

BOT 101 General Botany Lecture (3)
 3 hours lecture
Note: Not open to students with prior credit in BOT 100
Transfer acceptability: CSU; UC – BOT 100 and 101/101L combined: maximum credit, 4 units
 The diversity, structure, and function of major plant groups including cellular metabolism, soil water relationships, classification, genetics, life cycle patterns, growth, and the basic ecological and evolutionary concepts of botany.

BOT 101L General Botany Laboratory (1)
 3 hours laboratory
Prerequisite: Completion of, or concurrent enrollment in, BOT 101
Note: Not open to students with prior credit in BOT 100
Transfer acceptability: CSU; UC – BOT 100 and 101/101L combined: maximum credit, 4 units
 A laboratory course in plant biology. Special emphasis on the structure, growth, function, genetics, and life cycles of major plant groups. This is a general education course intended for non-science majors.

BOT 110 Botany of Spring Wildflowers (4)
 3 hours lecture 3 hours laboratory
Transfer acceptability: CSU; UC
 The identification, distribution, and interrelationships of plants in their natural environment; ecological principles; and representative plant communities. Special emphasis will be given to the study of plant families and the use of taxonomic keys.

BOT 115 Plants and People (3)
 3 hours lecture
Transfer acceptability: CSU; UC – No credit if taken after 100 or 101/101L
 The role of plants in the world ecosystem, including past and present cultural and economic uses for food, medicine, and industrial products. Principles of plant structure and function, with selected topics on plant diversity, plant adaptations, and the interrelationships between plants and people will also be discussed.

BOT 195 Field Study of Native Plants (1,2,3)
 2, 4 or 6 hours lecture/laboratory
Note: May be taken 4 times
Transfer acceptability: CSU; UC – Credit determined by UC upon review of course syllabus.
 Extended field study of the flora of selected geographical areas including habitats, adaptations, and identification of native and naturalized species. See Class Schedule for locality to be visited. Fee charged.

BOT 197 Botany 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 Botany. See Class Schedule for specific topic offered. Course title will designate subject covered.

Business Education (BUS)
See also Accounting, Business Management, Insurance, International Business, Legal Studies, Office Information Systems, Paralegal Studies, Real Estate
 Contact the Business Education Department for further information, (760) 744-1150, ext. 2488

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

Advertising, Marketing, and Merchandising

This program is designed to provide a general academic background of coursework pertinent to entry-level employment and/or upper division education in the field of product or service distribution.

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements		Units
ACCT 103 and	Financial Accounting	
ACCT 104 or	Accounting Spreadsheet Lab	
BUS 105	Bookkeeping Fundamentals	3,5
BUS 110	Business Mathematics	3
BUS 115	Business Law	3
BUS 140	Selling for Business	3
BUS 145/		
FASH 125	Retailing/Promotion	3
BUS 150	Advertising	3
BUS 155	Marketing	3
Electives (Select 10-11 units)		
BUS 100	Introduction to Business	3
BUS 125	Business English	3
BUS/FCS 136	Personal Finance	3
BUS 157	E-Commerce	3
BUS 158	Marketing Internship	3
BUS 170	Word for Business Basic	1
BUS 205	Business Writing	3
BMGT 110	Human Resource Management	3
BMGT 105	Small Business Management	3
CSIS 105 or	Computer Concepts/Microcomputer Applications	
CSIS/R CSIS 120	Microcomputer Applications	3
MATH 120	Elementary Statistics	3
OIS 101	Beginning Keyboarding	3
SPCH 100	Oral Communication	3
TOTAL UNITS		31-34

Recommended Elective: BUS 171

Business Administration

Provides a program to prepare the student for transfer. Since requirements vary at each four-year school, transfer students must consult with a counselor, or a Business Education Department advisor, to develop a program for the specific school they wish to attend.

A.A. DEGREE MAJOR

Program Requirements		Units
ACCT 103	Financial Accounting	4
ACCT 104	Accounting Spreadsheet Lab	1
ACCT 108	Managerial Accounting	4
BUS 115 or	Business Law	
BUS 117	Legal Environment of Business	3
BUS 175	Excel Basic	1
BUS 205	Business Writing	3
CSIS 105 or	Computer Concepts/Microcomputer Applications	
CSIS/R CSIS 120	Microcomputer Applications	3
ECON 100 or	Basic Economics	
ECON 101 and	Principles of Economics (Macro)	
ECON 102	Principles of Economics (Micro)	3,6
MATH 120	Elementary Statistics	3
MATH 130	Calculus for the Social Sciences	4
TOTAL UNITS		29 - 32

Business-General

This program is primarily designed for students who are seeking an overview of business educational opportunities prior to a career commitment in a particular area.

A.A. DEGREE MAJOR

Program Requirements	Units
ACCT 103 and Financial Accounting	
ACCT 104 or Accounting Spreadsheet Lab	
BUS 105 Bookkeeping Fundamentals	3,5
BUS 100 Introduction to Business	3
BUS 110 Business Mathematics	3
BUS 115 Business Law	3
BUS 125 Business English	3
BUS 155 Marketing	3
BMGT 101 or Introduction to Management	
BMGT 105 Small Business Management	3
CSIS 105 or Computer Concepts/Microcomputer Applications	
CSIS/R CSIS 120 Microcomputer Applications	3
Electives (Select 6-9 units)	
ACCT 108 Managerial Accounting	4
ACCT 115 Sales Tax, Payroll Taxes, and Employee Benefits	2
BUS 116 Business Law	3
BUS 130 Intro Purchasing and Supply Chain Management	3
BUS 140 Selling for Business	3
BUS 145/	
FASH 125 Retailing/Promotion	3
BUS 150 Advertising	3
BUS 157 E-Commerce	3
BUS 158 Marketing Internship	3
BUS 205 Business Writing	3
OIS 101* or Beginning Keyboarding	
OIS 102 Intermediate Keyboarding	3
TOTAL UNITS	30 - 35

* Not required if acceptable level skill has been completed in high school. Students excused from OIS 101 must substitute an elective.

Recommended Electives: BUS 170, 171; PSYC 100; ECON 101

E-Business

Provides a program, which prepares students in the basic skills necessary to use e-commerce in an ever changing and competitive entrepreneurial market.

CERTIFICATE OF PROFICIENCY

Program Requirements	Units
BMGT 105 Small Business Management	3
BUS 155 Marketing	3
BUS 157 E-Commerce	3
GC 217 Online Store Design I	3
Electives (Select 3 units)	
BUS 138 Business Ethics	2
BUS 142 Customer Service	1
BUS 180 Access for Business	1
BUS 190 Internet for Business	1
GC 218 Online Store Design II	3
GC 290 Copyright Graphic Designers/Web Developers	1
GC 291 Contracts Graphic Designers/Web Developers	1
GC 292 Legal Issues Graphic Designers/Web Developers	3
TOTAL UNITS	15

Entrepreneurship

Provides a program to prepare the student for owning and managing a business.

CERTIFICATE OF PROFICIENCY

Program Requirements	Units
BMGT 105 Small Business Management	3
BUS 105 Bookkeeping Fundamentals	3
BUS 155 Marketing	3
BUS 157 E-Commerce	3
BUS 170 Word for Business - Basic	1
BUS 175 Excel Basic	1
Electives (Select 3 units)	
BUS 138 Business Ethics	2
BUS 142 Customer Service	1
BUS 171 Word for Business - Advanced	1
BUS 180 Access for Business	1
BUS 185 PowerPoint for Business	1
BUS 190 Internet for Business	1
TOTAL UNITS	17

Internet

As the vast web of global and local information networks grow, several skills and forms of literacy are becoming essential for anyone who wants to obtain the full benefits of the Communications Age. An individual's ability to capitalize on the opportunities offered by interactive communications requires mastery of these information and communication proveniences:

- **Navigational skills** - The ability to move smoothly among arrays of autonomous and globally interconnected information, contacts, forums, and discussion groups in order to locate and connect to information and expertise from relevant sources.
- **Information literacy** - An understanding of which information is most useful, relevant, and reliable, as well as the ability to analyze, distill, integrate, compose, and classify information to create knowledge.
- **Distribution skills** - Frameworks for rethinking methods of packaging, presenting, providing access, and disseminating information and knowledge in this new medium.
- **Communications literacy** - Integrating new forms of information, knowledge, and message development into evolving patterns of organizational and interpersonal communication.

This certificate offers preparation skills for the above areas of emphasis involving the Internet.

Emphasis in Business

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements	Units
BMGT 105 Small Business Management	3
BUS 140 Selling for Business	3
BUS 150 Advertising	3
BUS 155 Marketing	3
BUS 170 Word for Business - Basic	1
BUS 171 Word for Business - Advanced	1
BUS 157 E-Commerce	3
CSIS/R CSIS 137 Web Site Development with XHTML	2
GC/	
R GC 202 or Web Page Layout I	3
GC 230 and Web Page Layout I – Part I	1.5
GC 231 Web Page Layout I – Part II	1.5
LT 154 Information for Life Long Learning	3
TOTAL UNITS	25

**Internet –
Emphasis in Graphic Communication**

**A.A. DEGREE MAJOR OR
CERTIFICATE OF ACHIEVEMENT**

(See Graphic Communications)

Retail Management

A comprehensive program designed to prepare current and future retail employees for the fast paced challenges in a competitive retail environment. This certificate has been endorsed by the Western Association of Food Chains and its member companies.

CERTIFICATE OF ACHIEVEMENT

Program Requirements		Units
ACCT 103	Financial Accounting	4
ACCT 104	Accounting Spreadsheet Lab	1
BMGT 101	Introduction to Management	3
BMGT 110	Human Resource Management	3
BUS 110	Business Mathematics	3
BUS 145/		
FASH 125	Retailing/Promotion	3
BUS 155	Marketing	3
BUS 205	Business Writing	3
OIS 120	Intro to Office Info Systems	3
SPCH 115	Interpersonal Communication	3
TOTAL UNITS		29

Salesperson - Retail

This program is designed to prepare students for entry into the retail sales force. Students will gain a working knowledge of sales techniques and customer service principles within the marketing environment. Emphasis will be placed on a consultative approach toward encouraging sales.

CERTIFICATE OF PROFICIENCY

Program Requirements		Units
(Select 3 classes totaling 9 units)		
BUS 140	Selling for Business	3
BUS 145/		
FASH 125	Retailing/Promotion	3
BUS 150	Advertising	3
BUS 155	Marketing	3
Elective Courses (Select 6 units)		
BUS 100	Introduction to Business	3
BUS 110	Business Mathematics	3
BUS 138	Business Ethics	2
BUS 142	Customer Service	1
TOTAL UNITS		15

COURSE OFFERINGS

BUS 100 Introduction to Business (3)
3 hours lecture
Transfer acceptability: CSU; UC
Preparation for survival within the global economy. Topics such as small business management, managerial theory, international business, and marketing represent several important class components. Includes strong career guidance component.

BUS 105 Bookkeeping Fundamentals (3)
3 hours lecture
Note: Not open to students who have completed ACCT 103
Transfer acceptability: CSU;
Comprehensive coverage of the basic bookkeeping cycle, including journalizing, posting, worksheet and financial statements; payroll records; petty cash systems; reconciliation of bank statements. Designed to give practical preparation for bookkeeping positions.

BUS 110 Business Mathematics (3)
3 hours lecture
Transfer acceptability: CSU
Theory and practical application to business situations of computing trade and cash discounts, commissions, payrolls, property taxes, interest, bank discount, compound interest, present value, annuities, sinking funds, insurance, consumer credit, and depreciation.

BUS 115 Business Law (3)
3 hours lecture
Transfer acceptability: CSU; UC – BUS 115, 116, 117 combined: maximum credit, one course; CAN BUS 8
Law in its relationships to business contracts, agency, bailment, and sales.

BUS 116 Business Law (3)
3 hours lecture
Recommended preparation: A minimum grade of 'C' in BUS 115
Transfer acceptability: CSU; UC – BUS 115, 116, 117 combined: maximum credit, one course
Law in its relationships to negotiable instruments, partnerships, corporations, real property, insurance, wills and estates, and bankruptcy.

BUS 117 Legal Environment of Business (3)
3 hours lecture
Transfer acceptability: CSU; UC – BUS 115, 116, 117 combined: maximum credit, one course; CAN BUS 12
Business legal systems, sources of law, social and ethical influences, judicial and administrative systems, contracts, torts, bankruptcy, agency, business organizations, securities regulation, regulation of property, and protection of intellectual property interests.

BUS 125 Business English (3)
3 hours lecture
Transfer acceptability: CSU
Practical approaches to solving the common problems of English language usage, as specifically applied to business-oriented written material. Coverage includes business vocabulary, spelling, grammar, idioms, sentence structure, and punctuation.

BUS 130 Introduction to Purchasing and Supply Chain Management (3)
3 hours lecture
Transfer acceptability: CSU
Basic principles in purchasing and supply chain management, relationship management, application of processes, inventory management, source selection, obtaining and evaluating offers, buying techniques, contract writing and legal aspects.

BUS 136 Personal Finance (3)
3 hours lecture
Note: Cross listed as FCS 136
Transfer acceptability: CSU
A study of the effective management of personal and family resources. Budgeting, buying of goods and services, banking, credit, taxation, investing, insurance, home ownership, estate planning, and consumer protection.

BUS 138 Business Ethics (2)
2 hours lecture
Transfer acceptability: CSU
This course provides a systems approach for making business decisions that are

responsible, practical, and defensible. It examines the gray zone of ethical quandaries and provides a methodical process for selecting alternative solutions that are ethical and good for business.

BUS 140 Selling for Business (3)
3 hours lecture

Transfer acceptability: CSU

A study of the working principles of selling in a business environment including prospecting for customers, understanding buying behavior, developing a sales presentation, closing the sale while delivering the best customer service, and maintaining professional relationships.

BUS 142 Customer Service (1)
1 hour lecture

Transfer acceptability: CSU

This course covers the entire spectrum of customer service, which includes anything a business does for a customer in order to enhance the customer experience. Central focus of the course is recognition that it is much more costly to attract new customers than it is to maintain current customers.

BUS 145 Retailing/Promotion (3)
3 hours lecture

Note: Cross listed as FASH 125

Transfer acceptability: CSU

Principles and techniques of retailing, promotion, and advertising pertinent to retail policies and procedures. Includes psychological aspect of retailing. Working foundation for those looking forward to employment in this area.

BUS 150 Advertising (3)
3 hours lecture

Transfer acceptability: CSU

A study of advertising media and methods as sales promotional tools in marketing activities including, but not limited to, such areas as the production and evaluation of advertisements and advertising media.

BUS 155 Marketing (3)
3 hours lecture

Transfer acceptability: CSU

A study of the role and functions of marketing in the wholesale and retail distribution of industrial and consumer goods and services, to familiarize students with marketing policies and practices, integration of marketing activities, and pertinent government regulations.

BUS 157 E-Commerce (3)
3 hours lecture

Recommended preparation: BUS 190

Transfer acceptability: CSU

Addresses the methods by which a business can harness the powers of the Web to sell its product. Examines planning an e-business, web site creation and hosting, e-commerce stores, electronic payment issues and security, marketing an e-business, copyright, and privacy policy issues.

BUS 158 Marketing Internship (3)
3 hours lecture

Note: Course not offered every semester

Transfer acceptability: CSU

A group process whereby students form their own promotions company. Students will work with a local business owner for the purpose of creating and implementing a promotional event to be held on campus, at the client's place of business, or at another location, as identified through the research component of their plan. Students will engage in activities which include, but are not limited to, market research, advertising, public relations, and budgeting.

BUS 165 Keyboarding (1)
Course requires 32 hours lecture/laboratory. Students should refer to course listing in Class Schedule for scheduling options.

Note: May be open entry/open exit

Transfer acceptability: CSU

Touch-typing of alphabetic, numeric, and symbol keys on a computer keyboard;

development of speed and accuracy on straight copy; introduction to basic business document formatting.

BUS 170 Word for Business – Basic (1)
Course requires 32 hours lecture/laboratory. Students should refer to course listing in Class Schedule for scheduling options.

Recommended preparation: A keyboarding speed of 20 net words a minute
Note: May be open entry/open exit; May be taken 4 times with different subject matter; Maximum of 4 completions in any combination of BUS 170, BUS 171; This course cannot be used to satisfy the Office Information Systems A.A. Degree/Certificates.

Transfer acceptability: CSU

Hands on application with Microsoft Word. Students will create, save, close, open, edit, and print a variety of business documents utilizing the following software features: finding and replacing text, moving and copying text; spell, thesaurus, grammar, and auto text; character, paragraph, page, and document formatting; envelopes; tables; columns; borders and special characters; footnotes and endnotes; draw objects and graphics; hyperlinks; styles and templates; outlines; smart tags; and headers/footers. Class Schedule will designate software package covered.

BUS 171 Word for Business – Advanced (1)
Course requires 32 hours lecture/laboratory. Students should refer to course listing in Class Schedule for scheduling options.

Recommended preparation: A minimum grade of 'C' in BUS 170

Note: May be open entry/open exit; May be taken 4 times with different subject matter; Maximum of 4 completions in any combination of BUS 170, BUS 171; This course cannot be used to satisfy the Office Information Systems A.A. Degree/Certificates.

Transfer acceptability: CSU

Refinement of basic word processing skills and practice of the more sophisticated software features of merge; labels; fields; index and table of contents; macros; master and subdocuments; customizing Word; on-screen forms; charts; bookmarks and cross-referencing; creating and editing Word web pages; comparing and merging documents; linking and embedding objects; and tracking changes. In addition, more advanced printing, file management, and integration of related software will be covered. The Class Schedule will designate software version covered.

BUS 175 Excel Basic (1)
Course requires 32 hours lecture/laboratory. Students should refer to course listing in Class Schedule for scheduling options.

Recommended preparation: BUS 110

Note: May be open entry/open exit; may be taken 4 times

Transfer acceptability: CSU

Introduction to a currently used computer spreadsheet application program. Concepts include defining, designing and navigating spreadsheets; creating, editing, formatting, and printing spreadsheets; working with formulas and functions; and working with charts and graphics. A variety of spreadsheets will be created and edited within practical applications designed for the business environment. Class Schedule will designate software package covered.

BUS 176 Excel Intermediate (1)
Course requires 32 hours lecture/laboratory. Students should refer to course listing in Class Schedule for scheduling options.

Recommended preparation: A minimum grade of 'C' in BUS 175 or Equivalent

Note: May be open entry/open exit; may be taken 4 times

Transfer acceptability: CSU

Development of intermediate spreadsheet skills to manipulate worksheet content using a current computer spreadsheet application program. Intermediate concepts include working with lists, filtering, conditional formatting, pivot tables/charts, worksheet groups, workbook templates, lookup functions, auditing tools, document sharing features, macro basics, and publishing to a web page. Concepts are introduced using practical applications designed for the business environment. Class schedule will designate software package covered.

BUS 177 Excel Advanced (1)
Course requires 32 hours lecture/laboratory. Students should refer to course listing in Class Schedule for scheduling options.

Recommended preparation: A minimum grade of 'C' in BUS 176 or Equivalent

Note: May be open entry/open exit; may be taken 4 times

Transfer acceptability: CSU

Development of advanced skills using a current computer spreadsheet application program. Advanced concepts and skills include performing complex analyses using data tables, arrays, scenarios, goal seek and problem-solving tools, and application add-ins; importing data from external sources including text, database, schema, XML, and web files and real-time sources; defining queries; and, writing and executing macros and sub-routines. Concepts and software features are introduced applying practical applications designed for the business environment. Class schedule will designate software package covered.

BUS 180 Access for Business (I)

Course requires 32 hours lecture/laboratory. Students should refer to course listing in Class Schedule for scheduling options.

Note: May be open entry/open exit; may be taken 4 times

Transfer acceptability: CSU

Introduction to a currently used computer database program. Skills include planning, designing, and using a database; tables; forms and sub forms; reports; queries; and relationships within practical applications designed for the business environment. Class Schedule will designate software package covered.

BUS 185 PowerPoint for Business (I)

Course requires 32 hours lecture/laboratory. Students should refer to course listing in Class Schedule for scheduling options.

Note: May be open entry/open exit; may be taken 4 times

Transfer acceptability: CSU

Introduction to a currently used computer presentations program to produce effective presentations using overheads, 35mm photographic slides, or on-screen slides. Skills include defining and designing presentations; preparing slides using the slide, slide sorter, outline, notes page, and slide show views; formatting and animating the presentation; and applying templates within practical applications applied to the business environment. Class Schedule will designate software package covered.

BUS 186 Microsoft Publisher (I)

2 hours lecture/laboratory

Recommended preparation: R CSIS 170 and R CSIS 127 or BUS 170 or OIS 136.I

Note: May be open entry/open exit, cross listed as R CSIS 130, may be taken 4 times.

