focuses on developing reflective practitioners who become more aware of their own teaching styles in relation to curriculum planning and children’s group and individual needs. The course will emphasize planning and implementation of activities and physical, social, emotional, and cognitive development of the child.
Pre-requisites: 15 units in Child Development Emphasis and Senior Standing

Computer Science/Information Systems

CS 100 3 units
Introduction to Computers
Use of PC with current applications software to solve problems both personal and organizational. Includes introduction and history of computers and their applications, a general overview of how a computer system operates and introduction to the different components of a computer. (2 lecture units and 1 lab unit)
Pre-requisite: None

CS 101 3 units
Introduction to Programming
Creation of software components that interact with and control existing applications such as spreadsheets, word processors, and databases. A broad range of examples, case studies, exercises, and programming projects gives students significant hands-on experience. Students learn a three-step process for building an application – creating the user interface, setting properties, and writing the code. (2 lecture units and 1 lab unit)
Pre-requisite: CS 103

CS 103 3 units
Advanced Computer Applications
A study of the use and application of productivity software and the Internet in business and public organizations. The course emphasizes the use of database software and spreadsheet software to plan, analyze, design, develop and test educational and/or business solutions. (2 lecture units and 1 lab unit)
Pre-requisite: CS 100 or consent of instructor

CS 104 3 units
Computers & Computer Applications
Use of computer applications to develop components of a technical project proposal. Introduction to problem solving methods and practices. Research and data collection using the Internet and other sources. The course emphasizes the use of word processing, presentation, spreadsheet and web-based software to develop and present a technical project proposal. (2 lecture units and 1 lab unit)
Pre-requisite: None

CS 105 3 units
Object-Oriented Programming I
Translation of an informal problem specification into a class design and the implementation of that design in an object-oriented programming language. Software topics include maintainability, readability, testing documentation, and modularization. Topics include writing portable applications, compiling, execution, selection, repetition, parameter passing, and arrays. Students are expected to read, understand and debug existing code as well as develop new classes. (2 lecture units and 1 lab unit)
Pre-requisite: CS 101
CS 106 3 units
Object-Oriented Programming II
Advanced programming techniques, problem solving, algorithms, and structured program design. Develop structured program design, control structures, arrays, functions, sorting sequential and random files.
(2 lecture units and 1 lab unit)
Pre-requisite: CS 105

CS 107 3 units
Personal Computer Systems
An in-depth exposure to computer hardware and operating systems. Students learn the functionality of hardware and software components as well as suggested best practices in maintenance, and safety issues. Through hands on activities and labs, students learn how to assemble and configure a computer, install operating systems and software, and troubleshoot hardware and software problems.
(2 lecture units and 1 lab unit)
Pre-requisite: CS 103

CS 110 3 units
Data Communications and Networking
Introduction to data communications and networking concepts. Principles of LANs and WANs, routers and Internetworking devices. Network architectures, protocols, administration and support will be covered. The use of several common LAN’s products, LAN management security, and LAN comparisons will be discussed. Students will do research and present information on the design and implementation of a LAN project that can solve a significant, complex and hopefully generalized problem, dealing with constrains and trade-offs in the solution.
Pre-requisite: CS 103

CS 130 3 units
Network Operating Systems
An intensive introduction to multi-user, multi-tasking network operating systems. Characteristics of current network operating systems will be discussed. Students will learn the configuration of network services, basic network security, installation procedures, back up procedures, remote access and troubleshooting. This course covers other fundamental networking basics including LAN and WAN topologies, Networking hardware placement and uses, and cabling standards.
(2 lecture units and 1 lab unit)
Pre-requisite: CS 107

CS 150 3 units
Elementary Algorithms and Data Structures
Introduction to the concepts and representation of basic data structures, including queues, stacks, trees, arrays, linked lists, strings and graphs. The course will cover data related algorithms that are common to the design and manipulation of compilers, databases and operating systems.
(2 lecture units and 1 lab unit)
Pre-requisite: CS 106

CS 212 3 units
Internet Protocols
Routing protocols used on the Internet, and the real-world implementations of TCP/IP. TCP/IP architecture; Application Layer protocols and services; Transport Layer protocols; Internet Layer protocols; and Internet administration. Concepts of IP addressing. Configuration of hosts and access to internetworks using TCP/IP protocols. FTP, TELNET, HTTP, NFS, Gopher, Netscape, WWW and other TCP/IP services are covered.
(2 lecture units and 1 lab unit)
Pre-requisite: CS 110

CS 220 4 units
Networking Basics
This course introduces students to current and emerging networking technologies. It focuses on network terminology and protocols, local-area networks (LANs), wide-area networks (WANs), Open System Interconnection (OSI) models, cabling, cabling tools, routers, router programming, Ethernet, Internet Protocol (IP) addressing, and network standards. Instruction is also provided in the proper care, maintenance, and use of networking software, tools and equipment.
(3 lecture units and 1 lab unit)
Pre-requisite: CS 130, Sophomore Status

CS 221 4 units
IOS Configuration
This course introduces students to current and emerging networking technologies. It focuses on initial router configuration, IOS Software management, routing protocol configuration, TCP/IP, and access control lists (ACLs). Students will develop skills on how to configure a router, managing IOS Software, configuring routing protocol on routers, and set the access lists to control the access to routers.
(3 lecture units and 1 lab unit)
Pre-requisite: CS 220, Sophomore Status
CS 222 4 units
Routing and Switching
This course introduces students to current and emerging networking technologies. It focuses on advanced IP addressing techniques (Variable Length Subnet Masking [VLSM]), intermediate routing protocols (RIP v2, single-area OSPF, EIGRP), command-line interface configuration of switches, Ethernet switching, Virtual LANs (VLANs), Spanning Tree Protocol (STP), and VLAN Trunking Protocol (VTP). (3 lecture units and 1 lab unit)
Pre-requisite: CS 221, Sophomore Status

CS 223 4 units
Network Design (WANs)
This course introduces students to current and emerging networking technologies. It focuses on advanced IP addressing techniques (Network Address Translation [NAT], Port Address Translation [PAT], and DHCP), WAN technology and terminology, PPP, ISDN, DDR, Frame Relay, network management, and introduction to optical networking. (3 lecture units and 1 lab unit)
Pre-requisite: CS 222, Sophomore Status

