**CFT 144   Production Furniture Making
            (Toys)   (.5-1)**
1 to 2 hours lecture/laboratory
Note: *May be taken 2 times*
Methods and techniques of manufacturing production are learned through lecture and demonstration. Skills are acquired as these methods and techniques are applied in extensive lab work in a production mode. To enable the production of relatively large quantities with varied complexity, this course utilizes the manufacture of quality wooden toys, which are donated to local charities.

CFT 149   Hand Joinery I   (2,3,4)
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 105*
Note: *May be taken 2 times*
Exploration of hand tool techniques with application to fine furniture. Skills will be developed through the construction of sample joints and a simple project. Topics include: marking and layout tools, cutting tools, use of the workbench and its accessories, hand saws and their use, Japanese vs. Western tools, dovetail joinery, mortise and tenon joinery, squaring and sizing with a hand plane, sharpening hand tools and building a simple carcase.

CFT 150   Hand Joinery II   (2,3,4)
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 149*
Note: *May be taken 2 times*
Comprehensive study of specialized woodworking techniques. The emphasis of this course will be on the development of hand tool skills. Learning exercises will be completed making traditional joinery typical of fine furniture.

CFT 151   Veneering Technology I   (2,3,4)
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 105*
Note: *May be taken 2 times*
Introduction to the use of veneers in furniture making. Topics include: understanding veneer as a material, cutting and seaming veneer, pressing veneer using traditional and modern methods, creating sunbursts and other multi-piece matches, using and maintaining various cutting tools and sawing your own veneer.

CFT 152   Veneering Technology II   (2,3,4)
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 151*
Note: *May be taken 2 times*
Study and practice of advanced veneering techniques which includes working with radius shapes, hand and machine marquetry techniques, hammer veneering, and installation of bandings and stringings. Students will demonstrate their abilities in the construction of a small piece of furniture.

CFT 153   Studio Furniture Design I   (2,3,4)
4, 6, or 8 hours lecture/laboratory)
Prerequisite: *CFT 105*
Note: *May be taken 2 times*
Exploration of historical design concepts and their application to contemporary work. Development of drawing skills needed to design one of a kind studio furniture.

CFT 154   Studio Furniture Design II (2,3,4)
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 153*
Note: *May be taken 2 times*
Implementation of students' design concepts created in CFT 153. Exploration of market opportunities and client relationships.

CFT 155   Classic American Chair Designs (2,3,4)
4, 6, or 8 hours lecture/laboratory
Note: *May be taken 4 times; maximum of 4 completions in any combination of CFT 155, CFT 156*
Chair making which emphasizes the use of traditional chair making tools to shape raw wood into chair parts. Topics include the history of Windsor and Ladder Back chair designs; harvesting raw materials from a tree; proper sharpening of the hand tools; shaping, steam bending, kiln drying and assembling the chair parts; seat weaving; and traditional finishing appropriate to each chair style.

**CFT 156   Advanced Classic American Chair
            Designs   (2,3,4)**
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 155*
Note: *May be taken 4 times; maximum of 4 completions in any combination of CFT 155, CFT 156*
Chair making which emphasizes the use of traditional chair making tools to shape raw wood into chair parts. Skill development and improved craftsmanship is emphasized while learning to make more complex chairs. Advanced chair designs include: bow back, continuous arm, writing arm, double and triple settees and fan back Windsor chairs; Appalachian style three-slat side chair, four-slat arm chair, bar stools, youth rocker and six-slat rocking chair.

**CFT 157   Chair and Seating/Prototype
            Construction   (2,3,4)**
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 105*
Note: *May be taken 3 times*
In-depth study of production chair making. History of chair making and seating. Design and application of pattern making techniques on student-selected projects.

**CFT 158   Chair and Seating/Production
            Manufacturing   (2,3,4)**
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 157*
Note: *May be taken 3 times*
Chair and seating construction; production and advanced machine tool techniques as they relate to chair making. Fine joinery, theory, and advanced techniques.

CFT 161   Tables/Prototype Construction   (2,3,4)
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 105*
Note: *May be taken 3 times*
Table design and construction. Machine tool operations necessary to produce various table leg, trussel, and base designs.

CFT 162   Tables/Production Manufacturing(2,3,4)
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 161*
Note: *May be taken 3 times*
Development and refinement of table making skills, processes, and procedures. Construction of extension and drop-leaf style tables. Joinery and hardware unique to table making.

**CFT 163   Plastic Laminate Fabrication
            Techniques   (.5,1)**
1 or 2 hours lecture/laboratory
Note: *May be taken 2 times*
This course examines the manufacturing process for plastic laminate products, including tools, adhesives, jigs, application and installation techniques.   Lectures, demonstrations, and hands-on exercises will give students the opportunity to develop the proficiency and knowledge to design, build and install plastic laminate products.

CFT 164   Cabinet Installation   (.5,1)
1 or 2 hours lecture/ laboratory
Note: *May be taken 2 times*
Installation of both face frame and European (32mm) cabinetry. Topics include: Understanding wall structure, measuring and planning for installation, review of cabinet construction with emphasis on installation, in-depth discussion of the tools, jigs, and techniques used for installation, installation of lower face frame cabinets, installation of upper European (32mm) cabinets, finished scribing of molding.

**CFT 165   Cabinetmaking/Face Frame/
            Construction   (2,3,4)**
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 105*
Note: *May be taken 3 times*
Traditional face frame cabinet construction as applied in kitchens and bathrooms with design, layout, and material analysis. Hands-on experience in carcase construction, face frames, partitions, and construction of doors and drawers.

**CFT 166   Cabinetmaking/Production and
            Manufacturing   (2,3,4)**
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 165*
Note: *May be taken 3 times*
Designed to give students the knowledge and ability to enter the cabinetmaking business. Manufacturing and production techniques will be examined along with design, assembly, and installation. Students will learn to bid on jobs, estimate materials, provide client satisfaction, and produce quality work on a profitable basis.

**CFT 167   Cabinetmaking/32mm European
            Construction   (2,3,4)**
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 105*
Note: *May be taken 3 times*
European 32mm production methods as used in cabinetmaking. European design and space utilization; European machinery, hardware, and the latest in European systems. Influence of the 32mm system on the American cabinetmaking industry.

**CFT 168   Cabinetmaking/Architectural
            Millwork   (2,3,4)**
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 105*
Note: *May be taken 3 times*
Historical and modern architectural millworking techniques used in frame and panel systems, doors, fireplaces, wall systems, staircases, and built-in components. Hands-on experience on student-selected projects may include woodcarving, woodturning, construction of doors and windows and the production/installation of moldings.

**CFT 169   Cabinetmaking/Computer Cabinet
            Layout   (.5,1,2,3)**
1, 2, 4 or 6 hours lecture/laboratory
Prerequisite: *CFT 105*
Note: *May be taken 4 times*
Selection and application of appropriate software as developed for the cabinet industry. Development of industrial standard cabinet plans and specifications utilizing personal-size computer and software programs.

CFT 170   Workbench Design and Production(2,3,4)
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 100*
Note: *May be taken 2 times*
Design and construction of the most basic of woodworking tools, a workbench. Process rough lumber to maximize yield and minimize waste. Students will be allowed to customize the size of their bench to fit individual requirements within limits. However, mass-production techniques will not be sacrificed. In addition, a broad review of woodworking vises and other bench accessories will be conducted so that students will be able to further customize their own bench.

CFT 171   Furniture for the Wood Shop   (2,3,4)
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 100*
Note: *May be taken 4 times*
The individual student will be required to design and construct one or
more projects from a broad range of furniture-quality accessories for the woodworking shop such as tool totes, tool boxes, chests and cabinets (both stationary and portable), step stools, saw horses or workbench accessories. Particular attention will be paid to artistic and functional design, utility, material selection and joinery techniques. Skills in spindle turning, marquetry and inlay, compound angle joinery, coopering, and veneering will be developed and employed depending on the project selected.

**CFT 172   TurboCAD for Cabinets & Furniture
            (2,3,4)**
4, 6, or 8 hours lecture/laboratory
Note: *May be taken 3 times*
Introduction to TurboCAD and to basic CAD concepts and their direct application to the design and drawing of custom cabinets and furniture, as an alternative to "pencil & paper" drawing. Topics will include: extensive 2D and 3D drawing, modifying, and

editing tools; the production of measured, shop drawings as an essential first step in the construction of a project; rendering, as a tool in the visualization of concept design.

CFT 175   Jigs and Fixtures   (2,3,4)
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 105*
Note: *May be taken 4 times*
Theory of production tooling, fixtures, and jigs; design and develop practical applications of production tooling, fixtures and jigs as used in current machines within the industry. Field trips to local industries will allow students to further understand tooling as used in the trades.

**CFT 180   Wood Bending and Lamination/
            Wood Technology   (2,3,4)**
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 105*
Note: *May be taken 4 times*
Principles and practical applications of both wood bending and lamination. Mechanical and chemical means of bending wood studied and developed, specific structure and properties of wood are developed.

**CFT 185   Machine Tool Set-up and
            Maintenance   (2,3,4)**
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 100*
Note: *May be taken 4 times*
Set up, repair, rebuild, and maintain tools and machines used in the wood-related industries. Machine tool operations studies and applied. Consumer information developed to acquaint student with machines and tools within the field. Planned maintenance schedules developed and applied.

**CFT 186   Machine Tool/Production
            Carving   (1,2,3,4)**
2, 4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 105*
Note: *May be taken 4 times for a maximum of 9 units*
Introductory woodcarving course using hand and power machine tools. Design considerations, carving techniques, production carving, and incorporation of woodcarving into cabinetmaking, furniture construction, and architectural millwork.

CFT 187   Introduction to Carving   (1,2,3,4)
2, 4, 6, or 8 hours lecture/laboratory
Note: *May be taken 4 times; maximum of 4 completions in any combination of CFT 187, CFT 188, CFT 189*
This beginning course in carving introduces students to the tools and techniques used in carving wood. The course includes specifics of available tools, their proper handling and maintenance, as well as discussions of layout and carving methods as applied to furniture and architectural millwork.

CFT 188   Intermediate Carving   (1,2,3,4)
2, 4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 187*
Note: *May be taken 4 times; maximum of 4 completions in any combination of CFT 187, CFT 188, CFT 189*
This course examines methods relating to both low and high relief carving, as well as incised lettering. More complex layout and carving techniques are undertaken. Concepts such as setting-in and blocking-out are introduced while modeling, introduced in the beginning course, is more fully developed.

CFT 189   Advanced Carving   (1,2,3,4)
2, 4, 6, or 8 hours lecture/laboratory
Note: *May be taken 4 times; maximum of 4 completions in any combination of CFT 187, CFT 188, CFT 189*
Advanced carving is a topical study of specific carving applications as they relate to furniture or architectural millwork. Topics are largely gathered from period styles and may include ball and claw feet, Newport shells, and Philadelphia rococo, as well as contemporary interpretations, Art Nouveau, and maritime themes. See Class Schedule for specific period styles/themes to be emphasized.

**CFT 190   Specialty and Manufactured
                    Hardware   (.5,1,2,3)**
1, 2, 4, or 6 hours lecture/laboratory
Note: *May be taken 4 times*
Survey of traditional, contemporary, European, and Oriental market hardware found in the cabinet and furniture industries, including consumer applications. Exploration and application of various system solutions for given problem(s). Study and application of hinges, K-D fasteners, fastening systems, joint systems, drawer guides, and runners.

**CFT 195   Finishing Technology/Touch-Up
                    and Repair   (2,3,4)**
4, 6, or 8 hours lecture/laboratory)
Prerequisite: *CFT 100*
Finishes as used in the wood-related fields. Study and use of penetrating, surface, epoxy, catalytic, and resin surface finishes. Preparation to include staining, filling, and glazing. Chemistry of lacquers, urethanes, oils, and enamels. Instruction and practice in the touch-up of existing finishes through use of French polishing, burn-in sticks, and dry aniline staining. Repair of fine furniture as necessary prior to finishing.

**CFT 196   Special Problems in Cabinet and
                    Furniture Technology   (1,2,3,4,5,6)**
3, 6, 9, 12, 15, or 18 hours laboratory
Prerequisite: *CFT 100 or 105*
Note: *May be taken 4 times*
A research course through individual contract concentrating in the area of Cabinet and Furniture Technology.

**CFT 197   Cabinet and Furniture Technology
                    Topics   (.5-4)**
Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.
Note: *May be taken 4 times*
Topics in Cabinet and Furniture Technology. See class schedule for specific topic covered. Course title will designate subject covered.

CFT 198   Advanced Wood Finishing   (2,3,4)
4, 6, or 8 hours lecture/laboratory
Prerequisite: *CFT 195*
Wood finishing history, processes, and application of multiple colors and complex finishes on furniture. Topics include media, solvents and tools used to apply media, faux finishes, gilding, coloring the finishing materials, turning broken or missing parts, and veneer repair.

**CFT 295   Directed Study in
                    Woodworking   (1,2,3,4,5,6)**
48, 96, 144, 192, 240, 288 hours laboratory
Prerequisite: *CFT 105*
Independent study in furniture making, cabinet making, shop layout, design, operation, and maintenance for students who have demonstrated advanced skills and/or proficiencies in Cabinet and Furniture Technology subjects and have the initiative to work independently on projects or research outside the context of regularly scheduled classes. Registration requires prior approval of supervising instructor.

Chemistry (CHEM)

Contact the Chemistry Department for further information, (760) 744-1150, ext. 2505

Associate in Arts degree requirements, Certificate of Achievement requirements, and Certificate of Proficiency requirements are listed in Section 6 (green pages) of the catalog.

PROGRAM OF STUDY

Chemistry

Provides the background to begin upper division course work and prepares the student for entry-level jobs that require a knowledge of chemistry. The student is advised to check with the institution to which he/she wishes to transfer for additional courses, which may be required.

A.A. Degree Major or Certificate of Achievement

Program Requirements		Units
CHEM 110	General Chemistry	3
CHEM 110L	General Chemistry Laboratory	2
CHEM 115	General Chemistry	3
CHEM 115L	General Chemistry Laboratory	2
CHEM 210	Analytical Chemistry	5
CHEM 220	Organic Chemistry	5
CHEM 221	Organic Chemistry	5
TOTAL UNITS		**25**

COURSE OFFERINGS

Courses numbered under 50 are non-degree courses.
Courses numbered under 100 are not intended for transfer credit.

CHEM 10   Chemistry Calculations   (1)
1 hour lecture
Note: *Credit/No Credit grading only*
The basic calculation skills needed for successful performance in CHEM 100, 110, and 115. Areas such as significant figures, exponential numbers, and basic chemical problems are discussed. Emphasizes student practice of chemistry problems.