Hands-on applications of Microsoft Publisher; a comprehensive software package that combines text, graphics, illustrations, and photographs to produce typeset quality documents for local printer output or for commercial printing. Includes: newsletters; brochures; flyers; web pages; business cards; letterheads and envelopes; advertising and marketing materials; and greeting cards; PDF and web file formats; and printing options.

BUS 187 Project for Business (I)

Course requires 32 hours lecture/laboratory. Students should refer to course listing in Class Schedule for scheduling options.

Note: May be open entry/open exit; may be taken 4 times with different subject matter

Transfer acceptability: CSU

Hands-on application with Microsoft Project, a comprehensive software package that includes the processes of initiating, planning, executing, controlling, and closing a project to meet project goals. Students will identify ways of completing projects more efficiently and effectively by covering the topics of planning a project; creating a project schedule; communicating project information; assigning resources and costs to a project; tracking the progress of and closing a project; and, sharing project information with other people and applications.

BUS 188 Voice Recognition (I)

Course requires 32 hours lecture/laboratory. Students should refer to course listing in Class Schedule for scheduling options.

Note: May be open entry/open exit; may be taken 4 times with different subject matter

Transfer acceptability: CSU

Hands-on application with a current voice recognition software package. Training includes training the software to recognize the user's voice; speaking accurately to improve the user's voice profile; opening and closing programs; selecting text; creating, editing, and formatting a variety of business documents; capitalizing, moving, inserting, saving, opening, and printing a variety of business documents; customizing the software; managing applications and documents; and, managing keyboard and mouse control techniques.

BUS 190 Internet for Business (1)

Course requires 32 hours lecture/laboratory. Students should refer to course listing in Class Schedule for scheduling options.

Note: May be open entry/open exit, may be taken 2 times

Transfer acceptability: CSU

Basic concepts of navigating the Internet and Intranet including terminology, bookmarks/favorites, copying/pasting web pages, search sites/engines, file transfer, e-mail, and attachments with practical applications designed for the business environment. In addition, basic web pages will be created and edited using HTML.

BUS 197 Business 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 Business. See Class Schedule for specific topic offered. Course title will designate subject covered.

BUS 205 Business Writing (3)

3 hours lecture

Prerequisite: A minimum grade of 'C' in BUS 125 or eligibility determined through the Business English placement process

Recommended preparation: ENG 100

Transfer acceptability: CSU

Principles of effective writing applied to business communications. Develops skill in analysis, organization, composition, and presentation of various types of letters, memos, and reports to elicit the desired responses. Formal analytical report required.

Business Management (BMGT)

Contact the Business Education Department for further information, (760) 744-1150, ext. 2488

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

Business Management

This program includes a selection of courses that provides academic preparation to individuals who are seeking employment, or are currently employed, within the management structure of business.

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements	Units
Core Courses (Select 18-20 units)	
ACCT 103 and Financial Accounting	
ACCT 104 or Accounting Spreadsheet Lab	
BUS 105 Bookkeeping Fundamentals	3, 5
BUS 100 Introduction to Business	3
BUS 110 Business Mathematics	3
BUS 115 Business Law	3



BUS 155	Marketing	3
BUS 205	Business Writing	3
CSIS 105 or CSIS/R CSIS 120	Computer Concepts/Microcomputer Microcomputer Applications	3
ECON 100 or ECON 101 or BUS/FCS 136	Basic Economics Principles of Economics (Macro) Personal Finance	3
MATH 120	Elementary Statistics	3
PSYC 100	Introduction to Psychology	3
SPCH 100	Oral Communication	3

Management Courses (Select 8-9 units)

BMGT 101	Introduction to Management	3
BMGT 105	Small Business Management	3
BMGT 110	Human Resource Management	3
BMGT 115	Organizational Theory and Design	3
BMGT 125	Introduction to Labor Relations	3
BMGT 130	Management/Leadership Issues	3
BMGT 197	Business Management Topics	.5-4

Elective Courses (Select 3-4 units)

ACCT 108	Managerial Accounting	4
BUS 130	Intro Purchase/Supply Chain Management	3
BUS 140	Selling for Business	3
BUS 145/ FASH 125	Retailing/Promotion	3
BUS 157	E-Commerce	3
BUS 158	Marketing Internship	3
BUS 170	Word for Business - Basic	1
BUS 171	Word for Business - Advanced	1
BUS 187	Project for Business	1
BUS 197	Business Topics	.5-4
RE 100	Real Estate Principles	3
CE 100	Cooperative Education	1,2,3,4

TOTAL UNITS 29 – 33**COURSE OFFERINGS****BMGT 101 Introduction to Management (3)**

3 hours lecture

Transfer acceptability: CSU

A leadership course designed to enhance understanding of responsibilities associated with management in business. Topics will cover management styles and human behavior factors associated with managing staff.

BMGT 105 Small Business Management (3)

3 hours lecture

Transfer acceptability: CSU

For owners and managers of small businesses. Analysis of personal qualifications, forms of ownership, sources of information, financing, planning, legal problems, record keeping, advertising, insurance, sales promotions, credit, public relations, and current aids to successful management.

BMGT 110 Human Resource Management (3)

3 hours lecture

Transfer acceptability: CSU

A survey of the history and present status of human resource management in the United States. Emphasis on modern techniques of recruitment, placement, wage administration, communications, training, labor relations, and employer/employee relationships in modern industry and business.

BMGT 115 Organizational Theory and Design (3)

3 hours lecture

Transfer acceptability: CSU

Policies and methods of organization in business enterprises of various types and sizes. Functional components of business organization: planning, controlling, coordinating, and directing to meet organizational objectives. Establishing lines of authority and functions of departments or units with emphasis on systems management.

BMGT 125 Introduction to Labor Relations (3)

3 hours lecture

Transfer acceptability: CSU

Introduction to, and development of, an appreciation for labor relations; review of procedures involved in negotiation and administration of labor agreements; development of an understanding of the involvement of labor and management in a collective bargaining agreement; and an overview of the general nature of the labor management relationship and labor law as they currently exist in the United States.

BMGT 130 Management/Leadership Issues (3)

3 hours lecture

Transfer acceptability: CSU

Examination of current issues in management and leadership including: organizing, staffing, decision making, motivating, communicating, and applying such skills to a business organization. Concepts related to group dynamics, change, conflict, organizational communications, and productivity are explored.

BMGT 197 Business Management 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 Business Management. See Class Schedule for specific topic offered. Course title will designate subject covered.

Cabinet and Furniture Technology (CFT)

Contact the Trade and Industry Department for further information, (760) 744-1150, ext. 2545

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**Cabinetmaking and Furniture Design**

Provides the student with the theory and skills needed for employment in the field of cabinetmaking and furniture design.

**A.A. DEGREE MAJOR OR
CERTIFICATE OF ACHIEVEMENT**

Program Requirements		Units
CFT 100	Fundamentals of Woodworking	2,3,4
CFT 105	Machine Woodworking/Furniture	2,3,4
CFT 110	Machine Tool Joinery I	2,3,4
CFT 111	Machine Tool Joinery II	2,3,4
CFT 153	Studio Furniture Design I	2,3,4
CFT 165	Cabinet/Face Frame Construction	2,3,4
CFT 167	Cabinetmkg/32mm European Construction	2,3,4
CFT 195	Finishing Tech/Touch-Up/Repair	2,3,4
Group One (Select 12 units)		
CFT 149	Hand Joinery I	2,3,4
CFT 150	Hand Joinery II	2,3,4
CFT 151	Veneering Technology I	2,3,4
CFT 152	Veneering Technology II	2,3,4
CFT 155	Classic American Chair Designs	2,3,4
CFT 157	Chair/Seating Prototype Construction	2,3,4
CFT 158	Chair/Seating Production Manufacturing	2,3,4

CFT 161	Tables/Prototype Construction	2,3,4	CFT 157	Chair/Seating Prototype Construction	2,3,4
CFT 162	Tables/Production Manufacturing	2,3,4	CFT 158	Chair/Seating Production Manufacturing	2,3,4
Group Two (Select 12 units)			CFT 161	Tables/Prototype Construction	2,3,4
CFT 120	Advanced Furniture Lab	.5-3	CFT 162	Tables/Production Manufacturing	2,3,4
CFT 130	Stringed Instrument Making	2,3,4	CFT 163	Plastic Laminate Fabrication Techniques	.5,1
CFT 141	Making Woodworking Tools	.5,1,2,3	CFT 164	Cabinet Installation	.5,1
CFT 142	The Art and Craft of Planemaking	.5,1,2,3	CFT 170	Workbench Design and Production	2,3,4
CFT 143	Decorative Box Making	2,3,4	CFT 171	Furniture for the Wood Shop	2,3,4
CFT 144	Production Furniture Making (Toys)	.5,1	CFT 172	Turbo CAD for Cabinets and Furniture	2,3,4
CFT 154	Studio Furniture Design II	2,3,4	CFT 175	Jigs and Fixtures	2,3,4
CFT 156	Advanced Classic American Chair Design	2,3,4	CFT 180	Wood Bending And Lamination/Wood Tech.	2,3,4
CFT 163	Plastic Laminate Fabrication Techniques	.5,1	CFT 186	Machine Tool/Production Carving	1,2,3,4
CFT 164	Cabinet Installation	.5,1	CFT 187	Introduction to Carving	1,2,3,4
CFT 166	Cabinetmaking/Production & Manufacturing	2,3,4	CFT 188	Intermediate Carving	1,2,3,4
CFT 168	Cabinetmaking/Architectural Millwork	2,3,4	CFT 189	Advanced Carving	1,2,3,4
CFT 169	Cabinetmaking/Computer Cabinet Layout	.5,1,2,3	CFT 190	Specialty and Manufactured Hardware	.5,1,2,3
CFT 170	Workbench Design and Production	2,3,4	CFT 196	Special Problems in CFT	1-6
CFT 171	Furniture for the Wood Shop	2,3,4	CFT 197	Cabinet and Furniture Technology Topics	.5-4
CFT 172	Turbo CAD for Cabinets and Furniture	2,3,4	CFT 198	Advanced Wood Finishing	2,3,4
CFT 175	Jigs and Fixtures	2,3,4	CFT 295	Directed Study in Woodworking	1,2,3,4,5,6
CFT 180	Wood Bending And Lamination/Wood Tech.	2,3,4	TOTAL UNITS		36-48
CFT 185	Machine Tool Set Up and Maintenance	2,3,4	Furniture Making		
CFT 186	Machine Tool/Production Carving	1,2,3,4	Provides the student with the theory and skills needed for employment in the field of furniture production and manufacturing.		
CFT 187	Introduction to Carving	1,2,3,4	A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT		
CFT 188	Intermediate Carving	1,2,3,4	Program Requirements		
CFT 189	Advanced Carving	1,2,3,4	CFT 100	Fundamentals of Woodworking	2,3,4
CFT 190	Specialty and Manufactured Hardware	.5,1,2,3	CFT 105	Machine Woodworking/Furniture	2,3,4
CFT 196	Special Problems in CFT	1-6	CFT 110	Machine Tool Joinery I	2,3,4
CFT 197	Cabinet and Furniture Technology Topics	.5-4	CFT 111	Machine Tool Joinery II	2,3,4
CFT 198	Advanced Wood Finishing	2,3,4	CFT 151	Veneering Technology I	2,3,4
CFT 295	Directed Study in Woodworking	1,2,3,4,5,6	CFT 152	Veneering Technology II	2,3,4
TOTAL UNITS		40 - 56	CFT 153	Studio Furniture Design I	2,3,4

Cabinetmaking and Millwork

Provides the student with the theory and skills needed for employment in the cabinet and millwork industry.

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements	Units	
CFT 100	Fundamentals of Woodworking	2,3,4
CFT 105	Machine Woodworking/Furniture	2,3,4
CFT 165	Cabinet/Face Frame Construction	2,3,4
CFT 167	Cabinetmkg/32mm European Const	2,3,4
CFT 168	Cabinetmaking/Architectural Millwork	2,3,4
CFT 195	Finishing Tech/Touch-Up/Repair	2,3,4
Group One (Select 12 units)		
CFT 110	Machine Tool Joinery I	2,3,4
CFT 111	Machine Tool Joinery II	2,3,4
CFT 151	Veneering Technology I	2,3,4
CFT 152	Veneering Technology II	2,3,4
CFT 153	Studio Furniture Design I	2,3,4
CFT 166	Cabinetmaking/Production & Manufacturing	2,3,4
CFT 169	Cabinetmaking/Computer Cabinet Layout	.5,1,2,3
CFT 185	Machine Tool Set-up and Maintenance	2,3,4
Group Two (Select 12 units)		
CFT 97	Cabinet and Furniture Technology Topics	.5 4
CFT 120	Advanced Furniture Lab	.5-3
CFT 142	The Art and Craft of Planemaking	.5,1,2,3
CFT 143	Decorative Box Making	2,3,4
CFT 149	Hand Joinery I	2,3,4
CFT 150	Hand Joinery II	2,3,4
CFT 154	Studio Furniture Design II	2,3,4
CFT 155	Classic American Chair Designs	2,3,4
CFT 156	Adv Classic American Chair Design	2,3,4

Program Requirements	Units	
CFT 100	Fundamentals of Woodworking	2,3,4
CFT 105	Machine Woodworking/Furniture	2,3,4
CFT 110	Machine Tool Joinery I	2,3,4
CFT 111	Machine Tool Joinery II	2,3,4
CFT 151	Veneering Technology I	2,3,4
CFT 152	Veneering Technology II	2,3,4
CFT 153	Studio Furniture Design I	2,3,4
CFT 154	Studio Furniture Design II	2,3,4
CFT 157 or	Chair/Seating Prototype Construction	
CFT 161	Tables/Prototype Construction	2,3,4
CFT 195	Finishing Tech/Touch-Up/Repair	2,3,4
Group One (Select 5-6 units)		
CFT 149	Hand Joinery I	2,3,4
CFT 150	Hand Joinery II	2,3,4
CFT 155	Classic American Chair Designs	2,3,4
CFT 180	Wood Bending And Lamination/Wood Tech.	2,3,4
CFT 187	Introduction to Carving	1,2,3,4
CFT 188	Intermediate Carving	1,2,3,4
Group Two (Select 5-6 units)		
CFT 97	Cabinet and Furniture Technology Topics	.5 4
CFT 120	Advanced Furniture Lab	.5-3
CFT 130	Stringed Instrument Making	2,3,4
CFT 141	Making Woodworking Tools	.5,1,2,3
CFT 142	The Art and Craft of Planemaking	.5,1,2,3
CFT 143	Decorative Box Making	2,3,4
CFT 144	Production Furniture Making (Toys)	.5,1
CFT 156	Advanced Classic American Chair Design	2,3,4
CFT 158	Chair/Seating Production Manufacturing	2,3,4
CFT 162	Tables/Production Manufacturing	2,3,4
CFT 165	Cabinet/Face Frame Construction	2,3,4
CFT 166	Cabinetmaking/Production & Manufacturing	2,3,4
CFT 167	Cabinetmaking/32mm European Construction	2,3,4
CFT 168	Cabinetmaking/Architectural Millwork	2,3,4
CFT 169	Cabinetmaking/Computer Cabinet Layout	.5,1,2,3
CFT 170	Workbench Design and Production	2,3,4
CFT 171	Furniture for the Wood Shop	2,3,4
CFT 172	Turbo CAD for Cabinets and Furniture	2,3,4

CFT 175	Jigs and Fixtures	2,3,4
CFT 185	Machine Tool Set Up and Maintenance	2,3,4
CFT 186	Machine Tool/Production Carving	1,2,3,4
CFT 189	Advanced Carving	1,2,3,4
CFT 190	Specialty and Manufactured Hardware	.5,1,2,3
CFT 196	Special Problems in CFT	1-6
CFT 197	Cabinet and Furniture Technology Topics	.5-4
CFT 198	Advanced Wood Finishing	2,3,4
CFT 295	Directed Study in Woodworking	1,2,3,4,5,6

TOTAL UNITS **30 – 52**

COURSE OFFERINGS

Courses numbered under 100 are not intended for transfer credit.

CFT 70 **Drawing for the Construction/Cabinet/ Millwork Trades** (3)

2 hours lecture 3 hours laboratory

Note: Cross listed as DT 70

Planning, drawing, interpreting, estimating construction, and cabinet work and millwork drawing.

CFT 97 **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 100 **Fundamentals of Woodworking** (2,3,4)

4, 6, or 8 hours lecture/laboratory

Transfer acceptability: CSU

An introductory course in design and construction of wood products. Survey, use, care and selection of woodworking machines and hand tools. Explanation of the basic techniques of milling, joinery, assembly, and finishing.

CFT 105 **Machine Woodworking/Furniture** (2,3,4)

4, 6, or 8 hours lecture/laboratory

Prerequisite: CFT 100

Note: May be taken 2 times

Study, design, and development of practical applications for basic cabinet construction as utilized by the wood products industry. Includes partitions, face frame, carcass, and basic door and drawer construction. Operation of woodworking machines, tools and processes, techniques, and care and suitability of tools and machines.

CFT 110 **Machine Tool Joinery I** (2,3,4)

4, 6, or 8 hours lecture/laboratory

Prerequisite: CFT 105

Note: May be taken 3 times; maximum of 4 completions in any combination of CFT 110, CFT 111

Through the construction of a specific furniture project, students will advance to a sophisticated level of joinery and design-utilizing mortise and tenon, dovetails, frame and panel, and other joinery appropriate to fine furniture. With the addition of advanced machinery training, students will be able to develop and build a custom design of their choice, creating heirloom furniture in either traditional or contemporary styling.

CFT 111 **Machine Tool Joinery II** (2,3,4)

4, 6, or 8 hours lecture/laboratory

Prerequisite: CFT 110

Note: May be taken 3 times; maximum of 4 completions in any combination of CFT 110, CFT 111

Completion of student built cabinet furniture project that incorporated solid wood and traditional joinery in its design. Students will explore door and drawer construction methods, furniture hardware, and various finishing choices. Creation of special moldings and spindle turnings for decorating the carcass will also be explored.

CFT 120 **Advanced Furniture Lab** (.5-3)

1½ - 9 hours laboratory

Prerequisite: CFT 100

Note: May be taken 4 times

Laboratory for students who need additional lab time to complete difficult, complex projects. Students will work under the supervision of an instructor.

CFT 130 **Stringed Instrument Making** (2,3,4)

4, 6, or 8 hours lecture/laboratory

Prerequisite: CFT 100

Note: May be taken 4 times

Through the fabrication of a steel stringed guitar, students will study the: history, tone theory, construction processes, materials, finishing and set up of stringed instruments. Students will work together, production style, milling raw lumber from local sources into guitar part blanks. Students will then work individually constructing their own guitar. Traditional and modern methods of construction and fabrication are explored.

CFT 141 **Making Woodworking Tools** (.5,1,2,3)

1, 2, 4, or 6 hours lecture/laboratory

Note: May be taken 4 times

Making traditional woodworking tools used to make furniture and chairs. Topics include the history and uses of tools, materials and design, layout of the stock, equipment needed to make and finish the tools, sharpening and fitting the blades, forging and heat treating steel parts. Types of tools include spoke shaves, shaving horses, steaming devices and bending forms.

CFT 142 **The Art and Craft of Planemaking** (.5,1,2,3)

1, 2, 4, or 6 hours lecture/laboratory

Prerequisite: CFT 100

Note: May be taken 3 times

This course will teach students to make wooden hand planes. Through the use of lecture, handouts, demonstrations and videos, the following topics will be covered: the history of planemaking; tuning and using wooden and metal planes; designing a plane; making and tuning laminated planes; cutting, tempering and sharpening a plane iron; designing, making and using a wooden plane.

CFT 143 **Decorative Box Making** (2,3,4)

4, 6, or 8 hours lecture/laboratory

Prerequisite: CFT 105

Note: May be taken 2 times

Concentrates on the skills and techniques needed to make finely crafted heirloom quality boxes. Types of boxes include: jewelry, cigar humidor, and silver chest. Topics include: design, function, selection of materials, construction techniques, partitions, linings, hardware, assembly techniques, hinge installation, and finishing techniques.

CFT 144 **Production Furniture Making (Toys)** (.5,1)

2 hours lecture/laboratory

Note: May be taken 4 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 carcass.

- 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 carcass 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 109 Forensic Chemistry (3)

3 hours lecture

Prerequisite: A minimum grade of 'C' in MATH 50

Transfer acceptability: CSU

This course trains the student in the procedures of collecting and evaluating crime scene evidence that specifically relates to chemistry. Chemical and physical analysis techniques are used to substantiate any field observations with reliable data for administration of justice and further litigation.

