

Chemistry



CHEM 1A General Chemistry 5 Units

(See general education pages for the requirement this course meets.)
Prerequisites: High School Chemistry and satisfactory score on the Chemistry Placement Test (or Chemistry 50); Mathematics 114 or equivalent.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Three hours lecture, six hours laboratory.

An introduction to the structure and reactivity of matter at the molecular level. Application of critical reasoning to modern chemical theory and structured numerical problem solving. Development of molecular structure from rudimentary quantum mechanics, including an introduction to ionic and covalent bonding. Chemical problem solving involving both formula and reaction stoichiometry employing the unit analysis method. Application of Kinetic Molecular Theory to the study of classical gas laws and an introduction to thermochemistry.

CHEM 1B General Chemistry 5 Units

Prerequisite: Chemistry 1A with a grade of C or better.
Three hours lecture, six hours laboratory.

Continuation of an introduction to the principles of chemistry. Investigation of reversible reactions from the standpoints of kinetics, thermodynamics, and equilibrium. Application of equilibrium to the reactions of acids and bases.

CHEM 1C General Chemistry and Qualitative Analysis 5 Units

Prerequisite: Chemistry 1B with a grade of C or better.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Three hours lecture, six hours laboratory.

Introduction to electrochemistry, the chemistry of transition metals, and the chemistry of organic compounds. Identification of ions using qualitative analysis methods.

CHEM 10 Introductory Chemistry 5 Units

(See general education pages for the requirement this course meets.)
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent.
Four hours lecture, three hours laboratory.

An introduction to the discipline of chemistry; chemical laboratory techniques and methods and a survey of important chemical principles. The course emphasizes chemistry as a subject of scientific inquiry and is designed to give the student a general appreciation for chemistry as a science.

CHEM 12A Organic Chemistry 5 Units

Prerequisite: Chemistry 1C with a grade of C or better.
Advisory: English Writing 1A or English as a Second Language 5.
Three hours lecture, six hours laboratory.

An introduction to the physical properties and chemical behavior of important classes of organic compounds, focusing on hydrocarbons and haloalkanes. Emphasis on retrosynthesis, spectroscopic structure determination, and reaction mechanism. Laboratory experiments involving the synthesis of simple compounds and the characterization of those compounds using gas chromatography (GC) and infrared (IR) and nuclear magnetic resonance (NMR) spectroscopy. For chemistry majors or those in closely allied fields such as biochemistry and chemical engineering.

CHEM 12B Organic Chemistry 5 Units

Prerequisite: Chemistry 12A with a grade of C or better.
Advisory: English Writing 1A or English as a Second Language 5.
Three hours lecture, six hours laboratory.

An exploration of the physical properties and chemical behavior of important classes of organic compounds, focusing on: polyenes; aromatic compounds; alcohols, thiols, and ethers; and aldehydes and ketones and their derivatives. Emphasis on retrosynthesis, spectroscopic structure determination, and reaction mechanism. Laboratory experiments involving the synthesis of simple compounds and the characterization of those compounds using chromatography and infrared (IR), ultraviolet-visible (UV-Vis) and nuclear magnetic resonance (NMR) spectroscopy. For chemistry majors or those in closely-allied fields such as biochemistry and chemical engineering.

CHEM 12C Organic Chemistry 5 Units

Prerequisite: Chemistry 12B with a grade of C or better.
Advisory: English Writing 1A or English as a Second Language 5.
Three hours lecture, six hours laboratory.

An exploration of the physical properties and chemical behavior of important classes of organic compounds, focusing on amines, carboxylic acids, and carboxylic acid derivatives, with an introduction to the chemistry of terpenes, lipids, carbohydrates, and proteins. Emphasis on retrosynthesis, spectroscopic structure determination, and reaction mechanism. Laboratory experiments involving the multi-step synthesis of organic compounds and characterize those compounds using chromatography and infrared (IR), ultraviolet-visible (UV-Vis) and nuclear magnetic resonance (NMR) spectroscopy. For chemistry majors or those in closely allied fields such as biochemistry and chemical engineering.

CHEM 30A Survey of Chemistry 5 Units

Prerequisite: Mathematics 212 or equivalent.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Four hours lecture, three hours laboratory.

An introduction to fundamental topics in general and in organic chemistry as preparation for the biological and health sciences.

CHEM 30B Survey of Chemistry 5 Units

Prerequisite: Chemistry 30A.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Four hours lecture, three hours laboratory.

An introduction to fundamental topics in general and in organic chemistry as preparation for the biological and health sciences.

CHEM 50 Preparatory Course for General Chemistry 5 Units

Prerequisite: Mathematics 114 or equivalent, or high school equivalent.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Four hours lecture, three hours laboratory.

An introduction to core theory and problem-solving techniques of chemistry as preparation for Chemistry 1A. An introduction to gravimetric and volumetric analysis, rudimentary laboratory equipment and operations, and the preparation and maintenance of a laboratory notebook.

CHEM 77 Special Projects in Chemistry 1 Unit

CHEM 77X 2 Units

CHEM 77Y 3 Units

(Formerly Chemistry 40, 40X and 40Y respectively.)

Prerequisite: Consent of instructor and division dean.

Three hours laboratory for each unit of credit.

(Any combination of Chemistry 77, 77X and 77Y may be taken up to six times, not to exceed 18 units, as long as the projects are different each time.)

Pass-No Pass (P-NP) course.

Individual special reading, writing, or study projects in Chemistry as determined in consultation with the instructor.

Child Development

C D 10G Child Development (The Early Years) 4 Units

(See general education pages for the requirement this course meets.)
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

(Also listed as Psychology 10G. Student may enroll in either department, but not both, for credit.)

Three hours lecture, three hours laboratory.

Critical examination of human growth and development from conception to middle childhood with particular attention given to current theoretical and research perspectives within a diverse society. Observational study of children with analysis of factors influencing development including conditions that put children at risk.

C D 10H Child Development (Middle Childhood and Adolescence) 4 Units

(See general education pages for the requirement this course meets.)
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

(Also listed as Psychology 10H. Student may enroll in either department, but not both, for credit.)

Three hours lecture, three hours laboratory.

Critical examination of human growth and development from school age through adolescence with particular attention given to current theoretical and research perspectives within a diverse society.

C D 12 Child, Family and Community Interrelationships 4 Units

(See general education pages for the requirement this course meets.)
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Four hours lecture.

An introduction to the study of the developing person in a societal context including the interrelationship of family, schools and community.

(Applicable standards to this course: NAEYC Standards; Standard 2 Building Family and Community Relationship; NBPTS Early Childhood Generalist Standards; Standard 2 Equity, Fairness and Diversity; Standard 7 Family, Community Partnerships; Standard 9 Reflective Practice; CEC/DEC Standards; Standard 9 Professional and Ethical Practice; Standard 10 Collaboration)

C D 50 Principles and Practices of Teaching Young Children 3 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Three hours lecture.

The underlying theoretical principles of developmentally appropriate practices applied to programs, environments, and teaching strategies.

(Applicable standards for this course: NAEYC Standard 4 Teaching and Learning; 4a Connecting with children and families; 4b Using developmentally effective approaches; Standard 5 Becoming a Professional 5a-5e; NBPTS Standard IV promoting Child Development and Learning; Standard IX Reflective Practice; CEC/DEC Standard 3 Individual learning differences; Standard 5 Learning environments and social interactions; Standard 9 Professional and ethical practice)

C D 51 Student Teaching Practicum 5 Units

Prerequisite: Child Development 10G and a minimum of two other curriculum courses in Child Development.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Ten hours lecture-laboratory.

(May be taken up to three times for credit.)

Laboratory experience with guided supervision working with children from infancy through the school age years. Emphasis will be on making connections between theory and practice, using observation and interactions to understand children's development, implementing developmentally appropriate, child centered approaches to teaching and learning and developing professional behaviors and attitudes.

(This course meets the NAEYC Standards 1, 2, 3, 4, and 5; and NBPTS Standards 1 through 9.)

C D 52 Observation and Assessment of the Young Child 3 Units

Prerequisite: Child Development 10G and 50. Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Three hours lecture.

Observation strategies and formal assessment methodologies used to understand children's development, age-appropriate curriculum and the classroom setting. (This course meets NAEYC Standards 3a-3d; NBPTS Standards 3 and 4; and DEC Standard 8 Assessment.)

C D 53 Creative Art for the Young Child 3 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Three hours lecture.

Overview of creative activities for children from infancy through the school years including the uses of art materials, planning activities and structuring experiences. Emphasis is on developmentally appropriate curriculum that enhances children's imagination, creative thinking, and self-expression.

C D 54 Curriculum for Early Childhood Programs 3 Units

Prerequisite: Child Development 10G (may be taken concurrently).

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Three hours lecture.

Curriculum development with emphasis on planning curriculum which is emergent, developmentally and individually appropriate and inclusive.

C D 55 Literacy Development and Activities for the Young Child 3 Units

Advisory: Child Development 10G and/or Child Development 50.

Three hours lecture.

Theories of language acquisition and the process of language development in monolingual and young English language learners. Introduction to methods and materials that enhance emerging language and literacy for infants through school-age children in a culturally diverse society.

(This course meets NAEYC Standards 1a,1b,1c; 3a,3b,3c; 4b,4c,4d.)

C D 56 Understanding and Working with English Language Learners 3 Units

(Also listed as Education 56. Student may enroll in either department, but not both, for credit.)

Three hours lecture.

Developmental and cultural examination of the bilingual child in early childhood programs. Theories and developmental sequence of bilingual language acquisition. Role of teacher and methods for supporting the bilingual child.

C D 57 Self-Assessment for Teachers of Young Children: Field Experience 3 Units

Prerequisite: Child Development 10G.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Two hours lecture, three hours laboratory.

Use of self-assessment techniques for individualized teacher preparation with emphasis on understanding the development of the child, teaching, guidance techniques, and assessment of personal effectiveness in the classroom. Student will use field placement to practice and develop skills.

C D 58 Infant/Toddler Development 4 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Four hours lecture.

Development of physical, cognitive, social and emotional development from infancy to age three with emphasis on cultural diversity and family partnerships. Program planning based on observation of individual infants and communication with parents. Evaluation of assessment tools and methods for infants and toddlers, including administration, and interpretation. Development of needs and service plans for individual infants.

(This course meets NAEYC Program Standards 1-5; NBPTS Standards 4 and 5; DEC Standard 5 Family Based Practices.)

C D 59G Supervision and Administration of Child Development Programs (Management Systems) 4 Units

Prerequisite: A minimum of 12 units of Child Development coursework, which includes Child Development 10G.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Four hours lecture.