CS 290 3 units
IT Internship
This course consists of the student having a computer networking technology related job at a local firm or organization. It will give students the experience of being a computer networking professional, which should help in career decisions and preparation for obtaining their first job after graduation.
Pre-requisite: CS 223, Sophomore Status

CS 300 3 units
Introduction to Internet/Telecommunications
This course examines the many features and technologies that make the Internet work. This includes Internet services/tools: WWW, E-mail, Chat rooms, File Transfer Protocol (FTP), Telnet, Newsgroups, browsers and search engines; Creating a Web Site: HTML Authoring tools; Client/Server Architecture; Internet Appliances: WebTV, Thin Clients, Internet Telephony and wireless devices; Internet Infrastructure: Segmentation, routing, servers, clients and bandwidth; Web Programming: Concepts, protocols, languages and scripting; Databases and Web Hosting: Database Management Systems (DBMS), SQL and hosting services; Internet Security: Intrusions, protection strategies and virtual private networks (VPN). (2 lecture units and 1 lab unit)
Pre-requisite: CS 103 or consent of instructor

CS 322 3 units
Client Administration
Installation and configuration of a network workstation using current Network Operating System software. Formatting and partitioning of disks, creation of file sharing and print sharing services. Creation and removal of user accounts, booting and shutting-down systems safely, creating and managing local system resources. Create system backups, and manage security access services provided by the NOS software. Key network protocols and standards. (2 lecture units and 1 lab unit)
Pre-requisite: CS 110 and CS 212

CS 330 3 units
Database Management Systems
Introduction to the basic concepts underlying database systems. Emphasizes the relational model, and discusses the elements of the entity-relationship model, the network model, and the hierarchical model. Various issues concerning physical data organization and query optimization are presented. Crash recovery schemes and control schemes are also covered. Discussion concerning a number of different non-standard database systems. (2 lecture units and 1 lab unit)
Pre-requisite: CS 103 and CS 150

CS 332* 3 units
Server Administration
Pre-requisite: CS 322

CS 340* 3 units
Advanced Networking
Implementation and support of a current Inter-networking Operating System (IOS). Real-life issues with case studies and examples to step the student through important IOS functions. Router configuration and administration. LAN and WAN interfacing technologies as they relate to router configurations. Router Internetworking Operations System (IOS) as well as its command-line interface (CLI). Managing and troubleshooting router LAN/WAN interfaces. (2 lecture units and 1 lab unit)
Pre-requisite: CS 332
CS 360 3 units
Object-Oriented Analysis and Design
Information Systems methodologies to solve enterprise-wide managerial and organizational problems. Requirements analysis, specifications, preliminary design, detailed design, code, unit test, integration test and system test. Specifications and a preliminary design are created, reviewed and evaluated using systems analysis and design techniques to develop a multi-user system including database. Apply at least one programming language to solve a problem relevant to the course.
(2 lecture units and 1 lab unit)
Pre-requisite: CS 330

CS 380 3 units
Graphical Programming
Study of a current graphical programming language for data acquisition, instrument control software, and analysis software in the context of industrial, scientific, academic, and laboratory environments. Write programs that solve problems in computers, electronics, physics, and chemistry. Students will have the opportunity to apply and reinforce computer programming concepts previously learned.
(2 lecture units and 1 lab unit)
Pre-requisites: CS 101, CS 105 and CS 106

CS 460 3 units
Management of Information Systems
This course focuses on the problems and issues faced by managers of Information Systems. Management of computer equipment and personnel, managing teams in programming projects, cost estimating and planning for software development projects, outsourcing of CIS functions, disaster recovery planning, computer security and computer crime, copyright protection for computer software, and legal and ethical issues in Computer Science/Information Systems.
(2 lecture units and 1 lab unit)
Pre-requisite: Senior standing or consent of instructor

CS 490A 3 units
Computer Information Systems Internship
Students will have a computer technology related job at a local firm or organization. It will give students the experience of being computer professionals, which should help in career decisions and preparation for obtaining their first job after graduation. Students already doing computer-related work may substitute this course for an elective with prior approval from the instructor and the Department Coordinator.
Pre-requisites: Senior Standing and CS 460

CS 490B 3 units
Computer Information Systems Senior Project
Formulation and solution of a selected problem in Computer Information Systems. The project must solve a practical problem within the computer field, should be challenging enough and should require the application of concepts learned in previous CS courses. The student will write a report and present it to the sponsoring professor.
Pre-requisites: Senior Standing and CS 340

* These courses can be substituted for upper division courses offered in 4-year institutions such as Database Management Systems, Database Design, Networked Databases, Web Design & Programming, Middleware, Multimedia, IT Security, e-Commerce, Computer Graphics and Visualization, High-Performance Computer Architecture, Artificial Intelligence, Applied Logic, Relational database systems, Information resource management and data administration, Database design and administration, Visual programming, Macroeconomics, Business Statistics, and other topics of interest with prior approval from the department chair.

Dance

DAN 120 1.5 units
Dance
A multidisciplinary exploration of the role of dance in society, focusing on children’s physical, emotional and mental development and learning processes. Course topics include:
(1) generic movement types and activities; (2) dance styles and cultural diversity; (3) major dance forms in the Western world; (4) philosophy of dance; (5) dance pedagogy.
Pre-requisite: None

Engineering

EGR 100 3 units
Introduction to Engineering
Introduction to engineering through hands-on design projects, case studies, and problem-solving using computers. Students learn about the various aspects of the engineering profession and acquire non-technical skills, such as communication skills, teamwork skills and the ability to deal with ethical dilemmas. In addition, the course supports students in their efforts to succeed in engineering through personal and professional development.
(2 lecture units and 1 lab unit)
Pre-requisite: Proficiency in high school algebra, geometry and trigonometry or equivalent
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>EGR 200</td>
<td>Engineering Mechanics - Statics</td>
<td>2</td>
<td>Study of particles and rigid bodies in equilibrium. Applications to particles, two-dimensional and three-dimensional structural systems using ordinary and vector algebra. Topics include free body diagrams, centroids and centers of gravity, shear and bending moment diagrams, concentrated and distributed loads, moments of inertia and friction. Pre-requisite: MAT 121, Sophomore Status</td>
</tr>
<tr>
<td>EGR 225</td>
<td>Introduction to Materials</td>
<td>3</td>
<td>Study of atomic and crystal structures; imperfections and atom movement; phase equilibria and transformations; boundaries; heat treatment of metals; mechanical, physical and chemical properties of engineering materials. Pre-requisite: CHE 150A, PHY 150A, MAT 121, Sophomore Status</td>
</tr>
<tr>
<td>EGR 250</td>
<td>Introduction to Circuit Analysis</td>
<td>4</td>
<td>Circuit laws and nomenclature, resistive circuits with DC sources, ideal operational amplifier, controlled sources, natural and complete response of simple circuits, steady-state sinusoidal analysis and power calculations. Basic instruments and experimental techniques in electrical engineering. Oscilloscopes, function generators, frequency counters and multiple-use meters. Measurements of voltage, current, frequency response, transient response and computer simulation of circuits. Pre-requisite: PHY 150B, MAT 220 (May be taken concurrently), Sophomore Status</td>
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**Education**