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 205L Introductory Biochemistry Laboratory (1)

3 hours laboratory

Corequisite: CHEM 205

Note: May not be taken for Credit/No Credit grading

Transfer acceptability: CSU; UC (Pending)

Lab experiments designed to accompany Chemistry 205 lecture.

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 115 and a minimum grade of 'C' in CHEM 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

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/acclimation 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.

CS 161 Elementary Classical Nahuatl (3)
 3 hours lecture
Note: Cross listed as AIS 161
Transfer acceptability: CSU; UC
 This is an introductory course on the Classical Nahuatl language of the Aztec Empire. Students will acquire a basic knowledge of Nahuatl morphology and syntax.

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	Pediatric CPR First Aid .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 AND One of the following course groupings:	3
CHDV 102	Parents as Partners in the Early Years	3
CHDV 104	Guidance for Young Children OR	3
CHDV 180	Understand/Work/ with the School-Age Child	3
CHDV 190	Curriculum for the School-Age Child OR	3
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 150	Advanced Administration for Childhood Directors	3
CHDV 155	Advanced Supervision for Childhood Directors	3
CHDV 195	Adult Supervision/Mentor Teacher	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

Provides an overview of special education in the United States, including the historical antecedents, legislation, and disability categories covered by IDEA. Discussion of societal, family, and classroom issues relevant to children with special needs.

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. Overview of typical language development from birth through early childhood, including theoretical approaches and developmental issues.
- 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; credit/no credit grading
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; credit/no credit grading
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; credit/no credit grading
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; credit/no credit grading
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.

CHDV 298 Child Development Field Experience (2,3,4)

6, 9, or 12 hours laboratory

Note: May be taken 4 times; Credit/No Credit grading only**Transfer acceptability:** CSU

Supervised field work at one of the Palomar College Child Development Centers on campus. Maintain healthy and safe learning environments, how to handle day to day situations with the children, and how to provide developmentally appropriate experiences for physical, social and cognitive development for young children. (This course does not meet the necessary requirements for Option 2 on the California Child Development Permit Matrix for Supervised Field Experience.)

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)

(Formerly CHIN 105)

3 hours lecture

Note: Covers first half of CHIN 101; not open to students with credit for CHIN 101**Transfer acceptability:** CSU; UC

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)

(Formerly CHIN 106)

3 hours lecture

Prerequisite: CHIN 101A or one year of high school Chinese**Note:** Covers second half of CHIN 101; not open to students with credit for CHIN 101**Transfer acceptability:** CSU; UC

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)

(Formerly CHIN 110)

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)

(Formerly CHIN 115)

3 hours lecture

Prerequisite: CHIN 101 or 101B or two years of high school Chinese**Note:** Covers first half of CHIN 102; not open to students with credit for CHIN 102**Transfer acceptability:** CSU; UC

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)

(Formerly CHIN 116)

3 hours lecture

Prerequisite: CHIN 102A or two years of high school Chinese**Note:** Covers second half of CHIN 102; not open to students with credit for CHIN 102**Transfer acceptability:** CSU; UC

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)
(Formerly CHIN 205)

3 hours lecture

Prerequisite: CHIN 102 or 102B or three years of high school Chinese

Note: Covers first half of CHIN 201; not open to students with credit for CHIN 201

Transfer acceptability: CSU; UC

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)
(Formerly CHIN 206)

3 hours lecture

Prerequisite: CHIN 201A

Note: Covers second half of CHIN 201; not open to students with credit for CHIN 201

Transfer acceptability: CSU; UC

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 (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 Advanced 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 /Linux/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 Linux Management, Cisco and Linux Management, or Cisco and Microsoft Management

Emphasis in Microsoft and Linux Management

A.A. DEGREE MAJOR

Program Requirements	Units
CSIS 108 or R CSIS 155 Hardware and OS Fundamentals	3
CSIS 130 or CSIS 111 or R CSIS 160 Computer Technology – Hardware	3
CSIS 160 Cisco Networking Fundamentals	4
CSIS 162 or R CSIS 157 Windows Client	3
CSIS 163 Windows XP Professional and Server	3
CSIS 164 Windows Server	3
CSIS 165 Network Infrastructure Administration	3
CSIS 225 or R CSIS 145 Active Directory Services Administration	2,3
CSIS 136 or R CSIS 161 Linux Fundamentals	3
CSIS 135 Introduction to Linux	3
CSIS 227 Hacker Prevention/Security	2
CSIS 228 PC/Network Security	2
CSIS 166 Wireless Networking	2
CSIS 167 Linux Administration	2
CSIS 168 Linux Networking and Security	2

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

Group Two Electives (Select 1 course)	Units
CSIS 172 Microsoft SQL Server Administration	2
CSIS 173 Programming Microsoft SQL Server Databases	3
CSIS 176 Managing a Windows Network	2
CSIS 177 Microsoft Exchange Server	2

TOTAL UNITS 39 - 42

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

Emphasis in Cisco and Linux Management

A.A. DEGREE MAJOR

Program Requirements	Units
CSIS 108 or Hardware and OS Fundamentals	
R CSIS 155 Computer Technology – Hardware	3
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 130 or Cisco Networking Fundamentals	
CSIS 111 or Networking Fundamentals	
R CSIS 160 Introductions to Local Area Networking	3
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/Security	
R CSIS 161 PC/Network Security	3
CSIS 135 Wireless Networking	3
CSIS 227 Linux Administration	2
CSIS 228 Linux Networking and Security	2
TOTAL	39-40

Note: CSIS 130 is a prerequisite for CSIS 131

Emphasis in 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	
R CSIS 160 Introductions to Local Area Networking	3
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 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 164 Network Infrastructure Administration	3
CSIS 225 or Linux Fundamentals	
R CSIS 145 Introduction to Linux	2
CSIS 135 Wireless Networking	3
CSIS 136 or Hacker Prevention/Security	
R CSIS 161 PC/Network Security	3
CSIS 166 Designing Active Directory Services	2
TOTAL	40-42

Note: CSIS 130 is a prerequisite for CSIS 131

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	2
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	
R CSIS 156 Computer Technology Software	3
CSIS 111 Networking Fundamentals	3
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	14

Information 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/R CSIS 120 Microcomputer Applications	3
CSIS/R CSIS 137 Web Site Development with XHTML	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 218	Visual Basic for Applications	2
CSIS 225	Linux Fundamentals	2
CSIS 268	Active Server Pages	3
GC/R GC 200	Introduction to Multimedia	3

TOTAL UNITS **31-32**

Linux Operating System

This certificate program in Linux/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 Linux/UNIX can make the difference in winning a job or promotion, as more personnel directors regard knowledge and fluency in Linux/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**

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	3
CSIS 163	Windows Server	3
CSIS 164	Network Infrastructure Administration	3
CSIS 172	Microsoft SQL Server Administration	2
CSIS 173	Programming Microsoft SQL Server Databases	3

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	Programming Microsoft SQL Server Databases	3
CSIS 176	Managing a Windows Network	2
CSIS 177	Microsoft Exchange Server	2
CSIS 228	Linux Networking and Security	2

TOTAL UNITS **15-16**

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	2

TOTAL UNITS **15**

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	3
GC/R GC140 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	3
DT 182	3D Studio Max – Adv 3D Modeling/Animation	
ARTD 220 or	Motion Design	2,3
ARTI 247 or	Digital 3D Design and Animation	
DT 184 or	Real Time 3D Technical/Game Animation	
GC 204	Motion Graphics for Multimedia-A	

TOTAL UNITS **16**

Video Game Artist Certificate of Proficiency is also listed under 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	3
R CSIS 156 Computer Technology-Software	3
CSIS 111 Networking Fundamentals	3
CSIS 134 Network Voice and Data	3
TOTAL UNITS	9

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/R CSIS 137 Web Site Development with XHTML	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/R GC 202 Web Page Layout I	3

TOTAL UNITS 17

Emphasis in Windows

Program Requirements	Units
CSIS/ R CSIS 137 Web Site Development with XHTML	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 Programming Microsoft SQL Server Databases	3
CSIS 272 Java Programming for Information Systems	3
CSIS 273 Java Servlets and JSPs	3
GC 144 Web Graphics	3
GC/R GC 202 Web Page Layout I	3

TOTAL UNITS 16

Web Server Administrator-Emphasis in Linux

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 Linux/UNIX or Windows platforms.

CERTIFICATE OF PROFICIENCY

Emphasis in Linux

Program Requirements	Units
CSIS/R CSIS 137 Web Site Development with XHTML	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/R CSIS 137 Web Site Development with XHTML	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 Programming Microsoft SQL Server Databases	3
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 55 Practical PC (1.5)*1 hour lecture-1 hour lecture/laboratory***Note:** May be taken 3 times

An introduction to your personal computer. This course will focus on the basic skills to use and manage your home computer. Topics included: PC Basics; Windows Operating System; Computer Files; the Internet, the Web and E-mail; Application Software; Graphics, Sound and Video; and simple upgrades and expansion.

CSIS 57 Introduction to Online Learning (1)*2 hours lecture/laboratory*

This course is an introduction to developing the skills necessary to succeed in an online or in house course using modern computer technology. Students will learn and apply the basics of Windows environment, data organization and management, Blackboard Academic Suite, E-Services, the Internet, the World Wide Web, E-mail, and additional tools to enable a student to be successful using electronic tools in a classroom.

CSIS 105 Computer Concepts and Microcomputer Applications (3)*2 hours lecture 3 hours 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)*1½ hours lecture-3 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 (3)*1½ hours lecture-3 hours lecture/laboratory*

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 R CSIS 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/R CSIS 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***Note:** May be taken 3 times

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**Note:** May be taken 3 times

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**Note:** May be taken 3 times

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**Note:** May be taken 3 times

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 (3)*1½ hours lecture-3 hours lecture/laboratory***Prerequisite:** A minimum grade of 'C' in CSIS 108 or R CSIS 156 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 (3)*1½ hours lecture-3 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.

CSIS 136 Hacker Prevention/Security (3)

1 ½ hours lecture - 3 hours lecture/laboratory

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, fire-wall installation and configuration, wireless network 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 XHTML (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 XHTML, 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 R CSIS 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 R CSIS 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 R CSIS 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)

1 ½ 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)

1 ½ 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)

1 ½ 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 R CSIS 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 Programming Microsoft SQL Server Databases (3)**
2 hours lecture-2 hours lecture/laboratory
Recommended preparation: CSIS 196 or 252
 This course provides students with the knowledge and skills necessary to design, implement and program database solutions by using Microsoft SQL Server.
- 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 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 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 (3)**
 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
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/R CSIS 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)

2½ 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)

2½ 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 Disability 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

Transfer acceptability: CSU

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

Transfer acceptability: CSU

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
Transfer acceptability: CSU
 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
Transfer acceptability: CSU
 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: R CUL/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.

Dance (DNCE)

Contact the Performing Arts Department for further information, (760) 744-1150, ext. 2316

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

Dance

Provides student with background to begin upper division work leading to a B.A. or B.F.A. in dance, or for continued training leading to a professional career in the field of dance and dance-related professions. Prepares student in basic skills necessary for involvement in community dance activities, such as teaching in recreation centers, private studios; performing or choreographing for community theatre productions. Transfer students should consult the four-year college or university catalog for specific requirements or see a Palomar College counselor.

A.A. DEGREE MAJOR

Program Requirements	Units
DNCE 100*	Survey of Dance 3
DNCE 105	Introduction to Dance History 3

Electives – Group I (Select two courses)

DNCE 101	Survey of World Dance	3
DNCE 102	Dance on Film	3
DNCE 184	Introduction to Kinesiology	3

Electives – Group II (Select three courses)

DNCE 115	Fundamentals of Ballet	1.5
DNCE 116	Ballet I	1.5
DNCE 210	Ballet II	1.5,2.5
DNCE 211	Pointe/Pas de Deux	1.5,2.5

Electives – Group III (Select two courses)

DNCE 110	Modern Dance I	1.5
DNCE 111	Modern Dance II	1.5
DNCE 205	Modern Dance III	1,1.5
DNCE 206	Advanced Movement Patterns	1,1.5

Electives – Group IV (Select two courses)

DNCE 120	Jazz Technique I	1.5
DNCE 121	Jazz Technique II	1.5
DNCE 215	Jazz Technique III	1,1.5
DNCE 216	Advanced Dance Technique	1,1.5

Electives – Group V (Select one course)

DNCE 125	Theatre Dance I	1,1.5
DNCE 126	Theatre Dance II	1,1.5
DNCE 130	Tap Dance I	1,1.5
DNCE 131	Tap Dance II	1,1.5
DNCE 132	Tap Dance III	1,1.5

Electives – Group VI (Select one course)

DNCE 140	Dance Improvisation I	2
DNCE 141	Dance Improvisation II	2
DNCE 145	Choreography I	3
DNCE 146	Choreography II	3

Electives – Group VII (Select two courses)

DNCE 148	Palomar Drum and Dance Ensemble	1.5,2,2.5,3
DNCE 190	Ethnic Dance Production	1.5, 2
DNCE 197B	Modern Dance Production	1,1.5
DNCE 197C	Jazz Dance Production	1,1.5
DNCE 197D	Theatre Dance Production	1,1.5
DNCE 197E	Ballet Dance Production	1,1.5
DNCE 197F	Rehearsal and Performance	.5, 1, 1.5, 2, 3
DNCE 197J	Tap Dance Production	1,1.5

TOTAL UNITS 25 – 35

*Should be taken the first semester

Recommended Courses: DNCE 101, 137, 148, 149, 170, 173, 184; MUS 100, 105, 137, 173; TA 100, 106, 115, 173; ZOO 200

Note: Students are screened for level placement in all technique classes the previous semester or the first day of class.

Dance

Provides student basic skills necessary for involvement in community dance activities, such as teaching in recreation centers, YMCA's or YWCA's, private studios; performing or choreographing for community theatre productions.

CERTIFICATE OF ACHIEVEMENT

Program Requirements	Units	
DNCE 100*	Survey of Dance	3
DNCE 101	Survey of World Dance	3
DNCE 105	Introduction to Dance History	3
DNCE 184	Introduction to Kinesiology	3
MUS 103	Introduction to Performing Arts	3

Three courses selected from the following classes:

DNCE 115	Fundamentals of Ballet	1.5
DNCE 116	Ballet I	1.5
DNCE 210	Ballet II	1.5,2.5
DNCE 211	Pointe/Pas de Deux	1.5,2.5

Two courses selected from the following classes:

DNCE 110	Modern Dance I	1.5
DNCE 111	Modern Dance II	1.5
DNCE 205	Modern Dance III	1,1.5
DNCE 206	Advanced Movement Patterns	1,1.5

Two courses selected from the following classes:

DNCE 120	Jazz Technique I	1.5
DNCE 121	Jazz Technique II	1.5
DNCE 215	Jazz Technique III	1,1.5
DNCE 216	Advanced Dance Technique	1,1.5

One course selected from the following classes:

DNCE 125	Theatre Dance I	1,1.5
DNCE 126	Theatre Dance II	1,1.5
DNCE 130	Tap Dance I	1,1.5
DNCE 131	Tap Dance II	1,1.5
DNCE 132	Tap Dance III	1,1.5

One course selected from the following classes:

DNCE 140	Dance Improvisation I	2
DNCE 141	Dance Improvisation II	2
DNCE 145	Choreography I	3
DNCE 146	Choreography II	3

Two courses selected from the following classes:

DNCE 148	Palomar Drum and Dance Ensemble	1.5,2,2.5,3
DNCE 190	Ethnic Dance Production	1.5, 2
DNCE 197B	Modern Dance Production	1,1.5
DNCE 197C	Jazz Dance Production	1,1.5
DNCE 197D	Theatre Dance Production	1,1.5
DNCE 197E	Ballet Dance Production	1,1.5
DNCE 197F	Rehearsal and Performance	.5, 1, 1.5, 2, 3
DNCE 197J	Tap Dance Production	1,1.5

TOTAL UNITS 30-38

*Should be taken the first semester

Recommended Courses: DNCE 101, 137, 148, 149, 170, 173, 184; MUS 100, 105, 137, 173; TA 100, 106, 115, 173; ZOO 200

Note: Students are screened for level placement in all technique classes the previous semester or the first day of class.

Dance Specialist for Children

Prepares the student to organize and teach programs of creative dance for children in schools, recreation departments, and other community projects.

CERTIFICATE OF ACHIEVEMENT

Program Requirements	Units	
DNCE 100*	Survey of Dance	3
DNCE 110	Modern Dance I	1,1.5
DNCE 111	Modern Dance II	1.5
DNCE 115	Fundamentals of Ballet	1,1.5
DNCE 140	Dance Improvisation I	2
DNCE 145	Choreography I	3
DNCE 161**	Teaching Methods in Dance	3
DNCE 184	Introduction to Kinesiology	3
CHDV 100 or	Child Development	
PE 102	PE in Elementary Schools	3
CE 100	Cooperative Education	1,2,3,4

TOTAL UNITS 21.5 25.5

Electives – Group I (Select two courses)

DNCE 101	Survey of World Dance	3
DNCE 102	Dance on Film	3
DNCE 184	Introduction to Kinesiology	3

Electives – Group II (Select three courses)

DNCE 115	Fundamentals of Ballet	1.5
DNCE 116	Ballet I	1.5
DNCE 210	Ballet II	1.5,2.5
DNCE 211	Pointe/Pas de Deux	1.5,2.5

Electives – Group III (Select two courses)

DNCE 110	Modern Dance I	1.5
DNCE 111	Modern Dance II	1.5
DNCE 205	Modern Dance III	1,1.5
DNCE 206	Advanced Movement Patterns	1,1.5

Electives – Group IV (Select two courses)

DNCE 120	Jazz Technique I	1.5
DNCE 121	Jazz Technique II	1.5
DNCE 215	Jazz Technique III	1,1.5
DNCE 216	Advanced Dance Technique	1,1.5

Electives – Group V (Select one course)

DNCE 125	Theatre Dance I	1,1.5
DNCE 126	Theatre Dance II	1,1.5
DNCE 130	Tap Dance I	1,1.5
DNCE 131	Tap Dance II	1,1.5
DNCE 132	Tap Dance III	1,1.5

Electives – Group VI (Select one course)

DNCE 140	Dance Improvisation I	2
DNCE 141	Dance Improvisation II	2
DNCE 145	Choreography I	3
DNCE 146	Choreography II	3

Electives – Group VII (Select two courses)

DNCE 148	Palomar Drum and Dance Ensemble	1.5,2,2.5,3
DNCE 190	Ethnic Dance Production	1.5, 2
DNCE 197B	Modern Dance Production	1,1.5
DNCE 197C	Jazz Dance Production	1,1.5
DNCE 197D	Theatre Dance Production	1,1.5
DNCE 197E	Ballet Dance Production	1,1.5
DNCE 197F	Rehearsal and Performance	.5, 1, 1.5, 2, 3
DNCE 197J	Tap Dance Production	1,1.5

TOTAL UNITS 25 – 35

*Should be taken the first semester

Recommended Courses: DNCE 101, 137, 148, 149, 170, 173, 184; MUS 100, 105, 137, 173; TA 100, 106, 115, 173; ZOO 200

Note: Students are screened for level placement in all technique classes the previous semester or the first day of class.

Dance

Provides student basic skills necessary for involvement in community dance activities, such as teaching in recreation centers, YMCA's or YWCA's, private studios; performing or choreographing for community theatre productions.

CERTIFICATE OF ACHIEVEMENT

Program Requirements	Units	
DNCE 100*	Survey of Dance	3
DNCE 101	Survey of World Dance	3
DNCE 105	Introduction to Dance History	3
DNCE 184	Introduction to Kinesiology	3
MUS 103	Introduction to Performing Arts	3

Three courses selected from the following classes:

DNCE 115	Fundamentals of Ballet	1.5
DNCE 116	Ballet I	1.5
DNCE 210	Ballet II	1.5,2.5
DNCE 211	Pointe/Pas de Deux	1.5,2.5

Two courses selected from the following classes:

DNCE 110	Modern Dance I	1.5
DNCE 111	Modern Dance II	1.5
DNCE 205	Modern Dance III	1,1.5
DNCE 206	Advanced Movement Patterns	1,1.5

Two courses selected from the following classes:

DNCE 120	Jazz Technique I	1.5
DNCE 121	Jazz Technique II	1.5
DNCE 215	Jazz Technique III	1,1.5
DNCE 216	Advanced Dance Technique	1,1.5

One course selected from the following classes:

DNCE 125	Theatre Dance I	1,1.5
DNCE 126	Theatre Dance II	1,1.5
DNCE 130	Tap Dance I	1,1.5
DNCE 131	Tap Dance II	1,1.5
DNCE 132	Tap Dance III	1,1.5

One course selected from the following classes:

DNCE 140	Dance Improvisation I	2
DNCE 141	Dance Improvisation II	2
DNCE 145	Choreography I	3
DNCE 146	Choreography II	3

Two courses selected from the following classes:

DNCE 148	Palomar Drum and Dance Ensemble	1.5,2,2.5,3
DNCE 190	Ethnic Dance Production	1.5, 2
DNCE 197B	Modern Dance Production	1,1.5
DNCE 197C	Jazz Dance Production	1,1.5
DNCE 197D	Theatre Dance Production	1,1.5
DNCE 197E	Ballet Dance Production	1,1.5
DNCE 197F	Rehearsal and Performance	.5, 1, 1.5, 2, 3
DNCE 197J	Tap Dance Production	1,1.5

TOTAL UNITS 30-38

*Should be taken the first semester

Recommended Courses: DNCE 101, 137, 148, 149, 170, 173, 184; MUS 100, 105, 137, 173; TA 100, 106, 115, 173; ZOO 200

Note: Students are screened for level placement in all technique classes the previous semester or the first day of class.