A study of the development of management systems for the supervision and administration of various kinds of early childhood programs in the context of a diverse society. Emphasis is on program planning, organizational structure, program operation, program evaluation, budgeting, and personnel management.

C D 59H Supervision and Administration of Child Development Programs (Leadership Skills) 4 Units

Prerequisite: A minimum of 12 units of Child Development course work, which includes Child Development 10G.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Four hours lecture.

A study of the methods and principles of leadership as they apply to administration of programs in early childhood settings. Emphasis is on personnel management, leadership styles and skills, interpersonal communication and an awareness of the sociopolitical context of early childhood programs.

C D 60 Exceptional Children 3 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Three hours lecture.

Characteristics and causes of exceptionality and the inclusion of children with disabilities in childhood settings (infant - adolescence), includes discussion of developmental disabilities, family, and community involvement. Implementation of State and Federal law, as well as the examination of attitudes and feelings about exceptionality.

(This course meets NAEYC Standards 1a,2a,2c,3a; CEC/DEC Standards CC2-K1-7,CC3-K1,CC5-K4,CC8-K1-5; and NBPTS Standards 2,3,8.)

C D 61 Music and Movement (Developmental Foundations) 3 Units

(See general education pages for the requirement this course meets.)

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Three hours lecture.

A developmental introduction to music and movement experiences. Students will have opportunities to engage in and to reflect on how music and movement fosters healthy development in children and adults. Students will also have opportunities to see how music and movement defines and is linked to cultural experience and to who we are as individuals.

C D 63 Math and Science Activities for the Young Child 3 Units

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.

Three hours lecture.

Design and assess developmentally appropriate activities and environments that foster curiosity and problem solving in young children. Emphasis on constructivist theories of cognitive development as a foundation for planning and implementing math and science curriculum for each child.

(This course meets NAEYC Standards 1a,1b,1c, 4b, 4c, 5a, 5b, 5c; NBPTS Standards I-VI; CED/DEC Standards CC4-S2, EC4-S1, CC7-K1, CC7-S1, CC7-S10, CC7-S11, CC7-S13, EC7-S4.)

C D 64 Health, Safety, and Nutrition for the Young Child 3 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Three hours lecture.
 Health, safety, and nutritional practices needed for the protection and improvement of the health of preschool children. Includes infant, child, and adult first aid. CPR can be taken in the community through the Red Cross, American Heart Association or at De Anza College (Health 57E).
 (This course meets the California State requirements for health, safety, and nutrition.)

C D 65 Programs for School-Age Child Care 3 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Three hours lecture.
 Before and after school programs for children in kindergarten through sixth grade with emphasis on developmental characteristics, program philosophy, licensing requirements, program content, and criteria for evaluation.

C D 66 Montessori Methods and Materials 3 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Child Development 50.
 Three hours lecture.
 Philosophical foundations and the environmental components of the Montessori Method in early childhood education.

C D 67 Supervision and Administration of Child Development Programs (Adult Supervision) 3 Units

Prerequisite: A minimum of 12 units of Child Development coursework.
Advisory: Child Development 10G.
 Three hours lecture.
 A study of the methods and principles of supervising student teachers, assistant teachers, parents, and volunteers in early childhood classroom. Emphasis is on the role of teachers supervising other adults while simultaneously addressing the classroom needs of children, parents and the program.

C D 68 Teaching in a Diverse Society 3 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Three hours lecture.
 Examination of the development of social identities in diverse societies including theoretical and practical implications of oppression and privilege as they apply to young children, families, programs, classrooms and teaching. Various classroom strategies will be explored emphasizing culturally and linguistically appropriate anti-bias approaches supporting all children in becoming competent members of a diverse society.
 (This course meets NAEYC Standards 1a, 1b, 1c, 2a, 2b, 2c, 4a, 4b, 5b, 5c; NBPTS Standards II, VII; CEC/DEC Standards CC2-K3, CC2-K4, EC2-K4, CC3-K3, CC3-K4, CC5-K9, CC5-K10, CC6-K1, CC6-K2, CC6-K3, CC9-K1, CC9-S6, CC10-S3)

C D 69 Early Childhood Education Principles and Practices (Cross-Cultural Emphasis) 3 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 (Also listed as Anthropology 69. Student may enroll in either department, but not both, for credit.)
 Three hours lecture.
 Underlying principles of early education, infancy through middle childhood. National, state, and local practices will be examined in contrast to options presented through ethnographic data from a selection of diverse cultures.

C D 70 Seminar in Parenting the Preschool Child 1 Unit

One hour lecture.
 (May be taken up to six times for credit as long as the topics are different each time.)
 Pass-No Pass (P-NP) course.
 A seminar for parents of young children ages two-six years old. Selected topics such as understanding developmental stages, child guidance and discipline, effective parenting skills.

C D 71 Constructive Guidance and Positive Discipline in Early Childhood 3 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Three hours lecture.
 Explores the principals and techniques that promote high self-esteem and positive behaviors in young children.
 (This course meets NAEYC Standards 1a,1c, 2b, 4a, 4b; DEC/CEC Standards CC3-K3, EC3-S1, CC6-K3; and NBPTS Standard 2.)

C D 72 Partnerships with Families in Early Childhood Education 3 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Three hours lecture.
 Principles and practices of family support and in developing partnerships with parents; strategies to communicate and involve families in early care and education settings.

C D 73 Early Childhood Mental Health 3 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 (Also listed as Education 73. Student may enroll in either department, but not both, for credit.)
 Three hours lecture.

Examination of child development and mental health theory. Assessment and screening to identify childhood mental health challenges. Implementation of mental health interventions and strategies. An exploration of how violence impacts the physical and psychological well-being of adults and children.

C D 74 Early Childhood Mental Health Seminar and Fieldwork 3 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 (Also listed as Education 74. Student may enroll in either department, but not both, for credit.)
 Two hours lecture, three hours laboratory.

Provides an overview of different approaches to early intervention with children and their families and will help students develop basic support skills for use in dealing with high risk families, including those with exceptional emotional, social or physical needs.

C D 75 Social Emotional Development in Early Childhood 3 Units

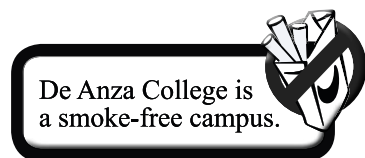
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Three hours lecture.
 Social emotional development and how peer, family, gender, teachers and society influence this development. The impact of variations in development on learning and life outcomes.
 (This course meets NAEYC Standards 1a,1b,1c,2b,4a; CEC/DEC Standards CC2-K1; and NBPTS Standards 1 and 4.)

**C D 77 Special Projects in Child Development 1/2 Unit
 C D 77W 1 Unit
 C D 77X 2 Units
 C D 77Y 3 Units**

Prerequisite: Approved Special Projects Contract.
Advisory: English Writing 1A or English as a Second Language 5.
 Three hours laboratory for each unit of credit.
 (Any combination of Child Development 77, 77W, 77X and 77Y may be taken up to six times, not to exceed 18 units, as long as the projects are different each time.)
 Designed for students with a Child Development permit at the Master Teacher level or above. Offers students the opportunity to research a topic of interest in the field of Child Development. Involves research of a topic of interest to the student. Research may include a review of the literature, interviews and other fieldwork such as exploring community resources or investigating a common teaching practice for effectiveness.

C D 80 Design, Program Development, and Daily Operation of Family Child Care 3 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Three hours lecture.
 An overview of family child care both as a business and a program for children. Topics such as startup, health and safety requirements, licensing, and designing indoor/outdoor learning environments, child guidance and accommodations to meet the needs of every child will be presented.



C D 90 Facilitating Inclusion in Early Childhood Programs: Intervention Strategies 3 Units

*Prerequisites: Child Development 10G and 60.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Three hours lecture.*

Expands upon a student's ability to work effectively with all children in early childhood programs and more specifically with infants, toddlers and preschoolers with disabilities and other special needs in inclusive environments. Focus will include theories, research, and practical applications of best practices from both the fields of Early Childhood Education and Early Intervention/Early Childhood Special Education. Students will learn to design practical and effective intervention strategies for individual children with special needs within the context of natural environments and will learn to work in collaboration with IFSP/IEP teams. (This course meets NAEYC Standards 1a, 1c, 2b, 3a, 3b, 3d, 4b; CEC/DEC Standards CC3-K4, CCK-5, CC4-S1-6, EC4-S1-3, CC5-K3, CC5-S1-5; and NBPTS Standards 2 and 4.)

C D 101 Current Issues in Child Development 1/2 Unit
C D 101W 1 Unit
C D 101X 2 Units
C D 101Y 3 Units
C D 101Z 4 Units

*Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
One hour lecture for each unit of credit.*

(Any combination of Child Development 101, 101W-Z may be taken up to six times, not to exceed 18 units, as long as the topics/projects are different each time.)

In-service workshop for teachers, aides, and parent volunteers to increase awareness of contemporary professional issues in Child Development.

C D 102 Curriculum for Child Development Personnel 1/2 Unit
C D 102W 1 Unit
C D 102X 2 Units
C D 102Y 3 Units
C D 102Z 4 Units

*Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
One hour lecture for each unit of credit.*

(Any combination of Child Development 102, 102W-Z may be taken up to six times, not to exceed 18 units, as long as the topics/projects are different each time.)

In-service workshop for teachers, aides, and parent volunteers to improve skills and knowledge in the area curriculum for Child Development personnel.

C D 103 Topics in Preschool Program Administration 1/2 Unit
C D 103W 1 Unit
C D 103X 2 Units
C D 103Y 3 Units
C D 103Z 4 Units

*Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
One hour lecture for each unit of credit.*

(Any combination of Child Development 103, 103W, 103X, 103Y and 103Z may be taken up to six times, not to exceed 18 units, as long as the topics are different each time.)

In-service workshop for program directors, site supervisors, head teachers, or others with administrative or supervisory responsibility to improve skills and knowledge in the area of Child Development program administration.

Computer Applications and Office Systems

CAOS 70A Elementary Keyboarding 3 Units

*Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Six hours lecture-laboratory.*

(Any combination of Computer Applications and Office Systems 70A, 70AA and 70AB may be taken up to six times, not to exceed 18 units, for credit for the family of courses.)

Basic keyboarding skills and techniques: introduction to formatting letters, tables, and reports using word processing software.

CAOS 70AA Elementary Keyboarding I 1 1/2 Units

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.

(Students wishing to take this as a letter-graded course must obtain a special course ID number from the CAOS Department in AT203.)

Three hours lecture-laboratory.

(Any combination of Computer Applications and Office Systems 70A, 70AA and 70AB may be taken up to six times, not to exceed 18 units, for credit for the family of courses.)

Pass-No Pass (P-NP) course.

Basic keyboarding skills and techniques.