CHEM 100   Fundamentals of Chemistry   (4)
3 hours lecture-3 hours laboratory
Prerequisite: *One year of high school algebra*
Transfer acceptability: *CSU; UC – no credit if taken after CHEM 110; CAN CHEM 6; CHEM 100+105=CAN CHEM SEQ B*
Introductory study of the principles and laboratory techniques of general chemistry. Laboratory must be taken concurrently with lecture.

CHEM 101   The World of Chemistry   (3)
3 hours lecture
Transfer acceptability: *CSU; UC – no credit if taken after CHEM 110; UC – CHEM 101 and 102 combined: maximum credit, one course*
An introduction to chemistry for non-science majors. Stresses a humanistic approach to chemistry and de-emphasizes mathematical problem solving. Includes chemical and physical discoveries and their impact on our standard of living, the formulation of chemical theories from chemical facts, and the use of chemical theories to make scientific and technological advances.

CHEM 102   Chemistry and Society   (3)
3 hours lecture
Transfer acceptability: *CSU; UC – no credit if taken after CHEM 110; UC – CHEM 101 and 102 combined: maximum credit, one course*
Introductory course for non-science majors, to acquaint students with the language and tools of chemistry and to enable them to develop an appreciation for the role of chemistry in our environment and life's processes.

CHEM 105   Fundamentals of Organic Chemistry   (4)
3 hours lecture-3 hours laboratory
Prerequisite: *A minimum grade of "C" in CHEM 100, or CHEM 110 and 110L*
Transfer acceptability: *CSU; UC - CAN CHEM 8; CHEM 100+105= CAN CHEM SEQ B*
An introduction to the study of organic chemistry with an emphasis on classification, reactions, and application to allied fields. Laboratory includes techniques of isolation, identification, and synthesis of organic compounds.

CHEM 110   General Chemistry   (3)
3 hours lecture
Prerequisite: *A minimum grade of "C" in CHEM 100 or high school chemistry with laboratory, and two years high school mathematics including algebra*
Corequisite: *CHEM 110L*
Transfer acceptability: *CSU; UC - CHEM 110+110L=CAN CHEM 2; CHEM 110+110L+115+115L=CAN CHEM SEQ A*
Principles of, and calculations in, areas such as atomic structure, solutions, chemical bonding, chemical formulas and equations, gases, energy transformations accompanying chemical changes, and descriptive chemistry.

CHEM 110L General Chemistry Laboratory   (2)
6 hours laboratory
Prerequisite: *Concurrent enrollment in, or completion of, CHEM 110 with a minimum grade of "C"*
Transfer acceptability: *CSU; UC – CHEM 110+110L=CAN CHEM 2; CHEM 110+110L+115+115L=CAN CHEM SEQ A*
Qualitative and quantitative investigations designed to accompany CHEM 110.

CHEM 115   General Chemistry   (3)
3 hours lecture
Prerequisite: *A minimum grade of "C" in CHEM 110 and 110L*
Recommended preparation: *Concurrent enrollment in CHEM 115L*
Transfer acceptability: *CSU; UC - CHEM 115+115L=CAN CHEM 4; CHEM 110+110L+115+115L=CAN CHEM SEQ A*
Principles of, and calculations in, areas such as reaction spontaneity, energy changes accompanying chemical reactions, rates of reactions, chemical equilibrium, acids and bases, precipitation reactions, complex ions, oxidation and reduction, nuclear reactions, and descriptive chemistry.

CHEM 115L General Chemistry Laboratory   (2)
6 hours laboratory
Prerequisite: *A minimum grade of "C" in CHEM 110 and 110L; concurrent enrollment in, or completion of, CHEM 115*
Transfer acceptability: *CSU; UC - CHEM 115+115L=CAN CHEM 4; CHEM 110+110L+115+115L=CAN CHEM SEQ A*
Qualitative and quantitative investigations designed to accompany CHEM 115.

CHEM 196   Special Laboratory Problems in Chemistry   (2)
6 hours laboratory
Prerequisite: *CHEM 105, or CHEM 110 and 110L; approval of project or research by department chairperson*
Note: *May be taken 2 times*
Transfer acceptability: *CSU; UC – Credit determined by UC upon review of course syllabus.*
Special laboratory investigations with emphases upon the use of chemical instrumentation and newer chemical techniques in the synthesis of compounds and/or the investigation of problems in the fields of inorganic, analytical or organic chemistry.

CHEM 197   Chemistry Topics   (.5-4)
Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.
Note: *May be taken 4 times*
Transfer acceptability: *CSU; UC – Credit determined by UC upon review of course syllabus.*
Topics in Chemistry. See Class Schedule for specific topic offered. Course title will designate subject covered.

CHEM 205   Introductory Biochemistry   (3)
3 hours lecture
Prerequisite: *A minimum grade of "C" in CHEM 105*
Transfer acceptability: *CSU; UC*
Fundamental principles of the chemistry of living systems, including structure and function of proteins, nucleic acids, carbohydrates, and lipids. Emphasis on metabolism, energy storage and utilization.

CHEM 210   Analytical Chemistry   (5)
3 hours lecture-6 hours laboratory
Prerequisite: *A minimum grade of "C" in CHEM 115 and 115L*
Transfer acceptability: *CSU; UC; CAN CHEM 12*
Principles, calculations, and applications of volumetric, gravimetric, and instrumental analysis. Practice in standardizing reagents and determining the composition of samples of various materials.

CHEM 220   Organic Chemistry   (5)
3 hours lecture-6 hours laboratory
Prerequisite: *A minimum grade of "C" in CHEM 110 and 110L*
Recommended preparation: *A minimum grade of "C" in CHEM 115 and 115L*
Transfer acceptability: *CSU; UC*
Integrated treatment of organic chemistry including electronic and orbital theory with applications to carbon bonding, stereo chemistry, resonance theory, and reaction mechanisms of both aliphatic and aromatic compounds. Strong emphasis on organic nomenclature, reactions, preparations, and synthesis of organic compounds. Laboratory: Techniques and theories involved in organic reactions and preparations, qualitative organic analysis, and instrumental methods.

CHEM 221   Organic Chemistry   (5)
3 hours lecture-6 hours laboratory
Prerequisite: *A minimum grade of "C" in CHEM 220*
Recommended preparation: *A minimum grade of "C" in CHEM 115 and 115L*
Transfer acceptability: *CSU; UC*
Continuation of the integrated treatment of organic chemistry including electronic and orbital theory with applications to carbon bonding, stereo chemistry, resonance theory, and reaction mechanisms of both aliphatic and aromatic compounds. Strong emphasis on organic nomenclature, reactions, preparations, and synthesis of organic compounds. Laboratory: techniques and theories involved in organic reactions and preparations, qualitative organic analysis, and instrumental methods.

CHEM 295   Directed Study in Chemistry   (1,2,3)
3, 6, or 9 hours laboratory
Prerequisite: *Approval of project or research by department chairperson*
Note: *May be taken 4 times for a maximum of 6 units*
Transfer acceptability: *CSU; UC – Credit determined by UC upon review of course syllabus.*
Independent study for students who have demonstrated skills and/or proficiencies in chemistry subjects and have the initiative to work independently on projects or research outside the context of regularly scheduled classes. Students will work under the personal supervision of an instructor.

Chicano Studies (CS)

See also Multicultural Studies
Contact the Multicultural Studies Department for further information, (760) 744-1150, ext. 2206

COURSE OFFERINGS

CS 100   Introduction to Chicano Studies   (3)
3 hours lecture
Transfer acceptability: *CSU; UC*
The development of contemporary Chicano culture including various pre-Columbian and Hispanic cultures in Mexico and the Southwest. A cross-disciplinary approach examines applicable methods and theories from sciences and humanities.

CS 101   The Chicano in the United States   (3)
3 hours lecture
Note: *This course plus CS 102 meets the State requirement in American History and Institutions.*

Transfer acceptability: *CSU; UC*
An historical survey of the Mexican-American/Chicano people in the United States. Emphasis on cultural and historical roots from pre-Columbian times through the Spanish conquest period and subsequent cultural and racial mix, including the U.S. American culture in the Southwest.

CS 102   The Chicano and the American Political System   (3)
3 hours lecture
Note: *This course plus CS 101 meets the State requirement in American History and Institutions.*
Transfer acceptability: *CSU; UC – CS 102, AS 110 and AIS 102 combined: maximum credit, one course*
A basic and practical approach to understanding and utilizing the American political system. Includes a critical evaluation of leading issues affecting Chicanos as well as a survey of social and political organizations within the community. A description and analysis of Federal, State, and local government.

CS 105   Chicano Literature   (3)
3 hours lecture
Transfer acceptability: *CSU; UC*
A survey of Chicano literature from its pre-Columbian origins. Analyzes the identity conflicts resulting from the dual cultures of Mexican and American worlds through literary works. Introduces the student to the rich and culturally diverse Chicano and Chicana authors that reflect the literary traditions that have mirrored the Chicano-Mexican reality in the United States.

CS 110   Contemporary Mexican Literature   (3)
3 hours lecture
Transfer acceptability: *CSU; UC*
A survey of Mexican novels, prose and poetry from the Mexican Revolution to the present. Major landmark novels of Mexico will be examined in their social and historical context. Designed to acquaint non-Spanish major students with Mexican thought, values, and literary heritage relative to world literature.

CS 115   Literature of Latin America   (3)
3 hours lecture
Transfer acceptability: *CSU; UC*
A survey of Latin American Literature which covers several epochs, genres, authors, cultures, countries, and literary movements in Mexico, Central America, South America, and the Caribbean. Some countries will stand out more than others because of the accessibility of literary works in translation.

CS 120   Introduction to Sociology of the Chicano   (3)
3 hours lecture
Transfer acceptability: *CSU; UC*
The Chicano and the Chicano community within contemporary American society seen from a sociological perspective. Includes socialization/acculturation of the Chicano and the Chicano's role in societal institutions - family, marriage, religion, education, and economics.

CS 125   The History of Mexico   (3)
3 hours lecture
Transfer acceptability: *CSU; UC*
A survey of the political, economic, and cultural development of the Mexican people and nation from the pre-Columbian period through the Revolution of 1910.

CS 155   Ancient Civilizations of Meso America   (3)
3 hours lecture
Note: *Cross listed as ANTH 155*
Transfer acceptability: *CSU; UC*
Civilizations of Pre-Columbian Mexico and Central America with a focus on their origins and achievements.

Child Development (CHDV)

Contact the Child Development Department for further information, (760) 744-1150, ext. 2206. For transfer information, consult a Palomar College counselor.

Associate in Arts degree requirements, Certificate of Achievement requirements, and Certificate of Proficiency requirements are listed in Section 6 (green pages) of the catalog.

PROGRAMS OF STUDY

Child Development courses prepare students for employment as an aide, teacher, and/or director in a preschool or a child care center (including infant/toddler facilities), family child care providers, and other Child Development careers in early childhood education fields. Courses are also appropriate for parents, nannies, recreation leaders, camp counselors, elementary school teaching assistants (some classes may be used as a foundation for elementary school teachers), social services and health care practitioners, administrators, and others working with children.

Certificates meet the course requirements for teachers, site supervisors, and directors of private child care programs licensed by the California State Department of Social Services (Title 22), Community Care Licensing. The program also meets the course requirements for the Child Development Permit issued by the California Commission on Teacher Credentialing. Child Development programs that are state funded or federally funded (Title 5 programs such as, Head Start, state preschool, etc.) follow the Child Development Permit matrix. In addition to the course work listed in the certificate, students must have experience working with young children in order to obtain an actual Child Development Permit from the State of California. For specific questions relating to the Child Development Permit, please contact the Child Development Office for further information.

It is recommended that Child Development courses be taken in the sequence indicated in this certificate. In order to earn a certificate or degree, students must achieve a minimum grade of "C" in each of the required courses.

Child Development Teacher

The 38.5 units listed in this section enable students to complete a Teacher Certificate in Child Development.

Students also have the option of completing the General Education courses required by the college and the 38.5 units to earn an Associate of Arts Degree in Child Development.

A.A. Degree Major or Certificate of Achievement

Program Requirements		Units
CHDV 100*	Child Development	3
CHDV 105	Participation and Observation	4
CHDV 110	Introduction to Special Education	3
CHDV 115*	Child, Youth, Family, and Community	3
CHDV 120	Children's Health, Safety, and Nutrition	3
CHDV 121	CPR and First Aid for Child Care Workers	.5
	(This course can be challenged by showing a current CPR and FA card required by Community Care Licensing)	
CHDV 125	Art in Early Childhood	3
CHDV 130	Math/Science Early Childhood	3
CHDV 135	Music/Creative Movement	3
CHDV 140	Children's Literature/Language Development	3
CHDV 145	Children: Victims of Violence	3
CHDV 185	Advanced Curriculum/Early Child Education	3
CHDV 200**	Program/Supervised Experiences	4
TOTAL UNITS		**38.5**

*Minimum course for 12 units for State Licensing Regulations, CHDV

100, 115 and two other curriculum three unit CHDV courses.
**CHDV 200 should be taken in the last semester in this certificate or A.A. degree major program.

Elective Child Development courses (Not required for Certificates)		Units
CHDV 197 A	Child Development Workshop: Cultural Arts	.5-4
CHDV 197 B	Child Development Wksp: Hlth/Safety/Nutrtn	.5-4
CHDV 197 C	Child Development Wksp: Professional Educ.	.5-4
CHDV 197 D	Child Development Workshop: Parenting	.5-4
CHDV 295	Directed Study in Child Development	1,2,3

Child Development Master Teacher

In order to earn a Master Teacher Certificate, students must complete the 38.5 units listed for the Teacher Certificate and a combination of 9 additional units listed in this section.

Certificate of Achievement

Program Requirements		Units
Requires all Child Development Teacher Certificate courses		38.5

Plus:

CHDV 195	Adult Supervision/Mentor Teacher	3
	AND	
	One of the following course groupings:	
CHDV 102	Parents as Partners in the Early Years	3
CHDV 104	Guidance for Young Children	3
	OR	
CHDV 180	Understand/Work/ with the School-Age Child	3
CHDV 190	Curriculum for the School-Age Child	3
	OR	
CHDV 103	Infant and Toddler Care	3
CHDV 106	Infant and Toddler Curriculum	3
TOTAL UNITS		**47.5**

Child Development Site Supervisor

In order to earn a Site Supervisor Certificate, students must complete the 38.5 units listed for the Teacher Certificate and the additional 9 units listed in this section.