Dance Specialist for Children

Prepares the student to organize and teach programs of creative dance for children in schools, recreation departments, and other community projects.

CERTIFICATE OF ACHIEVEMENT

Program Requirements	Units	
DNCE 100*	Survey of Dance	3
DNCE 110	Modern Dance I	1,1.5
DNCE 111	Modern Dance II	1.5
DNCE 115	Fundamentals of Ballet	1,1.5
DNCE 140	Dance Improvisation I	2
DNCE 145	Choreography I	3
DNCE 161**	Teaching Methods in Dance	3
DNCE 184	Introduction to Kinesiology	3
CHDV 100 or	Child Development	
PE 102	PE in Elementary Schools	3
CE 100	Cooperative Education	1,2,3,4

TOTAL UNITS 21.5 25.5

* DNCE 100 is recommended as the first course to be taken in this certificate.

** DNCE 161 is recommended as the last course to be taken in this certificate.

COURSE OFFERINGS

Each activity may be taken four times for credit. Activity is defined to include all ability levels. (e.g., A student may take a total of only four Modern Dance courses for credit.) Modern Dance, Ballet, Jazz Technique, Tap Dance, Ethnic Folk Dance, Spanish Flamenco Dance, Ethnic Drumming, Martial Arts, Hip Hop, Ballroom Dance, Latin Social Dance, Dance Improvisation, Choreography, production classes and Theatre Dance classes are defined as activity courses.

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

DNCE 96 Special Projects (1,1.5,2,3)

2, 3, 4, or 6 hours lecture/laboratory

Note: May be taken 4 times

Prerequisite: Enrollment subject to project approval

Participation in performance or research projects beyond those normally expected in regular class sessions.

DNCE 97 Rehearsal and Performance (.5,1,1.5,2,3)

1, 2, 3, 4, or 6 hours lecture/laboratory

Note: May be taken 4 times

Prerequisite: Enrollment subject to audition

Participation in rehearsal and performance.

DNCE 97A Dance 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 Dance. See Class Schedule for specific topic offered. Course title will designate subject covered.

DNCE 100 Survey of Dance (3)

3 hours lecture

Transfer acceptability: CSU; UC

Survey of present day dance forms experienced through lecture, film, demonstration, and movement. This course covers dance as an art form, the creative process, ways to view and analyze movement, body mechanics/anatomy, prevention of injuries, education and career opportunities, and a study of various dance genres.

DNCE 101 Survey of World Dance (3)

3 hours lecture

Transfer acceptability: CSU; UC

An analysis of the dances, dance styles, costumes, and musical accompaniment of dances from around the world as experienced through films, lecture, demonstration, and movement.

DNCE 102 Dance on Film (3)

3 hours lecture

Transfer acceptability: CSU; UC

This course will explore the phenomenon of dance on film from cultural, historical, social, economic, and gender viewpoints.

DNCE 105 Introduction to Dance History (3)

3 hours lecture

Transfer acceptability: CSU; UC

A survey of the development of dance from earliest civilizations to the present including Egyptian, Ancient Greek and Roman, and with emphasis on the American Indian and African American influences on the social and performance aspects of dance in the world today.

DNCE 110 Modern Dance I (1,1.5)

2 or 3 hours lecture/laboratory

Note: Maximum of 4 completions in any combination of DNCE 110, DNCE 111, DNCE 205

Transfer acceptability: CSU; UC

Beginning dance techniques with emphasis on movement exploration, conditioning, and creative experience.

DNCE 111 Modern Dance II (1,1.5)

2 or 3 hours lecture/laboratory

Prerequisite: DNCE 110

Note: May be taken 3 times; maximum of 4 completions in any combination of DNCE 110, DNCE 111, DNCE 205

Transfer acceptability: CSU; UC

Intermediate dance techniques with emphasis on increasing movement skills and creative range.

DNCE 115 Fundamentals of Ballet (1,1.5)

2 or 3 hours lecture/laboratory

Recommended preparation: DNCE 100

Note: Maximum of 4 completions in any combination of DNCE 115, DNCE 116, DNCE 210

Transfer acceptability: CSU; UC

Introduction to ballet's traditions, principles, techniques, and terminology. Includes fundamental ballet exercises at barre and center with emphasis on placement.

DNCE 116 Ballet I (1,1.5)

2 or 3 hours lecture/laboratory

Prerequisite: DNCE 115

Note: Maximum of 4 completions in any combination of DNCE 115, DNCE 116, DNCE 210

Transfer acceptability: CSU; UC

Continued study of ballet techniques, principles, and terminology. Intermediate/beginning level with emphasis on combinations and an enlarged vocabulary of steps and terms.

DNCE 120 Jazz Technique I (1,1.5)

2 or 3 hours lecture/laboratory

Note: Maximum of 4 completions in any combination of DNCE 120, DNCE 121, DNCE 215

Transfer acceptability: CSU; UC

Beginning jazz movement and floor progressions.

DNCE 121 Jazz Technique II (1,1.5)

2 or 3 hours lecture/laboratory

Prerequisite: DNCE 120

Note: Maximum of 4 completions in any combination of DNCE 120, DNCE 121, DNCE 215

Transfer acceptability: CSU; UC

Intermediate jazz movement and floor progressions.

DNCE 123 Arts Across the Curriculum (3)

3 hours lecture

Note: Cross listed as ART/MUS/TA 123

Transfer acceptability: CSU

This course is an introduction to the artistic creative process through a comparative study of dance, music, theatre, and visual arts, within a social and cultural context. The principles of artistic perception, creative expression, cultural and historical context, and aesthetic valuing will be discussed.

DNCE 125 Theatre Dance I (1,1.5)

2 or 3 hours lecture/laboratory

Note: Maximum of 4 completions in any combination of DNCE 125, DNCE 126

Transfer acceptability: CSU; UC

Dance steps and styles used in musical theatre, past and present. Basic partnering techniques also included.

- DNCE 126 Theatre Dance II** (1,1.5)
2 or 3 hours lecture/laboratory
Prerequisite: DNCE 125
Note: Maximum of 4 completions in any combination of DNCE 125, DNCE 126
Transfer acceptability: CSU; UC
A continuation of Theatre Dance I. Dance steps and styles used in musical theatre. Focus on stage projection, partnering, developing stage characters, and auditioning skills.
- DNCE 127 Spanish Flamenco Dance** (1,1.5)
2 or 3 hours lecture/laboratory
Note: Maximum of 4 completions in any combination of DNCE 127, DNCE 128
Transfer acceptability: CSU; UC
Study of specific Spanish dance styles, castanets, steps, and techniques of Spanish/Flamenco dance.
- DNCE 128 Intermediate Spanish Flamenco Dance** (1,1.5)
2 or 3 hours lecture/laboratory
Prerequisite: DNCE 127
Note: Maximum of 4 completions in any combination of DNCE 127, DNCE 128
Transfer acceptability: CSU; UC
Study of different Spanish dance styles including regional, classical, Spanish/Flamenco, traditional and modern.
- DNCE 130 Tap Dance I** (1,1.5)
2 or 3 hours lecture/laboratory
Note: Maximum of 4 completions in any combination of DNCE 130, DNCE 131, DNCE 132
Transfer acceptability: CSU; UC
Beginning skills in tap dance covering basic and traditional material.
- DNCE 131 Tap Dance II** (1,1.5)
2 or 3 hours lecture/laboratory
Prerequisite: DNCE 130
Note: Maximum of 4 completions in any combination of DNCE 130, DNCE 131, DNCE 132
Transfer acceptability: CSU; UC
Intermediate level skills in tap dance with focus on new trends and styles.
- DNCE 132 Tap Dance III** (1,1.5)
2 or 3 hours lecture/laboratory
Prerequisite: DNCE 130 and 131
Note: May be taken 4 times; maximum of 4 completions in any combination of DNCE 130, DNCE 131, DNCE 132
Transfer acceptability: CSU; UC
Advanced skills in tap dance with focus on new trends and styles.
- DNCE 133 Contemporary Social Dance** (1)
2 hours lecture/laboratory
Note: May be taken 4 times
Transfer acceptability: CSU; UC
Development of beginning through intermediate levels of social dance techniques using West Coast Swing, Hustle, Night Club Two-Step, and Salsa.
- DNCE 135 Beginning Ballroom Dance** (1,1.5)
2 or 3 hours lecture/laboratory
Note: Maximum of 4 completions in any combination of DNCE 135, DNCE 136, DNCE 139
Transfer acceptability: CSU; UC
Development of beginning social dance techniques concerning both standard and contemporary social dance steps and styling.
- DNCE 136 Intermediate Ballroom Dance** (1,1.5)
2 or 3 hours lecture/laboratory
Prerequisite: DNCE 135
Note: Maximum of 4 completions in any combination of DNCE 135, DNCE 136, DNCE 139
Transfer acceptability: CSU; UC
Intermediate level social dance skills, steps, and styling.
- DNCE 137 Cuban and Brazilian Drumming I** (1,1.5,2)
2, 3 or 4 hours lecture/laboratory
Note: Cross listed as MUS 137
Transfer acceptability: CSU; UC; Maximum of 4 completions in any combination of DNCE/MUS 137 and DNCE/MUS 138
Drum, percussion and song classes in the traditions of Escola de Samba from Rio de Janeiro, Brazil and Afro-Cuban traditions, Rumba, Congo, makuta from Cuba. Develop ability to work as part of a drum ensemble.
- DNCE 138 Cuban and Brazilian Drumming II** (1,1.5,2)
2, 3 or 4 hours lecture/laboratory
Prerequisite: DNCE/MUS 137
Note: Cross listed as MUS 138; Maximum of 4 completions in any combination of DNCE/MUS 137 and DNCE/MUS 138
Transfer acceptability: CSU; UC
Intermediate level drum, percussion and song classes in the traditions of Escola de Samba from Rio de Janeiro, Brazil and Afro-Cuban traditions, Rumba, Congo, makuta from Cuba. Develop ability to work as part of a drum ensemble.
- DNCE 139 Advanced Ballroom Dance** (1,1.5)
2 or 3 hours lecture/laboratory
Prerequisite: DNCE 136
Note: Maximum of 4 completions in any combination of DNCE 135, DNCE 136, DNCE 139
Transfer acceptability: CSU; UC
Advanced level social dance skills, steps, and styling.
- DNCE 140 Dance Improvisation I** (2)
4 hours lecture/laboratory
Note: Maximum of 4 completions in any combination of DNCE 140, DNCE 141
Transfer acceptability: CSU; UC
Study of dance through varied experiences in movement. Exploration of elements of time, space, and energy through movement improvisations and group studies.
- DNCE 141 Dance Improvisation II** (2)
4 hours lecture/laboratory
Prerequisite: DNCE 140
Note: Maximum of 4 completions in any combination of DNCE 140, DNCE 141
Transfer acceptability: CSU; UC
Study of dance through varied experiences in movement with emphasis on understanding movement principles, beginning music analysis, use of percussion and various forms of accompaniment, and composition of solo studies to composed music.
- DNCE 145 Choreography I** (3)
3 hours lecture
Corequisite: DNCE 197K
Note: Maximum of 4 completions in any combination of DNCE 145, DNCE 146
Transfer acceptability: CSU; UC
Beginning choreography with emphasis on combining movements and developing ideas in relation to motivation, design, and dynamics. Discuss forms and learn how to articulate the art of dance.
- DNCE 146 Choreography II** (3)
3 hours lecture
Prerequisite: DNCE 145
Corequisite: DNCE 197K
Note: Maximum of 4 completions in any combination of DNCE 145, DNCE 146
Transfer acceptability: CSU; UC
Intermediate choreography with emphasis on combining movements and de-

veloping ideas in relation to movements and developing ideas in relation to motivation and form. Discuss forms and develop the skills to articulate the art of dance.

DNCE 147 Repertory (1.5)
3 hours lecture/laboratory

Prerequisite: Enrollment subject to audition

Recommended preparation: Previous dance training and performance experience. Knowledge and ability to perform different dance styles such as jazz, ballet, modern, musical theatre, etc.

Note: May be taken 4 times

Transfer acceptability: CSU

Learning, rehearsing, and performing dance routines as an outreach to Palomar College, area high schools, and the community.

DNCE 148 Palomar Drum and Dance Ensemble (1.5,2,2.5,3)
3, 4, 5 or 6 hours lecture/laboratory

Prerequisite: Enrollment subject to audition

Transfer acceptability: CSU; UC

Rehearsal and performance of traditional music and dances of the African Diaspora: West African, Afro-Cuban, Afro-Brazilian, and Afro-Caribbean. Performance of original work influenced by dances of the African Diaspora. Emphasis will be on performing as an ensemble.

DNCE 149 Afro-Cuban/Brazilian Dance I (1,1.5,2,2.5,3)
2, 3, 4, 5 or 6 hours lecture/laboratory

Note: Maximum of 4 completions in any combination of DNCE 149, 150

Transfer acceptability: CSU, UC

Beginning level Afro-Cuban/Brazilian movement.

DNCE 150 Afro-Cuban/Brazilian Dance II (1,1.5,2,2.5,3)
2, 3, 4, 5 or 6 hours lecture/laboratory

Prerequisite: DNCE 149

Note: Maximum of 4 completions in any combination of DNCE 149, 150

Transfer acceptability: CSU; UC

Intermediate level Afro-Cuban/Brazilian movement.

DNCE 151 Beginning Latin Social Dance (1,1.5,2)
2, 3 or 4 hours lecture/laboratory

Note: May be taken 4 times; maximum of 4 completions in any combination of DNCE 151, DNCE 152

Transfer acceptability: CSU; UC

An exhilarating class designed to introduce students to the vibrant Hispanic culture through contemporary social dances. Through demonstration and movement participation students will explore a variety of social dances that are all part of the Latin Diaspora.

DNCE 152 Intermediate Latin Social Dance (1,1.5,2)
2, 3 or 4 hours lecture/laboratory

Note: May be taken 4 times; maximum of 4 completions in any combination of DNCE 151, DNCE 152

Transfer acceptability: CSU; UC

An exhilarating class designed to continue exploring the vibrant Hispanic culture through contemporary social dances. Through demonstration and movement participation students will explore a variety of social dances that are all part of the Latin Diaspora.

DNCE 153 Capoeira: Afro/Brazil Martial Art I (1,1.5,2)
2, 3, or 4 hours lecture/laboratory

Note: Maximum of 4 completions in any combination of DNCE 153, DNCE 154

Transfer acceptability: CSU; UC – Credit determined by UC upon review of course syllabus.

A class designed to introduce students to the unique martial art form from Brazil known as Capoeira. Through lecture, demonstration and movement participation students will study this multi-faceted art form.

DNCE 154 Capoeira: Afro/Brazil Martial Art II (1,1.5,2)
2, 3 or 4 hours lecture/laboratory

Prerequisite: DNCE 153

Note: Maximum of 4 completions in any combination of DNCE 153, DNCE 154

Transfer acceptability: CSU; UC – Credit determined by UC upon review of course syllabus.

Intermediate level class of the unique martial art form from Brazil known as Capoeira. Through lecture, demonstration and movement participation students will study this multi-faceted art form.

DNCE 155 Hip Hop I (1,1.5)
2 or 3 hours lecture/laboratory

Note: Maximum of 4 completions in any combination of DNCE 155, DNCE 156, DNCE 157

Transfer acceptability: CSU; UC

Beginning level of Hip Hop, an exhilarating class Designed to introduce students to this unique contemporary dance form.

DNCE 156 Hip Hop II (1,1.5)
2 or 3 hours lecture/laboratory

Prerequisite: DNCE 155

Note: Maximum of 4 completions in any combination of DNCE 155, DNCE 156, DNCE 157

Transfer acceptability: CSU; UC

Intermediate level of Hip Hop, an exhilarating class Designed to introduce students to this unique contemporary dance form.

DNCE 157 Hip Hop III (1,1.5)
2 or 3 hours lecture/laboratory

Prerequisite: DNCE 156

Note: Maximum of 4 completions in any combination of DNCE 155, DNCE 156, DNCE 157

Transfer acceptability: CSU; UC

Advanced level of Hip Hop, an exhilarating class Designed to introduce students to this unique Contemporary dance form.

DNCE 158 Hawaiian and Tahitian Dance I (1,1.5)
2 or 3 hours lecture/laboratory

Note: Maximum of 4 completions in any combination of DNCE 158, DNCE 159

Transfer acceptability: CSU; UC

Beginning level of an exhilarating class designed to introduce students to the exotic Hawaiian and Tahitian culture through percussion, song and dance. Through demonstrations and movement participation students will explore a variety of dances from these two distinct and unique cultures that are part of the Polynesian Islands.

DNCE 159 Hawaiian and Tahitian Dance II (1,1.5)
2 or 3 hours lecture/laboratory

Prerequisite: DNCE 158

Note: Maximum of 4 completions in any combination of DNCE 158, DNCE 159

Transfer acceptability: CSU; UC

Intermediate level of an exhilarating class designed to introduce students to the exotic Hawaiian and Tahitian culture through percussion, song and dance. Through demonstrations and movement participation students will explore a variety of dances from these two distinct and unique cultures that are part of the Polynesian Islands.

DNCE 161 Teaching Methods in Dance (3)
3 hours lecture

Transfer acceptability: CSU

Explore the teaching/learning/knowing process by blending current educational, teaching and learning styles with practical hands on teaching experiences. Through the constant integration of theory and practice, we will utilize our own experiences and understanding and our interpretations of theoretical literature

to construct our own personal pedagogies. The construction of a safe and consistent dance environment for all ages will be covered.

DNCE 162 Near and Middle Eastern Dance I (1,1.5)

2 or 3 hours lecture/laboratory

Note: May be taken 4 times

Transfer acceptability: CSU; UC

An introduction to classical and folkloric dances from the Near and Middle East.

DNCE 163 Near and Middle Eastern Dance II (1,1.5)

2 or 3 hours lecture/laboratory

Note: May be taken 4 times

Transfer acceptability: CSU; UC

A more in depth study of classical and folkloric dances for the Near and Middle East

DNCE 165 Production Management (1.5,2)

3 or 4 hours lecture/laboratory

Note: May be taken 4 times

Transfer acceptability: CSU

Principles and methods of organization, operation, promotion, programming, publicity, ticket sales, box office records, public relations, and graphics. Practical experience in college and community dance productions.

DNCE 166 Franco Haitian Percussion and Song I (1,1.5,2)

2, 3 or 4 hours lecture/laboratory

Note: May be taken 4 times

Transfer acceptability: CSU; UC

An introduction to traditional Franco Haitian percussion and songs from the Eastern region of Cuba.

DNCE 167 Franco Haitian Percussion and Song II (1,1.5,2)

2, 3 or 4 hours lecture/laboratory

Note: May be taken 4 times

Transfer acceptability: CSU; UC

Intermediate level, Traditional Franco Haitian percussion and songs from the Eastern region of Cuba.

DNCE 170 Pilates® (5,1)

1 or 2 hours lecture/laboratory

Note: May be taken 4 times

Transfer acceptability: CSU; UC

Pilates® method of body conditioning; an exercise program that improves muscle control, flexibility, coordination, strength, and tone. Teaches efficiency of movement.

DNCE 173 Musical Theatre Scenes (1)

3 hours laboratory

Note: Cross listed as MUS 173 and TA 173

Transfer acceptability: CSU

Rehearsal and performance of solo and group scenes from Broadway musicals dating from the 1930's to the present.

DNCE 182 Introduction to Arts Management (3)

9 hours laboratory

Note: Cross listed as AMS 182, ART 182, MUS 182, and TA 182

Transfer acceptability: CSU

An introduction to the principles and practices of arts management through an interdisciplinary study of management topics in the visual and performing arts.

