CANT 61C  Cantonese - Intermediate Conversation (Third Quarter)  3 Units
Prerequisite: Cantonese 61B or equivalent.
Three hours lecture.
The high intermediate level of conversation, following Cantonese 61B. Continues the introduction to the language and culture of Cantonese-speaking communities in the world. The vocabulary and grammatical structures mastered in Cantonese 61B will be consolidated and further developed, in conjunction with elements of Chinese and Cantonese culture and history. Current events from newspaper/media will be discussed and elements of Chinese for business are further introduced such as every day commercial transactions.

Career Life Planning

CLP 70  Self-Assessment  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.
(Student may enroll in either Career Life Planning 70 or 75, but not both, for credit.)
Four hours lecture.
Examine the decision-making process by exploring theories in career development and other factors such as familial, social, and cultural issues that influence career and lifestyle choices. Utilize self-assessment inventories to identify individual interests, values, skills, and personality types as they relate to career/collge major options. Become familiar with career development software, related technology and develop skills to enhance the job search process.

CLP 75  College Major and Career Options  2 Units
Advisory: English Writing 311 and Reading 311 (or Language Arts 311), or English as a Second Language 272 and 273.
(Student may enroll in either Career Life Planning 70 or 75, but not both, for credit.)
Two hours lecture.
Pass-No Pass (P-NP) course.
Identify your compatible college majors and career options by completing a variety of self-assessment inventories. Examine how individual, family, social, and cultural perspectives influence the college major and career decision-making process. Review college major and career myths, the purpose and structure of higher education, and organizational structures found in employment settings.

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 standpoint 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, including 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 mechanisms. 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 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 114 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 inorganic 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 organic chemistry as preparation for the biological and health sciences.

CHEM 50  Preparation Course for General Chemistry  5 Units
Prerequisite: Mathematics 114 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 the core theory and problem-solving techniques of chemistry as preparation for Chemistry 1A and other science related fields. 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
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.
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.)
Four hours lecture.
An 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.
(This course meets NAEYC Standards 1 and 3; NBPTS Standards 1 and 4; and
CEC Standards, 1, 2, and 3.)

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.)
Four hours lecture.
An examination of human growth and development both typical and atypical from
school age through adolescence with particular attention given to current theoretical
and research perspectives within a diverse society.
(This course meets NAEYC Standards 1 and 3; NBPTS Standards 1 and 4; and
CEC Standards, 1, 2, and 3.)

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 Practice 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, 52, 54, and two other Child Development
curriculum courses (Child Development 53, 55, 61 or 63).
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 as long as experience is different each
time.)
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.
Emphasis is on design, presentation and assessment of developmentally appropriate
activities that use sensory, child centered materials to enhance imagination,
creative thinking, problem solving, divergent thinking and self-expression in young
children. Special attention is given to creating a climate that supports creative
exploration and the role of the teacher in promoting growth and development of
creativity in each child.
(This course meets NAEYC Standards 1a, 1b, 1c; 4a, 4b, 4d; NBPTS Standards
I, II, IV, VI; and CDE/DEC Standards CC1- K10,CC4-S2; EC4-S1;CC7, S10,
S11,S13; EC7-S2.)

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 that is emergent,
developmentally and individually appropriate and inclusive.
(This course meets NAEYC Standards 1 and 4; and NBPTS Standards 4, 5
and 6.)

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 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 Standards 1-5; NBPTS Standards 4 and 5; and 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, ethical and professional standards 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; CEC/DEC Standards CC2-K1-7,CC3-K1,CC5-K4,CC8-K1-5; and NBPTS Standards 2,3,8.)

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 Center.
(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.
(This course meets NAEYC Standards 1 and 4 and NBPTS 4, 5 and 6 standards.)

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 10G.
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: Child Development 10G, 12 and 54. Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Three hours lecture.
A study of the methods and principles of supervising student teachers, assistant teachers, parents and volunteers in early childhood classrooms. 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,1c, 2b, 4a, 4b, 5a, 5b, 5c; CEC/DEC Standards CC2-K1-7,CC3-K1,CC5-K4,CC8-K1-5; and NBPTS Standards 2,3,8.)