<table>
<thead>
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<tbody>
<tr>
<td>EDU 250</td>
<td>Field Experience in the Classroom</td>
<td>3</td>
<td>Supervised field experience in preschool and K-8. The course emphasizes the development of instructional strategies, curriculum, planning and assessment of teaching effectiveness. Students will do a minimum of 50 hours of field placement in a preschool or K-8 classroom. This Practicum is designed to meet the standards set forth by The National Association for the Education of Young Children for the preparation of Early Childhood Professionals. Required course for all Liberal Studies Majors. Students must enroll in this class in either their sophomore or junior years. Pre-requisite: CD 100</td>
</tr>
<tr>
<td>EDU 290</td>
<td>Sophomore Seminar</td>
<td>3</td>
<td>One of the objectives of the course is to prepare student portfolios. Students must attend an orientation seminar on entering the program that explains the portfolios and how students are to document their subject matter information on the courses they will take during the program. The portfolio is an on-going project that must be completed before the end of their sophomore year. Instructors will assess their students according to the subject matter requirements. This course is graded on a P/F basis. Pre-requisite: None</td>
</tr>
<tr>
<td>EDU 300</td>
<td>Liberal Studies Gateway Experience</td>
<td>3</td>
<td>Course must be completed by all Liberal Studies Majors during the Junior Year. This course is an introduction to the academic and professional requirements for K-8 teachers. Course will focus on the eight required subject areas (language arts, mathematics, science, history/social studies, child development, visual and performing arts, health, and physical education), linking the Liberal Studies curriculum and the Academic Content Standards and State Curriculum Frameworks for grades K-8. Students will practice some research and technological skills that are required for teachers. Pre-requisite: Junior Standing</td>
</tr>
<tr>
<td>EDU 447</td>
<td>Theoretical Foundations of Physical Education and Health Education for K-8.</td>
<td>3</td>
<td>This course introduces K-8 teaching strategies in physical education and health that follow the California State Standards. Students investigate the principles of motor development, biomechanics, and growth, development, and organized games and sports. Teaching methods are included. Pre-requisite: Upper division Standing</td>
</tr>
<tr>
<td>EDU 490</td>
<td>Senior Seminar</td>
<td>1</td>
<td>One of the objectives of the course is to prepare student portfolios under the guidance of the Field Experience Director. Students must attend an orientation seminar on entering the program that explains the portfolio and how students are to document their subject matter information on the courses they will take during the program. The portfolio is an on-going project that must be completed before graduation. Instructors will assess their students according to the subject matter requirements. This course is graded on a P/F basis. Pre-requisite: Senior Standing.</td>
</tr>
</tbody>
</table>
EDU 508 3 units
Educational Foundations
The course does a systematic analysis of the effect of culture, values, language, economic status, gender and ethnicity on children in the classroom. Issues related to political control of education, English Language Learners, culture, philosophy and history will be addressed. Students develop an understanding of the relationship between schools and society by focusing on recent contemplated changes in the role of the teacher, historical contexts of education and politics, educational responses to an increasingly diverse and multicultural society, the law and its effect on schools, and the organization and financing of schools.

EDU 510 3 units
Latino Culture
Focuses on major historical experiences of the various Latino groups in the United States, covering the pre-Columbian period, the conquest, Colonial period, War of Independence and contemporary life in the United States. Emphasis on cultural commonalities, demographics, immigration, educational patterns and general relationships among Latinos and the majority culture.
Pre-requisite: Acceptance to Teacher Education Credential Program.

EDU 511 3 units
Educational Sociology
Systematic analysis of the effect of culture, values, language, class, sex, and ethnicity on children in the elementary classroom. Issues related to political control of education, philosophy and history, and comparative education.
Pre-requisite: Acceptance to Teacher Education Credential Program.

EDU 512 3 units
Educational Psychology
Systematic analysis of psychological viewpoints, stages of growth and development, learning processes, and evaluation. Emphasis upon developing a consistent teaching theory based upon psychology, age level characteristics, race, ethnicity and social class differences.
Pre-requisite: Acceptance to Teacher Education Credential Program.

EDU 514 3 units
Effective Teaching and Learning
The purpose is to provide the teacher with the tools and strategies to be effective in the management of a classroom. The content of this course includes learning processes, principles of instruction, teaching strategies, principles and techniques of classroom organization and behavior management and parent involvement. The California Standards for the Teaching Profession is introduced during the course.
Pre-requisite: Acceptance to Teacher Education Credential Program.

EDU 515 3 units
Cultural Diversity in the Classroom
This course focuses on the general nature of cultural diversity. Students explore school and community implications such as ethnic, linguistic, socioeconomic, gender and handicapping differences. A focus on theoretical and practical issues of diversity in a classroom setting as it relates to culture, race, gender ethnicity, language and socio-economic levels are included. Group culture patterns and value orientation; research findings in multicultural education; learning experiences and curriculum development is discussed.
Pre-requisite: Acceptance to Teacher Education Credential Program.

EDU 516 1 unit
Classroom Field Experience and Seminar
This course is the companion course to EDU 514, Effective Teaching. It provides an introduction to the K-12 classroom. Students will be required to engage in observations, interviews and interaction with students, teachers, and administrators in a selected school setting as they investigate effective teaching strategies. Findings and observations will be shared in a seminar setting. (This course is best taken with EDU 514 although it is not mandatory.)
Pre-requisite: Acceptance to Teacher Education Credential Program

EDU 520 3 units
Second Language Learners
This course focuses on theories and factors in first and second language acquisition and English language development, including cognitive, affective, socio-cultural, political, and pedagogical factors that affect first and second language development in a multicultural setting. The course prepares teacher credential candidates to achieve knowledge about language learning issues required for teaching culturally and linguistically diverse learners in California. In addition, students will explore and develop instructional models, strategies, approaches, and assessment for ESL and content based second language teaching in diverse cultural and linguistic settings. Fieldwork observation is included.
Pre-requisite: Acceptance to Teacher Education Credential Program.