CAOS 70AB Elementary Keyboarding II 1 1/2 Units

Prerequisite: Computer Applications and Office Systems 70AA.

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.

(Students wishing to take this as a letter-graded course must obtain a special course ID number from the CAOS Department in AT203.)

Three hours lecture-laboratory.

(Any combination of Computer Applications and Office Systems 70A, 70AA and 70AB may be taken up to six times, not to exceed 18 units, for credit for the family of courses.)

Pass-No Pass (P-NP) course.

Basic keyboarding skills and techniques: introduction to formatting letters, tables, and reports using word processing software.

CAOS 80A Office Procedures I 1 Unit

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 70A.

(Students wishing to take this as a letter-graded course must obtain a special course ID number from the CAOS Department in AT203.)

Two hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Simulated on-the-job training in office communications: interpersonal, mail, telephone, and business travel.

CAOS 80B Office Procedures II 1 Unit

Prerequisite: Computer Applications and Office Systems 80A.

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.

(Students wishing to take this as a letter-graded course must obtain a special course ID number from the CAOS Department in AT203.)

Two hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Create and edit standard types of office documents using the computer.

CAOS 80C Office Procedures III 1 Unit

Prerequisite: Computer Applications and Office Systems 80B.

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.

(Students wishing to take this as a letter-graded course must obtain a special course ID number from the CAOS Department in AT203.)

Two hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Create and edit complex types of documents using the computer and use appropriate office procedures to process the documents.

CAOS 81H 10-key and Electronic Calculator 1 Unit

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.

(Students wishing to take this as a letter-graded course must obtain a special course ID number from the CAOS Department in AT203.)

Two hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Basic 10-key skills and techniques in the use of the electronic calculator.

CAOS 84A Business English I 2 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272-273; Mathematics 114 or equivalent.

(Students wishing to take this as a letter-graded course must obtain a special course ID number from the CAOS Department in AT203.)

Four hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Review of English grammar, punctuation, usage, and writing skills and applications of these skills to basic business communications.

CAOS 84B Business English II 1 Unit

Prerequisite: Computer Applications and Office Systems 84A.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 114 or equivalent.

(Students wishing to take this as a letter-graded course must obtain a special course ID number from the CAOS Department in AT203.)

Two hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Review of advanced business writing skills and application of these skills to basic business communication.

- CAOS 90G Computer Literacy (PC) 4 Units**
(Students may take either Computer Applications and Office Systems 90G or, 90GA and 90GB, but not both, for credit.)
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Eight hours lecture-laboratory.
Pass-No Pass (P-NP) course.
 Introduction to a microcomputer - hardware and software. Theory and hands-on activities using word processing, spreadsheet, presentation graphics, database, e-mail, operating systems, and Internet applications.
- CAOS 90GA Computer Literacy I (PC) 2 Units**
(Students may take either Computer Applications and Office Systems 90G or, 90GA and 90GB, but not both, for credit.)
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Four hours lecture-laboratory.
Pass-No Pass (P-NP) course.
 Introduction to a microcomputer - hardware and software. Theory and interactive learning activities using word processing, spreadsheet, presentation graphics, database, e-mail, operating systems, and Internet applications.
- CAOS 90GB Computer Literacy II (PC) 2 Units**
(Students may take either Computer Applications and Office Systems 90G or, 90GA and 90GB, but not both, for credit.)
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Four hours lecture-laboratory.
Pass-No Pass (P-NP) course.
 Introduction to a microcomputer - hardware and software. Theory and interactive learning activities using word processing, spreadsheet, presentation graphics, database, e-mail, operating systems, and Internet applications.
- CAOS 91AK Word Processing I (Word 2000) 2 Units**
Prerequisite: Computer Applications and Office Systems 70AA.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
(Students wishing to take this as a letter-graded course must obtain a special course ID number from the CAOS Department in AT203.)
Four hours lecture-laboratory.
Pass-No Pass (P-NP) course.
 Concepts and applications using a word processing computer software program.
- CAOS 91AL Word Processing I (Word XP/2002) 2 Units**
Prerequisite: Computer Applications and Office Systems 70AA.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
(Students wishing to take this as a letter-graded course must obtain a special course ID number from the CAOS Department in AT203.)
Four hours lecture-laboratory.
Pass-No Pass (P-NP) course.
 Concepts and applications using a word processing computer software program.
- CAOS 91AM Word Processing I (Word 2007) 2 Units**
Prerequisite: Computer Applications and Office Systems 70AA.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
(Students wishing to take this as a letter-graded course must obtain a special course ID number from the CAOS Department in AT203.)
Four hours lecture-laboratory.
Pass-No Pass (P-NP) course.
 Concepts and applications using a word processing computer software program.
- CAOS 91BK Word Processing II (Word 2000) 2 Units**
Prerequisite: Computer Applications and Office Systems 91AK.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
(Students wishing to take this as letter-graded course must obtain a special course ID number from the CAOS Department in AT203.)
Four hours lecture-laboratory.
Pass-No Pass (P-NP) course.
 Advanced word processing concepts and applications using a computer software program.
- CAOS 91BL Word Processing II (Word XP/2002) 2 Units**
Prerequisite: Computer Applications and Office Systems 91AL.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
(Students wishing to take this as letter-graded course must obtain a special course ID number from the CAOS Department in AT203.)
Four hours lecture-laboratory.
Pass-No Pass (P-NP) course.
 Advanced word processing concepts and applications using a computer software program.
- CAOS 91BM Word Processing II (Word 2007) 2 Units**
Prerequisite: Computer Applications and Office Systems 91AM.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
(Students wishing to take this as letter-graded course must obtain a special course ID number from the CAOS Department in AT203.)
Four hours lecture-laboratory.
Pass-No Pass (P-NP) course.
 Advanced word processing concepts and applications using a computer software program.
- CAOS 93AH Spreadsheet I (Excel IBM) 2 Units**
Prerequisite: Computer Applications and Office Systems 90GA or 100G.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Four hours lecture-laboratory.
Pass-No Pass (P-NP) course.
 A general introduction to basic data manipulation skills and techniques used with spreadsheets: editing, computation, database management, graphing.
- CAOS 93AK Spreadsheet I (Excel 2000) 2 Units**
Prerequisite: Computer Applications and Office Systems 90GA or 100G.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Four hours lecture-laboratory.
Pass-No Pass (P-NP) course.
 A general introduction to basic data manipulation skills and techniques used with spreadsheets: editing, computation, database management, graphing.
- CAOS 93AL Spreadsheet I (Excel XP/2002) 2 Units**
Prerequisite: Computer Applications and Office Systems 90GA or 100G.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Four hours lecture-laboratory.
Pass-No Pass (P-NP) course.
 A general introduction to basic data manipulation skills and techniques used with spreadsheets: editing, computation, database management, graphing.
- CAOS 93AM Spreadsheet I (Excel 2007) 2 Units**
Prerequisite: Computer Applications and Office Systems 90GA or 100G.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Four hours lecture-laboratory.
Pass-No Pass (P-NP) course.
 A general introduction to basic data manipulation skills and techniques used with spreadsheets: editing, computation, database management, graphing.
- CAOS 93BH Spreadsheet II (Excel IBM) 2 Units**
Prerequisite: Computer Applications and Office Systems 93AH.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Four hours lecture-laboratory.
Pass-No Pass (P-NP) course.
 Advanced spreadsheet design using unique spreadsheet features: graphing, information retrieval, table searches, financial business calculations for decision making.
- CAOS 93BK Spreadsheet II (Excel 2000) 2 Units**
Prerequisite: Computer Applications and Office Systems 93AK.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Four hours lecture-laboratory.
Pass-No Pass (P-NP) course.
 Advanced spreadsheet design using unique spreadsheet features: graphing, information retrieval, table searches, financial business calculations for decision making.
- CAOS 93BL Spreadsheet II (Excel XP/2002) 2 Units**
Prerequisite: Computer Applications and Office Systems 93AL.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Four hours lecture-laboratory.
Pass-No Pass (P-NP) course.
 Advanced spreadsheet design using unique spreadsheet features: graphing, information retrieval, table searches, financial business calculations for decision making.

CAOS 93BM Spreadsheet II (Excel 2007) 2 Units

Prerequisite: Computer Applications and Office Systems 93AM.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Four hours lecture-laboratory.
 Pass-No Pass (P-NP) course.
 Advanced spreadsheet design using unique spreadsheet features: graphing, information retrieval, table searches, financial business calculations for decision making.

CAOS 94 Introduction to the Internet and World Wide Web 1 Unit

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 (Also listed as Computer Information Systems 94. Student may enroll in either department, but not both, for credit.)
 Two hours lecture-laboratory.
 Pass-No Pass (P-NP) course.
 Introduction to using the Internet. Topics include an overview of the World Wide Web, e-mail, news groups, bulletin boards, WWW browsers, basic Web page elements and exploration of virtual communities.

CAOS 98U Internship, Business/Computer Systems Division 1 Unit

CAOS 98V 2 Units
CAOS 98W 3 Units
CAOS 98X 4 Units
CAOS 98Y 5 Units
CAOS 98Z 6 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 (Also listed as Accounting 98U-Z, Business 98U-Z, and Computer Information Systems 98U-Z. Student may enroll in only one department for credit.)
 Four hours laboratory per unit of supervised internship in an authorized office or agency.
 (Any combination of Accounting 98U-Z, Business 98U-Z, Computer Applications and Office Systems 98U-Z, and Computer Information Systems 98U-Z may be taken up to six times, not to exceed 18 units, for credit. During each internship, students will be placed at different employer locations, different working environments, and/or given different assignments within the same company or department--thus providing the students with various opportunities to learn different skills. Students may repeat the same internship location and working environment if the student, employer, and instructor believe it would provide the student with increased work experience.)
 Off-campus supervised experiential education/internship for Business/Computer Systems Division students in research or business office environments related to student's major. Practical application of knowledge, skills and abilities acquired in student's major. Opportunity for additional hands-on training. Exposure to varied corporate, state and federal protocols, methodologies and practices in a professional environment.

CAOS 100G Orientation to the PC (Personal Computer) 1/2 Unit

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 One hour lecture-laboratory.
 Pass-No Pass (P-NP) course.
 Personal computer hardware and commands needed for applications programs.

CAOS 102K Microsoft Windows I (Windows 2000) 1 Unit

Prerequisite: Computer Applications and Office Systems 90GA or 100G.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Two hours lecture-laboratory.
 Pass-No Pass (P-NP) course.

Use of an operating environment which extends the Microsoft Disk Operating System (MS DOS) and the use of the Microsoft Windows Desktop Applications programs.