Certificate of Achievement

Program Requirements		Units
Requires all Child Development Teacher courses		38.5

Plus:

CHDV 195	Adult Supervision/Mentor Teacher	3
CHDV 150	Advanced Administration for Childhood Directors	3
CHDV 155	Advanced Supervision for Childhood Directors	3
TOTAL UNITS		**47.5**

COURSE OFFERINGS

CHDV 100   Child Development   (3)
3 hours lecture
Transfer acceptability: CSU; UC
A broad overview of human development from conception through adolescence with research and theories applied to modern society. Extensive information to assist in understanding human growth and development.

CHDV 102   Parents as Partners in the Early Years (3)
3 hours lecture
Transfer acceptability: CSU
Assists teachers and child care providers in developing a family centered approach to parent involvement. Explores different kinds of families, working with families of diverse cultures and families with children with special needs. Includes communication skills, home visits, conferences, group meetings, and stages of parenting.

CHDV 103   Infant and Toddler Care   (3)
3 hours lecture
Transfer acceptability: CSU
Concepts of effective practice for infant and toddler care with emphasis on communication, cultural differences, problem solving, and providing a safe and nurturing environment.

CHDV 104   Guidance for Young Children   (3)
3 hours lecture
Transfer acceptability: *CSU*
Designed to increase understanding of children's behavior. Explores effective techniques for dealing with issues of separation, peer interaction, fears, frustrations and aggression. Emphasizes teaching

children pro-social interactions, self control, and decision making skills.

CHDV 105   Participation and Observation in
**   Early Childhood Education   (4)**
3 hours lecture-3 hours laboratory
Prerequisite: *CHDV 100*
Transfer acceptability: *CSU*
Students will analyze developmentally appropriate child development practices by observing and recording behaviors of children from infancy through age eight. Techniques, methods and organization of factual information concerning the young child will be implemented.

CHDV 106   Infant and Toddler Curriculum   (3)
3 hours lecture
A survey of program and activity planning for infants and toddlers in child care programs, emphasizing areas of attachment, motor skills, cognition, language and communication skills, environments. Strategies for working with parents, observation and assessment skills and the need for professional development will be explored.

CHDV 110   Introduction to Special Education   (3)
3 hours lecture
Transfer acceptability: *CSU*
Introduces student to historical antecedents of education programs for the exceptional individual. Includes the role of superstition, religion, research, litigation, and legislation.

CHDV 115   Child, Youth, Family, and Community   (3)
3 hours lecture
Transfer acceptability: *CSU*
The study of the child and youth in relation to the family, school, and community; family relationships; factors affecting parental attitudes; and values of individuals and families.

CHDV 120   Children's Health, Safety, and Nutrition(3)
3 hours lecture
Transfer acceptability: *CSU*
Physical, psychosocial, and mental health including immunizations and infectious disease control. Emphasis is placed on development of understandings and practices of a preventative health system including sanitary food handling, child nutrition, child abuse, and emergency preparedness and evacuation. Health assessments and the changing of health behaviors are stressed. Create, assess and monitor safe indoor and outdoor environments for children.

CHDV 121   Pediatric CPR and First Aid   (.5)
½ hour lecture
Note: *May be taken 4 times, Credit/No Credit grading only.*
Prepares childcare workers, parents, and other adults working with children for skills and knowledge required for pediatric first aid and CPR.

CHDV 125   Art in Early Childhood   (3)
3 hours lecture
Transfer acceptability: *CSU*
Methods and processes for developing creativity through art for young children. A study of fundamental teaching methods, preparation of lesson plans, and materials used in art will be explored. An emphasis will be placed on the developmental and experiential approaches and techniques.

CHDV 130   Math and Science in Early Childhood   (3)
3 hours lecture
Transfer acceptability: *CSU*
Students will examine math and science concepts for ages preschool through eight years. Teaching methods and materials will be developed and implemented.

CHDV 135   Music and Creative Movement in
**   Early Childhood   (3)**
3 hours lecture
Transfer acceptability: *CSU*

Developing creative experiences through music and movement activities. Songs, movement, and instrument experiences will be presented. Appropriate lesson plans and techniques will be developed.

CHDV 140   Children's   Literature   and   Language
**   Development   (3)**
3 hours lecture
Transfer acceptability: *CSU*
Survey of historic and contemporary children's literature. A critical look at children's books and the process of choosing age appropriate books for children infancy through adolescence.

CHDV 145   Children: Victims of Violence   (3)
3 hours lecture
Transfer acceptability: *CSU*
Prepares the student to identify, report, and work with families who interact violently. Includes the historical background and legal aspects of child abuse.

CHDV 150   Advanced Administration for Early
**   Childhood Directors   (3)**
3 hours lecture
Recommended preparation: *CHDV 100, 110, 115, 120, 145, 185*
Transfer acceptability: *CSU*
Application of basic management principles in Child Development programs including State regulations, funding, budget preparation, and policy writing.

CHDV 155   Advanced Supervision for Early
**   Childhood Directors   (3)**
3 hours lecture
Recommended preparation: *CHDV 100, 110, 115, 120, 145, 185*
Transfer acceptability: *CSU*
The student will explore the tools that generate productive staff management and identify supervisory techniques such as staff motivation, staff benefits, team building, leadership skills, and situation leadership.

CHDV 180   Understanding and Working with the
**   School-Age Child   (3)**
3 hours lecture
Transfer acceptability: *CSU*
Designed to prepare students to work with children ages five through adolescence, by focusing on the development of the children in this age group. Students will study developmental theories and the practical implications of these theories when working with the school-aged child. Licensing regulations for Title 5 and 22 programs will be explored.

CHDV 185   Advanced Curriculum in Early
**   Childhood Education   (3)**
3 hours lecture
Prerequisite: *CHDV 105*
Recommended preparation: *CHDV 115, 120, 125, 130, 135, 140*
Transfer acceptability: *CSU*
Explicit, concrete examples of curriculum application are provided along with theoretical principles and practical application.

CHDV 190   Curriculum for the School-Age Child   (3)
3 hours lecture
A survey of programs and activities planning for school-age children, including both before and after school curriculum and activities for groups and individuals.

CHDV 195   Adult Supervision/Mentor Teacher   (3)
3 hours lecture
Prerequisite: *CHDV 105 and 115*
Transfer acceptability: *CSU*
Methods and principles of supervising student teachers in early childhood classrooms. Emphasizes the role of the experienced classroom teacher who functions as a mentor to new teachers while simultaneously addressing the needs of children, parents, and other staff.

CHDV 197A Child Development Workshop:
**   Cultural Arts   (.5-4)**
Units awarded in topics courses are dependent upon the number of

hours required of the student. Any combination of lecture, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.
Note: *May be taken 4 times for a maximum of 9 units*
Transfer acceptability: *CSU*

Workshop to provide upgrading of knowledge and skills in state-of-the-art techniques in cultural arts; to include speakers, seminars, and in-service training in current aspects of child development.

CHDV 197B Child Development Workshop: Health, Safety, and Nutrition (.5-4)
Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.
Note: *May be taken 4 times for a maximum of 9 units*
Transfer acceptability: *CSU*
Workshop will provide current knowledge and skills in state-of-the-art techniques in infant, child, and adolescent health, safety, food service, nutrition, communicable disease, pediatric CPR and first aid, and injury control. Includes speakers, seminars, and in-service training in current aspects of child development.

CHDV 197C Child Development Workshop: Professional Education (.5-4)
Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.
Note: *May be taken 4 times for a maximum of 9 units*
Transfer acceptability: *CSU*
Workshop will provide current knowledge and skills in state-of-the-art techniques in professional education which includes speakers, seminars, and in-service training in current aspects of child development.

CHDV 197D Child Development Workshop: Parenting (.5-4)
Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.
Note: *May be taken 4 times for a maximum of 9 units*
Transfer acceptability: *CSU*
Concepts of effective parenting in various family structures including: nuclear, single parent, extended, and step family. An emphasis will be placed on communication and problem solving, discipline, and values. A one-unit class will satisfy court mandated parenting requirements. Verification given upon request. Student must attend all class sessions to receive verification.

CHDV 200 Program and Supervised Experiences in Early Childhood (4)
2 hours lecture-6 hours laboratory
Prerequisite: *Completion of, or concurrent enrollment in CHDV 100, 105, 110, 115, 120, 121, 125, 130, 135, 140, 145, 185, ENG 100*
Transfer acceptability: *CSU*
In a supervised teaching situation, students will implement lesson plans, activities, develop teaching strategies, complete self-evaluations, initiate resume development, review the job application process, and participate in mock interviews.

CHDV 295 Directed Study in Child Development (1,2,3)
3, 6, or 9 hours laboratory
Prerequisite: *Approval of project or research by department chairperson/director*
Note: *May be taken 4 times for a maximum of 6 units*
Transfer acceptability: *CSU*
Independent study for students who have demonstrated skills and/or proficiencies in child development subjects and have the initiative to work independently on projects or research outside the context of regularly scheduled classes. Students will work under the personal supervision of an instructor.

Chinese (CHIN)
Contact the Foreign Languages Department for further information, (760) 744-1150, ext. 2390

COURSE OFFERINGS

For students who have completed foreign language course work at the high school level, and need clarification regarding placement in college level course work, contact the Counseling Center. Universities have varying policies regarding the granting of transfer credit when there is a combination of high school and college level course work.

CHIN 101 Chinese I (5)
5 hours lecture-1 hour laboratory
Transfer acceptability: *CSU; UC-CHIN 101+102= CAN CHIN SEQ A*
This course is the first semester of Chinese. This elementary level course is a study of the Chinese language and Chinese-speaking cultures, with emphasis on the development of communicative skills and basic structures. Course combines in-class instruction and practice with self-paced study in the Foreign Language Laboratory. This beginning-level course is for students with no previous coursework in Chinese.

CHIN 101A Chinese IA (3)
3 hours lecture
Transfer acceptability: *CSU; UC - CHIN 101A and 101B combined: maximum credit, 5 units; UC – both courses must be taken for transfer credit to be given*
Chinese 101A is equivalent to the first half of Chinese 101. This elementary level course is a study of the Chinese language and Chinese-speaking cultures, with emphasis on the development of communicative skills and basic structures. This beginning-level course is for students with no previous coursework in Chinese.

CHIN 101B Chinese IB (3)
3 hours lecture
Prerequisite: *CHIN 101A or one year of high school Chinese*
Transfer acceptability: *CSU; UC – CHIN 101A and 101B combined: maximum credit, 5 units; UC – both courses must be taken for transfer credit to be given*
Chinese 101B is equivalent to the second half of Chinese 101, and is a continuation of Chinese 101A. This elementary course is a study of the Chinese language and Chinese-speaking cultures, with emphasis on the development of communicative skills and basic structures.

CHIN 102 Chinese II (5)
5 hours lecture-1 hour laboratory
Prerequisite: *CHIN 101 or 101B or two years of high school Chinese*
Transfer acceptability: *CSU; UC-CHIN 101+102= CAN CHIN SEQ A*
This course is the second semester of Chinese. This elementary level course is a study of the Chinese language and Chinese-speaking cultures, with continued emphasis on the development of communicative skills and basic structures. Course combines in-class instruction with self-paced study in the Foreign Language Laboratory.

CHIN 102A Chinese IIA (3)
3 hours lecture
Prerequisite: *CHIN 101 or 101B or two years of high school Chinese*
Transfer acceptability: *CSU; UC – CHIN 102A and 102B combined: maximum credit, 5 units; UC – both courses must be taken for transfer credit to be given*
Chinese 102A is equivalent to the first half of Chinese 102. This elementary level course is a study of the Chinese language and Chinese-speaking cultures, with continued emphasis on the development of communicative skills and basic structures.

CHIN 102B Elementary Chinese IIB (3)
3 hours lecture
Prerequisite: *CHIN 102A or two years of high school Chinese*
Transfer acceptability: *CSU; UC – CHIN 102A and 102B combined: maximum credit, 5 units; UC – both courses must be taken for transfer credit to be given*
Chinese 102B is equivalent to the second half of Chinese 102,

and is a continuation of Chinese 102A. This elementary level course is a study of the Chinese language and Chinese-speaking cultures, with continued emphasis on the development of communicative skills and basic structures.

CHIN 130   Chinese Civilization   (3)
3 hours lecture
Transfer acceptability: CSU; UC
A survey of the major developments and characteristics of Chinese civilization and culture from its origins to modern times.

CHIN 197   Chinese Topics   (.5-5)
Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.
Note: *May be taken 4 times*
Transfer acceptability: CSU; UC – Credit determined by UC upon review of course syllabus.
Topics in Chinese. See Class Schedule for specific topic offered. Course title will designate subject covered.

CHIN 201   Chinese III   (5)
5 hours lecture
Prerequisite: *CHIN 102 or 102B, or three years of high school Chinese*
Transfer acceptability: CSU; UC
This course is the third semester of Chinese. This intermediate level course is a study of the Chinese language and Chinese-speaking cultures, focusing on intermediate level structures and readings of culturally relevant authentic materials. Emphasis is on developing oral, listening, reading and writing skills in order to acquire proficiency in Chinese. Class is largely conducted in Chinese.

CHIN 201A Chinese IIIA   (3)
3 hours lecture
Prerequisite: *CHIN 102 or 102B, or three years of high school Chinese*
Transfer acceptability: CSU; UC – CHIN 201A and 201B combined: maximum credit, 5 units; UC – both courses must be taken for transfer credit to be given
Chinese 201A is equivalent to the first half of Chinese 201. This intermediate level course is a study of the Chinese language and Chinese-speaking cultures, focusing on intermediate level structures and readings of culturally relevant authentic materials. Emphasis is on developing oral, listening, reading and writing skills in order to acquire proficiency in Chinese. Class is largely conducted in Chinese.

CHIN 201B Chinese IIIB   (3)
3 hours lecture
Prerequisite: *CHIN 201A*
Transfer acceptability: CSU; UC – CHIN 201A and 201B combined: maximum credit, 5 units; UC – both courses must be taken for transfer credit to be given
Chinese 201B is equivalent to the second half of Chinese 201, and is a continuation of Chinese 201A. This intermediate level course is a study of the Chinese language and Chinese-speaking cultures, focusing on intermediate level structures and readings of culturally relevant authentic materials. Emphasis is on developing oral, listening, reading and writing skills in order to acquire proficiency in Chinese.   Class is largely conducted in Chinese.

Cinema (CINE)
See also Journalism, and Radio/Television
Contact the Communications Department for further information, (760) 744-1150, ext. 2440. For transfer information, consult a Palomar College counselor.

Associate in Arts degree requirements, Certificate of Achievement requirements, and Certificate of Proficiency requirements are listed in Section 6 (green pages) of the catalog.

PROGRAM OF STUDY

Cinema
Provides the theory and practice necessary for work in the field of film making.