EDU 522 2 units
Methods: Science Curriculum and Instruction
This course is designed to provide a comprehensive overview of the State Content Standards and State Framework. It addresses the objectives, skills, concepts, experiments, materials, and methods necessary to teach science to elementary school children. This course focuses on instructional methods, techniques, materials, lesson planning, curriculum development, organization and assessment in science.
Pre-requisite: Acceptance to Teacher Education Credential Program.
EDU 524  6 units  
**Secondary Content Methods: Curriculum and Instruction**

The Secondary Content Methods: Curriculum and Instruction Course utilizes observations in public school settings and participation in university classroom activities. Candidates will demonstrate an understanding of their chosen content area and will leave this course with a deep knowledge of the California State Content Standards and Frameworks. Candidates will deliver lessons derived from state standards using a variety of instructional strategies appropriate to the lesson and learner. These lessons will demonstrate the basic principles and primary values underlying the discipline. Pedagogical knowledge, concepts of learning, standards based curricular content, use of materials, including technology, instructional planning, organization, lesson delivery and student assessment will be demonstrated by candidates within and across major subdivisions of the subject. Developing the understanding that the learner is the most important part of the teaching/learning process is a key focus for this course. It focuses on the development of children and young adults and how that development impacts the educational process and curriculum development in the various content areas. Secondary teacher candidates begin with a look at mental health and development in general then turn to research on the development and functioning of the brain and to developmental theories and learning styles. This course will address the needs of mainstream students as well as those who are gifted or talented, have special needs or are acquiring English as a second language. 

*Pre-requisite: Subject Matter Competency Required and Acceptance to Teacher Education Credential Program.*

EDU 525  3 units  
**Methods: Math and Science Curriculum and Instruction in Elementary Classroom**

Theory, content and methods of teaching mathematics and science in the elementary classroom for mainstream and SDAIE students. Emphasis on planning, instruction, assessment, computer-assisted instruction, resource materials, SDAIE and complex instruction. Integrate Math and Science across the curriculum to provide access to all students to the core curriculum. 

*Pre-requisite: Acceptance to Teacher Education Credential Program.*

EDU 529  3 units  
**Methods: History Social Science Curriculum and Instruction**

This course will cover the methods of implementing History-Social Science and the Visual and Performing Arts framework and standards in the classroom. This course is designed to introduce prospective elementary school teachers to the theoretical concepts, instructional methods and materials for use in social studies education and curriculum integration. Research indicates that when teachers use a variety of teaching methods that are integrated into the content of the course, learners become more effectively engaged in learning. Therefore, the broad emphasis of this course will focus on issues of planning, organization and assessment that involve the learner in higher-level thinking through cognitive and affective involvement. 

*Pre-requisite: Acceptance to Teacher Education Credential Program.*

EDU 530  6 units  
**MS Language Arts and Reading Curriculum and Instruction**

The course will include theory, content and methods for teaching reading and promoting literacy in the classroom. Each teaching candidate will participate in intensive instruction in reading, literacy development, and language methods grounded in sound research. The course includes exposure to a substantive, research-based program that provides a balanced, comprehensive program of instruction in reading, writing, listening, and oral language. The course includes explicit instruction in reading skills and comprehension strategies for all students regardless of reading level or language background. EDU 530 presents, analyzes and critically explores research and practice related to the development of literacy. In addition, the course is standards-based and linked to the state framework and content standards. 

*Pre-requisite: Subject Matter Competency Required and Acceptance to Teacher Education Credential Program.*
**EDU 530a**  
6 units  
**Single Subject (SS) Language Arts and Reading Curriculum and Instruction**  
The course will include theory, content and methods for teaching reading and promoting literacy in the classroom. Each teaching candidate will participate in intensive instruction in reading, literacy development, and language methods grounded in sound research. The course includes exposure to a substantive, research-based program that provides a balanced, comprehensive program of instruction in reading, writing, listening, and oral language. The course includes explicit instruction in reading skills and comprehension strategies for all students regardless of reading level or language background. EDU 530a presents, analyzes and critically explores research and practice related to the development of literacy. In addition, the course is standards-based and linked to the state framework and content standards.  
*Pre-requisite: Subject Matter Competency Required and Acceptance to Teacher Education Credential Program.*

**EDU 531**  
2 units  
**Computer Technology for Teaching and Learning I**  
This course addresses the use of personal computers with applications to the classroom. It includes the use of collaborative computer tools, selection and evaluation of computer software and resources, development of computer-based lessons targeting different learning styles, and knowledge of copyright, privacy and security issues. *Pre-requisite: CS100 or equivalent and Acceptance to Teacher Education Credential Program.*

**EDU 537**  
2 units  
**EDL/SDAIE Methods**  
This course is designed for beginning teachers to learn effective methods and classroom strategies that foster English Language Development in their lesson planning, adaptation, and delivery. Methodologies of especially designed academic instruction (SDAIE) and techniques for instruction are covered throughout the course.  
*Pre-requisite: Acceptance to Teacher Education Credential Program.*

**EDU 550**  
2 units  
**Teaching Health Education**  
This course is designed to raise teacher awareness and examine the current health issues confronting today’s educators. The course will introduce educators to resource links within the community as well as within the public school system. Participants will reflect on how this information connects to their own practice within their own classrooms and schools. Topics include chemical dependency, nutrition, fitness, HIV/AIDS, conflict resolution / mental health and maintaining a healthy school environment.  
*Pre-requisite: Acceptance to Teacher Education Credential Program.*

**EDU 551**  
3 units  
**Inclusive Education Practices**  
This course is designed to provide the basic knowledge, skills and strategies for teaching special populations including student with disabilities, students on behavior plans, and gifted and talented students in the general education classroom. The course will examine the philosophical, legal, and educational foundations of inclusive education and its implications for the classroom teacher. Practical ideas for adapting standard instruction to provide the least restrictive environment consistent with classroom strategies are discussed. Includes integration of learning handicapped, physically handicapped, severely handicapped, gifted and culturally diverse students.  
*Pre-requisite: Acceptance to Teacher Education Credential Program.*