CAOS 102L Microsoft Windows I (Windows XP) 1 Unit

Prerequisite: Computer Applications and Office Systems 90GA or 100G.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Two hours lecture-laboratory.
 Pass-No Pass (P-NP) course.

Use of an operating environment which extends the Microsoft Disk Operating System (MS DOS) and the use of the Microsoft Windows Desktop Applications programs.

CAOS 102M Microsoft Windows I (Windows Vista) 1 Unit

Prerequisite: Computer Applications and Office Systems 90GA or 100G.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Two hours lecture-laboratory.
 Pass-No Pass (P-NP) course.

Use of an operating environment which extends the Microsoft Disk Operating System (MS DOS) and the use of the Microsoft Windows Desktop Applications programs.

CAOS 102T Microsoft Windows I (Windows NT/95) 1 Unit

Prerequisite: Computer Applications and Office Systems 90GA or 100G.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Two hours lecture-laboratory.
 Pass-No Pass (P-NP) course.

Use of an operating environment which extends the Microsoft Disk Operating System (MS DOS) and the use of the Microsoft Windows Desktop Applications programs.

CAOS 104I Ten-Key on the Microcomputer 1/2 Unit

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 70AA or 173.
 One hour lecture-laboratory.
 Pass-No Pass (P-NP) course.

Development of ten-key numeric data entry skills. Emphasis on developing speed and accuracy in entering numeric data in an office environment.

CAOS 104K Introduction to Proofreading Skills 1 Unit

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 70AA.
 Two hours lecture-laboratory.
 Pass-No Pass (P-NP) course.

Entry-level concepts and methods of proofreading. Emphasis on proofreading short business documents, multi-page reports, tables, and graphics.

CAOS 104O Introduction to Filing 1 Unit

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 70AA or 173 and 102K, 102L, 102M or 102T.
 Two hours lecture-laboratory.
 Pass-No Pass (P-NP) course.

Entry-level concepts and terminology of filing rules for an office environment.

CAOS 105 Introduction to HTML 1 Unit

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Two hours lecture-laboratory.
 Pass-No Pass (P-NP) course.

An introduction to hypertext markup language (HTML) covering creation of hyperlinks, inserting images, and producing basic tables and forms.

CAOS 106 Adobe Acrobat 1 Unit

Advisory: Computer Applications and Office Systems 90GA.
 Two hours lecture-laboratory.
 Pass-No Pass (P-NP) course.

An introduction to basic techniques covering creation, modification and review of PDF documents, and interactive PDF forms using Adobe Acrobat.

CAOS 107G Business Office Math 2 Units

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Four hours lecture-laboratory.
 Pass-No Pass (P-NP) course.

Review of basic math skills with emphasis on business applications and critical thinking problems. Instruction and application exercises involving math tasks needed for employment.

CAOS 108 Personal Computer Security Basics 4 Units

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 90GA or equivalent.
 (Also listed as Computer Information Systems 108. Student may enroll in either department, but not both, for credit.)
 Four hours lecture.

Beginner's computer security course for small office or home users. Learn to stop hackers, worms, viruses, spyware, Web bugs and identity theft. Learn vulnerabilities found in Web browsers, e-mail and operating systems. Protect against online purchase dangers, install firewalls, manage cookies, restrict ports, analyze log files, evaluate wireless networks and examine encryption.

CAOS 109 Data and Filing Management 2 Units

(Formerly Computer Applications and Office Systems 88.)
Prerequisite: Computer Applications and Office Systems 70AA.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Four hours lecture-laboratory.
 Pass-No Pass (P-NP) course.

Management of business records and of indexing and filing procedures; theory and practice of alphabetic, numeric, geographic and subject systems. Utilize manual and computer applications to apply correct data management procedures.

CAOS 110K Database I (Access 2000) 2 Units

Prerequisite: Computer Applications and Office Systems 90GA or 100G or 102K.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Four hours lecture-laboratory.
 Pass-No Pass (P-NP) course.
 Use of database software to create, search, modify and arrange information.

CAOS 110L Database I (Access XP/2002) 2 Units

Prerequisite: Computer Applications and Office Systems 90GA or 100G or 102L.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Four hours lecture-laboratory.
 Pass-No Pass (P-NP) course.
 Use of database software to create, search, modify and arrange information.

CAOS 110M Database I (Access 2007) 2 Units

Prerequisite: Computer Applications and Office Systems 90GA or 100G or 102M.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Four hours lecture-laboratory.
 Pass-No Pass (P-NP) course.
 Use of database software to create, search, modify and arrange information.

CAOS 111K Database II (Access 2000) 2 Units

Prerequisite: Computer Applications and Office Systems 110K.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Four hours lecture-laboratory.
 Pass-No Pass (P-NP) course.
 Use database commands to build and modify data files and forms, refine queries and generate customized reports. Integrate database files with other applications.

CAOS 111L Database II (Access XP/2002) 2 Units

Prerequisite: Computer Applications and Office Systems 110L.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Four hours lecture-laboratory.
 Pass-No Pass (P-NP) course.
 Use database commands to build and modify data files and forms, refine queries and generate customized reports. Integrate database files with other applications.

CAOS 111M Database II (Access 2007) 2 Units

Prerequisite: Computer Applications and Office Systems 110M.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Four hours lecture-laboratory.
 Pass-No Pass (P-NP) course.
 Use database commands to build and modify data files and forms, refine queries and generate customized reports. Integrate database files with other applications.

CAOS 112A Digital Imaging Software (Photoshop) 4 Units

(Students may receive credit for either Computer Applications and Office Systems 112A (or 112I and 112Q); Arts 112A (or 112I and 112Q); or CAD and Digital Imaging 112A (or 112I and 112Q).)
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 90GA.
(Also listed as Arts 112A and CAD and Digital Imaging 112A. Student may enroll in only one department for credit.)
 Eight hours lecture-laboratory.
 Pass-No Pass (P-NP) course.
 Basic and intermediate principles using digital imaging software to produce graphics for Web sites. Introduction to digital imaging terminology and software. This course is for the content person to produce Web pages using digital images.

CAOS 112I Digital Imaging Software I (Photoshop) 2 Units

(Students may receive credit for either Computer Applications and Office Systems 112A (or 112I and 112Q); Arts 112A (or 112I and 112Q); or CAD and Digital Imaging 112A (or 112I and 112Q).)
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 90GA.
(Also listed as Arts 112I and CAD and Digital Imaging 112I. Student may enroll in only one department for credit.)
 Four hours lecture-laboratory.
 Pass-No Pass (P-NP) course.
 Basic principles of using digital imaging software to produce graphics for Web sites. Introduction to digital imaging terminology and software. This course is for the content person to produce Web pages using digital images.

CAOS 112Q Digital Imaging Software II (Photoshop) 2 Units

(Students may receive credit for either Computer Applications and Office Systems 112A (or 112I and 112Q); Arts 112A (or 112I and 112Q); or CAD and Digital Imaging 112A (or 112I and 112Q).)
Prerequisite: Arts 112I or CAD and Digital Imaging 112I or Computer Applications and Office Systems 112I.
(Also listed as Arts 112Q and CAD and Digital Imaging 112Q. Student may enroll in only one department for credit.)
 Four hours lecture-laboratory.
 Pass-No Pass (P-NP) course.

Basic and intermediate principles of using digital imaging software to produce graphics for Web sites. Introduction to digital imaging terminology and software. This course is for the content person to produce Web pages using digital images.

CAOS 113A Web Authoring Software (Dreamweaver) 4 Units

(Students may receive credit for either Computer Applications and Office Systems 113A (or 113I and 113Q); or Arts 113A (or 113I and 113Q).)
Prerequisite: Computer Applications and Office Systems 90GA, 102K, 102L, 102M, or 102T.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
(Also listed as Arts 113A. Student may enroll in either department, but not both, for credit.)
 Eight hours lecture-laboratory.
 Pass-No Pass (P-NP) course.
 Basic and intermediate principles of building Web pages/sites using Web authoring software. Introduction to Web authoring terminology and software. This course is for the content person to develop and maintain an effective Web site.

CAOS 113I Web Authoring Software I (Dreamweaver) 2 Units

(Students may receive credit for either Computer Applications and Office Systems 113A (or 113I and 113Q); or Arts 113A (or 113I and 113Q).)
Prerequisite: Computer Applications and Office Systems 90GA, 102K, 102L, 102M, or 102T.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
(Also listed as Arts 113I. Student may enroll in either department, but not both, for credit.)
 Four hours lecture-laboratory.
 Pass-No Pass (P-NP) course.
 Basic principles of building Web pages/sites using Web authoring software. Introduction to Web authoring terminology and software. This course is for the content person to develop and maintain an effective Web site.

CAOS 113Q Web Authoring Software II (Dreamweaver) 2 Units

(Students may receive credit for either Computer Applications and Office Systems 113A (or 113I and 113Q); or Arts 113A (or 113I and 113Q).)
Prerequisite: Arts 113I or Computer Applications and Office Systems 113I.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
(Also listed as Arts 113Q. Student may enroll in either department, but not both, for credit.)
 Four hours lecture-laboratory.
 Pass-No Pass (P-NP) course.
 Intermediate principles of building Web pages/sites using Web authoring software. Expansion of Web authoring terminology and use of more advanced software features. This course is for the content person to develop and maintain an effective Web site.

CAOS 114A Web Graphics/Animation Software (Flash) 3 Units

(Students may receive credit for either Computer Applications and Office Systems 114A (or 114I and 114Q); or Arts 114A (or 114I and 114Q); or CAD and Digital Imaging 114A.)
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 112A (or 112I and 112Q); or Arts 112A (or 112I and 112Q); or CAD and Digital Imaging 112A (or 112I and 112Q).
(Also listed as Arts 114A and CAD and Digital Imaging 114A. Student may enroll in only one department for credit.)
 Six hours lecture-laboratory.
 Pass-No Pass (P-NP) course.
 Basic and intermediate principles of graphics/animation for the Web. Web graphics/animation terminology and software. This course is for the content person to build a Web site.

De Anza College is
a smoke-free campus.



CAOS 114I Web Graphics/Animation Software I (Flash) 1 1/2 Units

(Students may receive credit for either Computer Applications and Office Systems 114A (or 114I and 114Q); or Arts 114A (or 114I and 114Q); or CAD and Digital Imaging 114A.)

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 112A (or 112I and 112Q); or Arts 112A (or 112I and 112Q); or CAD and Digital Imaging 112A (or 112I and 112Q).

(Also listed as Arts 114I. Student may enroll in either department, but not both, for credit.)

Three hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Basic principles of graphics/animation for the Web. Introduction to Web graphics/animation terminology and software. This course is for the content person to build a Web site.