A.A. Degree Major or Certificate of Achievement

Program Requirements		Units
CINE 100	Art of the Cinema	3
CINE 102	History of Film to 1945	3
CINE 103	History of Film 1945-Present	3
CINE 105	Film Subjects	3
CINE 120	Film Criticism	3
CINE/RTV 125	Beginning Film and Video Field Production	3
CINE/RTV 225	Intermediate Film and Video Field Production	3
Electives (Select 6 units)		
CINE 110	The Non-Fiction Film	3
CINE/RTV 115	Creative Writing for TV/Cinema	3
CINE 296	Special Projects	1,2,3
RTV 110	Broadcast Writing and Producing	3
TOTAL UNITS		**27**

COURSE OFFERINGS

CINE 100   Art of the Cinema   (3)
3 hours lecture
Transfer acceptability: CSU; UC
An aesthetic study of the film. Areas of investigation will include symbolism, characterization, imagery, and uses of realism and fantasy. Criticism of important films will be in terms of thematic coherence, structural unity, technical achievement, and visual beauty. Off-campus programs may be required.

CINE 102   History of Film to 1945   (3)
3 hours lecture
Transfer acceptability: CSU; UC
A survey of the development of the motion picture as an art form and cultural phenomenon from its inception to the end of World War II, including early inventors, pioneers of cinematic grammar, and major film movements such as German Expressionism, Soviet Montage, and the golden age of the American studio system. Films are regularly screened in the classroom.

CINE 103   History of Film 1945-Present   (3)
3 hours lecture
Transfer acceptability: CSU; UC
A survey of the development of the motion picture as an art form and cultural phenomenon from the end of World War II to the present day, including major film movements such as Italian Neorealism, Film Noir, the French New Wave, and the American Renaissance of the 1960s-70s. Films are regularly screened in the classroom.

CINE 105   Film Subjects   (3)
3 hours lecture
NOTE: *May be taken 4 times*
Transfer acceptability: CSU; UC – Credit determined by UC upon review of course syllabus.
A study of selected motion picture themes such as women in films, the western, the films of Hitchcock/Chabrol. Check the Class Schedule each semester for the particular subject.

CINE 110   The Non-Fiction Film   (3)
3 hours lecture
Transfer acceptability: CSU; UC
A study of the complete spectrum of this vital genre, including the documentary, political propaganda, personal poetic statement, and travel record. Regular film programs of Flaherty, Grierson, Leacock, Maysles, and Wiseman will be shown.

CINE 115   Creative Writing for Television and
Cinema   (3)
3 hours lecture
Note: *Cross listed as RTV 115*
Transfer acceptability: CSU
Instruction and practice in the art of dramatic script writing. Emphasis is placed on the development of the initial story idea into a viable, professional shooting script for TV or film.

CINE 120   Film Criticism   (3)
3 hours lecture
Transfer acceptability: CSU; UC
A study of the writing of major film critics. The work of Kael, Sarris, Youngblood, Farber, and others will be considered in the attempt to formulate aesthetic standards for cinema. Motion picture viewing assignments will be made in connection with the readings.

CINE 125   Beginning Film and Video Field Production   (3)
6 hours lecture/laboratory
Note: *Cross listed as RTV 125*
Transfer acceptability: *CSU; UC – CINE/RTV 125 and 225 combined: maximum credit, one course*
A study of the basic techniques of field production using Super 8 or 16mm film or analog or digital video equipment as applied to various cinematic forms. The student will work with a team on a project through the preproduction, shooting, and postproduction phases of storytelling for the screen.

CINE 225   Intermediate Film and Video Field Production   (3)
6 hours lecture/laboratory
Prerequisite: *A minimum grade of' "C" in RTV 110 and CINE/RTV 125*
Note: *Cross listed as RTV 225*
Transfer acceptability: *CSU; UC – CINE/RTV 125 and 225 combined: maximum credit, one course*
Principles, techniques, and theory of field production using digital or analog video or 16mm film equipment. Theory and practice of off-line linear or nonlinear editing.

CINE 296   Special Projects in the Cinema   (1,2,3)
3, 6, or 9 hours laboratory
Prerequisite: *CINE 115/RTV 115 or CINE 225/RTV 225*
Note: *May be taken 2 times*
Transfer acceptability: *CSU; UC – Credit determined by UC upon review of course syllabus.*
Independent work on an original film project. The instructor will approve the work plan and afford personal guidance in its completion. Normally a student will make a fully satisfactory and acceptable screenplay or short film.

Communications (COMM)
See also Cinema, Journalism, and Radio/Television
Contact the Communications Department for further information, (760) 744-1150, ext. 2440. For transfer information, consult a Palomar College counselor.

COURSE OFFERINGS

COMM 100   Mass Media in America   (3)
3 hours lecture
Transfer acceptability: *CSU; UC – COMM 100 and 105 combined: maximum credit, one course; CAN JOUR 4*
A multi-media approach to a comparative survey of communication in 20th century America, studying the history, structure, and social impact of television, cinema, radio, journalism, and new forms of communication.

COMM 105   Human Values in the Mass Media   (3)
3 hours lecture
Transfer acceptability: *CSU; UC – COMM 100 and 105 combined: maximum credit, one course*
An analysis of the changing social and ethical issues that confront both our mass communication systems and the public. The media's role in reflecting, creating, and controlling human values, both personal and social. Examination of images of women, African-Americans, Native Americans, Asian-Americans, and Latinos in the mass media and their sociological consequences.

Computer Science and Information Systems (CSIS)
Contact the Computer Science and Information Systems Department for further information, (760) 744-1150, ext. 2387 or http://www.palomar.edu/csis

Associate in Arts degree requirements, Certificate of Achievement requirements, and Certificate of Proficiency requirements are listed in Section 6 (green pages) of the catalog.

PROGRAMS OF STUDY

Cisco
The Cisco networking program is designed to teach students the skills needed to design, build, and maintain small to medium-sized networks. This provides students the opportunity to enter the workforce and/or further their education and training in the computer-networking field.

Certificate of Proficiency

Program Requirements		Units
CSIS 130	Cisco Networking Fundamentals	3
CSIS 131	Cisco Router Configuration	3
CSIS 132	Cisco Adv Routing/Switching	3
CSIS 133	Cisco WAN Design/Support	3
TOTAL UNITS		**12**

Computer Network Administration
This program prepares the student for employment in the field of Computer Networking. The focus is on developing skills in a combination of the Network Operating Systems produced by Cisco, Microsoft, and UNIX. Specific learning outcomes include developing team dynamics in the following skills: Network Media Installation, LAN and WAN Design, Network Management, Fundamentals of Networking Devices, Client Hardware Repair, Network Operating Systems Installation and Configuration, Networking Device Operating Systems, Installation and Configuration, Client Operating Systems Installation and Configuration, Network Security, Remote Access, Routing Principles and Configuration, and Maintaining a Corporate Network.

In order to earn a certificate or degree, students must achieve a minimum grade of "C" in each of the certificate or degree program courses.

A student must complete the required degree courses and all of the courses in a chosen elective emphasis. The student may choose from the following elective emphases: Microsoft and Unix Management, Cisco and Unix Management, or Cisco and Microsoft Management

A.A. Degree Major*

Program Requirements		Units
CSIS 108 or	Hardware and OS Fundamentals	
R CSIS 155	Computer Technology – Hardware	3
CSIS 130 or	Cisco Networking Fundamentals	
CSIS 111 or	Networking Fundamentals	
RCSIS 160	Introductions to Local Area Networking	3,4
CSIS 160	Survey of Computer Science	4
CSIS 162 or	Windows Client	
R CSIS 157	Windows XP Professional and Server	3
CSIS 163	Windows Server	3
CSIS 225 or	Linux Fundamentals	
R CSIS 145	Introduction to Linux	2
CSIS 136 or	Hacker Prevention/Network Security	
RCSIS 161	PC/Network Security	3
CSIS 135	Wireless Networking	2

Emphasis: Microsoft and UNIX Management
Note: By adding CSIS 131, CSIS 132 and CSIS 133 to your Microsoft and Unix Management Emphasis you can also earn a Certificate of Proficiency in Cisco in addition to your Computer Network Administration A.A. Degree.

Required Courses

CSIS 164	Network Infrastructure Administration	3
CSIS 165	Active Directory Services Administration	3
CSIS 227	Linux Administration	2
CSIS 228	Linux Networking and Security	2

Group One Electives (Select 2 courses)
CSIS 166	Designing Active Directory Services	2
CSIS 167	Designing Network Infrastructure	2
CSIS 168	Designing Network Security	2

Group Two Elective (Select 1 course)
CSIS 172	Microsoft SQL Server Administration	2
CSIS 173	Designing Microsoft SQL Server Databases	2
CSIS 176	Managing a Windows Network	2
CSIS 177	Microsoft Exchange Server	

Emphasis: Cisco and UNIX Management
Note: CSIS 130 is a prerequisite for CSIS 131

CSIS 131	Cisco Router Configuration	
CSIS 132	Cisco Advanced Routing and Switching	3
CSIS 133	Cisco Wide Area Network Design and Support	3
CSIS 134	Network Voice and Data Cabling	3
CSIS 227	Linux Administration	2
CSIS 228	Linux Networking and Security	2

Emphasis: Cisco and Microsoft Management
Note: CSIS 130 is a prerequisite for CSIS 131

CSIS 131	Cisco Router Configuration	3
CSIS 132	Cisco Advanced Routing and Switching	3
CSIS 133	Cisco Wide Area Network Design and Support	3
CSIS 134	Network Voice and Data Cabling	3
CSIS 164	Network Infrastructure Administration	2
CSIS 166	Designing Active Directory Services	2
Total Program Units		**38-40**

*Computer Network Administration A. A. Degree Major pending approval by Chancellor's Office at time of catalog publication.

Computer Science
This program prepares students for technical positions in software development in business and industry. See a Counselor for additional university transfer requirements in this major.

A.A. Degree Major or Certificate of Achievement

Program Requirements		Units
CSIS 160	Survey of Computer Science	4
CSIS 220	Programming for Computer Science	4
CSIS 221	Data Structures	4.5
CSIS 222	Machine Organization and Assembler Language	4
CSIS 280	C++ and Object-Oriented Programming	4

Group One (Select 12 – 16 units)
CSIS 111	Networking Fundamental	3
CSIS 235*	C for Programmers	4
CSIS 240	Video Game Programming	4
CSIS 245	Systems Analysis and Design	4
CSIS 252	Introduction to Oracle	3
CSIS 282	C# Programming	3
CSIS 285	Windows Programming I	4
CSIS 288	Windows Programming II	4
MATH 245	Discrete Mathematics	3

Group Two (Select 2-3 units)
CSIS 138	JavaScript	3
CSIS 194	Perl and CGI Scripting	3
CSIS 225	LINUX Fundamentals	
TOTAL UNITS		**34.5 – 40.5**

*Not recommended for students who have completed CSIS 220 in C.

Desktop Support Specialist
Desktop support specialists are qualified to successfully troubleshoot, repair and upgrade the desktop computer including hardware and software in a networked environment.

Certificate of Proficiency

Program Requirements		Units
CSIS 108 or	Hardware and OS Fundamentals	
RCSIS 156	Computer Technology Software	3
CSIS 111	Networking Fundamentals	4
CSIS 162	Windows Client	3
CSIS 163	Windows Server	3

Electives   (Select 1 course)
CSIS 176	Managing a Windows Network	2
CSIS 227	Linux Administration	2
TOTAL UNITS		**15**

Information[3]Systems
This program prepares students for employment in information systems applications development in business and industry. The focus is on developing skills in Visual Basic, Internet, spreadsheets, databases, presentation graphics, word processing, in systems analysis and design, and database design. See a counselor for additional university transfer requirements in this major.

A.A. Degree Major or Certificate of Achievement

Program Requirements		Units
CSIS 105	Computer Concepts/Microcomputer Applications	3
CSIS 117	Introduction to Visual Basic	4
CSIS/ RCSIS 120	Microcomputer Applications	3
CSIS/ RCSIS 137	Web Site Development with HTML	2
CSIS 214	Intermediate Visual Basic	4
CSIS 217	Advanced Visual Basic	4
CSIS 245	Systems Analysis and Design	4
CSIS 252	Introduction to Oracle	3

Electives (Select 4 -5 units)
CSIS 268	Active Server Pages	3
CSIS 218	Visual Basic for Applications	2
CSIS 225	Linux Fundamentals	2
GC/RGC 200	Introduction to Multimedia	3
TOTAL UNITS		**31-32**

Microsoft SQL Database Administrator
Microsoft SQL Database Administrator is a validation program that provides a reliable measure of technical proficiency and expertise in implementation and administration of Microsoft SQL Server™ databases.

Certificate of Proficiency

Program Requirements		Units
CSIS 111	Networking Fundamentals	4
CSIS 163	Windows Server	3
CSIS 164	Network Infrastructure Administration	3
CSIS 172	Microsoft SQL Server Administration	2
CSIS 173	Microsoft SQL Server Database Design	2
TOTAL UNITS		**14**

Microsoft Office User Specialist
The Microsoft Office User Specialist (MOUS) Program is a validation program that provides proof of proficiency in Microsoft Office applications. It is available for Microsoft Office applications at both Proficient and Expert User levels. As a general rule of thumb, Proficient Specialists can handle a wide range of everyday tasks with ease. Expert Specialists are expected to do all those everyday tasks, plus handle more complex assignments that require more advanced formatting and functionality.

Users who attain Expert Specialist status on all five core Office applications (Word, Excel, Access, PowerPoint, and Outlook) qualify to take the Microsoft Office Integration Exam. Passing this exam demonstrates that the user is not

only an expert in the individual Office products, but is also skilled in integrating them into a cohesive whole. This entitles the user to be called a Microsoft Office Expert.

Certificate of Proficiency

Program Requirements		Units
CSIS 127	Word	1
CSIS 174	Excel	1
CSIS 179	Access	1
CSIS 185	PowerPoint	1
CSIS 188	Outlook	1
TOTAL UNITS		**5**

Network Engineer

Network Engineers are qualified to effectively plan, implement, maintain, troubleshoot and support networks in a wide range of computing environments using Microsoft Windows.

Certificate of Proficiency

Program Requirements		Units
CSIS 163	Windows Server	3
CSIS 164	Network Infrastructure Administration	3
CSIS 165	Active Directory Services Administration	3
Group One Electives (Select 1 course)		
CSIS 166	Designing Active Directory Services	2
CSIS 167	Designing Network Infrastructure	2
CSIS 168	Designing Network Security	2
Group Two Electives (Select 2 courses)		
CSIS 166	Designing Active Directory Services	2
CSIS 167	Designing Network Infrastructure	2
CSIS 168	Designing Network Security	2
CSIS 172	Microsoft SQL Server Administration	2
CSIS 173	Design MS SQL Server Databases	2
CSIS 176	Managing a Windows Network	2
CSIS 177	Microsoft Exchange Server	2
CSIS 228	Linux Networking and Security	2
TOTAL UNITS		**15**

Oracle Database

Oracle is the most widely used relational database management system in the world. This certificate offers a series of courses designed to provide the fundamentals to become successful in the use of this powerful database system.