**EDU 552**  
3 units  
**Curriculum Materials and Technology**  
This course covers more advanced use of personal computers with applications to the classroom. It includes the use of collaborative computer tools for communication purposes, development and understanding of assessment practices, use of software and programs for teaching purposes, and development of lesson plans using computer-based activities and use online software for web design strategies.  
*Pre-requisite: Completed Preliminary Credential or approval of Department Chair.*

**EDU 555**  
4 units  
**Student/Intern Teaching Practicum**  
Supervised field experience, systematic field experiences, portfolio assessment of personal growth and development, problem solving and documentation of Teacher Performance Expectation (TPE) will be completed during this course. University supervisors meet with the students to discuss issues and concerns, conduct on-site conferences with the candidates and cooperating teacher to ensure that satisfactory progress is being made towards proficiency in the TPEs.  
*Pre-requisite: Subject Matter Competency Required and Acceptance to Teacher Education Credential Program.*

**English**

**ENG 45**  
3 units  
**English Grammar and Reading Comprehension**  
Designed to improve reading rate and comprehension. Includes English grammar and vocabulary. This course carries no credit towards any degree and is graded on a CR/NC basis.  
*Pre-requisite: English Placement Test*
ENG 100 3 units
English Composition and Reading
This course emphasizes reading-based academic writing in a multicultural milieu. The student will critically respond to a variety of writers on various topics and themes. In addition, English 100 will cover the rhetorical modes, culminating in an argumentative research paper.
Pre-requisite: English Placement Test or ENG 45

ENG 201 3 units
Critical Thinking, Reading, and Writing Across the Curriculum
This course explores the skills of critical reasoning, reading, and writing across the academic disciplines. Students will examine and analyze the structure of formal and informal arguments and ways people use language to persuade. Course includes formal logic, critical essays, and research strategies.
Pre-requisite: ENG 100

ENG 250 3 units
Contemporary Multicultural Literature
This course will focus on the literatures of all peoples in American society since the beginning of the 20th Century. The course will emphasize literature from African American, Asian American, Latino American, and Native American writers, covering the broad themes and deep concerns of those communities represented.
Pre-requisite: ENG 100

ENG 300 3 units
Advanced Writing Skills
Extended writing assignments. Includes rhetorical modes, narrative, process-analysis, cause and effect, and argumentation and persuasion. Introduces writing formats of summary, synthesis and critique. Students demonstrate competency in content development, sentence mechanics and editing techniques.
Pre-requisite: ENG 201

ENG 301 3 units
Introduction to World Literature
A survey of world literature representing the various cultures of Africa, Asia, Central and South America, Europe, the Island Nations, the Middle East, and North America. Works include major literary genres: poetry, plays, essays, short stories, and novels. Analysis includes comparison and contrast of different forms and themes, literary criticism, and historical and cultural analysis. The authors represent human diversity and varieties of philosophies and styles.
Pre-requisite: ENG 100, Junior Status

ENG 302 3 units
American Literature I (1600-1865)
A study of selected works of American authors from 1600 to 1865. The course introduces various genres of early American writing including essays, letters, short stories, poetry and the novel. The assigned readings will represent diverse authors presenting a variety of philosophies and styles. Students will be required to reflect on the relationship between the themes presented and the development of American culture and to develop their active and responsive reading skills. The elements of literature will be discussed as a tool for literary criticism and analysis.
Pre-requisite: ENG 100

ENG 303 3 units
American Literature II (1865-Present)
Study of selected works of American authors from 1865 to present. Includes poetry, drama, essay, short story and novel. Literary criticism and analysis. The authors represent human diversity and variety of philosophies and styles.
Pre-requisite: ENG 302

ENG 401 3 units
Multi-ethnic Children’s Literature
This course focuses on various genres for young people. Includes picture books, classics, personified machine heroes, and realistic books. Includes enrichment ideas, which teachers can use with young children.
Pre-requisite: Upper division Standing

English as a Second Language

ESL 26 3 units
Beginning Level
ESL 26 offers the beginning student the opportunity for intensive study of basic grammar concepts. All major verb tenses will be discussed. The students will learn basic parts of speech and how to facilitate their knowledge of English syntax by practicing oral and written communication.

ESL 27 3 units
Intermediate Level I
ESL 27 is a course continuation of grammar concepts introduced in ESL 26. Practical applications of basic grammar concepts will be implemented in ESL 27. Students will also be introduced to basic composition practice in English. Assignments in writing will be required to test the students’ ability to write in English.
Pre-requisite: None
ESL 28  Intermediate Level II  6 units
Course continuation review of concepts introduced in ESL 26 and ESL 27. Intensive study of vocabulary and pronunciation to meet advanced language requirements.
Pre-requisite: None

Ethnic Studies

ETH 134  Chicano/Latino Culture  3 units
A historical overview of the Chicano/Latino community in the United States, focusing on race, class, and gender relations. Students will analyze the educational, economic, socio-cultural, and political issues facing the U.S. Chicano/Latino community.
Pre-requisite: None

ETH 265  Minorities in the United States  3 units
Examine the historical traditions and cultural differences that exist among the major ethnic groups in the United States. Students will learn important concepts and theories that are vital to the study of race and ethnicity. This course will focus on Native Americans, Latinos, African Americans, Asian Americans, and European Americans in the context of their acculturation, assimilation, and cultural amalgam in the United States, and critically analyze inter-racial relations.
Pre-requisite: None

ETH 317  African American Studies  3 units
A study of the genesis and development of African American culture and history in the United States approached through selected art forms, historical themes, and current intellectual debates with special focus on the study of race as a social construct. The emphasis is on exploring how various forms of African American cultural production have both reflected and inspired the historical changes in the US.
Pre-requisite: Upper division Standing

ETH 318  Asian American Studies  3 units
This course introduces major themes in Asian American Studies from the beginning of Asian immigration to the United States in the mid-nineteenth century to the present. Topics include an analysis of the Asian American Perspective; cultural roots; immigration and settlement patterns; labor, legal, political, and social history.
Pre-requisite: Upper division Standing

ETH 319  Native American Studies  3 units
Native American Studies is a survey of the historical, social, political, economic, and cultural development of Native communities in the United States. Emphasis is on the contributions Native communities have made to the United States and how they have shaped society.
Pre-requisite: Upper division Standing

