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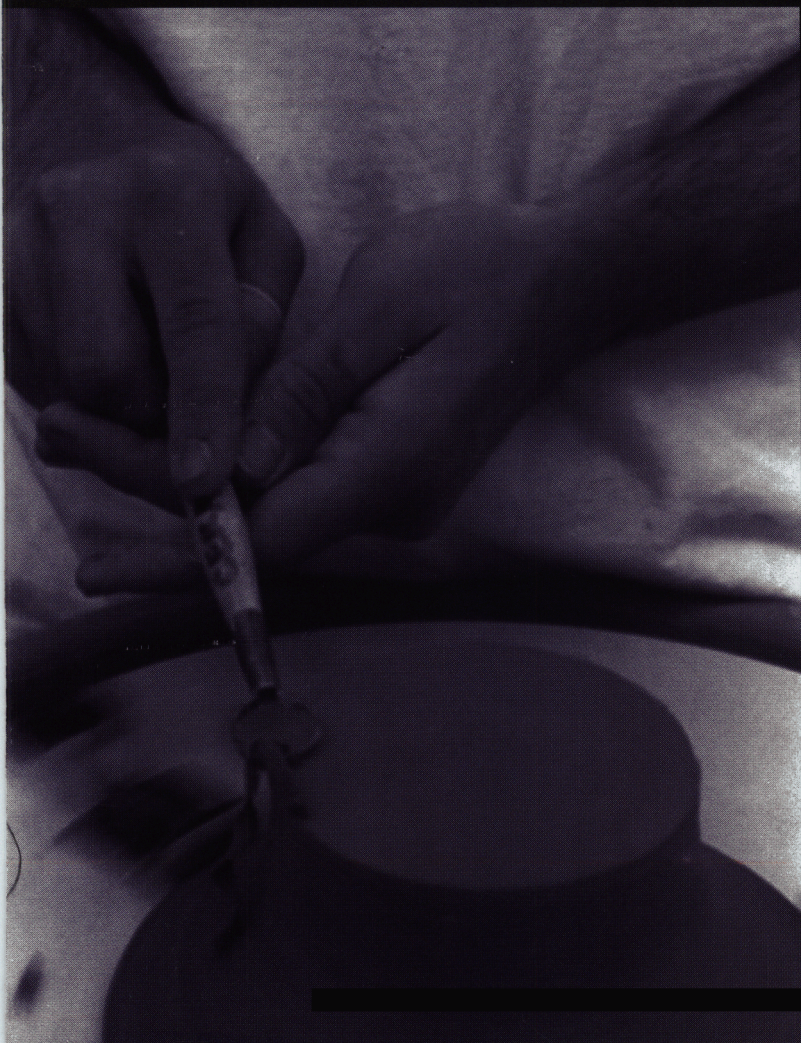
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COLLIN COUNTY COMMUNITY COLLEGE DISTRICT



IMAGINE THE OPTIONS





## 1997-1998 CATALOG

Collin County Community College District (CCCCD) is an equal opportunity institution and provides educational and employment opportunities without discrimination on the basis of race, color, religion, sex, age, national origin, disability or veteran status. In accordance with the Americans with Disabilities Act of 1990 and Section 504 of the Vocational Rehabilitation Act of 1973, CCCC provides accommodations as required by law, to afford equal educational opportunities to all people. An ADA compliance officer can be reached at (972) 548-6606.

The programs, policies, statements, fees and courses contained herein are subject to continual review and evaluation. CCCC reserves the right to make changes or deletions at any time without notice. This publication is intended for information only and is not intended as a contract. Upon request, the college catalog is available on computer disk and tape for students with print-oriented disabilities. For more information contact ACCESS (Accommodations at Collin County for Equal Support Services) at (972) 881-5898 V/TDD. For persons with hearing or speech impairment, please use the Texas Relay Services when offices or departments on campus do not list a TDD number. The Texas Relay number is 1-800-735-2989 (TDD).

### ACCREDITING BODIES

American Dental Association, Texas Department of Health, Texas Commission on Fire Protection, Texas Commission of Law Enforcement Officers Standard and Education, National League for Nursing, Board of Nurse Examiners for the State of Texas, National Committee for Clinical Laboratory Standards, American Physical Therapy Association, Texas Real Estate Commission and Joint Review Committee for Respiratory Therapy Education.

### ACCREDITATION STATUS

Collin County Community College District is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 30033-4097; Telephone number 404-679-4501) to award associate degrees and certificates.