Certificate of Proficiency

Program Requirements		Units
CSIS 252	Introduction to Oracle	3
CSIS 256	Database Administration I	3
CSIS 257	Database Administration II	3
CSIS 258	Database Performance Tuning	3
Electives (Select 1 course)		
CSIS 254	Oracle Data Base Design	3
CSIS 259	Oracle PL/SQL Programming	3
TOTAL UNITS		**15**

UNIX Operating System

This certificate program in UNIX is designed for those currently in the computer industry who want to upgrade their skills, and for those with basic computer literacy who want to enter this fast-growing field. Being fluent in UNIX can make the difference in winning a job or promotion, as more personnel directors regard knowledge and fluency in UNIX principles as key criteria for job recruitment and selection.

Certificate of Proficiency

Program Requirements		Units
CSIS 225	Linux Fundamentals	2
CSIS 226	Linux Shell Scripting	2
CSIS 227	Linux Administration	2
CSIS 228	Linux Networking and Security	2
CSIS 235	C for Programmers	4
TOTAL UNITS		**12**

Video Game Artist

This certificate program introduces students to the video game industry, game design, and the creation of both 2D and 3D artwork for video games.

Certificate of Proficiency

Program Requirements		Units
CSIS 241	Overview of the Video Game Industry	4
CSIS 242	Game Design	4
ART 241 or	Computer Graphics	
GC/RGC140 or	Digital Imaging/Photoshop I	
GC 141 or	Digital Imaging/Photoshop II	
GC 142	Digital Imaging/Photoshop III	3
ARTI 246 or	Digital 3D Design and Modeling	
DT 180 or	3D Studio Max – Intro 3D Modeling/Animation	
DT 182	3D Studio Max – Adv 3D Modeling/Animation	3
ARTD 220 or	Motion Design	
ARTI 247 or	Digital 3D Design and Animation	
DT 184 or	Real Time 3D Technical/Game Animation	
GC 204	Motion Graphics for Multimedia-A	2,3
TOTAL UNITS		**16**

The Video Game Artist program is also offered in Graphic Communications.

Video Game Specialist

This certificate program introduces students to the video game industry, game design and programming.

Certificate of Proficiency

Program Requirements		Units
CSIS 240	Video Game Programming	4
CSIS 240	Video Game Programming (repeat for Advanced project)	4
CSIS 241	Overview of the Video Game Industry	4
CSIS 242	Game Design	4
TOTAL UNITS		**16**

Visual Basic

This certificate is designed for individuals interested in acquiring the advanced programming skills necessary to design and implement Visual Basic programs.

Certificate of Proficiency

Program Requirements		Units
CSIS 117	Introduction to Visual Basic	4
CSIS 214	Intermediate Visual Basic	4
CSIS 217	Advanced Visual Basic	4
CSIS 268	Active Server Pages	3
TOTAL UNITS		**15**

Voice and Data Cable Installer

This program provides students a strong foundation in Networking with an emphasis on the Physical, Data-link and Network Layers of the OSI model. It is designed to provide students with the knowledge of in-depth physical connectivity of networks and how data is transmitted across the media. This will prepare the student to achieve the BISCI installer's certificate and/or further their education and training in the computer-networking field with an emphasis on installations.

Certificate of Proficiency

Program Requirements		Units
CSIS 108 or	Hardware and O.S. Fundamentals	
R CSIS 156	Computer Technology-Software	3
CSIS 111	Networking Fundamentals	4
CSIS 134	Network Voice and Data	4
TOTAL UNITS		**11**

Web Developer

This program includes the Web page design and programming languages that allow a developer to build dynamic Web applications. The student may choose an emphasis on either the Java/Open Source or Windows platforms.

Certificate of Proficiency

Emphasis in Java / Open Source

Program Requirements		Units
CSIS/		
RCSIS 137	Web Site Development with HTML	2
CSIS 138	JavaScript	3
CSIS 191	PHP with MySQL	3
CSIS 194	Perl and CGI Scripting	3
CSIS 272	Java Programming for Information Systems	3

Elective Courses (select 1 course)		
CSIS 139	Adv Web Site Development	3
CSIS 195	Python Programming	3
CSIS 196	Introduction to SQL	3
CSIS 252	Introduction to Oracle	3
CSIS 273	Java Servlets and JSPs	3
CSIS 294	Enterprise JavaBeans and J2EE	3
GC 144	Web Graphics	3
GC/RGC 202	Web Page Layout I	3
TOTAL UNITS		**17**

Emphasis in Windows

Program Requirements		Units
CSIS/		
RCSIS 137	Web Site Development with HTML	2
CSIS 138	JavaScript	3
CSIS 139	Adv Web Site Development	3
CSIS 268	Active Server Pages	2
CSIS 282	C# Programming	3

Elective Courses (select 1 course)		
CSIS 173	Design MS SQL Server Databases	2
CSIS 272	Java Programming for Information Systems	3
CSIS 273	Java Servlets and JSPs	3
GC 144	Web Graphics	3
GC/RGC 202	Web Page Layout I	3
TOTAL UNITS		**15-16**

Web Server Administrator

This program includes the use and implementation of web-networked environments for the purpose of administering Internet/Intranet applications. Strong emphasis is placed on hands-on server administration, networking, supplemented with web development and design. The student may choose an emphasis on either the UNIX or Windows platforms.

Certificate of Proficiency

Emphasis in UNIX

Program Requirements		Units
CSIS/		
RCSIS 137	Web Site Development with HTML	2
CSIS 194	Perl and CGI Scripting	3
CSIS 225	Linux Fundamentals	2
CSIS 227	Linux Administration	2
CSIS 228	Linux Networking and Security	2

Elective Courses (select 2 courses)		
CSIS 226	Linux Shell Scripting	2
CSIS 266	Implementing/Admin Web Servers	2.5
CSIS 269	Web Security and E-Commerce	2
GC 217	Online Store Design I	3
TOTAL UNITS		**15 – 16.5**

Emphasis in Windows

Program Requirements		Units
CSIS/		
RCSIS 137	Web Site Development with HTML	2
CSIS 162	Windows Client	3
CSIS 163	Windows Server	2
CSIS 172	Microsoft SQL Server Administration	2

Elective Courses (select 1 course)		
CSIS 173	Design MS SQL Server Databases	2
CSIS 266	Implementing/Admin Web Servers	2.5
CSIS 269	Web Security and E-Commerce	2
GC 217	Online Store Design I	3
TOTAL UNIT		**11-12**

COURSE OFFERINGS

CSIS 105   Computer Concepts and Microcomputer Applications   (3)
2 hours lecture-2 hours lecture/laboratory
Transfer acceptability: *CSU; UC – no credit if taken after CSIS 160 or 220*
The study of computer concepts and basic proficiency in modern application software. Computer concepts will focus on basic terminology; computer literacy; hardware; software; information systems; state of the art technology; structured design techniques, overview of the computer industry; ethics and current issues including virus protection and prevention. Hands on introduction to Windows operating system and application software including basic proficiency of the Internet; browsers; e-mail; word processing; electronic spreadsheets; data base and presentation graphics application programs.

CSIS 108   Hardware and O.S. Fundamentals   (3)
2 hours lecture–2 hours lecture/laboratory
This course provides students with the knowledge and skills necessary to build a foundation in computer hardware and operating systems. It will include P.C. hardware and operating system fundamentals; installation, configuration and upgrading; diagnosing and troubleshooting; preventative maintenance; motherboards, processors, and memory; printers; and basic networking including network operating systems.

CSIS 111   Networking Fundamentals   (4)
3 hours lecture-2 hours lecture/laboratory
Transfer acceptability: *CSU*
This course provides students with the knowledge and skills necessary to build a solid foundation in computer networking. It will include networking fundamentals, the OSI model, subnetting, features and functions of networking components and the skills needed to install, configure, and troubleshoot basic networking hardware peripherals and protocols.

CSIS 117   Introduction to Visual Basic   (4)
3 hours lecture-2 hours lecture/laboratory
Transfer acceptability: *CSU*
Students design, create, test and run computer applications using Visual Basic. Emphasis is on learning the fundamentals of the Visual Basic interface and how to solve problems using structured design logic and the sequence, decision and repetition procedural language control structure. Selected additional features of the Visual Basic interface and procedural language are included to provide a foundation for the study of more advanced courses.

CSIS 120   Microcomputer Applications   (3)
1 hour lecture-4 hours lecture/laboratory
Note: *Cross listed as RCSIS 120; may be taken 4 times; maximum of 4 completions in any combination of CSIS/R CSIS 120, CSIS 121*
Transfer acceptability: *CSU*
Hands-on experience with microcomputers and microcomputer applications featuring the use of Windows, word processing, spreadsheet, database, and presentation graphics software.

CSIS 121   Advanced Microcomputer Applications   (3)
1 hour lecture-4 hours lecture/laboratory
Prerequisite: *CSIS/RCSIS 120*
Transfer acceptability: *CSU*
Hands-on experience with advanced microcomputer applications featuring the use of word processing, spreadsheet, database and presentation graphics software.

CSIS 127   Word   (1)
2 hours lecture/laboratory
Note: *May be taken 2 times*
Transfer acceptability: *CSU*
This course is intended for individuals seeking the fundamental and advanced skills of Microsoft Word word processing software. It will also prepare individuals who are seeking to become a Microsoft Proficient Specialist and Microsoft Word Expert Specialist.

CSIS 130   Cisco Networking Fundamentals   (3)
1½ hours lecture-3 hours lecture/laboratory
Emphasis on the OSI model and industry standards. Includes network topologies, IP addressing, subnet masks, basic network design and cable installation. This 70 hour course of instruction prepares the student for Cisco certification examination.

CSIS 131   Cisco Router Configuration   (3)
1½ hours lecture-3 hours lecture/laboratory
Prerequisite: *CSIS 130*
Development of knowledge and skills to install, configure, customize, maintain and troubleshoot Cisco routers and components. This 70 hour course of instruction prepares the student for Cisco certification examination.

CSIS 132   Cisco Advanced Routing and Switching   (3)
1½ hours lecture-3 hours lecture/laboratory
Prerequisite: *CSIS 131*
Development of knowledge and skills to configure advanced routing protocols, Local Area Networks (LANs), and LAN switching. Design and management of advanced networks. This 70 hour course of instruction prepares the student for Cisco certification examination.

CSIS 133   Cisco Wide Area Network Design and Support   (3)
1½ hours lecture-3 hours lecture/laboratory
Prerequisite: *CSIS 132*
Development of knowledge and skills to design and configure advanced Wide Area Network (WAN) projects using Cisco IOS command set. This 70 hour course of instruction prepares the student for Cisco certification examination.

CSIS 134   Network Voice and Data Cabling   (4)
3 hours lecture–2 hours lecture/laboratory
Prerequisite: *A minimum grade of "C" in CSIS 108 or RCSIS 56 and CSIS 111*
The course is designed for students interested in the physical aspects of voice and data network cabling and installation. The course focuses on cabling issues related to data and voice connections and provides an understanding of the industry and its worldwide standards, types of media and cabling, physical and logical networks, as well as signal transmission. It includes network design documentation, part list set up and purchase, pulling and mounting cable, cable management, choosing wiring closets and patch panel installation and termination as well as installing jacks and cable testing. Also included are design documentation, and installation issues, as well as laboratory safety, on-the-job safety, and working effectively in group environments.

CSIS 135   Wireless Networking   (2)
4 hours lecture/laboratory
This course explores the latest wireless technologies in the networking industry, including Bluetooth, SWAP, Wireless LANs, 802.11a and 802.11b, Cellular Telephone, Infrared lasers, Microwave, Spread spectrum, and Satellite. This course also offers important historical coverage of wireless technology to show how we got where we are today and where we can expect to see wireless networks in the future.

CSUS 136   Hacker Prevention/Security   (3)
2 hours lecture - 2 hours lecture/lab
This course offers in-depth analysis and hands-on experience in PC and network security concepts specific to Microsoft, Unix-based and Cisco systems. The course includes various topics including hacker prevention and intrusion detection, firewall installation and configuration, wireless network security, remote access technologies, internet and intranet security concepts, physical security, disaster recovery, access control lists, identification of malicious code, cryptography and forensics. Students will learn team dynamics in a lab environment, planning, installing and configuring various network security elements regarding hardware, software, and media. The student will understand and be able to demonstrate proper planning and implementation of a secure network and be able to document and offer training to end users, executives, and human resources on the proper maintenance of a secure network.

CSIS 137   Web Site Development with HTML   (2)
4 hours lecture/laboratory
Note: *Cross listed as R CSIS 137*
Transfer acceptability: *CSU*
This course provides a foundation to Internet/Intranet technologies. This course primarily teaches the skills required to develop and publish Web sites utilizing HTML. including using HTML tables, Frames, Web Page Forms, and basic CSS (Cascading Style Sheets).

CSIS 138   JavaScript   (3)
2 hours lecture-2 hours lecture/laboratory
Recommended preparation: *CSIS/R CSIS 137*
Transfer acceptability: *CSU*
Skills required to design Web-based applications using the JavaScript scripting language such as writing small scripts; working with data types; creating interactive forms using various form objects; and using the advanced features of JavaScript including loops, frames and cookies.

CSIS 139   Advanced Web Site Development   (3)
2 hours lecture-2 hours lecture/laboratory
Recommended preparation: *CSIS 138*
Transfer acceptability: *CSU*
This course will focus on web-based application development using advanced features of HTML, Dynamic HTML, XHTML, and XML.

CSIS 145   Introduction to Linux   (3)
6 hours lecture/laboratory
Note: *Cross listed as RCSIS 145; graded only*
Transfer acceptability: *CSU*
An overview of the Linux operating system, utilities, and associated applications for workstations. Includes installation, configuration and troubleshooting of Linux systems within the command-line environment and the graphical X-windows environment.

CSIS 146   FORTRAN-90 for Mathematics and Science   (3)
2 hours lecture-3 hours laboratory
Prerequisite: *A minimum grade of "C" in MATH 135 or MATH 110 and 115, or a passing grade on the appropriate placement test*
Note: *Cross listed as Math 146*
Transfer acceptability: *CSU; UC*
Programming in FORTRAN-90 to solve typical problems in mathematics, computer science, physical sciences, and engineering. Programming is done on a PC.

