

BUSINESS/OFFICE TECHNOLOGY

(See also courses in Computer Information Systems, Management, and Real Estate)

BUS. 100 SURVEY OF BUSINESS

Units 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: Introduction to American business practices in the global environment including such topics as economics, ethics, entrepreneurship, organizational development, management, customer/enterprise relations, information management, accounting, securities, and financial institutions. Transfer: CSU, UC.

BUS. 101 HUMAN RELATIONS IN BUSINESS

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: Broad overview of the basic psychological principles operating in family, social, and business relationships. Other topics examined are perception, self-image, self-management, prejudice, creativity, and resistance to change. Recommended for all business majors. (Qualifies as CEU credits for nurses.) Transfer: CSU.

BUS. 103 INTRODUCTION TO BUSINESS INFORMATION SYSTEMS

Units 3; Class Hours: Minimum of 48 lecture/32 lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: Overview of business computer systems including hardware, software, flow-charting, and programming in BASIC. Introductory units on the microcomputer and software packages (spreadsheets, word processing, database, and DOS commands) used in business are analyzed also. This course is designed to meet the requirements of the transfer business major. Transfer: CSU, UC.

BUS. 108 BUSINESS WRITING AND PRESENTATION METHODS

Units (Grade Option) 1-3; Class Hours: Minimum of 16-48 lecture/32 lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CBOT 430. Description: Overview of business writing principles used for letters, memorandums, and reports. Other topics include writing e-mail notes, designing business presentations, and using computer word processing and presentation software packages. Transfer: CSU.

BUS. 110 BUSINESS ARITHMETIC

Units (Grade Option) 1-3; Class Hours: Minimum of 16-48 lecture hours/semester; Basic Skills Level: Open Curriculum; Prerequisite(s): None. Description: Review of basic arithmetic skills—addition, subtraction, multiplication, division, fractions, and decimals. Problem-solving skills are developed in the use of basic arithmetic operations applied to business problems. Units do not apply toward AA/AS degree. Open entry/Open Exit. May be repeated for credit up to 3 units.

BUS. 115 BUSINESS MATHEMATICS

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 836, ENGL 836 or 400, and MATH 110 or 111; Prerequisite(s): BUS. 110. Description: This is an introductory course in business mathematics. Students perform calculations

and analysis involving taxes, discounts, negotiable instruments, periodic payments, compensation methods, inventory pricing, depreciation, and present value. Transfer: CSU.

BUS. 128 CORPORATE MEETING AND EVENT PLANNING

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: This course covers skills needed to plan, cost and manage corporate group meetings, conference and special events. The course includes: setting goals and objectives, setting meeting timelines, site selection, negotiating contracts, budgets and financial management, liability and risk management, developing a program that works, ordering food and beverage, selecting speakers and audio-visual needs. Transfer: CSU.

BUS. 132 STOCK AND BOND INVESTING

Units (Grade Option) 2; Class Hours: Minimum of 32 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: This course is an introduction to financial investing. Topics covered include goal setting, risk evaluation, asset allocation, the basics of investing in the stock and bond markets (both domestic and foreign), mutual funds, money managers, retirement plans, and how taxes impact investment decisions. Transfer: CSU.

BUS. 138 MORTGAGE LENDING

Units (Grade Option) 2; Class Hours: Minimum of 32 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: Overview of procedures and requirements used by financial institutions for mortgage lending. Topics covered include single-family home ownership, lending guidelines, deeds and titles, loan insurance, and refinancing. Transfer: CSU.

BUS. 149 INTRODUCTION TO BUSINESS TRAVEL MANAGEMENT

Units: 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: This course is an overview of business travel services. Topics include business travel behaviors, various travel products including domestic and international suppliers, business travel budgets, internal and external sales distribution channels, business and economics, and the political implications of dealing with vendors. Transfer: CSU.

BUS. 150 SMALL BUSINESS MANAGEMENT

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): BUS. 100 or previous business experience. Description: Introduces the methods used for starting and managing a small business. Analysis and comparison of opportunities and hazards of operating a small business. Transfer: CSU.

BUS. 170 SALESMANSHIP FUNDAMENTALS

Telecourse: Units 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: The role of advertising in our economic life, with emphasis on advertising methods and media. Transfer: CSU.

BUS. 180 MARKETING

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: Sales and marketing principles used by modern business, including evaluation and methodologies for implementation of these principles for promoting the sales of consumer goods and services. Strategies of sales and marketing procedures used to conduct multi-phased sales and marketing campaigns for large and small business are covered also. Transfer: CSU.

BUS. 184 MERCHANDISING

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: Overview of the structure of the retail industry. Other topics include fashion versus basic goods, nationally distributed products, products for exclusive distribution, and the wholesale marketplace. Transfer: CSU.

BUS. 186 RETAIL MANAGEMENT

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: Introduction to retail management including inventory performance and financial aspects of retail, planning, purchasing, and pricing retail inventories, reports used to evaluate sales and inventory performance, and fundamental store designs. Transfer: CSU.

BUS. 201 BUSINESS LAW (CAN BUS 12)

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: Introduction to the laws applicable to business institutions and their operation. Topics also covered are sources of law, agencies for enforcement and court procedures, California law applicable to contracts and agency relationships, crimes, and torts. Transfer: CSU, UC.

BUS. 211 ETHICS IN BUSINESS

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: Ethics in the business world including the social contract, the relationship between ethics and laws, corporations and social responsibilities, bribery, environmental issues, and cultural differences in business practice. Transfer: CSU.