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.
The underlying principles of early education, in which national, state, and local practices will be examined in contrast to options presented through ethnographic data 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; CEC/DEC Standards CC3-K3, EC3-S1, CC6-K3, 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.
An examination of the key principles and effective approaches in family support practice; strategies to communicate and involve families in early childhood education.
(This course meets NAEYC Standard 2, Building Families and Community Relationships; NBPTS Generalist Standard VII, Family and Community Partnerships; and CEC/DEC Standard 10, Collaboration.)

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 childcare as a business and as a program for children. Starting your own childcare business, budget and contracts, licensing and safety requirements will be addressed. Relevant program issues such as designing indoor/ outdoor environments, daily schedule, curriculum, child guidance, accommodations for all children and parent partnerships 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 101W Current Issues in Child Development 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 101W, 101X, 101Y and 101Z 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 102W Curriculum for Child Development Personnel 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 102W, 102X, 102Y and 102Z 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 of curriculum for Child Development personnel.

C D 103W Topics in Preschool Program Administration 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 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.

All courses are for unit credit and apply to a De Anza associate’s degree unless otherwise noted.

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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 standard types of office 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 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.
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 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.
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 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.
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 33AL 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 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 Desktop 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 Desktop 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 Desktop Operating
System (MS DOS) and the use of the Microsoft Windows Desktop Applications
programs.

CAOS 104I Ten-Key on the 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; 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
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
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 and 102K, 102L, 102M or 102T.
Two hours lecture-laboratory.
Pass-No Pass (P-NP) course.
Enter-level concepts and terminology of filing rules for an office environment.

CAOS 105 Introduction to HTML
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
Advisory: Computer Applications and Office Systems 90GA.
Two hours lecture-laboratory.
Pass-No Pass (P-NP) course.
A basic introduction to the 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
descs, 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 public, 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).)
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 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 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.

**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).)  
Prerequisite: Computer Applications and Office Systems 113A (or 113I and 113Q); or Arts 113A (or 113I and 113Q); or CAD and Digital Imaging 113A (or 113I and 113Q); or 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).)  
Prerequisite: Computer Applications and Office Systems 115A (or 115I and 115Q).  
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).)  
Prerequisite: Computer Applications and Office Systems 115A (or 115I and 115Q).  
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; 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 comptTIA 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, Extrarets, 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 102E.
(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 170F  Windows 7 Administration  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 102M.
(Also listed as Computer Information Systems 170F. 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 7 operating system. Course covers Windows 7 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 Windows 7’s built-in applications.

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  1/2 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.
(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.
Two hours lecture-laboratory for each unit of credit.
Introduction to selected Computer Application 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
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
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.

CIS 14B  Visual Basic .NET Programming II  4 1/2 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Computer Information Systems 14A or equivalent.
Four hours lecture, one and one-half hours laboratory.
Develop professional looking and deployable visual basic applications using advanced controls, user-created classes, incorporating databases with ADO.NET 3.5, calling APIs, and creating Web applications.
CIS 14C Visual Basic .NET Programming III 4 1/2 Units
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 or equivalent; Computer Information Systems 50; Computer Applications and Office Systems 70A.
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.
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, multidimensional 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 15B or 26A.
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, one and one-half hours laboratory. Stacks, queues, linked lists, trees, heaps, and graphs; internal and external sorting; use of recursion; hashing; structured programming; and abstract data types concepts; team project.

CIS 18A Introduction to UNIX/LINUX 4 1/2 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Computer Information Systems 10.
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
Prerequisite: Computer Information Systems 14A or 15AG; and Computer Information Systems 18A.
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
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; any introductory programming course and Computer Information Systems 18B.
Four hours lecture, one and one-half hours laboratory. Programming in bash shell, Bourne shell, Korn shell, and C shell.

CIS 21JA Introduction to 8086/IA 32 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
(This course is intended for students who are competent in another programming language. Students may receive credit for either Computer Information Systems 15AG and 15BG, or Computer Information Systems 26A, but not both.)
Prerequisite: An Introductory Programming Language course such as Computer Information Systems 14A.
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.

CIS 26B Advanced C Programming 4 1/2 Units
Prerequisite: Computer Information Systems 15BG or 26A.
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.
Four hours lecture, one and one-half hours laboratory. 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-string conversion, event and error processing, function pointers, recursion, and variable-length argument list functions.