CSIS 160   Survey of Computer Science   (4)
3 hours lecture-2 hours lecture/laboratory
Transfer acceptability: *CSU; UC – CSIS 160 and 220 combined: maximum credit, one course*
An overview of the discipline of computer science including such topics as the history of computer science; machine architecture; data storage and manipulation; operating software engineering; data structures; database and information retrieval; data communications; artificial intelligence; theory of computation; social legal and ethical issues. Includes hands-on laboratory experience reinforcing the lecture material.

CSIS 162   Windows Client   (3)
2 hours lecture-2 hours lecture/laboratory
Prerequisite: *CSIS 108 or RCSIS 155 and CSIS 111*
Note: *May be taken 4 times*
This course provides students with the knowledge and skills necessary to install and configure Microsoft Windows Client on stand-alone computers and on client computers that are part of a workgroup or a domain.

CSIS 163   Windows Server   (3)
2 hours lecture-2 hours lecture/laboratory
Prerequisite: *CSIS 108 or RCSIS 156 and CSIS 111*
Note: *May be taken 4 times*
This course provides students with knowledge and skills necessary to install, configure, and administer a Microsoft Windows Server in a Network. Typical network services and applications include file and print, database, messaging, proxy server or firewall, dial-in server, desktop management, and Web hosting.

CSIS 164   Network Infrastructure
            Administration   (3)
2 hours lecture -2 hours lecture/laboratory
Prerequisite: *CSIS 163*
Note: *May be taken 4 times*
This course provides students with the knowledge and skills necessary to install, configure, manage, and support a network infrastructure that uses the Microsoft Windows Server products.

CSIS 165   Active Directory Services
            Administration   (3)
2 hours lecture-2 hours lecture/laboratory
Prerequisite: *CSIS 163*
Note: *May be taken 4 times*
This course provides students with the knowledge and skills necessary to install, configure, and administer Microsoft Windows Active Directory services. The course also focuses on implementing Group Policy and understanding the Group Policy tasks required to centrally manage users and computers.

CSIS 166   Designing Active Directory Services   (2)
1½ hours lecture-1 hour lecture/laboratory
Recommended preparation: *CSIS 165*
This course provides students with the knowledge and skills necessary to design a Microsoft Windows directory services infrastructure in an enterprise network.

CSIS 167   Designing Network Infrastructure   (2)
1½ hours lecture-1 hour lecture/laboratory
Recommended preparation: *CSIS 164*
This course provides students with the knowledge and skills necessary to design a Microsoft Windows networking services solution for enterprise networks.

CSIS 168   Designing Network Security   (2)
1½ hours lecture-1 hour lecture/laboratory
Recommended preparation: *CSIS 165*
This course provides students with the knowledge and skills necessary to design a security framework for small, medium, and enterprise networks using Microsoft Windows technologies.

CSIS 170   Windows   (1)
2 hours lecture/laboratory
Note: *Cross listed as RCSIS 170*
Transfer acceptability: *CSU*
Fundamentals of Windows Graphical User Interface. Students will develop proficiency in: changing desktop settings; file/folder management at both desktop and Explorer levels; and basic system maintenance.

CSIS 172   Microsoft SQL Server Administration   (2)
1½ hours lecture-1 hour lecture/laboratory
Recommended preparation: *CSIS 163*
This course provides students with the knowledge and skills necessary to administer and troubleshoot information systems that incorporate Microsoft SQL Server Enterprise Edition.

CSIS 173   Designing Microsoft SQL Server
            Databases   (2)
1½ hours lecture-1 hour lecture/laboratory
Recommended preparation: *CSIS 196 or 252*
This course provides students with the knowledge and skills necessary to design and implement database solutions by using Microsoft SQL Server Enterprise Edition.

CSIS 174   Excel   (1)
2 hours lecture/laboratory
Note: *May be taken 2 times*
Transfer acceptability: *CSU*
This course is intended for individuals seeking the fundamental and

advanced skills of Microsoft Excel spreadsheet software. It will also prepare individuals who are seeking to become a Microsoft Excel Proficient Specialist and Microsoft Excel Expert Specialist

CSIS 176   Managing a Windows Network   (2)
1½ hours lecture-1 hour lecture/laboratory
Prerequisite: *CSIS 162 and 163*
This course provides students with the knowledge and skills necessary to administer, support, and troubleshoot networks that incorporate Microsoft Windows.

CSIS 177   Microsoft Exchange Server   (2)
1½ hours lecture-1 hour lecture/laboratory
Prerequisite: *CSIS 162 and 163*
This course provides students with the knowledge and skills necessary to implement, administer, and troubleshoot information systems that incorporate Microsoft Exchange Server.

CSIS 179   Access   (1)
2 hours lecture/laboratory
Note: *May be taken 2 times*
Transfer acceptability: *CSU*
This course is intended for individuals seeking the fundamental and advanced skills of Microsoft Access database software. It will also prepare individuals who are seeking to become a Microsoft Access Proficient Specialist and Microsoft Access Expert Specialist.

CSIS 185   PowerPoint   (1)
2 hours lecture/laboratory
Note: *May be taken 2 times*
Transfer acceptability: *CSU*
This course is intended for individuals seeking the fundamental and advanced skills of Microsoft PowerPoint graphics software. It will also prepare individuals who are seeking to become a Microsoft PowerPoint Expert Specialist.

CSIS 188   Outlook   (1)
2 hours lecture/laboratory
Note: *May be taken 2 times*
Transfer acceptability: *CSU*
This course introduces students to the fundamental and advanced skills of Microsoft Outlook software. Will help prepare individuals who are seeking to become a Microsoft Outlook Proficient Specialist and Microsoft Outlook Expert Specialist.

CSIS 191   PHP with MySQL   (3)
2 hours lecture-2 hours lecture/laboratory
Recommended preparation: *CSIS/R CSIS 137*
This course provides students with the knowledge and skills necessary to use the PHP scripting language to develop dynamic Web-based applications. Topics of study include the fundamentals of the scripting, using PHP with HTML forms, creating functions, and integrating with databases using MySQL.

CSIS 194   Perl and CGI Scripting   (3)
2 hours lecture-2 hours lecture/laboratory
Recommended preparation: *CSIS/R CSIS 137*
Transfer acceptability: *CSU*
This course develops basic competency in the Perl programming language. It focuses on using Perl to developing web-based Internet and Intranet applications. Topics of study include Perl for UNIX, Perl for Win32, CGI standards, HTML forms, scalar and array variables, control structures, file I/O, regular expressions and subroutines.

CSIS 195   Python Programming   (3)
2 hours lecture-2 hours lecture/laboratory
Recommended preparation: *CSIS/R CSIS 137*
This course provides students with the knowledge and skills necessary to use the Python programming language to develop software for Internet applications, perform systems programming, and implement user interfaces. Topics of study include the fundamentals of the language, parallel system tools, system tools, graphical user interfaces, network scripting, client-side scripting, and server-side scripting. Also covered are databases and persistence, and data structures.

CSIS 196   Introduction to SQL   (3)
2 hours lecture-2 hours lecture/laboratory
Transfer acceptability: *CSU*
Intended for individuals who want to learn how to search for and manipulate data in a database, create tables and indexes, handle

security, control transaction processing, and learn the basics of how to design a database.

CSIS 197   Computer Science and Information Systems Topics   (.5-4)
Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.
Note: *May be taken 4 times*
Transfer acceptability: *CSU*
Topics in Computer Information Systems. See class schedule for specific topic covered. Course title will designate subject covered.

CSIS 197B   Computer Science and Information Systems Topics in Microsoft Office   (.5-4)
Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule
Note: *May be taken 4 times*
Transfer acceptability: *CSU*
Topics in Microsoft Office to include Word, Excel, Access, PowerPoint, and Outlook. See Class Schedule for specific topic offered. Course title will designate subject covered.

CSIS 214   Intermediate Visual Basic   (4)
3 hours lecture-2 hours lecture/laboratory
Prerequisite: *CSIS 117*
Transfer acceptability: *CSU*
An intermediate level programming language which provides for building special purpose Windows applications using the Graphical User Interface of Windows. Includes extensive practice using programming logic control structures in designing algorithms and a wide array of Visual Basic objects in implementing the three-step approach to building Windows applications in Visual Basic.

CSIS 217   Advanced Visual Basic   (4)
3 hours lecture-2 hours lecture/laboratory
Prerequisite: *CSIS 214*
Transfer acceptability: *CSU*
Advanced course in Visual Basic programming. Special emphasis will be placed on the application of the Visual Basic language to solve business problems including requirements definition, design, construction, testing, and documentation. Multiple forms, objects, controls, object linking and embedding (OLE), and the use of the data control object to interface with databases external to Visual Basic will be covered.

CSIS 218   Visual Basic for Applications   (2)
4 hours lecture/laboratory
Prerequisite: *CSIS 217*
Transfer acceptability: *CSU*
This course is designed to apply skills developed in previous Microsoft Office and Visual Basic programming classes. Includes learning the Visual Basic for Applications model to programmatically create integrated Microsoft Word and Excel applications.

CSIS 220   Programming for Computer Science   (4)
3 hours lecture-2 hours lecture/laboratory
Prerequisite: *CSIS 160*
Transfer acceptability: *CSU; UC; CAN CSIS 12*
Introduces object-oriented programming and design using Java. Focuses on implementation and testing of software in a platform-independent, event-driven, graphical user interface environment. Covers basic concepts of data representation, user interface design, and software engineering.

CSIS 221   Data Structures   (4.5)
3 hours lecture-3 hours lecture/laboratory
Prerequisite: *CSIS 220*
Transfer acceptability: *CSU; UC*
Focus on object-oriented programming and its principles of objects, classes, encapsulation, inheritance, graphical user interface, and its relationship to the Java programming language. Introduction to the principles of modularity, data abstraction, abstract data types as they apply to various data structures. Focus on the definition, implementation, and applications of the basic data structures and associated operators that are found in computer science. These include arrays, stacks, recursion, queues, lists, tables, references,

trees, sorting, searching, event-driven structures that support the development of graphical user interfaces. Includes hands-on laboratory experience reinforcing the lecture material.

CSIS 222   Machine Organization and Assembler Language   (4)
3 hours lecture-2 hours lecture/laboratory
Prerequisite: *CSIS 220 or 235*
Transfer acceptability: *CSU; UC*
An introduction to Assembler Language programming. Language syntax is covered, together with a study of the instruction set mnemonics, segment, index, pointer, general purpose and flag registers. A variety of memory addressing techniques will be covered, as well as stack operations, particularly those associated with passing parameters to subroutine calls. The course will also include I/O to screen, printer, and disk interfaces. Emphasis will be placed on interaction between the student's code and the operating system's supplied functions for I/O to peripheral devices. Use of editor and debugging tools will also be addressed.

CSIS 225   Linux Fundamentals   (2)
4 hours lecture/laboratory
Transfer acceptability: *CSU*
A hands-on introduction to a computer operating system including operating system terminology, E-mail user utilities, file structure, file security, and an introduction to shell programming using the Bourne shell.

CSIS 226   Linux Shell Scripting   (2)
4 hours lecture/laboratory
Prerequisite: *CSIS 225*
Transfer acceptability: *CSU*
Intermediate concepts of shell script programming, advanced utilities, file management, and alternative editors. Includes usage of sed (stream editor), awk (a UNIX scripting language), and graphical user interfaces. Introduction to UNIX networking concepts.

CSIS 227   Linux Administration   (2)
4 hours lecture/laboratory
Prerequisite: *CSIS 225*
Transfer acceptability: *CSU*
A hands-on/theory introduction to UNIX System Administration including system start-up and shutdown, administration files, system security, backup procedures, and user registration. Course will cover terminal and printer administration.

CSIS 228   Linux Networking and Security   (2)
4 hours lecture/laboratory
Prerequisite: *CSIS 227*
Transfer acceptability: *CSU*
A hands-on introduction to important administration activities required to manage a Linux network configuration. Course will cover topics configuring TCP/IP, DNS, PPP, send mail, Apache Web Server and the firewall.

CSIS 229   Windows System Administration   (2)
2 hours lecture-2 hours laboratory
Prerequisite: *CSIS/R CSIS 170*
Transfer acceptability: *CSU*
This course is an introduction to system administration for the Windows operating system.

CSIS 235   C for Programmers   (4)
3 hours lecture-2 hours lecture/laboratory
Note: *Not recommended for students who have completed CSIS 220 in C*
Transfer acceptability: *CSU; UC*
Intended for students with high-level programming language experience. An introduction to the C programming language emphasizing top down design and principles of structured programming. Includes hands-on laboratory experience reinforcing the lecture material. Language syntax is covered, together with variations in standard control structures, data structures, pointers, function declarations, and file input/output. The use of header files and processor directives will be covered. Development and maintenance function libraries will be included.

CSIS 240   Video Game Programming   (4)
3 hours lecture-2 hours lecture/laboratory
Prerequisite: *CSIS 235 or 280*

Note: *May be taken 4 times*
Transfer acceptability: *CSU*
Introduction to the programming of video games. Course will explore use of video game engines and how to write a video game as a C application that makes calls to the engine. Additional topics will focus on efficient utilization of variables and data structures, run-time optimization, real-time debugging, version control maintenance, and management of bug lists. Includes hands-on laboratory experience reinforcing the lecture, text, and course materials.

CSIS 241   Overview of the Video Game Industry (4)
4 hours lecture
Survey of the historical, technological, business, social and psychological aspects of the video game industry. Intended for those considering a career in the video game industry, or those with a strong interest in video games and how they are made.

CSIS 242   Game Design   (4)
4 hours lecture
An introduction to video game design, including the study of various genres of games, and the preparation of a game design document. Intended for those considering a career in the video game industry, or those with a strong interest in video games and how they are made.

CSIS 245   Systems Analysis and Design   (4)
3 hours lecture-2 hours lecture/laboratory
Prerequisite: *CSIS 117 or 220 or 235*
Transfer acceptability: *CSU; UC*
Specific projects, problems, and systems. Application of appropriate programming languages and the use of analytical tools in solving case studies and problems.

CSIS 252   Introduction to Oracle   (3)
2 hours lecture-2 hours lecture/laboratory
Transfer acceptability: *CSU*
An introduction to relational database concepts including the design and creation of database structures to store, retrieve, update and display data.

CSIS 254   Oracle Database Design   (3)
2 hours lecture-2 hours lecture/laboratory
Prerequisite: *CSIS 252*
Transfer acceptability: *CSU*
A top-down, systematic approach to the development of Oracle relational databases.

CSIS 256   Oracle Database Administration I   (3)
2 hours lecture-2 hours lecture/laboratory
Prerequisite: *CSIS 252*
Transfer acceptability: *CSU*
Student will learn how to design, create, and maintain an Oracle database. Students will gain a conceptual understanding of the Oracle database architecture and how its components work and interact with one another. Students will also learn how to create an operational database and properly manage the various structures in an effective and efficient manner. The lesson topics are reinforced with structured hands-on practices.