DNCE 183 Internship in Arts Management (3)

9 hours laboratory

Prerequisite: AMS/ART/DNCE/MUS or TA 182

Note: Cross listed as AMS 183, ART 183, MUS 183, and TA 183

Transfer acceptability: CSU

Practical experience in arts management in the visual and performing arts.

DNCE 184 Introduction to Kinesiology (3)

3 hours lecture

Transfer acceptability: CSU

Designed to provide students with sound knowledge of body structures, systems, and functions. Identify the technical demands of dance and sports and evaluate and implement approaches to long-range development as dancers/athletes. Experiential anatomy will be introduced with concepts necessary to develop analytical skills of the student.

DNCE 190 Ethnic Dance Production (1.5,2)

3 or 4 hours lecture/laboratory

Prerequisite: Enrollment subject to audition

Note: May be taken 4 times

Transfer acceptability: CSU; UC

Rehearsal and performance for dance concerts.

DNCE 192 Tap and Theatre Dance (1,1.5)

2 or 3 hours lecture/laboratory

Transfer acceptability: CSU; UC

Introduction to the fundamental skills in tap and theatre dance covering basic and traditional material.

DNCE 197A Summer Dance Workshop (1,1.5,2,3)

2, 3, 4, or 6 hours lecture/laboratory

Note: May be taken 4 times

Transfer acceptability: CSU; UC

Concentrated work in a variety of dance areas. Specific content of each workshop differs and is composed of dance styles and techniques not included in the regular dance curriculum.

DNCE 197B Modern Dance Production (1,1.5)

2 or 3 hours lecture/laboratory

Prerequisite: Enrollment subject to audition

Recommended preparation: Concurrent enrollment in DNCE 111 or 205

Note: May be taken 4 times

Transfer acceptability: CSU; UC

Rehearsal and performance for dance concerts.

DNCE 197C Jazz Dance Production (1,1.5)

2 or 3 hours lecture/laboratory

Prerequisite: Enrollment subject to audition

Recommended preparation: Concurrent enrollment in DNCE 121 or 215

Note: May be taken 4 times

Transfer acceptability: CSU; UC

Rehearsal and performance for dance concerts.

DNCE 197D Theatre Dance Production (1,1.5)

2 or 3 hours lecture/laboratory

Prerequisite: Enrollment subject to audition

Note: May be taken 4 times

Transfer acceptability: CSU; UC

Rehearsal and performance for dance concerts.

DNCE 197E Ballet Dance Production (1,1.5)

2 or 3 hours lecture/laboratory

Prerequisite: Enrollment subject to audition

Recommended preparation: Concurrent enrollment in DNCE 210

Note: May be taken 4 times

Transfer acceptability: CSU; UC

Rehearsal and performance for dance concerts.

DNCE 197F Rehearsal and Performance (.5,1,1.5,2,3)

1, 2, 3, 4, or 6 hours lecture/laboratory

Prerequisite: Enrollment subject to audition

Note: May be taken 4 times

Transfer acceptability: CSU; UC

Participation in dance rehearsal and performance.

DNCE 197H Topics in Dance (.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 Dance. See Class Schedule for specific topic offered. Course title will designate subject covered.

DNCE 197J Tap Dance Production (1,1.5)
 2 or 3 hours lecture/laboratory
Prerequisite: Enrollment subject to audition
Recommended preparation: Concurrent enrollment in DNCE 131 or 132
Note: May be taken 4 times
Transfer acceptability: CSU; UC
 Rehearsal and performance for dance concerts.

DNCE 197K Student Choreography Production (1.5,2,2.5,3)
 3, 4, 5 or 6 hours lecture/laboratory
Corequisite: DNCE 145 OR DNCE 146
Note: May be taken 4 times
Transfer acceptability: CSU; UC
 Rehearsal and performance for dance concerts.

DNCE 205 Modern Dance III (1,1.5)
 2 or 3 hours lecture/laboratory
Prerequisite: DNCE 111
Note: May be taken 4 times; maximum of 4 completions in any combination of DNCE 110, DNCE 111, DNCE 205
Transfer acceptability: CSU; UC
 Advanced dance technique with emphasis on performance skills.

DNCE 206 Advanced Movement Patterns (1,1.5)
 2 or 3 hours lecture/laboratory
Prerequisite: DNCE 205
Transfer acceptability: CSU; UC
 Advanced level dance technique in experimental dance forms.

DNCE 210 Ballet II (1.5,2.5)
 3 or 5 hours lecture/laboratory
Prerequisite: DNCE 116
Note: May be taken 4 times; maximum of 4 completions in any combination of DNCE 115, DNCE 116, DNCE 210
Transfer acceptability: CSU; UC
 Ballet techniques, principles, and terminology at the intermediate level with emphasis on line, phrasing, endurance, and progressively difficult steps and combinations.

DNCE 211 Pointe/Pas de Deux (1.5,2.5)
 3 or 5 hours lecture/laboratory
Prerequisite: DNCE 210
Note: May be taken 3 times
Transfer acceptability: CSU; UC
 Beginning pointe and partnering techniques in classical dance.

DNCE 215 Jazz Technique III (1,1.5)
 2 or 3 hours lecture/laboratory
Prerequisite: DNCE 121
Note: Maximum of 4 completions in any combination of DNCE 120, DNCE 121, DNCE 215
Transfer acceptability: CSU; UC
 Advanced jazz movement and floor progressions.

DNCE 216 Advanced Dance Technique (1,1.5)
 2 or 3 hours lecture/laboratory
Prerequisite: DNCE 215
Transfer acceptability: CSU; UC
 Advanced level dance technique in commercial dance stylizations and rhythms.

DNCE 297 Experimental Projects in Dance (.5,1,1.5,2,3)
 1, 2, 3, 4, or 6 hours lecture/laboratory
Prerequisite: Enrollment subject to project approval
Transfer acceptability: CSU; UC – Credit determined by UC upon review of course syllabus.
 Advanced dance projects including individual research, tutoring, and performance for college classes and community projects.

Dental Assisting (DA)

Contact the Dental Assisting Program for further information, (760) 744-1150, ext. 2571.

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

The Dental Assisting Program is accredited by the Commission on Dental Accreditation of the American Dental Association, and is approved by the Dental Board of California.

Certification and Licensing. Upon successful program completion, student will be issued a Certificate of Proficiency in Dental Radiography issued by Palomar College. Students who successfully complete the program are eligible to apply for the California Registered Dental Assistant Examination to become licensed as a California Registered Dental Assistant (RDA) with a Coronal Polishing Certificate; and are eligible to apply for the nationally recognized Certified Dental Assistant Examination offered by the Dental Assisting National Board, Incorporated (DANB).

ADMISSION REQUIREMENTS

Admission to the Dental Assisting Program is by special application. To be eligible for admission, applicants must:

1. Complete Palomar College Application for Admission;
2. Attend a Dental Assisting orientation meeting;
3. Submit proof of high school graduation or equivalency;
4. Admit medical and dental clearances including TB test results; and
5. Meet academic requirements as specified in the Dental Assisting Program brochure.

Dental assistants need to have good vision, hearing, and the ability to communicate orally. In addition, they must have the ability to comprehend and interpret written information; and the dexterity to use small dental instruments.

Dental Assisting (Registered Dental Assistant)

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

To remain enrolled in the program, students must earn a minimum grade of 'C' (2.0) in each of the required courses. Students must pass laboratory and clinical evaluations at 75% competency or a substandard grade will be assigned for the course. A student may fail a dental assisting course on the basis of clinical practice even though theory grades may be passing.

Program Requirements		Units
DA 50	Introduction to Dental Sciences/Occupations	3
BUS 125 or	Business English	
ENG 50 or	Introductory Composition	
ENG 100	English Composition	3,4
SPCH	Any course (except 145, 150, and 197)	3

EME 55 or Proof of current BLS for Healthcare Providers Certificate	CPR for Health Care Providers	0, .5
First Semester		
DA 57	Dental Sciences and Anatomy	4
DA 60	Dental Materials	3
DA 65	Dental Practice Management	2
DA 70	Dental Radiography I	2.5
DA 75	Dental Operative Procedures	5
DA 80	Coronal Polishing	1
Second Semester		
DA 71	Dental Radiography II	.5
DA 81	Clinical Coronal Polishing	.5
DA 85	Advanced Dental Procedures	4
DA 90	Clinical Rotation	6.5
TOTAL UNITS		38-39.5

COURSE OFFERINGS

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

DA 47 Dental Assisting 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
Topics in Dental Assisting. See Class Schedule for specific topic offered. Course title will designate subject covered.

DA 50 Introduction to Dental Sciences and Dental Occupations (3)
3 hours lecture
Note: Graded only
General orientation to dental assisting. Introduction to basic oral anatomy, oral hygiene techniques and prevention, human behavior, dental nomenclature, dental assisting, history of dentistry, ethics, role of the dental assistant and other auxiliary personnel; licensing and certification of dental assistants; dental jurisprudence and malpractice; psychology and observation in dental offices.

DA 57 Dental Sciences and Anatomy (4)
4 hours lecture
Prerequisite: Admission to the Dental Assisting Program
Note: Graded only
Introduction of dental terminology, histology, embryology, tooth growth, eruption, and anatomy; head and neck anatomy, and physiology of the body. Form and function of individual teeth, occlusion, oral pathology, diet and nutrition, relation of oral health to general health, microbiology, disease control and dental pharmacology.

DA 60 Dental Materials (3)
3 hours lecture-1 hour laboratory
Prerequisite: Admission to the Dental Assisting Program
Note: Graded only
Chemical properties and uses of dental materials and solutions; manipulative techniques and methods of preparation.

DA 65 Dental Practice Management (2)
2 hours lecture 1 hour laboratory
Prerequisite: Admission to the Dental Assisting Program
Note: Graded only
Reception and care of the patient in the dental office, communication skills, telephone techniques, appointment scheduling, dental records (charting health and dental history), filing, recalls, bookkeeping, accounts receivable and accounts payable, purchasing inventory, principles of and use of insurance forms and collections.

DA 70 Dental Radiography I (2.5)
2 hours lecture-1 1/2 hours laboratory
Prerequisite: Admission to the Dental Assisting Program
Note: Graded only
Theory and technique of oral radiography, radiation hygiene, anatomical landmarks, and methods and materials for processing radiographs. The laboratory portion will provide the student with knowledge concerning film placement, cone angulation, exposing and developing radiographs, and mounting and evaluating processed films.

DA 71 Dental Radiography II (.5)
1 1/2 hours laboratory
Prerequisite: DA 50; DA 70; and proof of Hepatitis B Immunization; and EME 55 or current BLS for Healthcare Providers Certificate
Note: Graded only
Advanced experience regarding film placement, cone angulation, exposing and developing radiographs, mounting and evaluating films to further enhance the student's patient management skills.

DA 75 Dental Operative Procedures (5)
3 hours lecture 6 hours laboratory
Prerequisite: Admission to the Dental Assisting Program
Note: Graded only
Applications of and introduction to preclinical dental assisting in operative and specialty dental procedures, care of equipment, instrumentation, sterilization techniques, disease transmission, charting, utilization of dental materials, dental office emergencies, and functions delegated to the California Registered Dental Assistant.

DA 80 Coronal Polishing (1)
2 hours lecture/laboratory
Prerequisite: Admission to the Dental Assisting Program
Note: Graded only
Identification of dental plaque, other soft deposits, tooth stains, discolorations, periodontics, and deposit retention factors. Polishing procedures: Polishing agents, prophylaxis angle, attachments, and technique.

DA 81 Clinical Coronal Polishing (.5)
1 1/2 hours laboratory
Prerequisite: DA 50; DA 80; proof of Hepatitis B Immunization; and EME 55 or current BLS for Healthcare Providers Certificate
Note: Graded only; may be taken 2 times
Application of concepts and skills from pre-clinical DA 80. Emphasis is on the coronal polishing procedure as applied to clinical patients.

DA 85 Advanced Dental Procedures (4)
2 hours lecture 6 hours laboratory
Prerequisite: DA 50; DA 60; and DA 75; proof of Hepatitis B Immunization; and EME 55 or current BLS for Healthcare Providers Certificate
Note: Graded only
Advanced laboratory and clinical experience focusing on basic skills previously learned. Emphasis is placed on 1) clinical use of impression materials for obtaining study models, 2) pouring and trimming plaster and stone models, 3) fabrication of custom trays for preliminary impressions, 4) fabrication of provisional restorations, and 5) advanced prosthodontic and orthodontic instruction.

DA 90 Clinical Rotation (6.5)
19 1/2 hours laboratory/clinical
Prerequisite: DA 50; DA 75; proof of Hepatitis B Immunization; and EME 55 or current BLS for Healthcare Providers Certificate
Note: Credit/No Credit only
An intensive program of practical dental experiences, working with patients and staff at the Camp Pendleton Naval Dental Clinic and/or private dental offices. Students will assist the dentists in specialized and operative procedures and duties delegated to the California licensed Registered Dental Assistant..

DA 97 Dental Assisting 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 only; may be taken 4 times
 Topics in Dental Assisting. See Class Schedule for specific topic offered. Course title will designate subject covered.

Diesel Mechanics Technology (DMT)

Contact the Trade and Industry Department for further information, (760) 744-1150, ext. 2545

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

Diesel Technology

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements		Units
AT 105	Automotive Electricity	2
AT 160	Associated Studies in Automotives	3
AT 197	Topics in Automotive	3
DMT/R DMT 50	Introduction to Diesel Mechanics	3
DMT/R DMT 55	Heavy-Duty Diesel Tune-Up/Analysis	3
DMT/R DMT 61	Diesel Engine Rebuilding I	3
DMT/R DMT 62	Diesel Engine Rebuilding II	3
DMT/R DMT 65	Air Brake Systems	3
DMT/R DMT 66	Truck Transmission and Drive Lines	3
IT 100	Technical Mathematics	3
Electives (Select 6 units)		
AT 125	Automotive Machining	3
DMT 54	Heavy-Duty Electricity	3
DMT 56	Alternative Fuels	3
DMT/R DMT 70	Med-Duty Diesel Engine Tune-up	3
DMT 81	Basic Hydraulics	3
DMT 96	Special Problems in Diesel Technology	.5-3
DMT/R DMT 97	Diesel Mechanics Tech Workshop	.5-3
WELD 100	Welding I	3
CE 100	Cooperative Education	1,2,3,4
TOTAL UNITS		35

The Diesel Technology A.A. Degree Major or Certificate of Achievement is also listed in ROP Diesel Mechanics Technology.

COURSE OFFERINGS

Courses numbered under 100 are not intended for transfer credit.

DMT 50 Introduction to Diesel Mechanics (3)
 6 hours lecture/laboratory
Note: Cross listed as R DMT 50
 Theory and practice of fundamental skills for the maintenance and operation of basic diesel engines. Topics for study include: basic theory of operation; engine applications; engine lubricating and cooling; intake, exhaust and fuel systems; and electronic control.

DMT 54 Heavy-Duty Electricity (3)
 6 hours lecture/laboratory
Note: May be taken 2 times
 Heavy-duty electricity systems principles and service. Topics of study include electrical theory, batteries, wiring diagrams, 12V and 24V starters, alternators and electrical troubleshooting, and test equipment.

DMT 55 Heavy-Duty Diesel Tune Up and Engine Analysis (3)
 2 hours lecture 4 hours laboratory
Prerequisite: DMT/R DMT 50;
Note: Cross listed as R DMT 55; may be taken 2 times
 The use of software and diagnostic equipment in performing diesel tune-up. Topics include: theory of operation, tune-up procedures, fuel system function and repair, diagnostic equipment usage, electronic engine controls, mechanical and electronic engine system troubleshooting.

DMT 56 Alternative Fuels (3)
 6 hours lecture/laboratory
Recommended preparation: DMT/R DMT 50
 Theory and servicing of alternative fueled engines. Topics for study include various types of fuels, fuel handling and safety procedures, basic principles, regulators and mixers, all system components operation and service, electronic control systems, and emission testing.

DMT 61 Diesel Engine Rebuilding I (3)
 6 hours lecture/laboratory
Recommended preparation: DMT/R DMT 50
Note: Cross listed as R DMT 61; may be taken 2 times
 Theory and practice in rebuilding diesel engines. Topics for study include disassembly, cleaning, inspection, and analysis of engine parts. Also included are cylinder head service, sleeve and piston service, advanced machining and measuring techniques.

DMT 62 Diesel Engine Rebuilding II (3)
 6 hours lecture/laboratory
Recommended preparation: DMT/R DMT 61
Note: Cross listed as R DMT 62
 Theory and practice in rebuilding diesel engines. Topics for study include final cleaning, inspection and reassembly of engine parts. Also included are assembly measuring, torque procedures and torque-turn methods used on engine assembly, and engine testing upon completion of assembly.

DMT 65 Air Brake Systems (3)
 2 hours lecture 3 hours laboratory
Note: Cross listed as R DMT 65
 The service and repair of heavy duty hydraulic and air brake systems and their components. Topics of study include brake troubleshooting, complete system repair, anti skid brake system, and related axle services.

DMT 66 Truck Transmission and Drive Lines (3)
 2 hours lecture 3 hours laboratory
Note: Cross listed as R DMT 66
 Service and repair of heavy duty truck drive lines. Topics for study include the disassembly, inspection and reassembly of single and multiple disc clutches, four to fifteen speed transmissions, universal joints, and differentials.

DMT 70 Medium Duty Diesel Engine Tune Up (3)
 2 hours lecture 4 hours laboratory
Note: Cross listed as R DMT 70; may be taken 2 times
 The use of diesel tune up and diagnostic equipment. Topics include: fuel systems; compression testing; fuel pump and injection timing; troubleshooting procedures; alternators, regulators, and starting systems.

DMT 81 Basic Hydraulics (3)
 2 hours lecture-3 hours laboratory
Note: May be taken 2 times
 Basic hydraulic system principles and service. Topics of study include hydraulic

theory, safety requirements, hydraulic diagrams and ISO symbols, component operation, service and repair troubleshooting, and test equipment usage.

DMT 96 Special Problems in Diesel Technology (.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.

Prerequisite: DMT/R DMT 50

Note: May be taken 4 times

A special study in topics in the area of interest to diesel mechanics, generally research in nature. The content to be determined by the need of the student under a signed contract with the instructor.

DMT 97 Diesel Mechanics Technology Workshop (.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: Cross listed as R DMT 97; may be taken 4 times

A special selection of topics specific in nature. The contents will vary depending on specific needs of the students and community.

Disability Resource (DR)

Contact the Disability Resource Center for further information, (760) 744-1150, ext. 2375

COURSE OFFERINGS

Courses numbered under 50 are non-degree courses.

Courses numbered under 100 are not intended for transfer credit.

DR 5 Personal Adjustment and Growth (2)

1½ hours lecture 1½ hours laboratory

Note: May be taken 3 times

An individualized class which explores existing concepts, theories, and practices pertaining to self appraisal defense mechanisms and interpersonal relations, and how that relates to school management and to the student's particular disability. This course is designed to meet the needs of students with disabilities.

DR 10 Educational Assessment/Guidance (.5)

½ hour lecture

Note: Open entry/Open exit; Credit/No Credit grading only; may be taken 2 times

This individualized course is designed to assess, by means of diagnostic testing and the California Community College learning disability eligibility process, the student's need for academic accommodations in the community college setting. The student will be counseled in planning appropriate educational goals and in selecting and preparing for college classes.

DR 15 English Essentials for Students with Disabilities (3)

3 hours lecture

Note: Credit/No Credit grading only; may be taken 4 times

Provides special assistance for students with disabilities to develop basic skills in written communication. Working with computers is part of the class format.

DR 18 Phonics for Students with Disabilities (3)

3 hours lecture

Note: May be taken 3 times

This course is designed to meet the needs of students with disabilities. It teaches the use of phonics as a spelling and reading strategy.

DR 20 Pre-Algebra Support (3)

3 hours lecture

Note: Credit/No Credit grading only; may be taken 4 times

Provides programmed instruction on an individual and/or small group basis to students with disabilities. Practice in understanding and performing basic arithmetic tasks necessary for successful functioning in society.

DR 25 Algebra Support (1.5,3)

1½ or 3 hours lecture

Recommended preparation: MATH 15 or eligibility for MATH 50

Note: Credit/No Credit grading only; may be taken 4 times

Provides personalized instruction in basic study management techniques for the support of students with disabilities in mainstream classes. The course will help students with disabilities to develop specialized study techniques and interpersonal skills needed for success in mainstream classes.