BUS. 395 GETTING STARTED IN BUSINESS

Units (Grade Option) 1; Class Hours: Minimum of 16 lecture hour/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: Designed to assist in starting a new business or growing a current business faster, in evaluating a business idea, and in organizing a business by studying important business principles developed by international business consultants. Transfer: CSU.

BUS. 396 DEVELOPING A BUSINESS PLAN

Units (Grade Option) 1; Class Hours: Minimum of 16 lecture hour/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: Learn how to design, develop, and implement the most important tool for a successful business—the business plan. Transfer: CSU.

BUS. 397 DEVELOPING TOOLS TO CREATE A MARKETING PLAN

Units (Grade Option) 1; Class Hours: Minimum of 16 lecture hour/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: Learn about marketing and advertising tools, including the Internet, and get ready to start your own business; talk to entrepreneurs, identify your target customers and position your company for success. Transfer: CSU.

BUS. 398 SMALL BUSINESS RESOURCE LAB

Units (Credit/No Credit) 0.5-3.0; Class Hours: Minimum of 24-144 lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: Learn to start and operate a small business successfully from consulting sessions located at the Small Business Resource Center. Work at your own pace to evaluate your business idea, develop a business plan, marketing plan, financial plan, and much more. Open entry/Open Exit. May be repeated for credit up to 3 units. Transfer: CSU.

BUS. 399 SMALL BUSINESS DEVELOPMENT CENTER TRAINING

Units (Grade Option) 1-5; Class Hours: Minimum of 16 lecture hour/semester per unit; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: Describes the skills needed to become successful business owners. The following topics are covered also: 1) laws governing small businesses, 2) managing a business, 3) regulations and permits for a business, 4) selecting business site(s), and 5) using Quicken software to manage the finances of a business. May be repeated for credit up to 5 units.

BUS. 419 ON-SITE MANAGEMENT

Units: 1; Class Hours: Minimum of 16 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: Learn how to effectively manage the multiple priorities and needs of a group during a corporate meeting or incentive award program. Students learn how to set up registration, how to manage last-minute budget busting costs, skills for effective time management, crisis management, problem solving, and managing difficult attendees. Transfer: CSU.

CAREER AND PERSONAL DEVELOPMENT**CRER 112 CAREER ADVANTAGE**

Telecourse: Units (Credit/No Credit) 2; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: For those who are undecided about career goals or are changing their career direction. Stresses the significance of clearly defined values and the development of strategies and goals for life work. Transfer: CSU.

CRER 137 LIFE AND CAREER PLANNING

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: Personal and career inventories are evaluated. Career options are researched and job search techniques are developed. Course stresses the significance of clearly defined values and the development of strategies and goals for life. Transfer: CSU: E1.

CRER 140 PEER COUNSELING

Units (Grade Option) 1-3; Class Hours: Minimum of 16-48 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: An orientation and training course to develop personal counseling skills which emphasize the experiential process of interpersonal communication as well as the theoretical explanation of the counseling process and behavior. Selected topics involving interpersonal relationships give students an opportunity to explore and communicate feelings while learning principles of personal counseling. May be repeated for credit up to 3 units. Transfer: CSU.

CRER 300 INTRODUCTION TO SCHOLARSHIPS

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: Introduces students to scholarship and financial aid opportunities at the local, state, and national levels. Learn research techniques and utilize publications, software, internet sites, and community resources. Emphasis on development of a personal organizational system to manage the process of the scholarship search. Identify scholarships that meet personal criteria. Personal statements, interview techniques, resumes, organization and time management skills are also covered. Transfer: CSU.

CRER 401 COLLEGE SUCCESS

Units (Grade Option) 0.5-1; Class Hours: Minimum of 8-16 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: In-depth information regarding college policies, procedures, educational requirements and college programs/support services. This course also assists students in assessing time management, setting goals and decision-making skills. May be repeated for credit up to 1 unit. Transfer: CSU, UC.

CRER 410 COLLEGE AND CAREER AWARENESS

Units (Grade Option) 2; Class Hours: Minimum of 32 lecture hours/semester; Basic Skills Level: Open Curriculum; Prerequisite(s): None. Description: Although the course is intended for students in special programs and emphasizes their special needs, all students are welcome to participate. The course deals more thoroughly with topics from CRER 401. Units do not apply toward AA/AS degree.

CRER 430 CAREER ASSESSMENT

Units (Credit/No Credit) 0.5; Class Hours: Minimum of 24 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None; Description: Designed to help individuals define career alternatives. Vocational interest, skills, and values instruments are given and results interpreted. A minimum of 24 hours of "by arrangement" testing, research, and counseling are required. Transfer: CSU.

CRER 650 SPECIAL INTEREST DISCUSSION GROUPS

Units (Grade Option) 1; Class Hours: Minimum of 16 lecture hours/semester; Basic Skills Level: Open Curriculum; Prerequisite(s): None. Description: Any group of students with a common interest may meet under the leadership of a counselor to explore and evaluate personal values, goals, and expectations as they relate to this social and cultural environment. Units do not apply toward AA/AS degree.

CRER 815 ADAPTING TO THE STUDENT ROLE

Units (Grade Option) 1; Class Hours: Minimum of 16 lecture hours/semester; Basic Skills Level: Open Curriculum; Prerequisite(s): None. Description: This course is designed to assist students with becoming aware of and adapting to the role of a community college student. Developing skills associated with achieving success as a community college student is emphasized. This course is designed to meet the needs of students in the Stepping Stones program. Units do not apply toward AA/AS degree.