CAOS 114Q Web Graphics/Animation Software II (Flash) 1 1/2 Units

(Students may receive credit for either Computer Applications and Office Systems 114A (or 114I and 114Q); or Arts 114A (or 114I and 114Q); or CAD and Digital Imaging 114A.) Prerequisite: Computer Applications and Office Systems 114I or Arts 114I.

(Also listed as Arts 114Q. Student may enroll in either department, but not both, for credit.)

Three hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Intermediate principles of graphics/animation for the Web. Expansion of Web graphics/animation terminology and software. This course is for the content person to build a Web site.

CAOS 115A E-Commerce Software (Dreamweaver UltraDev - CS3) 4 Units

(Students may receive credit for either Computer Applications and Office Systems 115A (or 115I and 115Q); or Arts 115A (or 115I and 115Q); or CAD and Office Systems 113A (or 113I and 113Q); or Arts 113A (or 113I and 113Q); and Computer Applications and Office Systems 110K, 110L or 110M (or another database software).)

Eight hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Basic and intermediate principles of using e-commerce software to create effective Web sites. Introduction to e-commerce terminology and software. This course is for the content person to produce effective, database-driven Web sites to start an on-line business.

CAOS 115I E-Commerce Software I (Dreamweaver UltraDev - CS3) 2 Units

(Students may receive credit for either Computer Applications and Office Systems 115A (or 115I and 115Q); or Arts 115A (or 115I and 115Q); or CAD and Office Systems 113A (or 113I and 113Q); or Arts 113A (or 113I and 113Q); and Computer Applications and Office Systems 110K, 110L or 110M (or another database software).)

Four hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Basic principles of using e-commerce software to create effective Web sites. Introduction to e-commerce terminology and software. This course is for the content person to produce effective, database-driven Web sites to start an on-line business.

CAOS 115Q E-Commerce Software II (Dreamweaver UltraDev - CS3) 2 Units

(Students may receive credit for either Computer Applications and Office Systems 115A (or 115I and 115Q); or Arts 115A (or 115I and 115Q); or CAD and Office Systems 115I.)

Four hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Basic and intermediate principles of using e-commerce software to create effective Web sites. Introduction to e-commerce terminology and software. This course is for the content person to produce effective, database-driven Web sites to start an on-line business.

CAOS 116A Web Development Graphics Software (Illustrator) 4 Units

(Students may receive credit for either Computer Applications and Office Systems 116A (or 116I and 116Q); or Arts 116A (or 116I and 116Q); or CAD and Digital Imaging 116A.)

Prerequisite: Computer Applications and Office Systems 112A (or 112I and 112Q); or Arts 112A (or 112I and 112Q); or CAD and Digital Imaging 112A (or 112I and 112Q).

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.

(Also listed as Arts 116A and CAD and Digital Imaging 116A. Student may enroll in only one department for credit.)

Eight hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Basic and intermediate principles of using vector-based graphics software to produce graphics for Web sites. Introduction to vector-based graphics terminology and software. This course is for the content person to produce vector graphic images.

CAOS 116I Web Development Graphics Software I (Illustrator) 2 Units

(Students may receive credit for either Computer Applications and Office Systems 116A (or 116I and 116Q); or Arts 116A (or 116I and 116Q); or CAD and Digital Imaging 116A.)

Prerequisite: Computer Applications and Office Systems 112A (or 112I and 112Q); or Arts 112A (or 112I and 112Q); or CAD and Digital Imaging 112A (or 112I and 112Q).

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.

(Also listed as Arts 116I. Student may enroll in either department, but not both, for credit.)

Four hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Basic principles of using vector-based graphics software to produce graphics for Web sites. Introduction to vector-based graphics terminology and software. This course is for the content person to produce vector graphic images.

CAOS 116Q Web Development Graphics Software II (Illustrator) 2 Units

(Students may receive credit for either Computer Applications and Office Systems 116A (or 116I and 116Q); or Arts 116A (or 116I and 116Q); or CAD and Digital Imaging 116A.)

Prerequisite: Computer Applications and Office Systems 116I or Arts 116I.

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.

(Also listed as Arts 116Q. Student may enroll in either department, but not both, for credit.)

Four hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Basic and intermediate principles of using vector-based graphics software to produce graphics for Web sites. Introduction to vector-based graphics terminology and software. This course is for the content person to produce vector graphic images.

CAOS 117A Advanced Digital Imaging Software (Photoshop) 3 Units

Prerequisite: Computer Applications and Office Systems 112A, or Arts 112A, or CAD and Digital Imaging 112A.

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 90GA.

(Also listed as Arts 117A and CAD and Digital Imaging 117A. Student may enroll in only one department for credit.)

Six hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Advanced principles and techniques of using digital imaging software to produce graphics for Web sites and printed media. Integration of digital imaging software with Web authoring software. This course is for the content person wishing to produce digital images for Web pages and print media.

CAOS 118A Advanced Web Graphics/Animation Software (Flash) 3 Units

Prerequisite: Computer Applications and Office Systems 114A, or Arts 114A, or CAD and Digital Imaging 114A.

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 90GA.

(Also listed as Arts 118A and CAD and Digital Imaging 118A. Student may enroll in only one department for credit.)

Six hours lecture-laboratory.

Pass-No Pass (P-NP) course.

An advanced Flash course that is projects and portfolio based and taught from a designer perspective. Students will be taught how to build a portfolio and animated multimedia presentation. Basic programming skills will be taught along with developing interactive Web-based multimedia presentations using ActionScripts, sound and graphics.

CAOS 124 Computer Virus and Threat Protection 1/2 Unit

Advisory: Computer Applications and Office Systems 90G or equivalent; English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.

One-half hour lecture.

Pass-No Pass (P-NP) course.

Learn to stop viruses, hackers and Internet threats.

CAOS 130K Introduction to Business Graphics (PowerPoint 2000) 2 Units

Prerequisite: Computer Applications and Office Systems 102K, 102L, 102M, or 102T.

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.

Four hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Introduction to presentation software using Microsoft PowerPoint. Course provides hands-on experience to produce text, graphic, chart and graph images for professional presentations.

CAOS 130L Introduction to Business Graphics (PowerPoint XP/2002) 2 Units

Prerequisite: Computer Applications and Office Systems 102K, 102L, 102M, or 102T.

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.

Four hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Introduction to presentation software using Microsoft PowerPoint. Course provides hands-on experience to produce text, graphic, chart and graph images for professional presentations.

CAOS 130M Introduction to Business Graphics (PowerPoint 2007) 2 Units

Prerequisite: Computer Applications and Office Systems 102K, 102L, 102M, or 102T.

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.

Four hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Introduction to presentation software using Microsoft PowerPoint. Course provides hands-on experience to produce text, graphic, chart and graph images for professional presentations.

CAOS 131 Quick Presentation 1/2 Unit

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; and Computer Applications and Office Systems 102K, 102L, 102M or 102T.

One hour lecture-laboratory.

Pass-No Pass (P-NP) course.

Project based course taught from a perspective of quickly developing skills necessary to create a multimedia presentation that includes text and graphics. The learning and instructional emphasis will be "hands-on-training" to develop a multimedia presentation.

CAOS 135 Foreclosure Technology Tools 1/2 Unit

(Also listed as Real Estate 135. Student may enroll in either department, but not both, for credit.)

One-half hour lecture.

Learn the basic principles to purchase foreclosed and short sale real estate properties using essential technology tools. Course explores three stages of foreclosures including pre-foreclosure, auction, and bank owned (REO) properties. Explore essential tips that home buyers, investors and real estate agents must consider before purchasing distressed properties. (DRE approved for 6 hours CE Consumer Protection credit. A 70% or better required on the final exam.)

CAOS 150A Desktop Hardware (A+ Certification Part I) 3 Units

Prerequisite: Computer Applications and Office Systems 90GA or 100G (may be taken concurrently), or equivalent.

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.

Three hours lecture.

Pass-No Pass (P-NP) course.

Provides service technicians and network administrators the necessary skills to identify, install, configure, and upgrade desktop computers and peripheral hardware. Course also helps students prepare to pass the compTIA A+ Technician Certification Exams.

CAOS 161 Computer Forensics 4 Units

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 150A or equivalent; Computer Applications and Office Systems 102L or equivalent.

(Also listed as Administration of Justice 161 and Computer Information Systems 161. Student may enroll in only one department for credit.)

Three hours lecture, two hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Introduction to computer crime investigation processes. Guides students to becoming computer forensics investigators who can acquire and analyze data from a computer to be used as evidence. Topics include computer forensics tools, data

recovery and retrieval, information gathering techniques, computer data preservation techniques, and computer crime investigation techniques. System Administrators, IT Managers, and Law Enforcement Officers, would benefit from taking this course as well as individuals wanting to become Computer Forensics Consultants.

CAOS 165 Security+ (Network Security Fundamentals) 4 Units

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 108 or Computer Information Systems 108.

(Also listed as Computer Information Systems 165. Student may enroll in either department, but not both, for credit.)

Three hours lecture, three hours laboratory.

Maps to objectives of CompTIA's Security + certification exams. Covers authentication methods along with common network attacks and how to safeguard against them. Explores remote access, e-mail, the Web, directory and file transfer, and wireless data, network devices and media, DMZs, Extranets, and Intranet security. Cryptography including asymmetric and symmetric algorithms, and PKI certificates. Physical security includes disaster recovery, and business continuity.

CAOS 170E Windows Vista Enterprise 4 1/2 Units

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 102L.

(Also listed as Computer Information Systems 170E. Student may enroll in either department, but not both, for credit.)

Four hours lecture, one and one-half hours laboratory.

Provides knowledge and skills to setup, configure, use, and support Windows Vista software Enterprise. Course covers Windows Vista features including installing, upgrading, configuring and troubleshooting. Learn how to configure Windows Security, Network Connectivity and subsystems. Additional topics include configuring/troubleshooting mobile computing and learning how to use Vista's built-in Applications. Course targets objectives of the Microsoft Certified Professional Program.

CAOS 173 Keyboarding Skill Development 1 Unit

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 70AA.

Two hours lecture-laboratory.

(May be taken up to three times for credit.)

Pass-No Pass (P-NP) course.

Speed and accuracy development in keyboarding skills.

CAOS 176 Telephone Communications 1 Unit

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.

Two hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Techniques for handling incoming and outgoing phone calls, listening skills and customer relations.

CAOS 180G Job Finding Techniques 1 Unit

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 70AA.

Two hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Techniques of finding a job including resume, cover letter, and reference letter generation. Course includes interview, lead generation and networking techniques.

CAOS 180J Spelling Skills 1 Unit

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.

Two hours lecture-laboratory.

Pass-No Pass (P-NP) course.

Techniques used in spelling.