ETH 321  Chicana/Latina Women in the U.S.  3 units
Examines the historical and contemporary experiences of Chicana/Latina women in relation to family, work, community, sexuality, and individual and collective activism as well as the development of Chicana/Latina feminist thought. Particular attention will be paid to the interplay between race, class, and gender in American society.
Pre-requisite: Upper division Standing

ETH 322  Latin American Families in the U.S.  3 units
A study of Latin American people in the United States with emphasis on historical origins, cultural values and practices, social organization, political adaptations, occupational distribution and contemporary social conditions.
Pre-requisite: Upper division standing

ETH 400  Gender, Race, and Culture in American Society  3 units
Examines the multiple intersections of race, gender, and class relations in American Society, focusing on multiculturalism, relations of power, and cultural production and representation. Includes historical perspective, lived experiences, theoretical constructs of race, class, and gender, and a major research project comparing two or more disciplines.
(Formerly ETH 122).
Pre-requisite: Upper division

ETH 432  Advanced Multicultural Relations  3 units
A capstone research seminar for senior Liberal Studies majors with an emphasis on cross contemporary issues affecting Mexican American/Latino, Native American, Asian American, European American, and African American communities in the United States.
Pre-requisite: Upper division standing
Geography

GEO 100  3 units
Introduction to Earth Science
Introduction to the composition, structure and evolution of the Earth and the impact of man on the environment. The interactions of the lithosphere, hydrosphere and atmosphere. Relations of geological systems, hazards, and resources to the human environment and future.
Pre-requisite: None

GEO 200  3 units
Physical Geography
The purpose of this class is to provide an introductory framework for understanding the geography of our atmospheric, geological, and biological environments.
Pre-requisite: None

GEO 300  3 units
Cultural Geography
Introduction to the interrelationships of world cultural groups and their environments. Includes map analysis, climates, and settlement patterns on the varieties of human, social, business and political development.
Pre-requisite: Sophomore standing

History

HIS 100  3 units
U.S. History I
This course is a survey of the political and social development of the United States through the Civil War. Multicultural and gender perspectives and issues are incorporated throughout the course. (This course, when combined with credit for History 201, satisfies the requirement in U.S. History, U.S. Constitution, California State and Local Government).
Pre-requisite: none

HIS 201  3 units
U.S. History II
This course is a survey of the political and social development of the United States from Reconstruction to the present. Multicultural and gender perspectives and issues are incorporated throughout the course. (This course, when combined with credit for History 100, satisfies the requirement in U.S. History, U.S. Constitution, and California State and Local Government).
Pre-requisite: none

HIS 313  3 units
California History
The political, social, and intellectual growth of California from Spanish colonial era to the present, with emphasis on the themes and movement identified in the California State Framework.
Pre-requisite: Upper division standing

HIS 314  3 units
World History I
Themes in the institutional, political, socio-business and cultural development of modern society and socio-political changes. Includes the themes, movements, and geography identified in the California State Framework. The growth of civilizations and the interrelationships of peoples of Europe, Asia, Africa, and America to 1650.
Pre-requisite: Upper division standing

HIS 414  3 units
World History II
Themes in the institutional, political, socio-business and cultural development of modern society and socio-political changes. Includes the themes, movements, and geography identified in the California State Framework. The growth of civilizations and the interrelationships of peoples of Europe, Asia, Africa and America from 1650 to the present.
Pre-requisite: Upper division standing

Information Competency

INF 100  1 unit
Information Competency
This course introduces to the research process and the organization, location, and evaluation of information using print, non-print, and electronic resources. Students learn: (1) the concepts of the research process; (2) how information is organized; (3) effective use for research of library catalogs, periodical indexes and database, traditional reference sources, and the Internet; and (4) to think critically when developing research strategies and evaluating information sources.
Pre-requisite: none

Linguistics

LIN 406  3 units
Comparative Linguistics
Compare and contrast language systems - phonology, morphology, structure and syntax - with English. Includes major languages spoken in California schools.
Pre-requisite: Upper division standing
Mathematics

MAT 40  
Pre-Algebra Math Review  
3 units  
This course is designed for students who need a solid review of basic mathematics and pre-algebra prior to taking an elementary algebra course. Topics covered include whole numbers, fractions, decimals, percents, ratios and proportions, integers, the metric system, elementary geometry, data and statistics, and problem solving. This course carries no credit toward any degree and is graded on a CR/NC basis.  
Pre-requisite: Satisfactory score on the Math Assessment Test

MAT 45  
Elementary Algebra and Geometry  
3 units  
Fundamentals of Algebra and Geometry. Includes integers, rational numbers, laws of exponents, scientific notation, linear functions, polynomials, algebraic fractions, quadratic equations. Plane geometry, geometric figures, area, formulas, volume of solids, and deductive reasoning. This course carries no credit towards any degree and is graded on a CR/NC basis.  
Pre-requisite: Satisfactory score on the Math Assessment Test

MATH 50  
Geometry  
3 units  
This course involves the study of Euclidean (plane), non-Euclidean, and higher dimensional geometric figures and relationships. Considerable attention is devoted to deductive reasoning (proofs). The approach is both logical and intuitive, leading to the ability to apply formulas and to visualize in two and three dimensions. This course is highly recommended for students who have not had high school geometry. This course carries no credit toward any degree and is graded on a CR/NC basis.  
Pre-requisite: MAT 45, satisfactory score on the Math Assessment Test

MAT 100  
College Algebra  
3 units  
This course is designed to prepare the student for courses requiring a solid algebraic background. The course content includes the study of fundamental algebraic concepts and contains the following topics: equations and inequalities, functions and graphs, polynomial functions, rational functions, systems of equations and inequalities, exponential and logarithmic functions; conic sections and sequences and series may also be included.  
Pre-requisite: MAT 45 or satisfactory score on Math Assessment Test

MAT 108  
Number Systems  
3 units  
This course is designed for students preparing for a career in elementary school teaching. The course content includes the study of the real number system, numeration systems, elementary number theory, statistics, and problem-solving techniques required for elementary mathematical applications.  
Pre-requisite: Satisfactory score on Math Assessment Test or MAT 40, or 2 years of high school college preparatory algebra and one year of high school geometry (all with a C- or better)