CRER 840 INTRODUCTION TO WORKABILITY III

Units (Grade Option) 0.5; Class Hours: Minimum of 8 lecture hours/semester; Basic Skills Level: Open Curriculum; Prerequisite(s): None. Description: Students are introduced to the range of services offered by the WorkAbility III program. Information is presented about vocational and disability issues common to the WorkAbility III students. Students participate in discussion groups, which provide them with the opportunity to give and receive support as they begin the program. Units do not apply toward AA/AS degree.

CRER 841 VOCATIONAL EVALUATION AND ASSESSMENT

Units (Grade Option) 1; Class Hours: Minimum of 48 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: This course offers career and interest testing to assist the student with disabilities to identify values, skills and interests in relation to career and job choices. Functional abilities, challenges, accommodations and transferable skills are also explored to facilitate success in reaching vocational objectives. Units do not apply toward AA/AS degree.

CRER 845 STEPS TO EMPLOYMENT

Units (Grade Option) 0.5-2; Class Hours: Minimum of 24-96 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: This course introduces the student to the steps in obtaining employment. Students learn how to develop a resume and cover letter, improve interview skills and utilize the internet in job searches. Other areas explored include time management, assertiveness skills and disability considerations. May be repeated for credit up to 2 units. Open Entry/Open Exit. Units do not apply toward AA/AS degree.

CRER 846 JOB RETENTION STRATEGIES

Units (Grade Option) 0.5-2; Class Hours: Minimum of 24-96 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. **Description:** This course provides support for the student in maintaining employment. Students learn time management skills and responsible behavior on and off the job, and how to communicate effectively and meet the challenges of interpersonal relationships in the workplace. Stress reduction and conflict resolution techniques are also offered. May be repeated for credit up to 2 units. Open Entry/Open Exit. Units do not apply toward AA/AS degree.

CHEMISTRY**CHEM 100 SURVEY OF CHEMISTRY**

Telecourse: Units 3; Class Hours: Minimum of 48 lecture hours/semester; Basic Skills Level: Open Curriculum; Prerequisite(s): MATH 111. **Description:** Chemistry, the study of matter, is a study of organization, chaos and wonder. This is a general survey course of the chemical concepts and phenomena you encounter everyday. (This course is designed for non-science majors and is not open to students who have had or are taking CHEM 210.) Transfer: CSU: B1, UC*. (IGETC: 5A)

CHEM 112 CHEMISTRY IN ACTION

Units 4; Class Hours: Minimum of 48 lecture/48 lab/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): MATH 110. **Description:** Introduces students to the theories, laws, concepts and language of chemistry as applied to explain chemical processes occurring in the environment and in the body. The laboratory component provides qualitative techniques for the manipulation of selected household chemicals as well as quantitative techniques for more rigorous chemical analyses. Transfer: CSU: B1, B3, UC*.

CHEM 192 ELEMENTARY CHEMISTRY

Units 4; Class Hours: Minimum of 48 lecture/48 lab/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): MATH 110 or satisfactory score on District math placement test and other measures as appropriate that indicate proficiency in Elementary Algebra. **Description:** Comprehensive introductory chemistry course covering basic concepts, theories and laws with emphasis on reasoning and problem solving skills. Topics include but are not limited to chemical nomenclature, stoichiometry, electron configuration, atomic orbitals, molecular geometry and bonding. The laboratory component of this course introduces students to both qualitative techniques and quantitative techniques appropriate for data collection, manipulation and analysis of a variety of chemical systems. Transfer: CSU, UC*.

CHEM 210 GENERAL CHEMISTRY I**(CAN CHEM 2) (CAN CHEM SEQ A = CHEM 210 + 220)**

Units 5; Class Hours: Minimum of 48 lecture/96 lab/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): MATH 120 or 123, or satisfactory score on District math placement test and other measures as appropriate that indicate proficiency in Intermediate Algebra. **Description:** This course is the first half of a two-semester sequence in general chemistry intended for students pursuing majors in physical sciences, biological sciences

and engineering. Discussion of fundamental concepts, principles and laws that describe the chemistry of solids, liquids, gases and solutions including atomic and molecular structures, bonding, molecular geometry, stoichiometry and thermochemistry with emphasis on critical thinking and problem solving skills. CHEM 192 is recommended. Transfer: CSU: B1, B3, UC*. (IGETC: 5A*)

CHEM 220 GENERAL CHEMISTRY II**(CAN CHEM 4) (CAN CHEM SEQ A = CHEM 210 + 220)**

Units 5; Class Hours: Minimum of 48 lecture/96 lab/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): CHEM 210 or equivalent. **Description:** This course is the second half of a two-semester sequence in general chemistry intended for students pursuing majors in physical sciences, biological sciences and engineering. Discussion of chemical kinetics, chemical equilibria, thermodynamics, electrochemistry, coordination chemistry, nuclear chemistry with emphasis on critical thinking and problem solving skills. Transfer: CSU, UC. (IGETC: 5A*)

CHEM 234 ORGANIC CHEMISTRY I

Units 3; Class Hours: Minimum of 48 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): CHEM 220 or equivalent. **Description:** Introduction to the chemistry of hydrocarbons with emphasis on structure and reactivity of alkanes, alkenes, alkynes, alkyl halides, alcohols and ethers. Mechanistic considerations, stereochemistry and spectroscopy are an integral part of the course. Recommended to be taken concurrently with CHEM 237. Transfer: CSU: B1, UC. (IGETC: 5A)