DR 26 Composition Skills and Strategies for the Intermediate Writer (3)

3 hours lecture

Recommended preparation: ENG 10 or eligibility for ENG 50

Note: May be taken 2 times

This class is designed to help students with disabilities improve their intermediate composition skills through methods and strategies specific to their disabilities.

DR 31 Language Development (1,2)

2 or 4 hours lecture/laboratory

Note: May be taken 4 times

This course is for the student with communication problems relating to language processing. The course will include assessment, theory, facilitation techniques, and use of special devices.

DR 35 Speech and Language Development: Articulation, Fluency, and Voice Problems (3)

3 hours lecture

Note: May be taken 4 times

For students with communication problems relating to articulation, rate/fluency, and voice. It includes assessment, theory, physiology, and management strategies.

DR 40 Adapted Computer Skills (3)

3 hours lecture

Note: May be taken 3 times

This course is designed to meet the needs of the students with disabilities. Students learn to use computers with access technology such as voice recognition, screen readers, screen enlargement and other hardware adaptations.

DR 41 Advanced Adapted Computers for Students with Disabilities (3)

3 hours lecture

Recommended preparation: DR 40

Note: May be taken 3 times

Provides training in more advanced software for students with disabilities by using their prescribed access technology. Course work meets computer literacy competence for CSUSM.

DR 45L Adapted Computer Laboratory (1)

3 hours laboratory

Note: Credit/No Credit grading only; may be taken 4 times

Provides supervised hands on opportunities to acquire and reinforce skills on computer equipment adapted for students with disabilities.

DR 47 Topics in Disability Resource (.5-3)

Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture or lecture/laboratory may be scheduled by the department.

Note: May be taken 3 times

Topics in disability resource. See Class Schedule for specific topic offered. Course title will designate subject covered.

Drafting Technology (DT)

Contact the Design and Consumer Education Department for further information, (760) 744-1150, extension 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**Architectural Drafting Technology**

Prepares students for employment as a design/production drafter in the field of architecture.

Students concerned with transfer into an architectural program at a university should review specific course requirements with their architectural instructor and the Counseling Department.

**A.A. DEGREE MAJOR OR
CERTIFICATE OF ACHIEVEMENT**

Program Requirements	Units
DT 105 Basic Architectural Drafting	3
DT 120 or Architectural History	
DT 121 Multicultural Architectural History	3
DT/R DT 125 AutoCAD Introduction to Computer Aided Drafting	3
DT 135 Architectural Materials/Methods Construction	3
DT 144 Architectural Drawing and Color	3
DT 145 Architectural Delineation/Pictorial Drawing	4
DT 155 Architectural Theory	2
DT 160 Environmental Architecture and Design	3
DT 185 Architectural 3D Studio MAX	3
DT/R DT 200 Advanced Computer Aided Architectural Drafting	4
Electives (Select 9 units)	
CSIS 120/ R CSIS 120 Microcomputer Applications	3
DT 120 or Architectural History	
DT 121 Multicultural Architectural History	3
DT 129 Basic Architectural Drafting w/AutoCAD	3
DT/R DT 126 AutoCAD Intermediate Computer Aided Drafting	3
DT/R DT 127 AutoCAD Customization	3
DT 129 Basic Architectural Drafting with AutoCAD	3
DT 215 Architectural Design Fundamentals I	5
DT 216 Architectural Design Fundamentals II	5
MATH 115 Trigonometry	3
CE 100 Cooperative Education	1,2,3,4
CE 105 Job Hunting Techniques	1,2,3
TOTAL UNITS	40

Computer Assisted Drafting

Prepares students in the skills necessary for employment as a computer assisted drafting operator.

**A.A. DEGREE MAJOR OR
CERTIFICATE OF ACHIEVEMENT**

Program Requirements	Units
CSIS 105 Computer Concepts/Microcomputer	3
DT/R DT 125 AutoCAD Introduction to Computer Aided Drafting	3
DT/R DT 126 AutoCAD Intermediate Computer Aided Drafting	3
DT/R DT 127 AutoCAD Customization	3
DT/R DT 128 SolidWorks Intro to 3D Design and Presentation	3
IT 100 Technical Mathematics	3
Electives (Select 12 units)	
DT 110 Technical Drafting I with AutoCAD	4
DT 111 Technical Drafting II with AutoCAD	4
DT 140 Electronic Drafting and Design	3
DT 145 Architectural Delineation/Pictorial Drawing	4
DT 196B Special Problems/CAD	1,2,3
DT/R DT 200 Advanced Computer Aided Architectural Drafting	4
DT 210 Printed Circuit Board Design	3
BUS 205 Business Writing	3

CE 105 Job Hunting Techniques	1,2,3
MATH 110 College Algebra	4
MATH 115 Trigonometry	3
CE 100 Cooperative Education	1,2,3,4

TOTAL UNITS**30****Drafting Technology - Multimedia**

Prepares students in the skills necessary for employment in the multimedia presentation field.

**A.A. DEGREE MAJOR OR
CERTIFICATE OF ACHIEVEMENT**

Program Requirements	Units
DT/R DT 125 AutoCAD Introduction to Computer Aided Drafting	3
DT/R DT 126 AutoCAD Intermediate Computer Aided Drafting	3
DT/R DT 128 SolidWorks Intro to 3D Design and Presentation	3
DT 180 3D Studio Max – Intro to 3D Modeling/Animation	3
DT 182 3D Studio Max - Advanced 3D Modeling/Animation	3
DT 184 Real Time 3D Technical/Game Animation	2
IT 100 Technical Mathematics	3
Electives (Select 12 units)	
ART 241 Computer Graphics	3
ARTD 150 Digital Concepts/Techniques in Art	3
ARTD 220 Motion Design	3
ARTI 246 Digital 3D Design and Modeling	3
ARTI 247 Digital 3D Design and Animation	3
CE 105 Job Hunting Techniques	1,2,3
COMM 100 Mass Media in America	3
CSIS/ R CSIS 120 Microcomputer Applications	3
CE 100 Cooperative Education	1,2,3,4
DT/R DT 130 CAD/CAM Machining	3
DT/R DT 131 SolidWorks Adv to 3D Design and Presentation	3
DT 196B Special Problems in CAD	3
GC/R GC 140 Digital Imaging/Photoshop I	3
GC/R GC 200 Introduction to Multimedia	3
GC 201 Intermediate Multimedia	3
MATH 50 or Beginning Algebra	
MATH 60 or Intermediate Algebra	
MATH 110 or College Algebra	
MATH 115 Trigonometry	3,4
MUS 180 Computer Music I	3

TOTAL UNITS**32****Drafting Technology - Technical**

Prepares students in the skills necessary for employment as a drafter in machine, mechanical electrical, aeronautical, civil, and other related engineering fields.

**A.A. DEGREE MAJOR OR
CERTIFICATE OF ACHIEVEMENT**

Program Requirements	Units
DT 100 Basic Mechanical Drawing	3
DT 110 Technical Drafting I with AutoCAD	4
DT 111 Technical Drafting II with AutoCAD	4
DT/R DT 125 AutoCAD Intro to Computer Aided Drafting	3
DT/R DT 126 AutoCAD Intermediate Computer Aided Drafting	3
DT/R DT 127 AutoCAD Customization	3
DT/R DT 128 SolidWorks Intro to 3D Design and Presentation	3
IT 100 Technical Mathematics	3
Electives (Select 6 units)	
CE 105 Job Hunting Techniques	1,2,3
CSIS/	

R CSIS 120	Microcomputer Applications	3
DT/CFT 70	Drawing/Constr/Cabinet/Millwork	3
DT/R DT 130	CAD/CAM Machining	3
DT/R DT 131	SolidWorks Adv 3D Design and Presentation	3
DT 180	3D Studio Max – Intro to 3D Modeling/Animation	3
DT 182	3D Studio Max - Advanced 3D Modeling/Animation	3
DT 184	Real Time 3D Technical/Game Animation	2
DT 196B	Special Problems in CAD	1,2,3
MATH 50 or	Beginning Algebra	
MATH 60 or	Intermediate Algebra	
MATH 110 or	College Algebra	
MATH 115	Trigonometry	3,4
SURV 105	Topographic Mapping	3
CE 100	Cooperative Education	1,2,3,4
TOTAL UNITS		32

Electro Mechanical Drafting and Design

Drafts detailed working drawings of electro mechanical equipment and devices. Indicates dimensions, materials, and manufacturing procedures for electronic industry.

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements	Units	
DT 110	Technical Drafting I with AutoCAD	4
DT 111	Technical Drafting II with AutoCAD	4
DT/R DT 125	AutoCAD Introduction to Computer Aided Drafting	3
DT/R DT 127	AutoCAD Customization	3
DT/R DT 128	SolidWorks Intro to 3D Design and Presentation	3
DT 210	Printed Circuit Board Design	3
DT 211	Advanced Printed Circuit Board Design	3
IT 100	Technical Mathematics	3
Electives (Select 6 units)		
BUS 205	Business Writing	3
CSIS/		
R CSIS 120	Microcomputer Applications	3
DT/R DT 126	AutoCAD Intermediate Computer Aided Drafting	3
DT/R DT 131	SolidWorks Adv 3D Design and Presentation	3
DT/R DT 130	CAD/CAM Machining	3
DT 196A	Special Problems in Drafting	1,2,3
DT 196B	Special Problems in CAD	1,2,3
ECHE 160	Electronics for Everyone	3
MATH 110	College Algebra	4
CE 100	Cooperative Education	1,2,3,4
TOTAL UNITS		32

Interactive Media Design

Prepares students with specific skills necessary for employment in the field of multimedia design and production. Students may choose an emphasis in either 3D modeling and animation, which emphasizes production skills and authoring systems, or multimedia design, which emphasizes content development and visual design of multimedia productions. Both areas of emphasis collaborate on an actual multimedia production.

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Emphasis in 3D Modeling and Animation

Program Requirements	Units	
ARTI 100	Introduction to Illustration	3
ARTI 246	Digital 3D Design and Modeling	3
ARTI 247	Digital 3D Design and Animation	3
DT 180	3D Studio Max–Intro to 3D Modeling/Animation	3

DT 182	3D Studio Max-Adv 3D Modeling/Animation	3
GC/R GC 140	Digital Imaging/Photoshop I	3
GC 204	Motion Graphics for Multimedia-A	3
Electives (Select two courses)		
ART 241	Computer Graphics	3
ART 248	Character Animation	1.5
ARTD 150	Digital Concepts/Techniques in Art	3
ARTD 220	Motion Design	3
DT/R DT 128	SolidWorks Intro 3D Design and Presentation	3
DT 184	Real Time 3D Technical/Game Animation	2
GC 142	Digital Imaging/Photoshop III	3
GC 201	Intermediate Multimedia	3
ENTT/RTV 120	Basic Television Production	3
RTV 124	Staging and Lighting for Television	3
TOTAL UNITS		24.5 – 27

Emphasis in Multimedia Design

Program Requirements	Units	
ARTD 100	Graphic Design I	3
ARTD 220	Motion Design	3
ARTI 247	Digital 3D Design and Animation	3
GC 142	Digital Imaging/Photoshop III	3
GC/R GC 200	Introduction to Multimedia	3
GC 201	Intermediate Multimedia	3
GC 204	Motion Graphics/Multimedia-A	3

Electives (Select two courses)	Units	
ART 197G	Topics in Art – Computer Art	3
ARTD 150	Digital Concepts and Techniques in Art	3
ARTI 246	Digital 3D Design/Modeling	3
DT 180	3D Studio Max-Intro to 3D Modeling/Animation	3
DT 182	3D Studio Max-Adv 3D Modeling/Animation	3
GC 100	Graphic Communications	3
GC/R GC 140	Digital Imaging/Photoshop I	3
GC/R GC 152	Desktop Publishing with Illustrator	3
GC 197E	Multimedia Project	3
GC/R GC 202	Web Page Layout I	3
GC 206	Web Multimedia	3
MUS 180	Computer Music I	3
RTV 170	Introduction to Video Editing	3
TOTAL UNITS		27

Interactive Media Design A.A. Degree or Certificate of Achievement is also listed in Art and in Graphic Communications.

COURSE OFFERINGS

Courses numbered under 100 are not intended for transfer credit.

DT 70 Drawing for the Construction/Cabinet/Millwork Trades (3)

2 hours lecture 3 hours laboratory

Note: Cross listed as CFT 70

Planning, drawing, interpreting, estimating construction, and cabinetwork and millwork drawing.

DT 100 Basic Mechanical Drawing (3)

2 hours lecture 3 hours laboratory

Transfer acceptability: CSU

Fundamentals of mechanical drawing including theory, lettering, sketching, geometric constructions, orthographic projection, sectioning, developments, dimensioning, and pictorial and working drawings.

DT 105 Basic Architectural Drafting (3)

6 hours lecture/laboratory

Transfer acceptability: CSU

An introduction to architectural drafting including symbols, lettering, construction principles, details, and codes as related to the development of working drawings for simple residential design.

DT 106 Intermediate Architectural Drafting (3)

6 hours lecture/laboratory

Prerequisite: DT 105

Transfer acceptability: CSU

A continued study in residential design including study in details, materials, elevations, specifications, electrical, and plumbing.

DT 110 Technical Drafting I with AutoCAD (4)

8 hours lecture/laboratory

Prerequisite: Completion of, or concurrent enrollment in, DT/R DT 125

Transfer acceptability: CSU

Fundamentals of drafting including lettering, sketching, instruments, geometric constructions, orthographic projections, dimensioning, tolerancing, sectional views and auxiliary views. Drafting will be performed on the computer using AutoCAD software.

DT 111 Technical Drafting II with AutoCAD (4)

8 hours lecture/laboratory

Prerequisite: DT 110 and DT/R DT 125

Transfer acceptability: CSU

The study of Advanced Drafting practices using AutoCAD software. Basic studies will lead into geometric dimensioning, tolerancing, pictorial drafting, descriptive geometry and revolutions. Working/shop drawings in topography, developments, cabinet/millwork, structural steel, and welding will be performed.

DT 116 Geometric Dimensioning and Tolerancing (3)

6 hours lecture/laboratory

Prerequisite: DT 100

Transfer acceptability: CSU

Note: May be taken 2 times

An introduction to geometric dimensioning and tolerancing as used in the electro/mechanical industry. The student will learn to identify and use appropriate geometric symbols and techniques of geometric dimension and produce industrial quality drawings.

DT 120 Architectural History (3)

3 hours lecture

Transfer acceptability: CSU; UC – DT 120 and 121 combined: maximum credit, one course

An overview of architectural history beginning with prehistoric cultures and continuing through Egyptian and Mesopotamia, Aegean and Greek, Roman and Byzantine, Romanesque and Gothic, and the Renaissance and Baroque periods. The second half of the course focuses on the development of modern western architecture.

DT 121 Multicultural Architectural History (3)

3 hours lecture

Transfer acceptability: CSU; UC – DT 120 and 121 combined: maximum credit, one course

A comparative study of the architecture of cultures outside the Western mainstream including: Pre-Columbian America; India and Southeast Asia, China and Japan, Russia and Eastern Europe; and the Moslem Empires. Special emphasis on the cultural forces and conditions which shaped and evolved the architecture.

DT 125 AutoCAD Introduction to Computer Aided Drafting (3)

6 hours lecture/laboratory

Note: Cross listed as R DT 125; may be taken 2 times; maximum of 4 completions in any combination of DT/R DT 125, DT/R DT 126, DT/R DT 127

Transfer acceptability: CSU; UC – DT 125 and 126 combined: maximum credit, one course

An introduction to computer aided drafting using AutoCAD software and IBM compatible computers. Hands on experience with AutoCAD to include the following operations: preparing and editing drawings, storage and retrieval of drawings, and production of commercial quality drawings on a plotter. Introductory computer terminology and techniques in Windows.

DT 126 AutoCAD Intermediate Computer Aided Drafting (3)

6 hours lecture/laboratory

Prerequisite: DT 125/R DT 125

Note: Cross listed as R DT 126; may be taken 2 times; maximum of 4 completions in any combination of DT/R DT 125, DT/R DT 126, DT/R DT 127

Transfer acceptability: CSU; UC – DT 125 and 126 combined: maximum credit, one course

Advanced theory and hands on operation of a CAD system. Emphasis is placed on large scale drawings, three dimensional software techniques, orthographic projections, and complex computer aided manufacturing applications.

DT 127 AutoCAD Customization (3)

6 hours lecture/laboratory

Prerequisite: DT/R DT 126

Note: Cross listed as R DT 127; may be taken 2 times; maximum of 4 completions in any combination of DT/R DT 125, DT/R DT 126, DT/R DT 127

Transfer acceptability: CSU

Advanced theory and hands on operation of a CAD system. Emphasis is placed on increased productivity using customization and portfolio presentation for successful career opportunities

DT 128 SolidWorks Introduction to 3D Design and Presentation (3)

6 hours lecture/laboratory

Prerequisite: DT/R DT 125

Recommended preparation: DT 110

Note: Cross listed as R DT 128; may be taken 2 times

Transfer acceptability: CSU

Advanced theory and hands on operation of three-dimensional software techniques. Emphasis is placed on wireframe, surface, solid, and parametric three-dimensional modeling.

DT 129 Basic Architectural Drafting with Auto CAD (3)

6 hours lecture/laboratory

Transfer acceptability: CSU; UC (Pending)

Basic fundamentals of architectural drafting using AutoCAD software to include the following drawings: plot plans, floor plans, foundation plans, framing plans, sections, elevations, and basic construction details.

DT 130 CAD/CAM Machining (3)

6 hours lecture/laboratory

Prerequisite: DT 110 and DT/R DT 128

Note: Cross listed as R DT 130; may be taken 2 times

Hands-on operation of importing three-dimensional solid and parametric three-dimensional models into CAD/CAM operations.

DT 131 SolidWorks Advanced 3D Design and Presentation (3)

6 hours lecture/laboratory

Prerequisite: DT/R DT 128

Note: Cross listed as R DT 131; may be taken 2 times

Transfer acceptability: CSU

Advanced theory and hands-on operation of solid and parametric three-dimensional models. Emphasis is placed on creating molds, advanced sheet metal design and developing dynamic assemblies.

DT 135 Architectural Materials and Methods of Construction (3)

6 hours lecture/laboratory

Transfer acceptability: CSU

An introduction to the use and application of building construction materials and processes.

DT 140 Electronic Drafting and Design (3)

6 hours lecture/laboratory

Note: May be taken 2 times

Transfer acceptability: CSU

Electro mechanical drafting and design generally required for an entry level position in the electronic industry.

DT 144 Architectural Drawing and Color (3)

6 hours lecture/laboratory

Note: May be taken 2 times

Transfer acceptability: CSU; UC

An introduction to basic architectural drawing and design that explores the theory and application of perspective, shades and shadows, and color to architectural sketching, drawing, and model building.

DT 145 Architectural Delineation and Pictorial Drawing (4)

8 hours lecture/laboratory

Recommended preparation: DT/R DT 125 and DT 144

Note: May be taken 2 times

Transfer acceptability: CSU; UC

Principles and techniques of pictorial drawing in architecture including isometric, oblique, and perspective projection; shades and shadows; and presentation graphics. The three dimensional and shading capabilities of AutoCAD will be utilized in coordination with the use of Photoshop software as a color rendering tool.

DT 155 Architectural Theory (2)

4 hours lecture/laboratory

Transfer acceptability: CSU

A study and analysis of the concepts and philosophies that have influenced or been the basis of architectural form from the Classical period to the present. The analysis will include the use of drawing and model-building tools to gain an understanding of these principles applied to specific structures throughout history.

DT 160 Environmental Architecture and Design (3)

6 hours lecture/laboratory

Note: May not be taken for Credit/No Credit grading

Transfer acceptability: CSU; UC (Pending)

An introduction to the theory and application of bio-climate adaptive architectural design in small scale buildings including effective energy use, solar geometry, environmental measurements, heat flow, heat transfer, and thermal masses. Emphasis is on design and construction principles for lighting, passive shading, heating, cooling and ventilating envelope load-dominated buildings.

DT 180 3D Studio Max – Introduction to 3D Modeling and Animation (3)

6 hours lecture/laboratory

Note: May be taken 2 times

Transfer acceptability: CSU

An overview of 3D Studio Max. Hands-on operation of the software to produce basic three-dimensional models and basic technical animations.

DT 182 3D Studio Max – Advanced 3D Modeling and Animation (3)

6 hours lecture/laboratory

Prerequisite: DT 180

Note: May be taken 2 times

Transfer acceptability: CSU

Advanced 3D Studio Max applications to create special visual effects for high-end image production. Advanced keyframing, time-based editing, controllers, and video post will be employed to master state-of-the-art rendering and animation. The class is structured to help students start using 3D Studio Max in a production environment.