MAT 115  
Trigonometry & Analytic Geometry  
3 units  
This course in numerical and analytical trigonometry is designed to prepare the student for the level of trigonometry and advanced algebraic concepts necessary for calculus. Study will be made of trigonometry functions, trigonometric graphing, trigonometric identities, trigonometric equations and laws, vectors and complex numbers, conic sections, sequences and series, and mathematical induction and the binomial theorem.  
Pre-requisite: Satisfactory score on the Math Assessment Test, 2 years high school algebra, and 1 year high school geometry; or MATH 100 (College Algebra)

MAT 120  
Calculus and Analytic Geometry I  
4 units  
This is the first course in calculus and analytic geometry for students majoring in mathematics, physical science, computer science or engineering. It includes functions and graphs, topics in analytic geometry, the analysis of algebraic and trigonometric functions, limits, derivatives, integrals, and applications.  
Pre-requisite: Satisfactory score on the Math Assessment Test, 2 years high school algebra, 1 year high school geometry, and 1 semester high school trigonometry; or MATH 115 (Trigonometry and Analytic Geometry).

MAT 121  
Calculus and Analytic Geometry II  
4 units  
This is the second course in calculus and analytic geometry for students majoring in mathematics, physical science, computer science or engineering. It includes logarithmic and exponential functions, inverse trigonometric functions, topics in analytic geometry, techniques of integration, polar coordinates, infinite sequences and series, further applications of integration, and an introduction to differential equations.  
Pre-requisite: MAT 120
MAT 122 4 units
Calculus and Analytic Geometry III
This is the third and last course in calculus and analytic geometry for students majoring in mathematics, physical science, computer science or engineering. In this course the concepts of calculus are extended to functions of more than one variable. The content includes three-dimensional analytic geometry and vectors, partial derivatives, multiple integrals and vector calculus.
Pre-requisite: MAT 121

MAT 200 3 units
Conceptual Geometry
Introduction to geometry, various forms of measurement, inductive and deductive process and reasoning. Introductory exercises in transformations and strategies designed to identify and enact problem-solving techniques. Technology integrated throughout the course.
Pre-requisite: MAT 100

MAT 220 4 units
Differential Equations
This course is a study of ordinary differential equations and their applications to problems in engineering and science. Methods are developed for solving equations of order one, linear equations of arbitrary order, and linear systems. Students are introduced to series methods, Laplace transforms and numerical methods.
Pre-requisite: MAT 122

MAT 312 3 units
Educational Statistics
Descriptive Statistics: histogram, measures of central tendency and variability, sampling distributions. Estimation and hypothesis tests for means, proportion, variances. Linear regression and correlation, non-parametric methods. Examples and data taken from education.
Pre-requisite: MAT 100

Music

MUS 121 1.5 units
Music
Survey of great works of music. Practical experience in use of simple instruments: percussion and tonal instruments, flutophone, song flute and recorder.
Pre-requisite: None

Philosophy

PHL 100 3 units
Introduction to Philosophy
This course provides students with an analytic study of some of the core areas of philosophy, including metaphysics, epistemology, ethics, logic, and social/political philosophy. These fields will be addressed by studying some of the major philosophical topics, such as those concerning the nature of reality, the existence of God, the soul, free will, the nature of knowledge, what determines how we should live, and what kind of creature is a human being. By discussing the diversity of cultures and genders that have shaped our philosophical ideas, this course offers an analysis of the history of philosophy.
Pre-requisite: none

PHL 200 3 units
Introduction to Logic
Beginning study of formal and informal logical argumentation, including fallacies, inductive and deductive reasoning. Students will utilize concepts and methods for understanding and analyzing arguments, and know how to evaluate factual claims and hidden or unstated assumptions. Logical methods will be utilized to understand issues in race, class, and gender.
Pre-requisite: none

Physics

PHY 120 3 units
Physics
Emphasizes classical mechanics, electricity and magnetism, quantum mechanics, relativity and nuclear physics. The course traces the historical development and philosophical significance of scientific knowledge. It contrasts the methods of science with those of other disciplines. It assesses the role science and technology can play in solving some of society’s problems. It aims to provide students with tools for becoming scientifically literate. (3 units lecture).
Pre-requisite: None
PHY 150A  4 units
General Physics I (Mechanics)
This course is the first in the physics sequence for majors in physics, chemistry, engineering or other physical sciences. The general principles of mechanics are introduced at a calculus-based level. Specific topics include kinematics, Newton’s laws of motion, work and energy, momentum, rotation, and simple harmonic motion. A problem solving approach is used emphasizing both conceptual understanding and basic mathematical techniques. Laboratory program complements lecture.
Pre-requisite: Proficiency in High School Physics or PHY 120 (Elementary Physics); Math 120 (Calculus with Analytic Geometry I—can be taken concurrently) or equivalents.

PHY 150B  4 units
General Physics II (Electricity & Magnetism)
This course is the second in the physics sequence for majors in physics, chemistry, engineering or other physical sciences. The general principles of electricity and magnetism are introduced at a calculus-based level. Specific topics include the electric field, Gauss’ Law, electric potential, DC circuits, Maxwell’s equations, and electromagnetic waves. A problem solving approach is used emphasizing both conceptual understanding and basic mathematical techniques. Laboratory program complements lecture.
Pre-requisite: PHY 150A, MAT 121 (May be taken concurrently)

PHY 150C  4 units
General Physics III (Heat & Light)
This course is the third in the physics sequence for majors in physics, chemistry, engineering or other physical sciences. The general principles of optics, thermodynamics and modern physics are introduced at a calculus-based level. Specific topics include waves, geometric optics, wave optics (including interference, diffraction, and polarization), heat, thermal properties of matter, thermodynamics. A problem solving approach is used emphasizing both conceptual understanding and basic mathematical techniques. Laboratory program complements lecture.
Pre-requisite: PHY 150B, MAT 121 (May be taken concurrently)

PHY 150D  4 units
General Physics IV (Atomic Physics)
This course is the fourth in the physics sequence for majors in physics, chemistry, engineering or other physical sciences. Introduction to quantum physics emphasizing electronic structure of atoms and solids, radiation and relativity at a calculus-based level. A problem solving approach is used emphasizing both conceptual understanding and basic mathematical techniques. Laboratory program complements lecture.
Pre-requisite: PHY 150C, MAT 121 (May be taken concurrently)