CHEM 235 ORGANIC CHEMISTRY II

Units 3; Class Hours: Minimum of 48 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): CHEM 234 and 237. **Description:** This course is a continuation of CHEM 234. It introduces the chemistry of aromatic compounds, aldehydes, ketones, carboxylic acids, carbohydrates, lipids, aminoacids and proteins with emphasis on synthesis and reaction mechanisms. Recommended to be taken concurrently with CHEM 238. Transfer: CSU: B1, UC. (IGETC: 5A)

CHEM 237 ORGANIC CHEMISTRY LABORATORY I

Units 2; Class Hours: Minimum of 96 lab hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): CHEM 234. **Description:** Organic chemistry laboratory designed to accompany CHEM 234. Introduction of the basic techniques of synthesis, separation and purification of organic compounds. Identification of main functional groups by spectroscopic techniques also introduced. Recommended to be taken concurrently with CHEM 234. Transfer: CSU: B1, B3, UC. (IGETC: 5A*)

CHEM 238 ORGANIC CHEMISTRY LABORATORY II

Units 2; Class Hours: Minimum of 96 lab hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): CHEM 235.

Description: Organic chemistry laboratory designed to accompany CHEM 235 by emphasizing techniques for the synthesis, isolation, purification and identification of organic compounds. Qualitative analysis of unknowns by preparation of derivatives and spectroscopic methods is an integral component of the course. Recommended to be taken concurrently with CHEM 235. Transfer: CSU: B1, B3, UC. (IGETC: 5A*)

CHEM 410 CHEMISTRY FOR HEALTH SCIENCES

Units 4; Class Hours: Minimum of 48 lecture/48 lab/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): MATH 110 or equivalent. **Description:** A survey of basic concepts in general, organic and biological chemistry relevant to the allied health science fields including nursing, radiological technology, respiratory therapy, etc. Transfer: CSU: B1, B3.

COMPUTER BUSINESS OFFICE TECHNOLOGY

(Previously listed under Business/Office Technology)

CBOT 415 BEGINNING COMPUTER KEYBOARDING

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture/32 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. **Description:** This course is an overview of correct keyboarding techniques using the alphabetic and numeric keys on the computer. Computer software is used to aid in developing a minimum speed of 25 words per minute. Instruction for using the 10-key calculator and/or the 10-key pad of the computer is included also. Transfer: CSU.

CBOT 417 SKILL BUILDING

Units (Credit/No Credit) 1.5-3; Class Hours: Minimum of 24 lecture/32 by arrangement lab hours/semester per 1.5 units; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CBOT 415. **Description:** This course provides individualized, self-paced instruction to improve accuracy and develop keyboarding (typing) speed. Diagnostic tests are given to assess skill levels. May be repeated for credit up to 3 units. Transfer: CSU.

CBOT 430 COMPUTER APPLICATIONS, PART I

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. **Description:** Introduction to the use of PCs including the basic features of Windows, word processing, and presentation graphics using Microsoft Office. CBOT 415 is recommended. Transfer: CSU, UC*.

CBOT 431 COMPUTER APPLICATIONS, PART II

Units (Grade Option) 1.5; Class Hours: 24 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. **Description:** Students learn the basic features of spreadsheets, database applications, and methods of integration using Microsoft Office. CBOT 430 is recommended. Transfer: CSU, UC*.

CBOT 435 SPREADSHEETS

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture/32 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. **Description:** Students plan and build worksheets using formulas and functions to solve business problems. The course covers charting, using multiple worksheets, solver, data tables, using and analyzing list data, using What-If Analysis, Pivot Tables, scenario management and macros, and managing workbooks. Integration with other Windows applications included. Transfer: CSU.

CBOT 436 DATABASE MANAGEMENT

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture/32 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. **Description:** The use of Microsoft Access to build databases, to establish data entry screens, and to produce business reports. Other topics include relational databases, macros, file operations, and database management. Transfer: CSU.

CBOT 439 MANAGING BUSINESS DOCUMENTS

Units 1.5; Class Hours: Minimum of 24 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CBOT 415. **Description:** Learn to create, format, and manage professional-looking business documents using a word processing program. Business documents include business letters, reports, tables, memorandums and electronic mail. Transfer: CSU.

CBOT 440 MACINTOSH APPLICATIONS, PART I

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. **Description:** Introduces new Macintosh users to the operating system and its basic features such as navigating the Dock, the Finder toolbar, and the folder structure. In addition, the course covers word processing, drawing and painting and the presentation modules. Transfer: CSU.

CBOT 441 MACINTOSH APPLICATIONS, PART II

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. **Description:** Introduces new Macintosh users to the database and spreadsheets modules. In addition, the course covers templates, clippings and assistants as well as using the internet, preferences, customization and macros. Transfer: CSU.

CBOT 448 USING MICROSOFT WINDOWS

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. **Description:** Students learn the Windows operating system features, work with programs and file management. The course includes how to manage files and folders, maintain the computer, manage hardware, and customize Windows. May be repeated once for credit. Transfer: CSU.

CBOT 457 PRESENTATION SOFTWARE: POWERPOINT

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture/32 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CBOT 430. Description: Intermediate features of PowerPoint including importing and exporting data, drawing, linking and embedding objects, using color, and creating and running multiple slide shows. Transfer: CSU.

CBOT 458 ADVANCED PRESENTATION SOFTWARE: POWERPOINT

Units 1.5; Class Hours: Minimum of 24 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: Learn the advanced features of PowerPoint, including manipulating PowerPoint objects, customizing templates and toolbars, advanced text manipulation, animation and slide show effects, creating charts and tables, flowcharts, organization charts, and diagrams. Transfer: CSU.