DT 184 Real Time 3D Technical/Game Animation (2)

4 hours lecture/laboratory

Students will create interactive 3D applications using a direct X base real time engine for the game industry, computer based training and product visualization.

DT 185 Architectural 3D Studio MAX (3)

6 hours lecture/laboratory

Prerequisite: A minimum grade of 'C' in DT 125/R DT 125

Note: May be taken 2 times

Transfer acceptability: CSU; UC (Pending)

An overview of 3D Studio MAX and AutoCAD to create realistic architectural three-dimensional models for rendering and animation.

DT 196A Special Problems in Drafting (1,2,3)

2, 4, or 6 hours lecture/laboratory

Note: May be taken 4 times

Transfer acceptability: CSU

This course is designed to aid the student in the enrichment of the area of concentration in drafting and is of a research nature. Content to be determined by the need of the student under signed contract with the instructor.

DT 196B Special Problems in Computer Aided Drafting (1,2,3)

2, 4, or 6 hours lecture/laboratory

Note: May be taken 4 times for a maximum of 9 units

Transfer acceptability: CSU

This is an advanced course designed to aid the student in the enrichment of an area of concentration in AutoCAD and third party drafting software and is of a research nature. Content to be determined by the need of the student under signed contract with the instructor.

DT 197 Drafting 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

Transfer acceptability: CSU

Topics in Drafting. See class schedule for specific topic covered. Course title will designate subject covered.

DT 200 Advanced Computer Aided Architectural Drafting (4)

8 hours lecture/laboratory

Prerequisite: DT/R DT 125 and completion of, or concurrent enrollment in, DT 105

Note: Cross listed as R DT 200; may be taken 2 times

Transfer acceptability: CSU

Advanced techniques in the operation of AutoCAD software for architectural applications on IBM-compatible computers. Preparation of various architectural working drawings from a preliminary residential design.

DT 202 Advanced Computer Aided Architectural Drafting II (4)

8 hours lecture/laboratory

Recommended preparation: DT/R DT 200

Note: Cross listed as R DT 202; may be taken 2 times

Transfer acceptability: CSU

Third-party architectural software for use in conjunction with AutoCAD software. Preparation of 3D architectural models and their manipulation for preparation of individual architectural working drawings including: dimensioned floor plans, building sections, elevations, etc.

DT 210 Printed Circuit Board Design (3)

6 hours lecture/laboratory

Prerequisite: A minimum grade of 'C' in DT 110

Note: May be taken 2 times

Transfer acceptability: CSU

Instruction in printed circuit board design generally required for entry level positions in the electronic industry. Includes artwork and complete documentation for analog and digital multi-layer, flexible and high-speed boards using current IPC standards. Drafting will be performed on the computer using high-end printed circuit board software.

DT 211 Advanced Printed Circuit Board Design (3)
6 hours lecture/laboratory
Prerequisite: DT 210
Note: May be taken 2 times
 Advanced problems and instruction in printed circuit board design generally required for entry-level position in the electronic industry. Special emphasis will be placed on advanced applications including surface mount technology. Includes artwork and complete documentation for analog and digital multi-layer, flexible and high-speed boards using current IPC standards. Drafting will be performed on the computer using AutoCAD and PADS software.

DT 215 Architectural Design Fundamentals I (5)
10 hours lecture/laboratory
Recommended preparation: DT 144 and DT 155
Transfer acceptability: CSU; UC
 Development of problem solving and analytical skills in architectural design involving consideration of factors of architectural form in two- and three-dimensional compositions, and design concepts and applications.

DT 216 Architectural Design Fundamentals II (5)
10 hours lecture/laboratory
Recommended preparation: DT 145 and DT 215
Transfer acceptability: CSU; UC
 Complex architectural problems involving consideration of factors of structure, site, and climate.

Earth Sciences (ES)

Contact the Earth Sciences Department for further information, (760) 744-1150, ext. 2512.

COURSE OFFERINGS

ES 100 The Earth as a System: Case Studies of Change in Space and Time (3)
3 hours lecture
Transfer acceptability: CSU; UC
 An overview of the fields of geology, geography, oceanography, and astronomy that approach Earth as a system. Areas of study include those related to plate tectonics, earthquakes, volcanoes, geologic time, landscape evolution, weather systems, ocean circulation, climate change, and exploration of the solar system.

ES 105 Earth System Science: Climate Change (3)
3 hours lecture
Transfer acceptability: CSU; UC
 Introduction to the science of global change that includes an overview of the international political debate and the mechanisms of the climate system. Topics also examine climate change on different time scales including the Ice Ages and the outlook for climate change.

ES 110 Earth System Science: Life in the Universe (3)
3 hours lecture
Transfer acceptability: CSU; UC
 Introduction to astrobiology, a multi-disciplinary field of science that investigates questions related to life on Earth, the nearby Solar System, and the Universe in general. Students will gain an appreciation of many fields of science as they apply to one of the most profound questions one can ask about our world: Are we the only life in the universe?

Economics (ECON)

Contact the Economics, History and Political Science Department for further information, (760) 744-1150, ext. 2412. 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

Economics

Provides lower division preparation for pursuing advanced studies in economics or prepares a complementary base for many professions and areas of interest including business administration, law, engineering, journalism, public administration, and environmental studies. Transfer students should consult the four year college or university catalog for specific requirements or see a Palomar College counselor.

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements		Units
ECON 101	Principles of Economics (Macro)	3
ECON 102	Principles of Economics (Micro)	3
Group I (Select 6 units)		
ECON 110	Comparative Economic Systems	3
ECON 115	Economic History of the United States	3
ECON 295	Directed Study in Economics	3
IBUS 100	Intro to Int'l Business Management	3
Group II (Select 7-8 units)		
MATH 110	College Algebra	4
MATH 120	Elementary Statistics	3
MATH 130	Calculus for the Social Sciences	4
Group III (Select 3 units)		
CSIS 105	Computer Concepts and Microcomputer Apps.	3
PHIL 115	Logic and Critical Thinking	3
TOTAL UNITS		22-23

COURSE OFFERINGS

ECON 100 Basic Economics (3)
3 hours lecture
Note: Not intended for programs which require Principles of Economics ECON 101 and/or 102
Transfer acceptability: CSU; UC – no credit if taken after ECON 101 or 102
 A study of the American economic system as it affects the decision making of the individual as income earner, taxpayer, and voter. Emphasis is on application of the analyses of supply and demand, productivity, wages and the labor force, the money and banking system, the role of government, and domestic and international economic issues.

ECON 101 Principles of Economics (Macro) (3)
3 hours lecture
Transfer acceptability: CSU; UC; CAN ECON 2
 Descriptive analysis of the structure and functioning of the economy of the United States. Emphasizes national income, problems of inflation and unemployment, the role of government, money supply, and economic growth.

ECON 102 Principles of Economics (Micro) (3)
3 hours lecture
Transfer acceptability: CSU; UC; CAN ECON 4
 Descriptive analysis of behavior of specific units and individuals. Examines market structures and resource markets under varying degrees of competition. Includes international trade and finance.

ECON 110 Comparative Economic Systems (3)
3 hours lecture
Transfer acceptability: CSU; UC
 A study of various types of economic institutions and decision making systems. Emphasis is given to the theories of capitalism, Marxian economics, and the vari-

ous types of socialism. The theories will be applied to the study of several countries, including the Soviet Union, Japan, China, Mexico, and a Western European country, as they compare to the United States.

ECON 115 Economic History of the United States (3)

3 hours lecture

Transfer acceptability: CSU; UC

Development of the United States economy from the colonial period to the present. Emphasis will be on the evolution of such institutions as labor unions, business, banking, and government. Economic theory will be used to analyze historical problems.

ECON 197 Economics 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 Economics. See Class Schedule for specific topic offered. Course title will designate subject covered.

ECON 295 Directed Study in Economics (1,2,3)

3, 6, or 9 hours laboratory

Prerequisite: Approval of project or research by department chairperson

Note: May be taken 4 times

Transfer acceptability: CSU; UC – Credit determined by UC upon review of course syllabus.

Independent study for students who have demonstrated a proficiency in economics subjects and have the initiative to work independently on projects or research that does not fit into the context of regularly scheduled classes. Students will work under the personal supervision of an instructor.

Education (ED)

Contact Reading Services for further information, (760) 744-1150, ext. 2568

COURSE OFFERINGS

ED 200 Careers in Teaching (3)

3 hours lecture

Transfer acceptability: CSU; UC

An overview of the teaching profession for those students contemplating a career in education. Foundations of education, critical issues in the classroom, and the history and philosophy of education are addressed. Effective and active learning, diversity in the classroom and teaching profession standards are discussed. Guided classroom observations (45 hours) of a K-12 classroom in a variety of subject areas are a requirement for this course.

ED 201 Literacy Instruction (3)

3 hours lecture

Transfer acceptability: CSU

This course is designed for both the student who is considering a career in teaching as well as the prospective literacy tutor. The basic process of literacy acquisition is presented as well as literacy strategies for the emerging and developing reader. The literacy dynamics of a multicultural learning environment will also be presented. 20 hours of literacy training required.

Electro-Mechanical Equipment Technician (EMET)

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

Electro-Mechanical Equipment Technician

Specifically for individuals employed or seeking employment in a medium to large distribution center and to prepare candidates to pass the mail processing equipment (EMET) technician's examination.

CERTIFICATE OF ACHIEVEMENT

Program Requirements		Units
CI 105	Electrical Codes I	3
CI 106	Electrical Codes II	3
CSIS 105	Computer Concepts/Microcomputer	3
DT 140	Electrical Drafting and Design	3
ECHT 100	Electronic Components and Circuits	4.5
EMET 50	Servicing Electro-Mechanical Equipment	3
EMET 51	Mail Equipment Mechanic Exam Prep	3
Electives (Select 6 units)		
ECHT 203	Digital/Computer Electronics	4.5
IT 100	Technical Mathematics	3
WELD 100	Welding I	3
CE 100*	Cooperative Education	1-4
TOTAL UNITS		28.5

* Cooperative Education must be related to this major.

COURSE OFFERINGS

Courses numbered under 100 are not intended for transfer credit.

EMET 50 Basic Mechanics for Servicing Electro-Mechanical Equipment (3)

3 hours lecture

Recommended preparation: Knowledge of simple algebraic equations; different number systems; different types of gears; mechanical advantage; and fluid dynamics

Provides students with a basic overview of the maintenance process for postal service electro-mechanical equipment. Topics of study include levers and lever assemblies, gears and gear trains, sprockets and pulleys, basic hydraulics.

EMET 51 Mail Processing Equipment Mechanic Exam Preparation (3)

3 hours lecture

Recommended preparation: Technical Mathematics-Ability to perform simple algebraic equations; Electricity-Understand DC and AC fundamentals; Electronics-Understand basic electronic principles; Mechanics-Understand basic mechanic fundamentals; Digital Electronics-Understand basic digital electronic principles.

Designed to prepare students for the U.S. Postal Service Maintenance Mechanic, MPE-7 Entrance Examination. Highly recommended for students interested in a U.S. Postal Service Career focusing on equipment maintenance. Topics will cover all the aspects of mail processing equipment (MPE) maintenance, such as mechanics, electrical, and basic electronic systems.

Electronics and Computer Hardware Technology (ECHT)

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.

PROGRAMS OF STUDY

Advanced Electronic Technician

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements (Select one option)		Units
Option One		
ECHT 100	Electronic Components and Circuits	4.5
ECHT 101	Discrete Electronic Circuits	4.5
ECHT 102	Integrated Electronic Circuits	4.5
ECHT 203	Digital/Computer Electronics	4.5
ECHT 204	Microcomputer Architecture	4.5
ECHT 205	Telecommunication Systems	4.5

Option Two		
ECHT 130	Electronic Principles, Components, Circuits	13.5
ECHT 220	Elect Digital Computers/Telecommunication Sys	13.5

Electives (Select a minimum of 12 units). It is recommended that students include one math course and one English or speech course.

DT 110	Technical Drafting I with AutoCAD	4
DT/R DT 125	AutoCAD Introduction to Computer Aided Drafting	3
DT 140	Electronic Drafting and Design	3
DT 210	Printed Circuit Board Design	3
ECHT/ENGR 126	Introduction to Electrical/Computer Engineering	4
ECHT 160	Electronics for Everyone	3
ECHT 162	Electronic Printed Circuit Board Assembly	3
ENG 50 or	Introductory Composition	
ENG 100	English Composition	4
ENGR 210	Electrical Network Analysis	3
MATH 60 or	Intermediate Algebra	
MATH 110 or	College Algebra	
MATH 115	Trigonometry	3,4
PHYS 120	General Physics	4
R CSIS/CSIS 120	Microcomputer Applications	3
R CSIS 140	Command Line Operations	3
R CSIS 155	Computer Technology Hardware	3
R CSIS 156	Computer Technology Software	3
R CSIS 160	Introduction to Local Area Networking	3
R CSIS/CSIS 170	Windows	1
SPCH 100	Oral Communication	3

TOTAL UNITS 39

Full-time day students are recommended to take the required ECHT courses in the following sequence:

First semester	Second semester
ECHT 130	ECHT 220

Evening students are recommended to take the required ECHT courses in the following sequence: ECHT 100, ECHT 101, ECHT 102, ECHT 203, ECHT 204, ECHT 205.

ECHT 130 is equivalent to ECHT 100, 101, and 102
 ECHT 220 is equivalent to ECHT 203, 204, and 205

**Computer Hardware/
Telecommunication Technician**

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements (Select one option)		Units
Option One		
ECHT 100	Electronic Components and Circuits	4.5
ECHT 101	Discrete Electronic Circuits	4.5
ECHT 102	Integrated Electronic Circuits	4.5
ECHT 203	Digital/Computer Electronics	4.5
ECHT 204	Microcomputer Architecture	4.5
ECHT 205	Telecommunication Systems	4.5

Option Two		
ECHT 130	Electronic Principles, Components, and Circuits	13.5
ECHT 220	Electr Digital Computers/Telecommunication Sys	13.5

TOTAL UNITS 27

Full-time day students may earn a certificate in two semesters by completing the required ECHT courses in the following sequence:

First semester	Second semester
ECHT 130	ECHT 220

Evening students are recommended to take the required ECHT courses in the following sequence: ECHT 100, ECHT 101, ECHT 102, ECHT 203, ECHT 204, ECHT 205.

ECHT 130 is equivalent to ECHT 100, 101, and 102
 ECHT 220 is equivalent to ECHT 203, 204, and 205

Electronics Assembler

This certificate is intended to prepare students for immediate employment in the electronics assembly industry as an electronics assembler.

CERTIFICATE OF PROFICIENCY

Required Courses		Units
ECHT 100	Electronic Components and Circuits	4.5
ECHT 162	Printed Circuit Board Assembly	3

TOTAL UNITS 7.5

Recommended electives: ECHT 20; 160; MATH 15; READ 30, 47, 50; ESL 98.1

COURSE OFFERINGS

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

ECHT 20 Supplemental Instruction for Electronics and Computer Hardware Technology (1)

2 hours lecture/laboratory
Note: May be taken 4 times
 Instructor coordinated informal peer assisted study sessions in which students compare notes, discuss readings, review homework, perform laboratory experiments, and work on projects that are associated with any ECHT course. Instructor will provide mini-lessons in direct response to small group assessed needs.

ECHT 100 Electronic Components and Circuits (4.5)
 3 hours lecture 3 hours lecture/laboratory

Transfer acceptability: CSU
 Fundamentals of DC and AC: Ohm's Law, Kirchoff's Laws, Thevenin's Theorem, magnetism, transformers, capacitance, inductance, and tuned circuits. Laboratory covers application of theory, use of test equipment, circuit design, construction techniques, and troubleshooting carried out through traditional workstation procedures and by computer simulation programs.

ECHT 101 Discrete Electronic Circuits (4.5)

3 hours lecture 3 hours lecture/laboratory

Prerequisite: ECHT 100**Transfer acceptability:** CSU

Fundamentals of discrete semiconductors, linear and non-linear, analog: diodes, power supplies, transistors, and amplifiers. Laboratory covers application of theory, use of test equipment, circuit design, reconstruction techniques, and troubleshooting carried out through traditional workstation procedures and by computer simulation programs.

ECHT 102 Integrated Electronic Circuits (4.5)

3 hours lecture 3 hours lecture/laboratory

Prerequisite: ECHT 101**Transfer acceptability:** CSU

Fundamentals of linear and non linear, analog, integrated circuits: thyristors, frequency effects, operational amplifiers, feedback, non linear OPAMPS, oscillators, power supplies, and communication circuits. Laboratory covers application of theory, use of test equipment, circuit design, construction techniques, and troubleshooting.

ECHT 126 Introduction to Electrical and Computer Engineering (4)

3 hours lecture-3 hours laboratory

Prerequisite: Math 140**Note:** Cross listed as ENGR 126**Transfer acceptability:** CSU

Introductory concepts covering a broad range of topics in Electrical and Computer Engineering presented in an integrated approach at a hands-on level. Students work in small teams to analyze, build, and test a small programmable robot for competition at the end of the semester. Provides basic understanding and skills for students to later build their theoretical understanding in more advanced physics and engineering courses.

ECHT 130 Electronic Principles, Components, and Circuits (13.5)

9 hours lecture-9 hours lecture/laboratory

Transfer acceptability: CSU

Fundamentals of DC and AC: Ohm's Law, Kirchoff's Laws, Thevenin's Theorem, magnetism, transformers, capacitance, inductance, tuned circuits, linear and non-linear, analog, discrete semiconductors; diodes, power supplies, transistors, amplifiers, and integrated circuits; thyristors, frequency effects, operational amplifiers, feedback, non-linear OPAMPS, oscillators, power supplies, and communication circuits. Laboratory covers application of theory, use of test equipment, circuit design, construction techniques and troubleshooting carried through traditional workstation procedures and by the computer simulation program.

ECHT 160 Electronics for Everyone (3)

3 hours lecture

Transfer acceptability: CSU

Overview course designed and taught so anyone can understand the basic concepts and applications of electronics. Topics covered are direct and alternating current, Ohm's Law, magnetism, transformers, capacitance, inductance, tuned circuits, diodes, transistors, amplifiers, oscillators, power supplies and computers.

ECHT 162 Electronic Printed Circuit Board Assembly and Equipment Troubleshooting (3)

2 hours lecture-2 hours lecture/laboratory

Note: May be taken 4 times**Transfer acceptability:** CSU

Fundamentals of printed circuit board assembly: workmanship standards and forms, surface mount and through hole technology, and solder training. Hands-on training on the repair and troubleshooting of electronic equipment.

ECHT 197 Electronics and Computer Hardware 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**Transfer acceptability:** CSU

Topics in Electronics and Computer Hardware Technology. See Class Schedule for specific topic offered. Course title will designate subject covered.

ECHT 203 Digital/Computer Electronics (4.5)

3 hours lecture 3 hours lecture/laboratory

Recommended preparation: ECHT 100**Transfer acceptability:** CSU

Fundamental logic functions of AND'ing, OR'ing, and inverting will be studied in various combinational and sequential logic circuits such as: encoders, decoders, multiplexers, demultiplexers, flip-flops, registers, counters, clocks, memories, and microprocessors. The architecture and programming of the digital microprocessor will be emphasized. The primary components required for proper operation of a PC (personal computer) will be addressed. Designing, testing, and troubleshooting of computers and special projects.

ECHT 204 Microcomputer Architecture and Interfacing (4.5)

3 hours lecture 3 hours lecture/laboratory

Prerequisite: ECHT 203**Transfer acceptability:** CSU

Advanced computer electronic concepts and applications using digital circuits and systems. Interfacing of microprocessors and PC's (personal computers) to peripherals. Upgrading of desktop PC's. Designing, testing, and troubleshooting of computer systems and special projects.

ECHT 205 Telecommunication Systems (4.5)

3 hours lecture 3 hours lecture/laboratory

Recommended preparation: ECHT 102 and 203**Transfer acceptability:** CSU

Review of basic electronic analog and digital principles. Communication of information using analog/digital electronic transmission lines, antennas, testing and troubleshooting, as they relate to RADIO, RADAR, TV, Computers, Modems, Networks (Internet, World Wide Web [WWW]), Satellites, Cellular phones, and Fiber optic systems, will be addressed.

ECHT 220 Electronic Digital Computers and Telecommunication Systems (13.5)

9 hours lecture-9 hours lecture/laboratory

Prerequisite: ECHT 130**Transfer acceptability:** CSU

Fundamental logic functions will be studied in various combinational and sequential logic circuits. The architecture and programming of the digital microprocessor will be emphasized. Interfacing of microprocessors and PC's (personal computers) to peripherals. Upgrading of desktop PC's. Designing, testing, and troubleshooting of computer systems and special projects. Communication of information using analog/digital electronic circuits and systems. AM, FM, PM modulation techniques, transmission lines, antennas, testing and troubleshooting, as they relate to radio, radar, TV, computers, modems, networks (Internet, World Wide Web [WWW]), satellites, cellular phones, and fiber optic systems will be addressed.