CIS 27 Programming in C++ for C Programmers 4 1/2 Units
Prerequisite: Computer Information Systems 26A, 26B and 26C; English as a Second Language 272 and 273.
Four hours lecture, one and one-half hours laboratory. A comprehensive introduction to the C++ programming language and its applications.

CIS 28 Object Oriented Analysis and Design 4 1/2 Units
Prerequisite: Computer Information Systems 27 or 35A or equivalent experience.
Four hours lecture, one and one-half hours laboratory. 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.

CIS 29 Advanced C++ Programming 4 1/2 Units
(Formerly Computer Information Systems 52G.)
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Computer Information Systems 27.
Four hours lecture, one and one-half hours laboratory. Advanced topics in C++ including: namespace, string and stringstream classes, cast operators, multiple inheritance, exception handling, compilation concepts, libraries, templates, the Standard Template Library and programming style.

CIS 30A Introduction to C# Programming 4 1/2 Units
(Formerly Computer Information Systems 65A.)
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 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.

CIS 30B Advanced C# Programming 4 1/2 Units
(Formerly Computer Information Systems 65B.)
Prerequisite: Computer Information Systems 30A.
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. 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 multi-threading.
CIS 31 Operating System Concepts 5 Units
Advisory: Computer Information Systems 15BG and 21JA.
Five hours lecture.
Concepts and use of operating systems: multiprogramming and multiprocessing systems; processes and threads, mutual exclusion, indefinite postponement, deadlocks; scheduling considerations and security management.

CIS 33A Programming in PERL 4 1/2 Units
Prerequisite: Computer Information Systems 18A; and Computer Information Systems 15BG or 26A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Four hours lecture, one and one-half hours laboratory.
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.

CIS 33B Advanced PERL Programming 4 1/2 Units
Prerequisite: Computer Information Systems 15BG; or Computer Information Systems 26A and 33A.
Four hours lecture, one and one-half hours laboratory.
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.

CIS 35A Introduction to Java Programming 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.
Introduction to JAVA programming, computing context, primitive types, flow of control constructs, operators, text I/O, objects and classes, interfaces, packages, GUI and exceptions.

CIS 35B Advanced Java Programming 4 1/2 Units
Prerequisite: Computer Information Systems 35A.
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.
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, multi-threading and JavaBeans.

CIS 50 Introduction to Computers, Data Processing, and Applications 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.
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.

CIS 53 Distributed Processing Using Java 4 1/2 Units
Prerequisite: Computer Information Systems 35B.
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.
Distributed computing using Java features including: JDBC, Java Servlets, Java Server Pages, RMI, Enterprise JavaBeans, Java Transaction Services, XML and Java, Introduction to Web Services.

CIS 57 Web Site Administration 4 1/2 Units
Prerequisite: Computer Information Systems 66 and 89A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Four hours lecture, one and one-half hours laboratory.
Introduction to establishing, configuring, managing and controlling access to Internet servers.

CIS 61A Introduction to Computer Programming Using Java 4 1/2 Units
(Students may receive credit for either Computer Information Systems 61A and 61B, or Computer Information Systems 35A.)
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273, Mathematics 114 or equivalent.
Four hours lecture, one and one-half hours laboratory.
Problem solving, algorithms, and program design. Programming, testing and debugging of programs in Java. Introduction to expressions, control structures, methods, classes, strings, and arrays.

CIS 61B Intermediate Problem Solving in Java 4 1/2 Units
(Students may receive credit for either Computer Information Systems 61A and 61B, or Computer Information Systems 35A.)
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Computer Information Systems 61A.
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.

CIS 63 Systems Design 4 1/2 Units
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.
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.

CIS 64A Data Base Management Systems 4 1/2 Units
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 (Structured Query Language), DML (Data Manipulation Language) processing techniques, DDL (Data Definition Language) 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, predefined 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 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.

CIS 73 UNIX LINUX Systems Programming 5 Units
Prerequisite: Computer Information Systems 18A and 26B.
Four hours lecture, three hours laboratory.
Coverage of systems programming in the UNIX/LINUX/Posix environments, with emphasis on low-level UNIX LINUX/Posix system calls from C programs and Shell scripts. Discussion of differences in major UNIX LINUX/Posix environments.
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 Administrators, IT Managers and 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.  
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 and Analysts would benefit from this course as well as technologists wanting to broaden their impact.