CBOT 470 ADVANCED SPREADSHEETS

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture/32 lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CBOT 435. Description: Overview of advanced business applications using software for creating spreadsheets with macros, graphs, databases, and database queries. Other topics include integrating spreadsheets into text, creating database reports, and integrating and printing graphs and databases as part of reports. Transfer: CSU.

CBOT 472 INTRODUCTION TO WORD FOR WINDOWS

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture/32 lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: This course covers the basic features of Word for Windows. The topics include creating, editing, printing, and formatting. Transfer: CSU.

CBOT 474 INTERMEDIATE WORD FOR WINDOWS

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture/32 lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CBOT 472. Description: Intermediate features of Word for Windows including labels, merging, macros, sorting, tables, columns, and desktop publishing features. Transfer: CSU.

CBOT 475 USING OUTLOOK

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CBOT 430. Description: Students learn Outlook, a personal information management program that helps prepare a wide range of organizational tasks within an office environment. Includes sending and receiving messages and managing the Inbox, scheduling appointments and meetings using the Calendar, creating and managing tasks and journal entries using Outlook with other Office applications and using Outlook with the Internet. Transfer: CSU.

CBOT 476 ADOBE ACROBAT

Units 1.5; Class Hours: Minimum of 24 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: Learn to create, convert, store, and transport documents from various software programs using Adobe Acrobat. The course covers Adobe Reader, security and password protec-

tion, consolidation of PDF files into one Adobe PDF file, application of final edits and modifications to enhance those files. Also, learn to create online documents and interactive forms. Working knowledge of using a computer and its operating system is recommended. Transfer: CSU.

CBOT 478 INTEGRATING MICROSOFT OFFICE

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CBOT 431 or equivalent. Description: Learn how to integrate and share data among Microsoft Word documents, Excel worksheets, Access databases, and PowerPoint presentations. Other topics include object linking and embedding, multi-tasking, task list, and creating compound documents. Transfer: CSU.

CBOT 480 USING THE INTERNET, PART I

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CBOT 448. Description: Students learn how the Internet works, Internet connection options available, utilization of Internet addresses, mastery of browsers available, and basic e-mail features. Transfer: CSU.

CBOT 482 USING THE INTERNET, PART II

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CBOT 480. Description: Continuation of CBOT 480. Students continue to learn how to assess and evaluate search tools, demonstrate competency in the use of Boolean operators and other advanced techniques. Characteristics of the hardware and software options are covered. Transfer: CSU.

CBOT 483 CREATING WEB PAGES: INTRODUCTION TO HTML

Units (Grade Option) 1; Class Hours: Minimum of 16 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CBOT 480. Description: Creating Web pages using HTML, hypertext markup language, structure, protocols, testing, editors, converters, HTML tags, colors, hex codes, style sheets, and printing are covered. This course teaches the user to create Web pages and develop a Web site. Transfer: CSU.

CBOT 484 CREATING WEB PAGES: 2 INTERMEDIATE HTML

Units (Grade Option) 1; Class Hours: Minimum of 16 lecture/32 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CBOT 483 or equivalent. Description: Learn to create extensive Web pages using intermediate HTML code, hypertext markup language. Tables are explored in depth including merging columns and rows, parameters, alignment of text and images, color, captions, headers; forms and frames, and exploration of design layout is covered also. Transfer: CSU.

COMPUTER INFORMATION SCIENCE

(See also Engineering)

CIS 118 INTRODUCTION TO OBJECT-ORIENTED PROGRAM DESIGN

Units: (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 420, ENGL 100, and MATH 110 or 111; Prerequisite(s): None; Co-requisite(s): CIS 119. Description: Introduction to object-oriented computer programming for computer science majors (CSO) and computer professionals. Topics include computer hardware and operating systems; problem-solving techniques; object-oriented program design; program coding, testing, and implementation; and documentation issues and techniques. Students explore algorithm development, data types, flow of control, classes, objects, methods, vectors, and event-driven programming. May be repeated once for credit. Transfer: CSU, UC.

CIS 119 OPEN COMPUTER LAB I

Units: (Credit/No Credit) 1; Class Hours: Minimum of 48 lab hours/semester; Recommended: Eligibility for READ 420, ENGL 100, and MATH 110 or 111; Prerequisite(s): None; Corequisite(s): Concurrent enrollment in CIS 118. Description: Use of microcomputers to complete lab assignments for CIS 118. May be repeated once for credit. Transfer: CSU, UC.

CIS 250 PROGRAMMING METHODS I: C++

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 420, ENGL 100, and MATH 120 or 122; Prerequisite(s): COMP 103 or equivalent; Corequisite(s): Concurrent enrollment in CIS 251. Description: Introduction to computer science and software engineering for majors (CS1) and computer professionals. A systematic approach to the design, implementation, and management of robust C++ computer programs. Course emphasizes object-oriented design, programming documentation, testing and debugging techniques, and computer ethics. This course conforms to the ACM CS1 standards. Transfer: CSU, UC.

CIS 251 OPEN COMPUTER LAB I: C++

Units (Credit/No Credit) 1; Class Hours: Minimum of 48 lab hours/semester; Recommended: Eligibility for READ 420, ENGL 100, and MATH 120 or 122; Prerequisite(s): None; Corequisite(s): Concurrent enrollment in CIS 250. Description: Use of microcomputers to complete lab assignments for CIS 250. Transfer: CSU, UC.

CIS 252 PROGRAMMING METHODS II: C++

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 420, ENGL 100, and MATH 120 or 122; Prerequisite(s): CIS 250/251 or equivalent; Corequisite(s): Concurrent enrollment in CIS 253. Description: This course uses Object-Oriented techniques and the C++ programming language to illustrate a variety of data structures including: arrays, stacks, queues, linked lists, trees, dictionaries, sets and graphs. Also covered are sorting and searching topics, including Big O notation and hash tables. This course conforms to the ACM CS2 standards. Transfer: CSU, UC.