CAOS 198 Topics in Computer Applications and Office Systems 1/2 Unit

CAOS 198W 1 Unit

CAOS 198X 1 1/2 Units

CAOS 198Y 2 Units

Prerequisite: Computer Applications and Office Systems 90G, 100G, 102K or 102T.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Two hours lecture-laboratory for each unit of credit.

(Any combination of Computer Applications and Office Systems 198, 198W, 198X and 198Y may be taken up to six times for credit as long as the topics are different each time.)

Pass-No Pass (P-NP) course.

Introduction to selected Computer Applications and Office Systems programs.

CAOS 199W Topics in Computer Applications and Office Systems 1 Unit

Prerequisite: Computer Applications and Office Systems 90G, 100G, 102K or 102T.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

One hour lecture.

(Computer Applications and Office Systems 199W may be taken up to six times as long as the topics are different each time.)

Pass-No Pass (P-NP) course.

Introduction to selected Computer Applications and Office Systems programs.

Computer Information Systems**CIS 2 Computers and the Internet in Society 4 Units**

(See general education pages for the requirement this course meets.)

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Four hours lecture.

A critical examination of the capabilities and uses of the Internet, computers and cellular communications, and how they are changing business, law, politics, health, education, entertainment, and society.

CIS 3 Business Information Systems 4 1/2 Units

(Formerly Computer Information Systems 91.)

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Four hours lecture, one and one-half hours laboratory.

Introduction to management information systems, systems design and development, data communications, data management, office automation, computer hardware and software concepts. Use of common software packages for business applications including word processing, spreadsheets, database, and Internet web tools.

CIS 14A Visual Basic .NET Programming I 4 1/2 Units

(Formerly Computer Information Systems 14.)

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Four hours lecture, one and one-half hours laboratory.

Programming in Visual Basic. Emphasis on Windows programming using the Visual Basic environment. The development of well-structured VB projects using forms, buttons, labels, picture boxes, and text boxes.

CIS 14B Visual Basic .NET Programming II 4 1/2 Units

(Formerly Computer Information Systems 58A.)

Prerequisite: Computer Information Systems 14A.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Four hours lecture, one and one-half hours laboratory.

Develop professional looking and deployable visual basic applications using advanced controls, graphical controls, user-created classes, the data control object, building help files, and accessing the Windows API functions.

CIS 14C Visual Basic .NET Programming III 4 1/2 Units

(Formerly Computer Information Systems 58B.)

Prerequisite: Computer Information Systems 14B.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273 ; Computer Information Systems 89A.

Four hours lecture, one and one-half hours laboratory.

Develop professional looking and deployable visual basic applications using advanced .NET concepts. Build and access databases using ADO Net Objects. Develop Web Services, forms with an introduction to XML, ASP.NET. Introduce Networking with sockets using VB.NET.

CIS 15AG Introduction to Computer Programming Using C 4 1/2 Units

(Students may receive credit for either Computer Information Systems 15AG and 15BG, or 26A.)

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 114; Computer Information Systems 50; Computer Applications and Office Systems 70AA.

Four hours lecture, one and one-half hours laboratory.

Problem solving, algorithms and structured program design. Programming, testing and debugging of well-structured programs in C. Introduction to data types, expressions, control structures, functions, sequential files, and one-dimensional arrays.

CIS 15BG Intermediate Problem Solving in C 4 1/2 Units

(Students may receive credit for either Computer Information Systems 15AG and 15BG, or Computer Information Systems 26A, but not both.)

Prerequisite: Computer Information Systems 15AG.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Four hours lecture, one and one-half hours laboratory.

A systematic approach to the design, construction and management of computer programs, emphasizing design, programming style, documentation, testing and debugging techniques. Strings, multi-dimensional arrays and structures. Pointers: their use in arrays, parameters and dynamic allocation. Introduction to linked lists.

CIS 15C Data Structures 4 1/2 Units

Prerequisite: Computer Information Systems 15BG or 26A.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Four hours lecture, one and one-half hours laboratory.

Stacks, queues, linked lists, trees, and graphs; internal and external sorting; use of recursion; hashing; structured programming; and abstract data type concepts; team project.

CIS 18A Introduction to UNIX/LINUX 4 1/2 Units

(Formerly Computer Information Systems 82A.)

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Four hours lecture, one and one-half hours laboratory.

Introduction to the features of the UNIX / LINUX operating system including text editing, text file manipulation, electronic mail, Internet utilities, directory structures, input/output handling, and shell features.

CIS 18B Advanced UNIX/LINUX 4 1/2 Units

(Formerly Computer Information Systems 82B.)

Prerequisite: Computer Information Systems 18A; and Computer Information Systems 14A or 15AG.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Four hours lecture, one and one-half hours laboratory.

Coverage of regular expressions, grep, sed, and awk utilities.

CIS 18C Shell Programming 4 1/2 Units

(Formerly Computer Information Systems 82C.)

Prerequisite: Any introductory programming course and Computer Information Systems 18B.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Four hours lecture, one and one-half hours laboratory.

Programming in Bourne Shell, Korn Shell, and C Shell.

CIS 21JA Introduction to 8086/IA32 Processor Assembly Language 4 1/2 Units

Prerequisite: Computer Information Systems 15BG or 26A.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 210 or equivalent.

Four hours lecture, one and one-half hours laboratory.

Introduction to the syntax and semantics of 8086 and IA32 assembly language, standard instruction set, selected pseudo and macro instructions, arrays, 8086/286/386/486/ Pentium features.

CIS 21JB Advanced Programming: Series 86 and IA32/Pentium Assembly Language 4 1/2 Units

Prerequisite: Computer Information Systems 21JA.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 210 or equivalent.

Four hours lecture, one and one-half hours laboratory.

Coverage of theory and application of advanced programming techniques, with emphasis on combining multiple modules in a single program, inter-program connection, interrupt level programming and macro writing, recursive and re-entrant techniques.

CIS 26A C as a Second Programming Language 4 1/2 Units

(Students may receive credit for either Computer Information Systems 15AG and 15BG, or 26A.)

Prerequisite: An introductory programming language course.

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Information Systems 50; Mathematics 114 or equivalent.

Four hours lecture, one and one-half hours laboratory.

An introduction to the C programming language and its applications. Topics covered include basic input/output, structured program design and implementation, basic control structures and keywords, arrays and pointers, character and string manipulation, arithmetic expressions, and functions and program modularization.

De Anza College is
a smoke-free campus.



<p>CIS 26B Advanced C Programming 4 1/2 Units <i>Prerequisite: Computer Information Systems 15BG or 26A.</i> <i>Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Mathematics 212 or equivalent.</i> <i>Four hours lecture, one and one-half hours laboratory.</i> Applications of advanced features of C and the C-library functions including: binary and random-access input/output, dynamic data structures, bit manipulation, string parsing and string-to-numeric conversion, event and error processing, function pointers, recursion, and variable-length argument list functions.</p>	<p>Exploration of advanced topics from the core PERL distribution and essential non-core modules. Topics include reference-based data structures, object-oriented programming, connecting to SQL-based relational databases, non-relational database and file structures, process creation and management, and TCP/IP Client/Server programming.</p>
<p>CIS 27 Programming in C++ for C Programmers 4 1/2 Units <i>Prerequisite: Computer Information Systems 15BG or 26A.</i> <i>Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.</i> <i>Four hours lecture, one and one-half hours laboratory.</i> A comprehensive introduction to the C++ programming language and its applications.</p>	<p>CIS 35A Introduction to Java Programming 4 1/2 Units <i>(Formerly Computer Information Systems 35.)</i> <i>Prerequisite: Computer Information Systems 15BG or 26A.</i> <i>Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.</i> <i>Four hours lecture, one and one-half hours laboratory.</i> Introduction to Java programming. Computing context, primitive types, flow of control constructs, operators, text I/O, objects and classes, interfaces, packages, GUI, exceptions, and threads.</p>
<p>CIS 28 Object Oriented Analysis and Design with C++ 4 1/2 Units <i>Prerequisite: Computer Information Systems 27 or 35A or equivalent experience.</i> <i>Four hours lecture, one and one-half hours laboratory.</i> Defines and illustrates the Object Oriented paradigm for analyzing, designing and implementing object oriented computer applications. Trade-offs between various Object Oriented techniques will be illustrated with a series of real world applications to allow the student to optimize his/her solutions for robustness and reuse.</p>	<p>CIS 35B Advanced Java Programming 4 1/2 Units <i>(Formerly Computer Information Systems 53A.)</i> <i>Prerequisite: Computer Information Systems 35A.</i> <i>Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.</i> <i>Four hours lecture, one and one-half hours laboratory.</i> Emphasis on foundation technologies in Java that enable you to write server side programs in Java. Concepts include Inner classes, Collections, Exceptions, File I/O, Reflections, Cloning, Swing, Multithreading and Java Beans.</p>
<p>CIS 29 Advanced C++ Programming 4 1/2 Units <i>(Formerly Computer Information Systems 52G.)</i> <i>Prerequisite: Computer Information Systems 27.</i> <i>Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.</i> <i>Four hours lecture, one and one-half hours laboratory.</i> Advanced topics in C++ including: preferred practices and styles, templates, manipulators, exceptions, garbage collection, container design, multiple inheritance, namespaces and analysis of design, and implementation for efficiency and maintainability.</p>	<p>CIS 50 Introduction to Computers, Data Processing, and Applications 3 Units <i>Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.</i> <i>Three hours lecture.</i> Computer information systems (IS) basic terms and concepts. Important IS trends. Using systems development to build information systems. Survey of functions and components of an information system including applications software, systems software, telecommunications, networks, the Internet and Web. Social and organization issues.</p>
<p>CIS 30A Introduction to C# Programming 4 1/2 Units <i>(Formerly Computer Information Systems 65A.)</i> <i>Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.</i> <i>Four hours lecture, one and one-half hours laboratory.</i> Introduction to C# programming, .NET Environment, computing context, primitive types, flow of control constructs, operators, text I/O, objects and classes, interfaces, packages, GUI, exceptions, and threads.</p>	<p>CIS 53 Distributed Processing Using Java 4 1/2 Units <i>(Formerly Computer Information Systems 53B.)</i> <i>Prerequisite: Computer Information Systems 35B.</i> <i>Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.</i> <i>Four hours lecture, one and one-half hours laboratory.</i> Distributed computing using Java features including: JDBC, Sockets Java Servlets, Java Server Pages, RMI, Enterprise JavaBeans, Java Transaction Services, Introduction to Web Services.</p>
<p>CIS 30B Advanced C# Programming 4 1/2 Units <i>(Formerly Computer Information Systems 65B.)</i> <i>Prerequisite: Computer Information Systems 30A.</i> <i>Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.</i> <i>Four hours lecture, one and one-half hours laboratory.</i> Emphasis on foundation technologies in C# that enable you to write server side programs in C#. Concepts include Inner classes, Collections, Exceptions, File I/O, Reflections, Cloning, and Multithreading.</p>	<p>CIS 57 Web Site Administration 4 1/2 Units <i>Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.</i> <i>Four hours lecture, one and one-half hours laboratory.</i> Introduction to establishing, configuring, managing and controlling access to Internet servers.</p>
<p>CIS 31 Operating System Concepts 5 Units <i>Advisory: Computer Information Systems 15BG and 21JA.</i> <i>Five hours lecture.</i> Concepts and use of operating systems: multiprogramming and multiprocessing systems; processes and threads, mutual exclusion, indefinite postponement, deadlocks; scheduling considerations and security management.</p>	<p>CIS 61A Introduction to Computer Programming Using Java 6 Units <i>(Students may receive credit for either Computer Information Systems 61A and 61B, or Computer Information Systems 35A.)</i> <i>Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 114 or equivalent.</i> <i>Four hours lecture, six hours laboratory.</i> Problem solving, algorithms, and program design. Programming, testing and debugging of programs in Java. Introduction to expressions, control structures, methods, classes, strings, and arrays.</p>
<p>CIS 33A Programming in PERL 4 1/2 Units <i>(Formerly Computer Information Systems 33.)</i> <i>Prerequisite: Computer Information Systems 18A; and Computer Information Systems 15BG or 26A.</i> <i>Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.</i> <i>Four hours lecture, one and one-half hours laboratory.</i> A complete coverage of the core PERL language. Topics covered will include: basic loops and control structures, the elemental data types and operators, subroutines and variable scoping, regular expressions and text parsing, manipulation of files and directories, advanced list processing with grep and map, references, built-in functions and core modules, and advanced input/output including random-access files and formatting.</p>	<p>CIS 61B Intermediate Problem Solving in Java 5 Units <i>(Students may receive credit for either Computer Information Systems 61A and 61B, or Computer Information Systems 35A.)</i> <i>Prerequisite: Computer Information Systems 61A.</i> <i>Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.</i> <i>Four hours lecture, three hours laboratory.</i> A systematic approach to the design, construction and management of computer programs, emphasizing design, programming style, documentation, testing and debugging techniques.</p>
<p>CIS 33B Advanced PERL Programming 4 1/2 Units <i>(Formerly Computer Information Systems 54.)</i> <i>Prerequisite: Computer Information Systems 15BG; or Computer Information Systems 26A and 33A.</i> <i>Four hours lecture, one and one-half hours laboratory.</i></p>	<p>CIS 63 Systems Design 4 1/2 Units <i>Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Computer Information Systems 50.</i> <i>Four hours lecture, one and one-half hours laboratory.</i> Current tools of structured systems analysis and design: data flow diagrams, structure charts, HIPO charts, VTOCs, data structure/dictionaries, decision trees and tables, pseudo code.</p>