CSIS 257   Database Administration II   (3)
2 hours lecture-2 hours lecture/laboratory
Prerequisite: *CSIS 256*
Students will learn about transporting data between databases and the utilities to perform these activities. Students are also introduced to networking concepts and configuration parameters, as well as how to solve some common network problems. In hands-on exercises, students configure network parameters so that database clients and tools can communicate with the Oracle database server. This course also addresses backup and recover techniques, and examines various backup, failure, restore and recovery scenarios. Students also examine backup methodologies based on business requirements in a mission critical enterprise. Students use multiple strategies and Oracle Recover Manager to perform backups, and restore and recover operations.

CSIS 258   Database Performance Tuning   (3)
2 hours lecture-2 hours lecture/laboratory
Prerequisite: *CSIS 257*
Student will be introduced to the importance of good initial database design and the method used to tune a production Oracle 9i database. The focus is on database and instance tuning rather than specific operating system performance issues. Students will gain practical experience tuning an Oracle database. Students will learn how to recognize, troubleshoot and resolve common performance related problems in administering an Oracle database.

CSIS 259   Oracle PL/SQL Programming   (2)
2 hours lecture-2 hours lecture/laboratory
Prerequisite: *CSIS 252*
Student will learn the Oracle PL/SQL language, a flexible procedural extension to SQL, increases productivity, performance, scalability, portability and security. Student will use PL/SQL's tight integration with Oracle database that allows application developers to build and deploy distributed applications with considerable flexibility. In this course you learn how to utilize advanced techniques to design PL/SQL applications to solve complex business problems.

CSIS 264   TCP/IP Internet Architecture and Protocols   (2)
2 hours lecture-2 hours laboratory
Note: *May be taken 2 times*
This course will focus on the basic concepts and architecture of Transmission Control Protocol/Internet Protocol (TCP/IP). Topics covered will include an overview of TCP/IP, LAN technologies, packet networks, IP addressing, Control Protocol/Internet Protocol (TCP/IP), Transport Layer, Gateway, Routing, Application Layer Protocols, Internet Mail Protocols, how TCP/IP works with LAN and WAN protocols, the Domain Name Service (DNA), Network File System (NFS), Network Information Systems (NIS), and managing TCP/IP.

CSIS 266   Implementing and Administering Web Servers   (2.5)
2 hours lecture-1½ hours laboratory
Recommended preparation: *CSIS 163*
Explores issues dealing with building and managing a web server. Topics will include web server and network issues, TCP/IP connectivity, server setup, web site administration, security, Internet commerce, and the function of the Webmaster.

CSIS 267   SQL Server   (2)
2 hours lecture-2 hours laboratory (2)
Prerequisite: *CSIS 196 and 264*
This course provides training to students who are interested in administering and implementing Microsoft SQL Server.

CSIS 268   Active Server Pages   (3)
2 hours lecture-2 hours lecture/laboratory
Prerequisite: *CSIS/RCSIS 137*
Transfer acceptability: *CSU*
This course presents an introduction to the technologies and features in Active Server Pages. Topics include: introduction to ASP, Webforms, controls, events, validation, custom controls, data binding, and various methods of code reuse, state management, configuration, caching, and application deployment.

CSIS 269   Web Security and E-Commerce   (2)
2 hours lecture-2 hours laboratory
Transfer acceptability: *CSU*
Prerequisite: *CSIS 264*
This course provides an introduction to the technology that supports E-Commerce and web security.

CSIS 272   Java Programming for Information Systems   (3)
2 hours lecture-2 hours lecture/laboratory
Recommended preparation: *CSIS 117 or 138*
Transfer acceptability: *CSU*
An introduction to Java programming with emphasis on the syntax and structure of the Java language. Specific topics will include data types, exception handling, object-oriented programming, multi-threaded programming, event-driven programming and an introduction to Java Servlets and JSPs.

CSIS 273   Java Servlets and JSPs   (3)
2 hours lecture-2 hours lecture/laboratory
Recommended preparation: *CSIS 272*
This course provides students with the knowledge and skills necessary to perform server-side Java programming using Servlets and JSPs, HTML form data, Session Tracking, Cookies, JSP scripting

elements, including Applets in JSP documents, using JavaBeans with JSP, and creating custom JSP Tag libraries.

CSIS 280   C++ and Object-Oriented
                Programming   (4)
3 hours lecture-2 hours lecture/laboratory
Prerequisite: *CSIS 221 or CSIS 235*
Transfer acceptability: *CSU; UC*
Detailed study of the C++ programming language and its support for data abstraction and object-oriented programming. Presents an introduction to the fundamental elements of object-oriented programming including encapsulation, classes, inheritance, polymorphism, templates, and exceptions.

CSIS 282   C# Programming   (3)
2 hours lecture-2 hours lecture/laboratory
Recommended preparation: *CSIS/R CSIS 137*
Transfer acceptability: *CSU*
This course provides students with the knowledge and skills necessary to use the C# programming language in the .NET Framework, build both server-side programs and with Windows applications, accessing data with ADO.NET, use C# with Web Forms and using C# with the .NET CLR.

CSIS 285   Windows Programming I   (4)
3 hours lecture-2 hours lecture/laboratory
Prerequisite: *CSIS 221*
Transfer acceptability: *CSU*
An introduction to the fundamental concepts of Windows programming which will enable students to develop Windows applications using a graphical user interface. Includes a detailed study of the Windows Application Programming Interface.

CSIS 288   Windows Programming II   (3)
3 hours lecture-2 hours laboratory
Prerequisite: *CSIS 280 and 285*
Transfer acceptability: *CSU*
Windows programming using the WIN32 API for writing applications that use multitasking, threads, synchronization, and structured exception handling. Covers implementation of Dynamic Link Libraries (DLLs), Graphic Device Interface (GDI) optimization, and creation of Help files. Includes a detailed study of the Microsoft Foundation Class (MFC) Library. Presents techniques to add Object Linking and Embedding (OLE) functionality to Windows applications.

CSIS 294   Enterprise JavaBeans and J2EE   (3)
2 hours lecture-2 hours lecture/laboratory
Recommended preparation: *CSIS 273*
Transfer acceptability: *CSU*
This course provides students with the knowledge and skills necessary to code and deploy Enterprise JavaBeans (EJBs), how to use JDBC with EJBs, Servlets and EJBs working together and the Java Naming and Directory Interface (JNDI).

CSIS 295   Directed Study in Computer Science and
                Information Systems   (1,2,3)
3, 6, or 9 hours laboratory
Prerequisite: *Approval of project or research by department*
chairperson/director
Note: *May be taken 4 times for a maximum of 6 units*
Transfer acceptability: *CSU; UC – Credit determined by UC upon*
review of course syllabus.
Designed for the student who has demonstrated a proficiency in computer science subjects and the initiative to work independently on a particular sustained project which does not fit into the context of regularly scheduled classes.

Construction Inspection (CI)

Contact Occupational & Noncredit Programs for further information, (760) 744-1150, ext. 2284

Associate in Arts degree requirements, Certificate of Achievement requirements, and Certificate of Proficiency requirements are listed in Section 6 (green pages) of the catalog.

PROGRAM OF STUDY

Construction Inspection

Prepares students for a career as Building Construction Inspectors, or upgrades skills necessary for employment in the building construction trades.

A.A. Degree Major or Certificate of Achievement

Program Requirements		Units
CI 89	Plumbing Codes	2.5
CI 90	Mechanical Codes	2.5
CI 100	Building Codes I	3
CI 101	Building Codes II	3
CI 105	Electrical Codes I	3
CI 106	Electrical Codes II	3
CI 115	Nonstructural Plan Review	3
CI 120	Structural Plan Review	3
CI 125	Plan Reading	3
TOTAL UNITS		**26**

COURSE OFFERINGS

Courses numbered under 100 are not intended for transfer credit.

CI 89   Plumbing Codes   (2.5)
2 ½ hours lecture
Note: *May be taken 2 times*
An in-depth study of the fundamental concepts and interpretations of current state adopted plumbing codes. Topics covered include compliance issues, plumbing specifications, basic plumbing principles, and inspection methods and techniques. International Conference of Building Officials (ICBO) revisions every three years.

CI 90   Mechanical Codes   (2.5)
2 ½ hours lecture
Note: *May be taken 2 times*
An in-depth study of the fundamental concepts and interpretations of current state adopted mechanical codes. Topics covered include compliance issues, mechanical specifications, basic mechanical principles, and inspection methods and techniques. International Conference of Building Officials (ICBO) revisions every three years.

CI 100   Building Codes I   (3)
3 hours lecture
Note: *May be taken 2 times*
Introduction to building code requirements with an emphasis on minimum construction standards and code enforcement. Code requirements controlling the design, construction, quality of materials, use, occupancy and location of all buildings are evaluated. Revisions to the Uniform Building Code are every three years.

CI 101   Building Codes II   (3)
3 hours lecture
Note: *May be taken 2 times*
A study of the requirements and standards for code enforcement and inspection. Interpretation is based on the International Conference of Building Officials (ICBO) manual which is revised every three years.

CI 105   Electrical Codes I   (3)
3 hours lecture
Note: *May be taken 2 times*
The basic rules pertaining to electrical installations for light, heat, and power in residential, commercial, and industrial applications. National Fire Protection Association (NFPA).

CI 106   Electrical Codes II   (3)
3 hours lecture
Note: *May be taken 2 times*
Prerequisite: *CI 105*
A continuation of Electrical Codes I. National Fire Protection Association (NFPA) revisions every three years.

CI 115   Nonstructural Plan Review   (3)
3 hours lecture
Prerequisite: *CI 100*
Note: *May be taken 2 times*
A study of basic methods used by plans examiners to check the nonstructural details of construction drawings in compliance with the uniform building code. Topics cover analyzing nonstructural details and determining compliance with the minimum requirements for concrete, masonry, wood, and steel structures.

CI 120   Structural Plan Review   (3)
3 hours lecture
Prerequisite: *CI 100*
Note: *May be taken 2 times*
Provides inspectors, contractors, and building department technicians with the basic methods used for structural review of plans for code compliance required before permits can be issued. The structural provisions of the Uniform Building Code will be studied and applied to typical residential and low-rise construction plan examples. The role and responsibilities of the plan check technician in his or her job performance will be defined according to public needs, industry practice, and the Professional Engineers Act.

CI 125   Plan Reading   (3)
3 hours lecture
Prerequisite: *CI 100*
How to read construction drawings and how to establish a systematic method of reviewing plans for compliance with the Uniform Building Code.

CI 197   Construction Inspection Topics   (.5-3)
Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.
Note: *May be taken 4 times*
Topics in Construction Inspection. May be repeated with new subject matter. See Class Schedule for specific topic offered. Course title will designate subject covered.

Construction Technology (CT)

Contact Occupational & Noncredit Programs for further information, (760) 744-1150, ext. 2284

COURSE OFFERINGS

Courses numbered under 100 are not intended for transfer credit.

CT 97   Construction Technology Topics   (.5-3)
Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.
Note: *May be taken 4 times*
Topics in Construction Technology. May be repeated with new subject matter. See Class Schedule for specific topic offered. Course title will designate subject covered.

Cooperative Education (CE)

Contact the Cooperative Education Department for further information, (760) 744-1150, ext. 2354

General Cooperative Work Experience

The General Cooperative Work Experience Education Program is designed to give job information and experience to those

students employed in jobs not related to coursework in school. Employment may be on or off campus; the student may or may not receive pay depending on where the work is performed. The Cooperative Education Coordinator will assist students in obtaining jobs.

STUDENT QUALIFICATIONS: In order to participate in Cooperative Work Experience Education students shall meet the following requirements:
1. Complete no less than seven units (summer session, one course) including Cooperative Work Experience Education.
2. Have approval of the Cooperative Work Experience Education Coordinator.
3. Have occupational or education goals to which, in the opinion of the Coordinator, the Cooperative Work Experience Education will contribute.
4. Pursue a planned program of Cooperative Work Experience Education which, in the opinion of the Coordinator, includes new or expanded responsibilities or learning opportunities beyond those experienced during the previous employment.

The number of units received each semester for on-the-job experience will be based on the total number of hours worked each semester or summer session as follows:

     1 unit - 75 hours per semester or session
     2 units - 150 hours per semester or session

A maximum of six units may be earned in general cooperative work experience, not to exceed three units each semester. In addition to the hours worked, a student must attend a coordinating class. Topics of discussion in the class include choice of occupation, employee information, job application, human relations, and appearance and personality development as related to employment in the vocational field.

Occupational Cooperative Work Experience

The Occupational Cooperative Work Experience Program is designed to coordinate on-the-job training and classroom instruction. Supervised employment is related to the occupational goal of the individual student. Employment may be on or off campus; the student may or may not receive pay, depending on where the work is performed. The Cooperative Education Coordinator will assist students in obtaining jobs.

STUDENT QUALIFICATIONS: In order to participate in cooperative work experience education students shall meet the following requirements:
1. Be a legally indentured or certified apprentice.
     OR
2. Complete no less than seven units (summer session, one course) including cooperative work experience education.
     OR
3. While working on the alternate semester plan must have completed 12 units. Six units may be earned during regular or summer session.
     AND
4. Have approval of the Cooperative Work Experience Education Coordinator.
5. Have occupational or education goals to which, in the opinion of the Coordinator, the cooperative work experience education will contribute.
6. Pursue a planned program of cooperative work experience education which, in the opinion of the Coordinator, includes new or expanded responsibilities or learning opportunities beyond those experienced during the previous employment.

The number of units received each semester for on-the-job experience will be based on the total number of hours worked each semester or summer session as follows:

     1 unit   - 75 hours per semester or session
     2 units - 150 hours per semester or session
     3 units - 225 hours per semester or session
     4 units - 300 hours per semester or session

A maximum of sixteen units may be earned in occupational cooperative work experience, not to exceed four units each semester.

COURSE OFFERINGS

CE 100   Cooperative Education   (1,2,3,4)
Transfer acceptability: CSU
Supervised on-the-job training for all occupational students.

CE 105   Job Hunting Techniques   (1,2,3)
1, 2 or 3 hours lecture
Transfer acceptability: CSU
Comprises the changing work ethic, updated labor market information, sources of job leads, job opportunities, job search, resume preparation, development of confidence and sound communication skills, interviewing techniques, attitudinal and motivational behavior necessary during the job campaign, job hunting techniques, and related topics.

CE 110   Cooperative Education – General   (2,3)
Supervised on-the-job training for all students.

CE 150   Cooperative Education Internship   (2-3)
10-15 hours laboratory
Note: *May be taken 4 times*
Transfer acceptability: CSU
Students learn major-specific knowledge and skills at an internship site that will enhance employment. Students design and complete an internship project in consultation with their internship advisor and job site supervisor.