CIS 253 OPEN COMPUTER LAB II: C++

Units (Credit/No Credit) 1; Class Hours: Minimum of 48 lab hours/semester; Recommended: Eligibility for READ 420, ENGL 100, and MATH 120 or 122; Prerequisite(s): CIS 250/251; Corequisite(s): Concurrent enrollment in CIS 252. Description: Use of microcomputers to complete lab assignments for CIS 252. Transfer: CSU, UC.

CIS 284 PROGRAMMING METHODS I: JAVA

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): CIS 118/119 or equivalent, and MATH 120 or equivalent; Corequisite(s): Concurrent enrollment in CIS 285. Description: Introduction to computer science and software engineering for computer science majors (CS1) and computer professionals. A systematic approach to the design, construction, and management of computer programs, emphasizing object-oriented design and programming documentation, testing and debugging techniques. Focuses on designing and implementing robust, well styled, and maintainable computer programs. Course also includes introduction to basic data structures and computer ethics. This course conforms to the ACM CS1 standards. Transfer: CSU, UC.

CIS 285 OPEN COMPUTER LAB I: JAVA

Units (Credit/No Credit) 1; Class Hours: Minimum of 48 lab hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): CIS 118/119 or equivalent, and MATH 120 or equivalent; Corequisite(s): Concurrent enrollment in CIS 284. Description: Use of microcomputers to complete lab assignments for CIS 284. Transfer: CSU, UC.

CIS 286 PROGRAMMING METHODS II: JAVA

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): CIS 284/285 or equivalent; Corequisite(s): Concurrent enrollment in CIS 287. Description: Data Structures class for computer science majors (CS2) and computer professionals. This course uses Object-Oriented techniques to illustrate a variety of data structures including: vectors, stacks, queues, linked lists, trees, dictionaries, maps, sets and graphs. Also covered are sorting and searching topics, including Big O notation and hash tables. This course conforms to the ACM CS2 standards. Transfer: CSU, UC.

CIS 287 OPEN COMPUTER LAB II: JAVA

Units (Credit/No Credit) 1; Class Hours: Minimum of 48 lab hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): CIS 118/119 or equivalent, and MATH 120 or equivalent; Corequisite(s): Concurrent enrollment in CIS 286. Description: Use of microcomputers to complete lab assignments for CIS 286. Transfer: CSU, UC.

CIS 290 COMPUTER ARCHITECTURE

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): MATH 120 or equivalent, and knowledge of a computer programming language. Corequisite(s): Concurrent enrollment in CIS 291. Description: Examines computer architecture, design and organization. Includes number systems, data representation, input/output, interrupts and exception handling, paging, memory management, performance, and other relevant issues. Lab assignments and exercises are completed in Assembly language. Transfer: CSU, UC.

CIS 291 OPEN COMPUTER LAB II

Units (Credit/No Credit) 1; Class Hours: Minimum of 48 lab hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): MATH 120 or equivalent, and knowledge of a computer programming language; Corequisite(s): Concurrent enrollment in CIS 290. Description: Use of microcomputers to complete lab assignments for CIS 290. Transfer: CSU, UC.

CIS 372 OBJECT-ORIENTED SOFTWARE DEVELOPMENT: ADVANCED TOPICS

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): CIS 252/253 or 286/287. Corequisite(s): Concurrent enrollment in CIS 373. Description: Introduction to high level object-oriented software development for computer science majors and computer professionals. Includes conceptualization, analysis, design, implementation, testing and maintenance of software, using the Unified Modeling Language (UML). Students use the above tools to build a project involving the development of a software application in cooperative groups. Transfer: CSU, UC.

CIS 373 OPEN COMPUTER LAB

Units (Credit/No Credit) 1; Class Hours: Minimum of 48 lab hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): CIS 252/253 or 286/287. Corequisite(s): Concurrent enrollment in CIS 372. Description: Use of microcomputers to complete lab assignments for CIS 372. Transfer: CSU, UC.

COMPUTER INFORMATION SYSTEMS

(See also Business, Computer Business Office Technology, Computer Information Technology, and Multimedia)

COMP 235 VISUAL BASIC PROGRAMMING

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): CIS 250/251 or 252/253 or COMP 103 or 162; Corequisite(s): Concurrent enrollment in COMP 699. **Description:** Visual Basic (VB), an object-based language suited to programming with Microsoft Windows, is useful for stand-alone applications, quick prototyping of new applications, and building graphical "front ends" for programs written in other languages. Class time focuses on unique features of Visual Basic: object-based programming, event loops, forms, components, properties and methods; programs incorporate buttons, text boxes, pictures, dialog boxes, menus, scroll bars, disk access, etc. Familiarity with Microsoft Windows and DOS is desirable. Transfer: CSU, UC.

COMP 236 JAVA PROGRAMMING LANGUAGE

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): CIS 250/251 or 252/253 or COMP 235; Corequisite(s): Concurrent enrollment in COMP 699. **Description:** Java can make powerful cross-platform GUI-based applications without modification or recompilation. The course discusses Java's expressions and data structures, objects and classes, inheritance, graphics, programming, applets, exceptions, I/O, multi-threading and networking. By completion of the course students should be able

to write Java applets or stand-alone applications using all basic and many advanced features of the language. Transfer: CSU, UC.