Emergency Medical Education (EME)

Contact the Emergency Medical Education Department for further information, (760) 744-1150, ext. 8150

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

College Credit for Certified Paramedics

This policy is for granting college credit for certified paramedics toward an Associate in Arts degree in Emergency Medical Technician Paramedic. In order for an already certified Paramedic to be granted college units for his/her certification, the following requirements must be met:

1. The EMT P must be currently certified in California as an EMT P.
2. The EMT P must be currently registered at Palomar College.

EMT-P Credit

1. The student may receive a maximum of 31 units for his/her EMT P training, which is equal to the number of units given at Palomar College for the EMT P courses.
2. The student may receive a maximum of 6 units for his/her former EMT I training, which is equal to the number of units given at Palomar College for the EMT I courses.
3. The student may not receive duplicate credit for any other EMT I or EMT P courses.

Degree Requirements

The Associate in Arts degree in Emergency Medical Technician Paramedic requires 60 units. The following criteria must be met:

1. 30 units must be issued by an accredited college on a letter grade basis, of which 12 units must be completed at Palomar College.
2. All other general education and competency requirements for the Associate in Arts degree as provided in the college catalog must be met.
3. When the student has completed the general education and competency requirements for the Associate in Arts degree and the 12 units required to be completed at Palomar College, the student will be awarded unit credit for education/training received in becoming an EMT P.

Paramedics interested in taking advantage of this policy should contact the Emergency Medical Education Department at (760) 744 1150, ext. 8150. Paramedics will be required to provide a copy of his or her paramedic license and course completion certificate for verification of paramedic licensure. Paramedics must also send prior college transcripts to the college and make an appointment with the Counseling Department at (760) 744-1150, ext. 2179 for evaluation of general education requirements.

PROGRAMS OF STUDY

Emergency Medical Technician Basic

The Emergency Medical Technician Program prepares the student in all elements of pre-hospital Basic Life Support. Upon successful completion of the program, the student is eligible to take the San Diego County EMT-Basic certification exam, which is the National Registry Emergency Medical Technician Basic exam.

Required Courses

	Units
EME 100/PE 104 Advanced First Aid	3
EME 106 EMT Basic (Lecture)	6
EME 106L EMT Basic Skills (Laboratory)	1

Paramedic Training

The Paramedic Program prepares the student in all elements of prehospital advanced life support. Upon successful completion of the program, the student is eligible to take the State of California EMT P certification exam, which is the National Registry Emergency Medical Technician-Paramedic Exam.

Admission to the program is by special application.

To be eligible for consideration, the applicant must:

1. Have six months full-time pre-hospital experience as an EMT Basic.
2. Be eligible for admission to Palomar College.
3. Meet academic requirements outlined in the Paramedic Program brochure produced by the EME Program.

AND

4. Have completed ZOO 145 with a grade of 'C' or better and EME 175 and EME 175L with a "B" or better.

Prerequisite Courses

	Units
ZOO 145 Intro to Anatomy/Physiology	3
EME 106 EMT Basic (Lecture)	6
EME 106L EMT Basic Skills (Laboratory)	1
EME 175 Paramedic Preparation (Lecture)	2
EME 175L Paramedic Preparation Skills (Laboratory)	1

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Students must achieve a minimum score of 80% in each of the required courses in order to continue in the program.

Program Requirements		Units
EME 206	Intro/Paramedic Training (Lecture)	4
EME 206L	Intro/Paramedic Training (Laboratory)	1
EME 207	Paramedic Medical Training (Lecture)	10
EME 207L	Paramedic Medical Skills (Lab)	1.5
EME 208	Paramedic Trauma Training (Lecture)	4.5
EME 208L	Trauma Skills (Laboratory)	.5
EME 209	Paramedic Obstetrical/Pediatric Training (Lecture)	2.5
EME 209L	Paramedic Obstetrical/Pediatric Skills (Lab)	.5
EME 210	Hospital Clinical Experience	4
EME 211	Clinical Integration I	1.5
EME 212	Clinical Integration II	1.5
EME 215	Field Internship	9
TOTAL UNITS		40.5

Recommended Electives: EME 75, 75L

COURSE OFFERINGS

Courses numbered under 100 are not intended for transfer credit.

EME 55 CPR for Health Care Providers (1.5)

1/2 hour lecture

Note: Credit/No Credit grading only; may be taken 4 times
Basic cardio pulmonary resuscitation (CPR) course for one person CPR, two person CPR, child CPR, infant CPR, obstructed airway and mouth-to-mask ventilation based on American Heart Association standards.

EME 75 EMT in the Workplace (1.5)

1 1/2 hour lecture

Note: May not be taken for Credit/No Credit grading
Prerequisite: Possess a valid current EMT-B certificate
Corequisite: EME 75L

This course takes a certified EMT with some on-duty experience and prepares them to work in an ALS environment.

EME 75L EMT in the Workplace Lab (1)

3 hours laboratory

Corequisite: EME 75
Note: Credit/No Credit grading only
Application of simulation, skills and ride along time to enhance their abilities in an ALS environment.

EME 100 Advanced First Aid (3)

3 hours lecture

Note: Cross listed as PE 104
Transfer acceptability: CSU; UC
The study and application of emergency medical skills and procedures, including basic anatomy and physiology, terminology, and prevention of disease transmission, for CPR certification from the American Heart Association and/or the American Red Cross.

EME 106 Emergency Medical Technician Basic (Lecture) (6)

6 hours lecture

Prerequisite: Current BLS course CPR card and Emergency Response or equivalent card. Proof of meeting the prerequisite will be required at the first class meeting.

Corequisite: EME 106L
Note: May not be taken for Credit/No Credit grading; may be taken 2 times
The study of EMT theory and knowledge required for identification and treatment of pre-hospital emergencies. The course prepares the student for National Registry, California, and San Diego County EMT-Basic certification.

- EME 106L Emergency Medical Technician Basic Skills (Laboratory)** (1)
3 hours laboratory
Prerequisite: Current CPR for Health Care Providers CPR and Emergency Response card.
Corequisite: EME 106
Note: Credit/No Credit grading only; may be taken 2 times
Application of skills required for treatment of pre-hospital emergencies. This course prepares the student for National Registry, California, and San Diego County EMT-Basic certification. Student is required to complete 16 hours supervised ambulance and emergency department observation.
- EME 116 Emergency Medical Technician Refresher Course** (1.5)
1½ hour lecture
Prerequisite: Possess a valid current EMT-B, EMT-II or EMT-P certificate, or have possessed one within the last four years.
Note: Credit/No Credit grading only
Review of basic EMT material and update of new material and techniques. Meets State of California requirements for EMT-B recertification continuing education units. An Optional NREMT-B Recertification Exam available the day after the class ends.
- EME 175 Paramedic Preparation** (2)
2 hours lecture
Prerequisite: Current EMT with a minimum of 3 months full time pre-hospital experience.
Corequisite: EME 175L
An overview of paramedic-level assessment skills combined with appropriate paramedic-level anatomy, physiology, and treatment relevant to the disease processes studied.
- EME 175L Paramedic Preparation Skills (Laboratory)** (1)
3 hours laboratory
Prerequisite: Current EMT with a minimum of 3 months full time pre-hospital experience
Corequisite: EME 175
Note: Credit/No Credit grading only
Performance of EMT skills combined with appropriate paramedic-level anatomy, physiology and treatment relevant to the disease processes studied.
- EME 196 Special Problems in Field Internship** (3-5)
9 to 15 hours laboratory
Corequisite: EME 210 or EME 215
Application of skills and knowledge necessary for student to successfully complete either the Clinical or Field Internship of Paramedic Training. This is for a student who needs to be extended up to 10 shifts to allow fulfillment of EME 210 or 215 course obligations and requires an individual student specific contract.
- EME 197A Emergency Medical Education Workshop: Emergency Medical Technician-Paramedic** (.5-6)
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
Workshops to provide upgrading of knowledge and skills relative to paramedics. Will provide paramedic continuing education hours for classroom time. See Class Schedule for specific topic covered. Course title will designate subject covered.
- EME 197B Emergency Medical Education Workshop: Emergency Medical Technician-Basic** (.5-6)
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
Workshops to provide upgrading of knowledge and skills relative to EMT's. Will provide EMT continuing education hours for classroom time as indicated by topic. See Class Schedule for specific topic covered. Course title will designate subject covered.
- EME 197E Emergency Medical Education Workshop: General** (.5-6)
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
Innovative and creative aspects updating Emergency Medical Education professions. See Class Schedule for specific topic covered. Course title will designate subject covered.
- EME 200 Advanced Cardiac Life Support** (1)
1 hour lecture
Prerequisite: Current CPR for Health Care Providers Certificate or "BLS" CPR card and must be an M.D., R.N. or EMT-P
Note: Credit/No Credit grading only; may be taken 4 times
Advanced Cardiac Life Support knowledge and skills necessary to provide the appropriate early treatment for cardiopulmonary arrest. Based on current American Heart Association guidelines.
- EME 201 Pediatric Advanced Life Support** (1)
1 hour lecture
Prerequisite: Current CPR for Health Care Providers Certificate or "BLS" CPR card and must be an M.D., R.N., or EMT-P
Note: May be taken 3 times
Pediatric Advanced Life Support knowledge and skills necessary to provide the appropriate early treatment for pediatric emergencies. Based on current American Heart Association guidelines.
- EME 202 Prehospital Trauma Life Support** (1)
1 hour lecture
Prerequisite: Current CPR for Health Care Providers Certificate or "BLS" CPR card and must be an M.D., R.N. or EMT-P
Note: Credit/No Credit grading only; may be taken 3 times
Knowledge and skills taught to provide prehospital trauma life support appropriate for the care of the trauma patient. National Association of Emergency Medical Technicians based course.
- EME 203 Paramedic Challenge (Lecture)** (2)
2 hours lecture
Prerequisite: RN, MD, PA or former Paramedic who meets State of California challenge requirements
Corequisite: EME 203L
Note: Credit/No Credit grading only; may be taken 2 times
Didactic challenge course for individuals who qualify for Paramedic Challenge per State of California Code of Regulations, Title 22. Allows the individual to attend the didactic portion of Paramedic training as needed to meet paramedic course content per individual student contract.
- EME 203L Paramedic Challenge Skills (Laboratory)** (.5)
1½ hours laboratory
Prerequisite: RN, MD, PA or former Paramedic who meets State of California challenge requirements
Corequisite: EME 203
Note: Credit/No Credit grading only; may be taken 2 times
Application of skills necessary for challenge course for individuals who qualify for Paramedic Challenge per State of California Code of Regulations, Title 22. Allows the individual to attend the skills portion of Paramedic Training as needed to meet paramedic course content per individual student contract.
- EME 206 Introduction to Paramedic Training (Lecture)** (4)
4 hours lecture
Prerequisite: Admission into Paramedic program
Corequisite: EME 206L
Note: May be taken 2 times
Introduction to Paramedic training which meets the requirements of the National Standard Curriculum for Paramedic Training.

- EME 106L Emergency Medical Technician Basic Skills (Laboratory) (1)**
3 hours laboratory
Prerequisite: Current CPR for Health Care Providers CPR and Emergency Response card.
Corequisite: EME 106
Note: Credit/No Credit grading only; may be taken 2 times
 Application of skills required for treatment of pre-hospital emergencies. This course prepares the student for National Registry, California, and San Diego County EMT-Basic certification. Student is required to complete 16 hours supervised ambulance and emergency department observation.
- EME 116 Emergency Medical Technician Refresher Course (1.5)**
1½ hour lecture
Prerequisite: Possess a valid current EMT-B, EMT-II or EMT-P certificate, or have possessed one within the last four years.
Note: Credit/No Credit grading only
 Review of basic EMT material and update of new material and techniques. Meets State of California requirements for EMT-B recertification continuing education units. An Optional NREMT-B Recertification Exam available the day after the class ends.
- EME 175 Paramedic Preparation (2)**
2 hours lecture
Prerequisite: Current EMT with a minimum of 3 months full time pre-hospital experience.
Corequisite: EME 175L
 An overview of paramedic-level assessment skills combined with appropriate paramedic-level anatomy, physiology, and treatment relevant to the disease processes studied.
- EME 175L Paramedic Preparation Skills (Laboratory) (1)**
3 hours laboratory
Prerequisite: Current EMT with a minimum of 3 months full time pre-hospital experience
Corequisite: EME 175
Note: Credit/No Credit grading only
 Performance of EMT skills combined with appropriate paramedic-level anatomy, physiology and treatment relevant to the disease processes studied.
- EME 196 Special Problems in Field Internship (3-5)**
9 to 15 hours laboratory
Corequisite: EME 210 or EME 215
 Application of skills and knowledge necessary for student to successfully complete either the Clinical or Field Internship of Paramedic Training. This is for a student who needs to be extended up to 10 shifts to allow fulfillment of EME 210 or 215 course obligations and requires an individual student specific contract.
- EME 197A Emergency Medical Education Workshop: Emergency Medical Technician-Paramedic (.5-6)**
 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
 Workshops to provide upgrading of knowledge and skills relative to paramedics. Will provide paramedic continuing education hours for classroom time. See Class Schedule for specific topic covered. Course title will designate subject covered.
- EME 197B Emergency Medical Education Workshop: Emergency Medical Technician-Basic (.5-6)**
 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
 Workshops to provide upgrading of knowledge and skills relative to EMT's. Will provide EMT continuing education hours for classroom time as indicated by topic. See Class Schedule for specific topic covered. Course title will designate subject covered.
- EME 197E Emergency Medical Education Workshop: General (.5-6)**
 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
 Innovative and creative aspects updating Emergency Medical Education professions. See Class Schedule for specific topic covered. Course title will designate subject covered.
- EME 200 Advanced Cardiac Life Support (1)**
1 hour lecture
Prerequisite: Current CPR for Health Care Providers Certificate or "BLS" CPR card and must be an M.D., R.N. or EMT-P
Note: Credit/No Credit grading only; may be taken 4 times
 Advanced Cardiac Life Support knowledge and skills necessary to provide the appropriate early treatment for cardiopulmonary arrest. Based on current American Heart Association guidelines.
- EME 201 Pediatric Advanced Life Support (1)**
1 hour lecture
Prerequisite: Current CPR for Health Care Providers Certificate or "BLS" CPR card and must be an M.D., R.N., or EMT-P
Note: May be taken 3 times
 Pediatric Advanced Life Support knowledge and skills necessary to provide the appropriate early treatment for pediatric emergencies. Based on current American Heart Association guidelines.
- EME 202 Prehospital Trauma Life Support (1)**
1 hour lecture
Prerequisite: Current CPR for Health Care Providers Certificate or "BLS" CPR card and must be an M.D., R.N. or EMT-P
Note: Credit/No Credit grading only; may be taken 3 times
 Knowledge and skills taught to provide prehospital trauma life support appropriate for the care of the trauma patient. National Association of Emergency Medical Technicians based course.
- EME 203 Paramedic Challenge (Lecture) (2)**
2 hours lecture
Prerequisite: RN, MD, PA or former Paramedic who meets State of California challenge requirements
Corequisite: EME 203L
Note: Credit/No Credit grading only; may be taken 2 times
 Didactic challenge course for individuals who qualify for Paramedic Challenge per State of California Code of Regulations, Title 22. Allows the individual to attend the didactic portion of Paramedic training as needed to meet paramedic course content per individual student contract.
- EME 203L Paramedic Challenge Skills (Laboratory) (.5)**
1½ hours laboratory
Prerequisite: RN, MD, PA or former Paramedic who meets State of California challenge requirements
Corequisite: EME 203
Note: Credit/No Credit grading only; may be taken 2 times
 Application of skills necessary for challenge course for individuals who qualify for Paramedic Challenge per State of California Code of Regulations, Title 22. Allows the individual to attend the skills portion of Paramedic Training as needed to meet paramedic course content per individual student contract.
- EME 206 Introduction to Paramedic Training (Lecture) (4)**
4 hours lecture
Prerequisite: Admission into Paramedic program
Corequisite: EME 206L
Note: May be taken 2 times
 Introduction to Paramedic training which meets the requirements of the National Standard Curriculum for Paramedic Training.

- EME 206L Introduction to Paramedic Training (Laboratory)** (1)
3 hours laboratory
Prerequisite: Admission into Paramedic program
Corequisite: EME 206
Note: Credit/No Credit grading only; may be taken 2 times
Application of skills used in the Introduction to Paramedic Training which meets the requirements of the National Standard Curriculum for Paramedic Training.
- EME 207 Paramedic Medical Training (Lecture)** (10)
10 hours lecture
Prerequisite: Admission into Paramedic program
Corequisite: EME 207L and EME 211
Note: May be taken 2 times
The study of medical diseases for Paramedic training which meets the requirements of the National Standard Curriculum for Paramedic Training. Includes ACLS training and certification.
- EME 207L Paramedic Medical Skills (Laboratory)** (1.5)
4½ hours laboratory
Prerequisite: Admission into Paramedic program
Corequisite: EME 207
Note: Credit/No Credit grading only; may be taken 2 times
Application of skills necessary for the medical portion of Paramedic Training which meets the requirements of the National Standard Curriculum for Paramedic Training.
- EME 208 Paramedic Trauma Training (Lecture)** (4.5)
4½ hours lecture
Prerequisite: Admission into Paramedic program
Corequisite: EME 208L and EME 212
Note: May be taken 2 times
The study of traumatic emergencies for Paramedic training which meets the requirements of the National Standard Curriculum for Paramedic Training. Includes Pre-hospital Trauma Life Support training and certification.
- EME 208L Trauma Skills (Laboratory)** (.5)
1½ hours laboratory
Prerequisite: Admission into Paramedic program
Corequisite: EME 208
Note: Credit/No Credit grading only; may be taken 2 times
Application of skills necessary for trauma class of Paramedic training which meets the requirements of the National Standard Curriculum for Paramedic Training. Includes Pre-hospital Trauma Life Support training and certification.
- EME 209 Paramedic Obstetrical and Pediatric Training (Lecture)** (2.5)
2½ hours lecture
Prerequisite: Admission into Paramedic program
Corequisite: EME 209L and EME 212
Note: May be taken 2 times
The study of Obstetrical and Pediatric emergencies for Paramedic training which meets the requirements of the National Standard Curriculum for Paramedic Training. Includes Pediatric Education for Pre-hospital Professionals.
- EME 209L Paramedic Obstetrical and Pediatric Skills (Laboratory)** (.5)
1½ hours laboratory
Prerequisite: Admission into Paramedic program
Corequisite: EME 209
Note: Credit/No Credit grading only; may be taken 2 times
Application of skills necessary for the Obstetrical and Pediatric class for Paramedic Training which meets the requirements of the National Standard Curriculum for Paramedic Training. Includes Pediatric Education for Pre-hospital Professionals.
- EME 210 Hospital Clinical Experience** (4)
12 hours laboratory
Prerequisite: EME 209 and EME 209L
Note: May be taken 2 times
Supervised clinical experience in acute care areas of hospitals where knowledge of advanced life support techniques is necessary.
- EME 211 Clinical Integration I** (1.5)
4½ hours laboratory
Corequisite: EME 207
Note: May be taken 2 times; Credit/No Credit grading only
Application of assessment and BLS skills necessary to be successful in Paramedic Training.
- EME 212 Clinical Integration II** (1.5)
4½ hours laboratory
Corequisite: EME 208 and EME 209
Note: Credit/No Credit grading only; May be taken 2 times
Application of assessment and BLS skills necessary to be successful in Paramedic Training.
- EME 215 Field Internship** (9)
28 hours laboratory
Prerequisite: EME 210
Note: May be taken 2 times
Assignment to a response vehicle with a field preceptor. Includes direct patient care responsibilities in providing advanced life support.
- EME 295 Directed Study in Emergency Medical Education** (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
Independent study for students who have demonstrated skills and/or proficiencies in Emergency Medical Education 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.

Engineering (ENGR)

Contact the Physics and Engineering 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

Engineering

Provides the background to begin upper division coursework and will prepare the student for entry level jobs that require a knowledge of engineering and engineering related topics. The highly sequential nature of the engineering curriculum necessitates completion of lower division requirements before being admitted into upper division courses.

Engineering students are urged to give priority to the completion of major field requirements over the completion of general education requirements. Engineering lower division requirements are not the same for different universities. These institutions recommend that their particular lower division requirements be completed before transfer. Students should seek early assistance in planning their specific program from the Counseling Department, the Transfer Center, or the Physics/Engineering Department.