CE 197   Cooperative Education Topics   (.5-4)
Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.
Note: *May be taken 4 times*
Transfer acceptability: CSU
Topics in Cooperative Education. See Class Schedule for specific topic offered. Course title will designate subject covered.

Counseling (COUN)
See also Disabled Resource
Contact the Counseling Department for further information, (760) 744-1150, ext. 2179

COURSE OFFERINGS

Courses numbered under 50 are non-degree courses.
Courses numbered under 100 are not intended for transfer credit.

COUN 45   Basic Study Skills   (1)
1 hour lecture
Note: *Open entry/Open exit; Credit/No Credit grading only*
Study improvement techniques, time management techniques, memory and note taking skills, and test taking methods.

COUN 48   Overcoming Test Anxiety   (1)
2 hours lecture/laboratory
Note: *Open entry/Open exit; Credit/No Credit grading only*
Provides instruction in understanding the sources of test anxiety and the techniques for overcoming it.

**COUN 49   Introduction to Financial and Academic
                       Resources   (.5)**
½ hour lecture
Note: *Credit/No Credit grading only*
Survey of financial and supportive resources available to students including part-time employment. The course content includes an overview of financial aid programs and eligibility requirements, campus support programs, community support services, money management, and educational planning. This course may be used to fulfill the financial aid orientation requirement.

COUN 100   Introduction to Basic Counseling Skills (3)
3 hours lecture
Transfer acceptability: *CSU*
An introduction to the principles and practices of counseling and interviewing. A systematic development of the basic skills essential for effective counseling. Combines informal lecture, videotapes, and role playing interactions. Practicum experience will be required.

COUN 101   Transfer Success   (1)
1 hour lecture
Note: *Credit/No Credit grading only*
Transfer acceptability: *CSU*
Introduction to the transfer research process designed for planning long term educational and career goals. Students learn how to evaluate universities, and learn specific transfer requirements. Student will research degrees, housing, financial aid, scholarships and supportive services.

COUN 110   College Success Skills   (3)
3 hours lecture
Transfer acceptability: *CSU*
Provides students with the skills and knowledge necessary to reach their educational objectives. Topics covered include motivation and self-discipline, memory techniques, time management, communication and relationship skills, career planning, critical thinking and personal issues. This course will include an understanding of diversity and socioeconomic differences from a historical and modern day perspective. This course is recommended for new and re-entry students.

COUN 115   Career/Life Planning   (3)
3 hours lecture
Note: *May be offered on educational television*
Transfer acceptability: *CSU*
A course designed to motivate the student to take responsibility for the management of his/her life, recognizing the values of planning as a means of coping with uncertainty, and relating work effectively to one's own life.

COUN 120   Quest for Identity and Life Skills   (3)
3 hours lecture
Transfer acceptability: *CSU*
An exploration of the dynamics involved in the development of the individual in the search for identity and self-discovery. Specific emphasis will be placed on the decision-making process particularly as it relates to the individual's own humanness, value system, and unique functioning. Emphasis will also be placed on the role of culture and a set of life skills that will serve to empower one's identity and understanding of self. Examples of life skills include coping with the physiological effects of stress and anxiety, goal setting, emotional development, problem solving, critical thinking skills, creative self-expression, self-esteem, and interpersonal communication.

COUN 165   Career Search   (1)
2 hours lecture/ laboratory
Note: *Open entry/Open exit; Credit/No Credit grading only*
Transfer acceptability: *CSU*
Designed to assist students in selecting a career goal. This will be accomplished by identifying the students' career interests, personality type, work values, and transferable skills as they relate to occupations.

COUN 170   Major Search   (1)
1 hour lecture
Note: *Open entry/Open exit; Credit/No Credit grading only*
Transfer acceptability: *CSU*
This course is designed to assist students to select a major goal and create an educational plan. This will be done by identifying academic interests and through researching career options.

COUN 180   Orientation for International Students (1)
1 hour lecture
Note: *Credit/No Credit grading only*
Transfer acceptability: *CSU*
Orientation for International Students will explore college life and concerns related to cultural and adjustment issues while living in the United States.

COUN 185   Peer Advising   (1)
1 hour lecture
Note: *Credit/No Credit grading only*
Transfer acceptability: *CSU*
This class will teach students how to utilize and provide information from the Palomar College catalog, class schedule, student services, and community resources. Topics covered will be: academic policies, interpersonal communication skills, and peer counseling techniques. This course is required for participation in the Palomar Peer Counselor Program.

COUN 197   Counseling Topics   (.5-4)
Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.
Note: *Credit/No Credit grading only; may be taken 4 times*
Transfer acceptability: *CSU*
Topics in Counseling. See Class Schedule for specific topic covered. Course title will designate subject covered.

Culinary Arts (CUL)
See also ROP Culinary Arts
Contact the Design and Consumer Education Department for further information, (760) 744-1150 , ext: 2349.

Associate in Arts degree requirements, Certificate of Achievement requirements, and Certificate of Proficiency requirements are listed in Section 6 (green pages) of the catalog.

PROGRAMS OF STUDY

Culinary Arts
Prepares students for employment and career opportunities in various areas of the foodservice industry. The focus is on food preparation and production skills, with supporting coursework in nutrition, food sanitation and safety, menu planning, purchasing and inventory control, kitchen management and employee supervision. Practical hands-on lab activities in a commercial kitchen environment and directed workplace learning opportunities prepare students for foodservice positions in resorts, casinos, and fine dining establishments.

Students will need to possess a current San Diego County Food Handler Card to participate in kitchen/lab activities.

In order to earn a certificate or degree, students must achieve a minimum grade of "C" in each of the certificate program courses.

A.A. Degree Major or Certificate of Achievement*

Program Requirements		Units
FCS/ MICR 110	Microbiology and Foods	3
FCS/HE 165	Fundamentals of Nutrition	3
R CUL/ CUL 110	Culinary Essentials I	3
R CUL/ CUL 111	Culinary Essentials II	3
R CUL/ CUL 120	Patisserie and Baking I	3
R CUL/ CUL 121	Patisserie and Baking II	3
R CUL/ CUL 130	Pantry/Garde Manger	3
R CSIS/ CSIS 120	Microcomputer Applications	3

R CUL/		
CUL 200	Menu Planning and Purchasing	2
R CUL/		
CUL 210	Foodservice Management	3
R CUL/		
CUL 220	Catering and Event Planning	3
R CUL/		
CUL 298	Culinary Directed Practice I	3
R CUL/		
CUL 299	Culinary Directed Practice II	3

Electives (Select a minimum of 3 units)

R CUL/		
CUL 115	Dining Room Service	2
R CUL/		
CUL 150	International Cuisine	3
R CUL/		
CUL 230	Adv Garde Manger/Competition	3
R CUL/		
CUL 240	Wines and Affinities	1
TOTAL UNITS		**41**

Culinary Skills

With a focus on basic food preparation and production skills, nutrition, and food safety and sanitation, the program prepares students for various entry-level positions in the foodservice industry. Practical hands-on lab activities in a modern commercial kitchen environment provide opportunities for students to master the skills required for employment.

Students will need to possess a current San Diego County Food Handler Card to participate in required kitchen/lab activities.

In order to earn a certificate, students must achieve a minimum grade of "C" in each of the certificate program courses.

Certificate of Proficiency

Program Requirements		Units
FCS/		
MICR 110	Microbiology and Foods	3
FCS/HE 165	Fundamentals of Nutrition	3
R CUL/		
CUL 110	Culinary Essentials I	3
R CUL/		
CUL 111	Culinary Essentials II	3
R CUL/		
CUL 130	Pantry/Garde Manger	3
R CUL/		
CUL 115	Dining Room Service	2
TOTAL UNITS		**17**

Patisserie and Baking

With a focus on commercial baking and pastry making, the program prepares students for entry-level positions in bakeries, restaurants, resorts and casino operations. Practical hands-on lab activities in a modern commercial kitchen environment provide opportunities for students to master the skills required for employment.

Students will need to possess a current San Diego County Food Handler Card to participate in required kitchen/lab activities.

In order to earn a certificate, students must achieve a minimum grade of "C" in each of the certificate program courses.

Certificate of Proficiency

Program Requirements		Units
FCS/		
MICR 110	Microbiology and Foods	3
FCS/HE 165	Fundamentals of Nutrition	3
R CUL/		
CUL 120	Patisserie and Baking I	3
R CUL/		
CUL 121	Patisserie and Baking II	3
TOTAL UNITS		**12**

COURSE OFFERINGS

CUL 110   Culinary Essentials I   (3)
1 hour lecture - 4 hours lecture/laboratory
Prerequisite: *Current San Diego County Food Handler Card*
Recommended preparation: *FCS 110/MICR 110*
Note: *Cross listed as R CUL 110; graded only*
Introduction to culinary arts and the foodservice industry. Fundamentals of food preparation and production, emphasizing industry standards. Lab work will focus on knife skills, standard cuts, and preparation of vegetables and starches. Students will be expected to meet high standards of professionalism, sanitation and work habits.

CUL 111   Culinary Essentials II   (3)
1 hour lecture - 4 hours lecture/laboratory
Prerequisite: *R CUL/CUL 110*
Note: *Cross listed as R CUL 111; graded only*
Advanced food production, including meat and protein fabrication. Lab work will include: stocks, sauces and soups; meat and game; poultry; fish and seafood; breakfast foods and classical cuisine. Students will be expected to meet high standards of professionalism, sanitation and work habits.

CUL 115   Dining Room Service   (2)
4 hours lecture/laboratory
Prerequisite: *Current San Diego County Food Handler Card*
Note: *Cross listed as R CUL 115; graded only*
Orientation to dining room operations with an emphasis on dining room service, techniques of table waiting, and dining room skills. Students will be expected to meet high standards of professionalism, sanitation and work habits.

CUL 120   Patisserie and Baking I   (3)
1 hour lecture - 4 hours lecture/laboratory
Prerequisite: *Current San Diego County Food Handler Card*
Recommended Preparation: *FCS/MICR 110*
Note: *Cross listed as R CUL 120; graded only*
Fundamentals of baking, including ingredient properties and function, and preparation and evaluation of a variety of yeast products, quick breads, cookies, cakes, pies and pastries. Students will be expected to meet high standards of professionalism, sanitation and work habits.

CUL 121   Patisserie and Baking II   (3)
1 hour lecture - 4 hours lecture/laboratory
Prerequisite: *R CUL/CUL 120*
Note: *Cross listed as R CUL 121; graded only*
Advanced skills in the art of patisserie. Includes: classic pastries, pâte à choux and meringues; plated desserts; cake decorating; chocolate and sugar techniques. Students will be expected to meet high standards of professionalism, sanitation and work habits.

CUL 130   Pantry/Garde Manger   (3)
1 hour lecture - 4 hours lecture/laboratory
Prerequisite: *San Diego County Food Handler Card*
Recommended Preparation: *R CUL/CUL 110*
Note: *Cross listed as R CUL 130; graded only*
Introduction to cold food preparation and display. Includes salads, dressings, sandwiches and canapés. Students will be expected to meet high standards of professionalism, sanitation and work habits.

CUL 150   International Cuisine   (3)
1 hour lecture - 4 hours lecture/laboratory
Prerequisite: *Current San Diego County Food Handler Card*
Note: *Cross listed as R CUL 150; graded only*
A hands-on cooking, tasting and evaluating exploration of the major cuisines of the world. Includes Asian, Latin, European and American cuisines with a focus on the cultures that influenced their development. Students will be expected to meet high standards of professionalism, sanitation and work habits.

CUL 200   Menu Planning and Purchasing   (2)
2 hours lecture
Prerequisite: *R CUL/CUL 111 and FCS 165/HE 165 and R CSIS/CSIS 120*

Note: *Cross listed as R CUL 200; graded only*
Basic principles of menu planning and purchasing with emphasis on: menu design; specifications and pricing; purchasing, inventory control and storeroom operations; and food and beverage cost control. Includes spreadsheet and database applications. Students will be expected to meet high standards of professionalism and work habits.

CUL 210   Foodservice Management   (3)
3 hours lecture
Prerequisite: *R CUL/CUL 111*
Note: *Cross listed as R CUL 210; graded only*
Introduction to foodservice management with emphasis on human relations and employee development. Includes operational planning and coordination, problem-solving and decision-making, and personnel management. Students will be expected to meet high standards of professionalism and work habits.

CUL 220   Catering and Event Planning   (3)
1 hour lecture - 4 hours lecture/laboratory
Prerequisite: *R CUL/CUL 111 and R CUL/CUL 130*
Note: *Cross listed as R CUL 220; graded only*
Fundamentals of catering, including event planning, menu development and banquet preparation. Includes opportunities to apply culinary theory and skills in actual practice. Students will be expected to meet high standards of professionalism, sanitation and work habits.

CUL 230   Adv Garde Manger/Competition   (3)
1 hour lecture - 4 hours lecture/laboratory
Prerequisite: *R CUL/CUL 111 and R CUL/CUL 130*
Note: *Cross listed as R CUL 230; graded only*
Application of advanced garde manger techniques in practical situations and culinary competition. Includes classical buffet presentation, decorative displays and artistic centerpieces. Students will be expected to meet high standards of professionalism, sanitation and work habits.

CUL 240   Wines and Affinities   (1)
1 hour lecture
Prerequisite: *R CUL/CUL 111*
Note: *Cross listed as R CUL 240; graded only*
Classification and identification of wines, with emphasis on properties and affinities with food. Includes wines from various regions of the world. Students will be expected to meet high standards of professionalism and work habits.

CUL 298   Culinary Directed Practice I   (3)
3 hours lecture – 10 hours lab
Prerequisite: *R CUL/CUL 111 and R CUL/CUL 130 or R CUL/CUL 121*
Note: *Cross listed as R CUL 298; graded only*
Directed learning opportunity for culinary arts students to increase their knowledge and skill in the areas of hot and cold food production through supervised on-the-job training. Students will be expected to follow Culinary Arts standards of professionalism. Current San Diego County Food Handler Card and TB clearance required.

CUL 299   Culinary Directed Practice II   (3)
3 hours lecture-10 hours lab
Prerequisite: *RCUL/CUL 298, R CUL/CUL 200, FCS/MICR 110 and FCS/HE 165*
Note: *Cross listed as R CUL 299; graded only*
Directed entry-level professional work experience in the foodservice industry that provides exposure to the foodservice industry and an opportunity for culinary arts students to practice and demonstrate their employability skills and reflect on their future roles in the industry. Students will be expected to follow Culinary Arts standards of

professionalism. Current San Diego County Food Handler Card and TB clearance required.