COMP 321 JAVASCRIPT I

Units (Grade Option) 1; Class Hours: Minimum of 16 lecture/8 lab hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): CBOT 483 or familiarity with HTML; access to the Internet. **Corequisite(s):** Concurrent enrollment in COMP 699. Description: Introduction to JavaScript Language. JavaScript is a cross-platform object-oriented scripting language developed by Netscape to be used in HTML (Hypertext Markup Language) documents to provide high levels of interactivity without needing server-based CGI (Common Gateway Interface) programs. Transfer: CSU.

COMP 322 JAVASCRIPT II

Units (Grade Option) 1; Class Hours: Minimum of 16 lecture/8 lab hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): COMP 321; access to the Internet. **Corequisite(s):** Concurrent enrollment in COMP 699. **Description:** Continuation of COMP 321. Topics include creating windows, saving data to cookies, and Java applets. Transfer: CSU.

COMP 330 INTRODUCTION TO PERL

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture/8 by arrangement lab hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): CIS 250/251 or 284/285 or COMP 235 or 236 or CIT 311. **Description:** Perl is a fundamental building block for interactive Web pages and an important programming language in the Biotech industry. Perl is examined as a general purpose programming language, and this course focuses on Perl's unique data types, flow of control, pattern matching and the application of these specialized features to real problems. Students write stand alone Perl programs and Web CGI scripts that take full advantage of all the basic features of the language. Transfer: CSU, UC*.

COMP 331 INTERMEDIATE PERL

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture/8 by arrangement lab hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): COMP 330. **Description:** Continuation of COMP 330. Perl is a fundamental building block for interactive Web pages and an important programming language in the Biotech industry. This course builds on Introduction to Perl focusing on Perl's idioms, reference-based compound data structures, and object-oriented programming. It is the basis for advanced Perl library modules including the CGI module for interacting with the WWW pages. Students write sophisticated object-oriented Perl programs and implement basic library modules. Transfer: CSU, UC*.

COMP 350 INTRODUCTION TO DATABASES AND SQL

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): CIS 250/251 or 252/253 or COMP 235 or 236 or equivalent knowledge of C, C++, Visual Basic or Java programming languages. Description: Detailed introduction to structured query language (SQL) intended for application programmers and end users of relational databases. Includes creating tables and views, using outer joins, finding information from the catalog, using subqueries, and validating data using referential integrity. Course includes PL/SQL as extensions of SQL and the use of Oracle 7/8 as a server-based information processing tool. Transfer: CSU.

COMP 351 INTRODUCTION TO PL/SQL

Units 1.5; Class Hours: Minimum of 24 lecture hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): COMP 350. Description: PL/SQL is a procedural language developed by Oracle. This course provides an introduction to the basic syntax of PL/SQL through lectures, demonstrations, and hands-on exercises. Students learn PL/SQL syntax, stored procedures, Oracle-supplied procedures, functions, triggers, and packages. Transfer: CSU.

COMP 422 BEGINNING INTERNET

Units (Credit/No Credit) 0.5; Class Hours: Minimum of 32 lecture/16 lab hours/semester; (Total of 4 weeks); Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. Description: This course introduces science and engineering students to the worldwide computer network, Internet. The Internet provides exciting access to a wide range of resources such as electronic mail, information servers of all types as well as international sites, and government resources. Through hands-on experience students learn the basic equipment and software requirements and develop an understanding of the Internet and how it can best be used. Topics include navigation through the World Wide Web, E-mail, and Netscape Navigator. Transfer: CSU.

COMPUTER INFORMATION TECHNOLOGY

(Previously listed under Business or Computer Information Science and/or Systems)

CIT 311 INTRODUCTION TO THE UNIX OPERATING SYSTEM

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 420, ENGL 100, and MATH 120 or 122; Prerequisite(s): BUS. 103 or COMP 103 or CIS 118. Description: This course introduces the UNIX operating system including the UNIX system architecture, file system, UNIX shell, job control, and an introduction to shell scripts. Transfer: CSU, UC.

CIT 340 INTRODUCTION TO UNIX SYSTEMS ADMINISTRATION

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 420 and ENGL 100; Prerequisite(s): Completion of or concurrent enrollment in CIT 311 or equivalent knowledge. Description: Introduction to UNIX system administration functions including managing user accounts, maintaining file systems, backing up, restoring and managing a UNIX system. Transfer: CSU.

CIT 411 INTERMEDIATE UNIX

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 420, ENGL 100, and MATH 120 or 122; Prerequisite(s): CIT 311. Description: Continuation of CIT 311. Topics include features of UNIX shells, job control, and uses of UNIX utilities. Transfer: CSU, UC.

CIT 422 HELP DESK

Unit 1.5; Class Hours: Minimum of 24 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CBOT 430. Description: Introduces students to the functions of Help Desk in the technical support setting. The Help Desk roles and responsibilities, processes and procedures, tools and technologies, and performance measures are explored in detail. In addition the course emphasizes the combination of technical, business, and personal skills important to Help Desk personnel. Transfer: CSU.

CIT 450 PC MAINTENANCE AND SYSTEM UPGRADES, PART I

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture/32 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CBOT 415. Description: Introduction to problem-solving skills for computers. Topics covered include a review of hardware, software error codes, replacement of boards, optimization of a hard disk, caring for floppy disk drives, hardware versus software problems, troubleshooting, and analysis of problems associated with printers and software. Transfer: CSU.

CIT 451 PC MAINTENANCE AND SYSTEM UPGRADES, PART II

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture/32 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CIT 450. Description: Continuation of CIT 450. Students learn the use of advanced software utilities and testing equipment to perform software/hardware analysis and troubleshooting. Hands-on installation of operating systems, installation of software, and performing system backups is performed. Transfer: CSU.