Psychology

PSY 100  3 units
Introduction to Psychology
Introductory aspects of psychology. Includes fields of psychology, biological psychology, sensation and perception, learning and memory, language, thought and intelligence, motivation and emotion, human development, personality, abnormal behavior and therapy, human sexuality, social and applied psychology.
Pre-requisite: None

PSY 325  3 units
The Exceptional Child
Introduction to the social, psychological and educational problems of exceptional persons. Includes persons with mental, emotional, sensory, motor, multiple handicaps and gifted children.
Pre-requisite: Upper division standing

Spanish

SPA 100  3 units
Elementary Spanish I
Fundamentals of Spanish. Includes listening, speaking, grammar, reading and writing. Emphasis placed on classroom vocabulary and development of communication skills in cultural context.
Pre-requisite: None

SPA 110  3 units
Elementary Spanish II
Fundamentals of Spanish. Continuation of Spanish 100. Includes listening, speaking, grammar, reading and writing. Emphasis placed on classroom vocabulary and development of communication skills in cultural context.
Pre-requisite: SPA 100 or consent of instructor
SPA 230 3 units
Spanish for the Spanish Speaker I
Fundamentals of grammar and composition especially structured for native speakers. Emphasis on use of correct language structure. Content based on literary works.
Pre-requisite: Consent of instructor

SPA 231 3 units
Spanish for the Spanish Speaker II
Fundamentals of grammar and composition especially structured for native speakers or specific needs of bilingual students of Hispanic background and others with equivalent language skills. Content based on selected literature. Emphasis placed on composition.
Pre-requisite: SPA 230 or consent of instructor

Special Topics

SPT 299; 399; 599 1-3 units
Special Topics
Students who wish to research an area of study that is not included in the curriculum may petition for a special project within their respective department. Students will complete the Special Topics form and meet with an instructor to plan the content. The Chair of their Department must sign the form. Students may not register for more than two (2) Special projects per academic career.
Pre-requisite: Consent of instructor

Speech

SPC 100 3 units
Speech
This course is designed to explain the theory and practice of oral communication. Emphasis will be placed on organization, presentation, and evaluation of various types of speeches. Students will be able to express their own ideas and experience the diverse perspectives of their fellow classmates through exercises, discussions, and formal speeches. Students will engage in critical listening, analyze audiences, and adapt presentations to the audience. They will understand the ethical responsibilities of a public speaker.
Pre-requisite: none

Translation and Interpretation Studies

T&I 201 3 units
Intensive Grammar for T&I
This course is an intensive review of the structure and function of the elements of Spanish and English grammar, from a translation/interpretation perspective. The course studies articles, nouns and pronouns adjectives, adverbs, verbs, tenses, prepositions and conjunctions from a Spanish/English comparative standpoint and context unique to the translator/interpretor, rules for forming new words, and of ortografia (spelling, punctuation, and accents); and basic sentence structure.
Pre-requisite: consent of Coordinator

T&I 301 3 units
Socio-Cultural Foundation of Language in Translation
An examination of the link between linguistic ad cultural factors, and its importance to the interpretation and translation talk. Course will cover: (a) cultural issues in translation (compromise and compensation); (b) formal properties of texts: Phonic/graphic and prosodic; grammatical and lexical; sentencial, inter-sentencial and intertextual; (c) literal versus connotative meaning; and (d) social versus tonal registers.
Pre-requisite: T&I 201 or consent of coordinator

T&I 302 3 units
Theory and Techniques in Translation and Interpretation
An exploration of translation and interpretation theories and basic techniques available to the translator and interpreter. Course will cover principles of fidelity. Models of comprehension in interpretation and translation, a sequential model of translation, knowledge acquisition, efforts model, techniques to cope with simultaneous interpretation and conference interpreting.
Pre-requisite: T&I 301 or consent of coordinator

T&I 314 3 units
Technical Translation/Terminology: Banking, Commerce and Finance
Develops skills in two-language translation in vocabulary used in banking, commerce and finance. Emphasis given to Spanish to English and English to Spanish with specialized terminology.
Pre-requisite: 6 units of T&I foundation courses or consent of instructor or T&I coordinator
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<th>Course</th>
<th>Units</th>
<th>Description</th>
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<tr>
<td>T&amp;I 315</td>
<td>3</td>
<td>Technical Translation/Terminology: Political, Government &amp; International Relations</td>
<td>6 units of T&amp;I foundation courses or consent of</td>
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<td>Study of text materials used by international organizations and governmental agencies. Translation</td>
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<td>and interpretation exercises increase bilingual terminology in political debates, conference</td>
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<td>meetings, memoranda, contract forms, minutes, press releases and records.</td>
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<td>T&amp;I 316</td>
<td>3</td>
<td>Spanish Medical Terminology: Anatomy and Physiology</td>
<td>6 units of T&amp;I foundation courses or consent of</td>
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<td>This course covers Spanish medical terminology for the human body, its nature and system. The</td>
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<td>student will gain skills in translating/interpreting medical documents used in general medical</td>
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<td>practice, such as medical office correspondence, informational brochures, office and hospital</td>
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<td>intake questionnaires, and other documents. Translation and interpretation skills will be</td>
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<td>reinforced through class activities.</td>
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<tr>
<td>T&amp;I 318</td>
<td>3</td>
<td>Spanish Medical Terminology: Diseases and Treatment</td>
<td>6 units of T&amp;I foundation courses or consent of</td>
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<td>This course will cover Spanish medical terminology for general diseases, first aid in emergencies</td>
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<td>and common injuries. The student will also learn how to interpret laboratory tests, medical history</td>
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<td>questionnaires, medical disability reports and other documents. Translation and interpretation skills</td>
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<td>will be reinforced through class activities.</td>
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<td>T&amp;I 410</td>
<td>3</td>
<td>Computers and Technology in Translation</td>
<td>Computer skills and consent of instructor</td>
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<td>Designed for pre-professional and professional translators who perceive technology as translation</td>
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<td>strategy. Examination of current issues in computer technology and other high-tech resources to</td>
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<td>assist translators. Translation of technical texts and manuals will be analyzed.</td>
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<td>T&amp;I 413</td>
<td>3</td>
<td>Legal Translation</td>
<td>6 units of T&amp;I foundation courses or consent of</td>
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<td>Emphasizes written translation of legal text, sight translation exercises (English and Spanish),</td>
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<td>analysis of legal translation samples for terminology acquisition. Methodologies for adding to</td>
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