CIS 64A Data Base Management Systems 4 1/2 Units

(Formerly Computer Information Systems 64.)
Prerequisite: Computer Information Systems 15BG.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Four hours lecture, one and one-half hours laboratory.
 Rudiments of data base design, implementation and use. Basic understanding of various data modeling techniques. Overview and comparison of data base management systems. Emphasis on relational data bases; introduction to SQL.

CIS 64B Introduction to SQL 4 1/2 Units

Prerequisite: Computer Information Systems 64A.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Four hours lecture, one and one-half hours laboratory.
 Introduction to Oracle SQL, DML processing techniques, DDL techniques, selecting and sorting data, Joins, SQL functions, Oracle objects, Oracle data processing concepts to maintain large database systems.

CIS 64C Introduction to PL/SQL 4 1/2 Units

Prerequisite: Computer Information Systems 64B.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Four hours lecture, one and one-half hours laboratory.
 Oracle PL/SQL features cover Data Definition and Data Manipulation using Expressions, Control Structures, and Oracle Objects. Error handling, Pre-defined packages, Triggers, Transactions and advanced PL/SQL features.

CIS 64D Database Tuning 3 Units

Prerequisite: Computer Information Systems 64C.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Three hours lecture.
 Emphasis on importance of Performance Tuning, techniques for tuning several Oracle components, optimizing database for high volume transactions and Data Warehouses.

CIS 66 Introduction to Data Communication and Networking 5 Units

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Information Systems 3 or 50.
 Five hours lecture.
 Concepts of communication, data communications and networks. Overview of connectivity options, common protocols, local and wide area networks.

CIS 67A Local Area Networks 4 Units

Advisory: Computer Information Systems 66.
 Four hours lecture.
 Fundamental concepts of Local Area Network architecture and protocols. Emphasis on basic concepts needed to design, configure, and implement Local Area Networks. Emphasis on the evolution of Traditional Ethernet, Fast Ethernet, Gigabit Ethernet, Ten-Gigabit, Ethernet, ATM, and wireless LANs.

CIS 67B Introduction to Wide Area Networking 4 Units

Advisory: Computer Information Systems 67A.
 Four hours lecture.
 Fundamental concepts of telephony, telecommunication, and wide area networking. Emphasis on analog and digital transmission techniques. Emphasis on circuit-switching and packet-switching. Exploration of optimization in telecommunication.

CIS 73 UNIX/LINUX Systems Programming 5 Units

Prerequisite: Computer Information Systems 18A and 26B.
 Four hours lecture, three hours laboratory.
 Systems programming in the UNIX/LINUX and Posix environments. Emphasis on low-level UNIX/LINUX/Posix system calls from C programs and Shell scripts. Differences in major UNIX/LINUX/Posix environments (SVR4, BSD, standard Posix, Windows NT).

CIS 74 Computer Software Quality Assurance 4 1/2 Units

Advisory: Computer Information Systems 50.
 Four hours lecture, one and one-half hours laboratory.
 Analysis of types of software; software development life cycle; top down design and structured programming; modularization; standards and practices; software configuration management; software testing; documentation; software error types, causes; software quality assurance plans and procedures; software discrepancy reports, analysis; software visibility for managers.

CIS 75A Internet Concepts and TCP/IP Protocols 5 Units

Prerequisite: Computer Information Systems 66.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Computer Information Systems 67B and 26A, or Computer Information Systems 15AG.
 Five hours lecture.
 The architecture and underlying protocols of the Internet. The Internet will be examined as a layered product. Layers discussed will include mid-level packet delivery and address computation and high-level client/server applications using the TCP/IP Protocol Suite.

CIS 75B Internet Programming With TCP/IP 4 1/2 Units

Prerequisite: Computer Information Systems 26B and 75A.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Four hours lecture, one and one-half hours laboratory.
 Writing client/server applications using the TCP/IP protocol suite. All server classes, -- 'well known,' iterative, concurrent, and polling -- will be explored and used. Typical Internet programming problems will be addressed including resource availability, machine addressing, and differences in data representation between communicating computers.

CIS 75C Enterprise Security Threats Management 4 1/2 Units

Prerequisite: Computer Information Systems 75A or equivalent experience.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Four hours lecture, one and one-half hours laboratory.
 Learn how to apply Enterprise Security Concepts to monitor security threats, outages and analyze such results. Learn to predict hacker's mindset and respond to hacker attack. Raise awareness in your workplace about Security policy and procedures. System Administrator's IT Managers Analysts would benefit from this course as well as technologists wanting to broaden their impact.

CIS 75D Enterprise Security Policy Management 3 Units

Prerequisite: Computer Information Systems 75A or equivalent experience.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Two hours lecture, three hours laboratory.
 (Students will work in groups with Mentor available on-line.)
 Learn how to secure your Enterprise Network by creating a Security Policy and create procedures to maintain Security Policy. Learn to perform risk analysis and assessment on enterprise security. System Administrators, IT Managers Analysts would benefit from this course as well as technologists wanting to broaden their impact.

CIS 75E Enterprise Emergency Response Planning 2 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Two hours lecture.
 Learn how to plan for emergency response, recover from a disaster and how to mitigate risks. System Administrators, IT Managers Analysts would benefit from this course as well as technologists wanting to broaden their impact.

CIS 76 Introduction to Network Security 4 Units

Prerequisite: Computer Information Systems 75A.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent.
 Four hours lecture.
 Network security using the standard protocols and algorithms. All three goals of security including confidentiality, integrity, and availability will be discussed. Attacks on security including active and passive are discussed and elaborated on. Two major techniques of security, cryptography and steganography, are described with emphasis on cryptography. The emphasis is on mechanisms and services provided by the network security.

CIS 79 Managing Technology Projects 4 1/2 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 (Also listed as Business 88. Student may enroll in either department, but not both, for credit.)
 Four hours lecture, one and one-half hours laboratory.
 Introduction to the theory and practice of the design and management of technology projects including planning, performing, and monitoring of projects. Subjects explored are estimating costs and schedules, analyzing client expectations, guiding diverse groups of people toward a common goal, while earning a profit. Use of common software packages for project management.

CIS 80A Process Management 2 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Two hours lecture, two hours laboratory.
 Learn the basics of process mapping in examining work flow and relationships to improve the efficiency of an organization, improve communication and understanding, and find ways to optimize a process.

CIS 86 Computer Accounting Systems 5 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273 ; Accounting 1A. (Also listed as Accounting 86. Student may enroll in either department but not both, for credit.)
 Five hours lecture.
 Fundamentals of computerized accounting using integrated general ledger software packages and electronic spreadsheet software. Conversion of a manual system to a computer system.

CIS 89A World Wide Web Page Development 3 Units

Advisory: Computer Information Systems 18A or 56G; English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Two hours lecture, three hours laboratory.
 Fundamentals of Web page design and creation: designing, encoding and maintaining pages on the World Wide Web using HTML.

CIS 89C Client-Side Programming with JavaScript 4 1/2 Units

Advisory: Computer Information Systems 89A, and Computer Information Systems 14A or 15G.
 Four hours lecture, one and one-half hours laboratory.
 Fundamentals of client-side programming for Web pages requiring data collection or other user interaction. Students will create Web pages that execute on the client (personal system) using JavaScript.

CIS 94 Introduction to the Internet and World Wide Web 1 Unit

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263. (Also listed as Computer Applications and Office Systems 94. Student may enroll in either department, but not both, for credit.)
 Two hours lecture-laboratory.
 Pass-No Pass (P-NP) course.
 Introduction to using the Internet. Topics include an overview of the World Wide Web, e-mail, news groups, bulletin boards, World Wide Web browsers, basic Web page elements and exploration of virtual communities.