CIT 453 TROUBLESHOOTING SYSTEMS

Units: 1.5; Class Hours: Minimum of 24 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CIT 450 and CBOT 480. Description: The course introduces techniques and resources used to identify, analyze and rectify various hardware, software, connection, and user problems. Using text references, computer, and Internet resources, students learn to apply standard problem-solving procedures relating to personal computer malfunctions. Transfer: CSU.

CIT 464 ADVANCED WINDOWS OPERATING SYSTEM

Units 1.5; Class Hours: Minimum of 24 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CBOT 448 or equivalent. Description: This course covers all utilities and maintenance utilities that are included with Windows. Also included are installing, upgrading, reinstallation, and troubleshooting Windows. Transfer: CSU.

CIT 467 INTERNET/NETWORK SECURITY

Units 3; Class Hours: Minimum of 48 lecture/32 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. **Description:** Provides a fundamental understanding of network security principles and implementation. Students receive an in-depth overview of all the current risks and threats to an organization's data, along with a structured way to addressing and safeguarding these electronic assets. A thorough understanding of computer systems and computer networks is highly recommended before taking this course. Transfer: CSU.

CIT 480 PERSONAL UNIX SYSTEMS

Units (Credit/No Credit) 0.5; Class Hours: Minimum of 8 lecture hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. **Description:** Learn how to install Linux, a UNIX clone, on your home computer system. Topics include hardware issues and where to get your own copy on the Internet. Transfer: CSU.

CIT 492 NETWORKING ESSENTIALS

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture/32 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): None. **Description:** Introduces the basics of Local Area Networks to include terminology, network components and their functions, network planning, monitoring, and management of networks with relationships to Microsoft Operating Systems. Transfer: CSU.

CIT 493 INTERNETWORKING USING TCP/IP

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture/32 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CIT 492. **Description:** Students learn the capabilities of TCP/IP using Windows including installation and utilities such as PING, TELNET, NSLOOKUP, ARP, TRACERT, etc. Additional topics include addressing, subnetting, bridging, routing, domains, OSI Model, and thorough coverage of TCP/IP architecture and implementation. This course prepares students for the Microsoft Certification examination. Transfer: CSU.

CIT 494 SUPPORTING WINDOWS XP PROFESSIONAL

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture/32 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CBOT 448, and CIT 450 and 492. **Description:** Prepares students to install, configure and administer Windows XP Professional in workgroup and domain environments. Topics include installation methods, protocol configuration, user and group management, file, share, and logon security, printing, hardware and software installations, troubleshooting and related Windows XP topics. Transfer: CSU.

CIT 496 WINDOWS 2000 ACTIVE DIRECTORY

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture/32 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CIT 498. **Description:** Techniques of planning, executing, troubleshooting, and setup of the Windows 2000 Active Directory. Additional topics include: overcoming challenges such as administration, set up user and group accounts, and security. Transfer: CSU.

CIT 497 WINDOWS 2000 PROFESSIONAL

Units (Grade Option) 1.5; Class Hours: Minimum of 24 lecture/16 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CBOT 448 and CIT 492. **Description:** Install, configure and administer Windows 2000 Professional in workgroup and Domain networks. Topics include installation methods; protocol configuration; user and group management; file, share, and logon security; printing; hardware and software installations; troubleshooting and related Windows 2000 topics. Preparation for Microsoft 70-210 examination. Transfer: CSU.

CIT 498 WINDOWS 2000 SERVER

Units (Grade Option) 3; Class Hours: Minimum of 48 lecture/32 by arrangement lab hours/semester; Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): CIT 497. **Description:** Implement, configure and support a Windows 2000 server as domain controller in a Microsoft enterprise network environment. Topics include network protocols; domain user and group management; share, NTFS and logon security; introduction to Active Directory Service; printing; server performance optimization and troubleshooting. Prepares student for the Microsoft certification. Transfer: CSU.

COOPERATIVE EDUCATION

(See courses under specific subjects in the schedule of classes)

670 COOPERATIVE EDUCATION/WORK EXPERIENCE

Units (Grade Option) 1-16 (No more than 4 per semester); Class Hours: 1-3 lecture hours/semester (75 to 300 paid job hours/ semester, 60-240 volunteer job hours/semester.); Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): Spring and Fall Semesters: Enrollment in 7 units, including Cooperative Education/Work Experience and a job or volunteer work site. Summer Session: Enrollment in 0.5 unit, plus Cooperative Education/Work Experience and a job or volunteer work site. **Description:** College credit may be earned by students who are employed or on volunteer assignments. The job/volunteer assignment must be related to the student's major or occupational goals. Students learn to set measurable objectives for improving their skills and job performance. May be repeated for credit up to 16 units. Course orientations are held the first three weeks of the semester and attendance at one is obligatory. Transfer: CSU.

672 COOPERATIVE EDUCATION: INTERNSHIP

Units (Grade Option) 1-16 (No more than 3 per semester); Class Hours: 1-3 lecture hours/semester (60 to 240 volunteer on the job hours/semester); Recommended: Eligibility for READ 836, and ENGL 836 or 400; Prerequisite(s): Enrollment in 7 units, including Cooperative Education and a minimum of 12 completed units in the occupational discipline. **Description:** Students may enroll in a volunteer, cooperative internship to apply skills learned from classroom instruction at a supervised work site. The internship must be supervised by a job supervisor and an instructor from the chosen occupational discipline. May be repeated for credit up to 16 units. Transfer: CSU.