CIS 75E  
**Enterprise Emergency Response Planning**  
2 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.  
Two hours lecture.  
Learn how to plan for emergency response, recover from a disaster and how to mitigate risks. System Administrators, IT managers and 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 denial of service and man-in-the-middle 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 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 hour 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  4 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 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 student in responsible work 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; pattern matching; 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 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, Extraneis, and Intranet security. Cryptography including asymmetric and symmetric algorithms, and PKI certificates. Physical security includes disaster recovery, and business continuity.

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 170F  Windows 7 Administration  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 102M.
(Also listed as Computer Applications and Office Systems 170F. 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 7 operating system. Course covers Windows 7 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 Windows 7's built-in applications.

CIS 188  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.
COOP 53W  2 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

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>COOP 51</td>
<td>Occupational Work Experience</td>
<td>1 Unit</td>
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<tr>
<td>COOP 51W</td>
<td></td>
<td>2 Units</td>
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<tr>
<td>COOP 51X</td>
<td></td>
<td>3 Units</td>
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<tr>
<td>COOP 51Y</td>
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<td>4 Units</td>
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</table>

Prerequisite: Must be working in a job related to declared occupational program/educational goal.
Fifty hours of paid employment per quarter for each unit of credit (4.17 hours of paid employment per week, per unit).
(May be taken until 24 units of Cooperative Education have been earned and in combination with all other Cooperative Education courses.)
Assess career/life development and work activities by introduction to the concept of career paths with occupational choices, and awareness of cultural/global diversity and generational differences in the work environment. Learn the S.M.A.R.T. principle for writing learning/performace and write a set of learning/performance objectives agreed upon by the student and employer that will be carried out during the quarter. View objectives in terms of a planned series of experiences for career/academic development. Participation in COOP will facilitate the career and academic development and decision-making process. Consultation with individually assigned faculty member.

COOP 53 Occupational Volunteer Community

COOP 53W  2 Units
Prerequisite: Must be volunteering in a service-learning agency related to declared occupational program/educational goal; college recognized occupational program goal.
Fifty hours of unpaid volunteer hours for each unit of credit earned per quarter; volunteering in a nonprofit, service-learning organization (3.33 hours of unpaid volunteer internship per quarter for each unit of credit).
(May be taken until 24 units of Cooperative Education have been earned and in combination with all other Cooperative Education courses.)
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 member.

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.)

COOP 73 General Volunteer Community

COOP 73W  2 Units
Prerequisite: Volunteer in an service learning (nonprofit) agency.
Fifty hours of unpaid volunteer hours for one unit of credit earned per quarter; volunteering in a nonprofit, service-learning organization (3.33 hours of unpaid volunteer internship per quarter for each unit of credit).
(May be taken until nine units have been earned in this, within a maximum of 24 units in all Cooperative Education 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 member.

Counseling

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>COUN 80W</td>
<td>Special Topics in Counseling</td>
<td>1/2 Unit</td>
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<tr>
<td>COUN 80X</td>
<td></td>
<td>1 Unit</td>
</tr>
<tr>
<td>COUN 80Y</td>
<td></td>
<td>2 Units</td>
</tr>
<tr>
<td>COUN 80Z</td>
<td></td>
<td>3 Units</td>
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</tbody>
</table>

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 Counseling 80W, 80X, 80Y and 80Z may be taken up to six times, not to exceed 16 units, as long as the topics are different each time.)
Selected counseling topics with a focus on academic and personal development.

DANCE 22 Body Awareness and Conditioning for Dancers  1 Unit

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
(Any combination of Counseling 80W, 80X, 80Y and 80Z may be taken up to six times, not to exceed 16 units, as long as the topics are different each time.)
Principles of dance and practice of body awareness focusing on center, floor and barre work derived from ballet, contemporary dance, and other psycho-physical disciplines. Topics may include, but are not limited to, body alignment and centering, concentration and relaxation, development of the kinesthetic sense, and exploration of the body/mind connection.

DANCE 22K Theory and Technique of Ballet I  1 Unit

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Dance 22 or Physical Education 22.
(Any combination of Counseling 80W, 80X, 80Y and 80Z may be taken up to six times, not to exceed 16 units, as long as the topics are different each time.)
Introduction to the discipline and creative art of classical ballet, including the development of elementary movement techniques, a working ballet vocabulary, exposure to great works and artists from a global perspective, theory and practice of barre and center floor exercises.