CIS 95A Project Management - A Practicum 5 Units

Prerequisite: Business 10 or equivalent experience.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273. (Also listed as Business 95A. Student may enroll in either department, but not both, for credit.)
 Five hours lecture.
 Focus on your role as a Project Manager; selecting a project; selecting a team; documentation and tracking of a project using Project Manager Book of Knowledge (PMBOK) Theory.

CIS 95B Project Planning and Control - A Practicum 4 Units

Prerequisite: Computer Information Systems 95A or equivalent experience.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Four hours lecture.
 Create a project scope statement that will act as a basis for creating a project plan. Build a project plan that integrates time, resources and communication with cost and quality of work. Plan controls to proactively mitigate risks.

CIS 95C Risk Assessment and Mitigation - A Practicum 4 Units

Prerequisite: Computer Information Systems 95B or equivalent experience.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Four hours lecture.
 Focus on responding to uncertain events or conditions for a positive or negative effect on project objectives. Implement techniques for planning for risks and learn to change project plans to reduce the probability and/or impact of the risk.

CIS 95D Managing Outsourcing - A Practicum 3 Units

Prerequisite: Computer Information Systems 95C or equivalent experience.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Three hours lecture.
 Learn to acquire goods and services from an outer organization using procurement and solicitation processes. Perform contract administration till completion and settlement of contract.

CIS 95E CAPM and PMP Exam Preparation 4 Units

Prerequisite: Computer Information Systems 95A or equivalent experience.
 Four hours lecture.
 Prepares the student for attempting the Project Management Professional (PMP) or Certified Associate in Project Management (CAPM) examination provided by Project Management Institute (PMI). Topics include management of integration, scope, time, cost, quality, human resources, communications, risk and procurement.

CIS 96 Special Projects in Computer Information Systems 1 Unit

CIS 96X 2 Units

CIS 96Y 3 Units

Prerequisite: Other De Anza College Computer Information Systems courses in which computer programming is learned and consent of the Computer Information Systems Department. Approved Special Projects Contract required.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
 Three hours laboratory for each unit of credit. (Hours to be individually arranged.)
 (Any combination of Computer Information Systems 96, 96X and 96Y may be taken up to six times, not to exceed 18 units, as long as the projects are different each time.)
 Design, implement, and document a special computer project.

CIS 98U Internship, Business/Computer Systems Division 1 Unit

CIS 98V 2 Units

CIS 98W 3 Units

CIS 98X 4 Units

CIS 98Y 5 Units

CIS 98Z 6 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273. (Also listed as Accounting 98U-Z, Business 98U-Z, and Computer Applications and Office Systems 98U-Z. Student may enroll in only one department for credit.)
 Four hours laboratory per unit of supervised internship in an authorized office or agency.
 (Any combination of Accounting 98U-Z, Business 98U-Z, Computer Applications and Office Systems 98U-Z, and Computer Information Systems 98U-Z may be taken up to six times, not to exceed 18 units, for credit. During each internship, students will be placed at different employer locations, different working environments, and/or given different assignments within the same company or department--thus providing the students with various opportunities to learn different skills. Students may repeat the same internship location and working environment if the student, employer, and instructor believe it would provide the student with increased work experience.)
 Off-campus supervised experiential education/internship for Business/Computer Systems Division students in research or business office environments related to student's major. Practical application of knowledge, skills and abilities acquired in student's major. Opportunity for additional hands-on training. Exposure to varied corporate, state and federal protocols, methodologies and practices in a professional environment.

CIS 108 Personal Computer Security Basics 4 Units

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 90GA or equivalent.
 (Also listed as Computer Applications and Office Systems 108. Student may enroll in either department, but not both, for credit.)
 Four hours lecture.
 Beginner's computer security course for small office or home users. Learn to stop hackers, worms, viruses, spyware, Web bugs and identity theft. Learn vulnerabilities found in Web browsers, e-mail and operating systems. Protect against online purchase dangers, install firewalls, manage cookies, restrict ports, analyze log files, evaluate wireless networks and examine encryption.

CIS 140A Automated Web Page Testing with Selenium IDE 2 Units

Prerequisite: Computer Information Systems 89A.
Corequisite: Computer Information Systems 140A students must also enroll in Computer Information Systems 89C.
Advisory: Computer Information Systems 74.
 One hour lecture, three hours laboratory.
 An introduction to the open-source Selenium Integrated Development Environment (SIDE) used for automating the testing of web pages. Topics covered will include: download and installation; user forums; record/replay; use of globbing and regular expressions within patterns; use of XPath and DOM expressions to locate page elements; test suite creation; the Selenium command set; the use of JavaScript snippets as arguments to Selenium commands; and the use of JavaScript within user extensions.

CIS 161 Computer Forensics 4 Units

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 150A or equivalent; Computer Applications and Office Systems 102L or equivalent.
 (Also listed as Administration of Justice 161 and Computer Applications and Office Systems 161. Student may enroll in only one department for credit.)
 Three hours lecture, two hours lecture-laboratory.
 Pass-No Pass (P-NP) course.

Introduction to computer crime investigation processes. Guides students to becoming computer forensics investigators who can acquire and analyze data from a computer to be used as evidence. Topics include computer forensics tools, data recovery and retrieval, information gathering techniques, computer data preservation techniques, and computer crime investigation techniques. System Administrators, IT Managers, and Law Enforcement Officers, would benefit from taking this course as well as individuals wanting to become Computer Forensics Consultants.

CIS 165 Security+ (Network Security Fundamentals) 4 Units

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 108 or Computer Information Systems 108.
 (Also listed as Computer Applications and Office Systems 165. Student may enroll in either department, but not both, for credit.)
 Three hours lecture, three hours laboratory.

Maps to objectives of CompTIA's Security + certification exams. Covers authentication methods along with common network attacks and how to safeguard against them. Explores remote access, e-mail, the Web, directory and file transfer, and wireless data, network devices and media, DMZs, Extranets, and Intranet security. Cryptography including asymmetric and symmetric algorithms, and PKI certificates. Physical security includes disaster recovery, and business continuity.

CIS 170D Windows 2000/XP Professional 4 Units

(Students may receive credit for either Computer Information System 170D, 171A, or 171C, but cannot receive credit for more than one of these courses.)
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 102L or Computer Information Systems 156A.
 Four hours lecture.

Course provides knowledge and skills to setup, configure, use, and support Windows 2000 professional software. Covers Windows XP new features including installation, activation, file sharing, remote assistance, Internet connection sharing, multi-user EFS, device driver rollback, and Internet connection firewall. Course uses Microsoft Official study guide to help students meet the certification requirement to become Microsoft Certified Professionals.

CIS 170E Windows Vista Enterprise 4 1/2 Units

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 102L.
 (Also listed as Computer Applications and Office Systems 170E. Student may enroll in either department, but not both, for credit.)
 Four hours lecture, one and one-half hours laboratory.

Provides knowledge and skills to setup, configure, use, and support Windows Vista software Enterprise. Course covers Windows Vista features including installing, upgrading, configuring and troubleshooting. Learn how to configure Windows Security, Network Connectivity and subsystems. Additional topics include configuring/troubleshooting mobile computing and learning how to use Vista's built-in Applications. Course targets objectives of the Microsoft Certified Professional Program.

CIS 198 Install and Configure Windows Vista 1 Unit

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 102L.
 One hour lecture.
 Provides knowledge and skills to setup, configure, use and troubleshoot Windows Vista software and security features.

CIS 200W Topics in Computer Information Systems 1 Unit

CIS 200X 2 Units

CIS 200Y 3 Units

CIS 200Z 4 Units

Credit course - Does not apply to De Anza Associate degree.
 One hour lecture for each unit of credit.
 (Any combination of Computer Information Systems 200W, 200X, 200Y and 200Z may be taken for up to six times, not to exceed 18 units, as long as the topics are different each time.)
 A planned program of exposure to fundamental concepts and applications of selected Computer Information Systems topics. Concepts and theories as applied to the specific topic.

COOP Ed Work Experience

COOP 51 Occupational Work Experience 1 Unit
COOP 51W 2 Units
COOP 51X 4 Units
COOP 51Y 6 Units
COOP 51Z 8 Units

Prerequisite: Must be in a job related to declared occupational program/educational goal.

Fifty hours of paid employment per quarter for each unit of credit. (May be taken until 24 units of COOP have been earned.)

Assess career/life development and work activities by introduction to the concept of career paths within occupational choices, and awareness of cultural/global diversity and generational differences in the work environment. Learning/performance objectives agreed upon by the student and employer will be identified and carried out. View objectives in terms of a planned series of experiences. Participation in COOP will assist the student in planning activities that will facilitate the confirming or denying of current academic or career choice.

COOP 53 Occupational Volunteer Community Service Learning Internship 1 Unit

COOP 53W 2 Units
COOP 53X 4 Units
COOP 53Y 6 Units
COOP 53Z 8 Units

Prerequisite: Must be volunteering in a service learning agency related to declared occupational program/educational goal.

Forty hours of unpaid internship per quarter for each unit of credit in a service learning environment.

(May be taken until 24 units of COOP have been earned.)

Volunteer in an approved community agency with individually planned and supervised learning experiences related to occupational goals and designed to help meet human needs in the community. Desirable work habits, attitudes, skills, knowledge, career awareness, and exposure to cultural and generational diversity. Experience setting and achieving on-the-job learning/performance objectives related to occupational goals and appropriate to the service learning internship. Consultations with individually assigned faculty members.

COOP 71 General Work Experience 1 Unit
COOP 71W 2 Units
COOP 71X 4 Units
COOP 71Y 6 Units
COOP 71Z 8 Units

Fifty hours of paid employment per quarter for each unit of credit.

(May be taken until nine units have been earned in this course within a maximum of 24 units in all COOP courses.)

Transferable skills gained under actual working conditions. Develop an understanding, appreciation and respect for work, peers, and awareness of cultural/global diversity and generational differences in the work environment. Through holding a job, fulfilling work related assignments and participating in on-campus activities, students are assisted in the process of developing a concept of self, understanding roles in the work environment and setting realistic goals. An assigned faculty coordinator helps students focus on the job skills needed for transition into a career.

COOP 73 General Volunteer Community Service Learning Internship 1 Unit

COOP 73W 2 Units
COOP 73X 4 Units
COOP 73Y 6 Units
COOP 73Z 8 Units

Prerequisite: Must be volunteering in an approved community agency.

Forty hours of unpaid internship per quarter for each unit of credit in a service learning environment.

(May be taken until nine units have been earned in this, within a maximum of 24 units in all COOP courses.)

Volunteer in an approved community agency with individually planned and supervised learning experiences that are designed to help meet human needs in the community. Desirable work habits, attitudes, skills, career awareness, and exposure to cultural and generational diversity. Experience in setting and achieving learning/performance objectives appropriate to the service learning internship. Consultations with individually assigned faculty members.