#### Central Park Campus

2200 W. University Dr.  
P. O. Box 8001  
McKinney, Texas 75070  
(972) 548-6790

#### Courtyard Center for Professional and Economic Development

4800 Preston Park Blvd.  
Plano, Texas 75093  
(972) 985-3790

#### Spring Creek Campus

2800 E. Spring Creek Pkwy.  
Plano, Texas 75074  
(972) 881-5790

#### Preston Ridge Campus

9700 Wade Blvd.  
Frisco, Texas 75035  
(972) 377-1790

#### Internet Address:

<http://www.ccccd.edu>

Published by Collin County Community College, Public Relations and Publications Department, Spring Creek Campus, 2800 E. Spring Creek Pkwy., Plano, Texas 75074.

1997-98 • No. 12 Collin County Community College District



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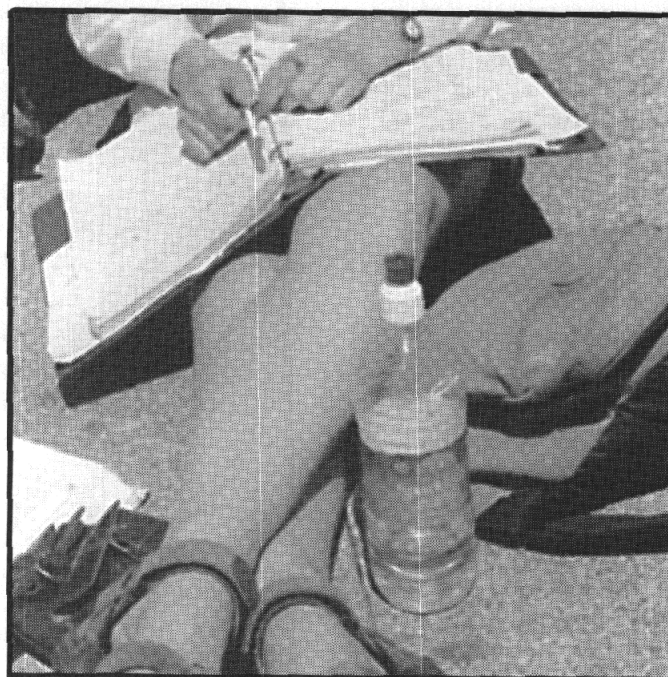
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## ACADEMIC CALENDAR AND PHONE DIRECTORY



### FALL 1997

Fall Classes Begin .....	September 2
Fall Census Date .....	September 15
Fall Last Day to Withdraw .....	November 21
Thanksgiving Break (Campuses Closed) .....	November 27 - 30
Fall Final Exams .....	December 15 - 20
Winter Break .....	December 24 - January 1

### WINTER 1998

Winter Classes Begin .....	January 2
Winter Census Date .....	January 5
Winter Last Day to Withdraw .....	January 13
Winter Final Exams .....	January 16

### SPRING 1998

Spring Classes Begin .....	January 20
Spring Census Date .....	February 2
Spring Break (No Classes) .....	March 9 - 13
Spring Break (Campuses Closed) .....	March 14 - 15
Spring Mini-Break (Campuses Closed) .....	April 10 - 12
Spring Last Day to Withdraw .....	April 17
Spring Final Exams .....	May 11 - 16
97-98 Commencement .....	May 14

### MAYMESTER 1998

Maymester Classes Begin .....	May 18
Maymester Census Date .....	May 19
Memorial Day (Campuses Closed) .....	May 23 - 25
Maymester Last Day to Withdraw .....	May 28
Maymester Final Exams .....	June 2

### SUMMER I AND III 1998

Summer I and III Classes Begin .....	June 8
Summer I Census Date .....	June 11
Summer III Census Date .....	June 16
Summer I Last Day to Withdraw .....	July 2
Independence Day (Campuses Closed) .....	July 3 - 5
Summer I Final Exams .....	July 9
Summer III Last Day to Withdraw .....	July 31
Summer III Final Exams .....	August 12 - 13

### SUMMER II 1998

Summer II Classes Begin .....	July 13
Summer II Census Date .....	July 16
Summer II Last Day to Withdraw .....	August 7
Summer II Final Exams .....	August 13



# PHONE DIRECTORY

	Central Park Campus	Courtyard Center for Professional & Economic Development	Spring Creek Campus	Preston Ridge Campus
General Information	548-6790	985-3790	881-5790	377-1790
Accommodations at CCC for Equal Support Services (ACCESS)			881-5950	
Administrative Services	548-6620		881-5620	
Admissions and Records	548-6710	985-3720	881-5710	377-1710
Advising	548-6782		881-5778	377-1778
Articulation and Transfer	548-6770		881-5757	377-1757
Associate Faculty Office	548-6830		881-5759	377-1505
				377-1705
Bookstore	548-6680	985-3710	881-5680	377-1680
Business and Community Relations		985-3734		
Business and Computer Science Division	548-6830		881-5831	377-1731
Business Office	548-6630	985-3724	881-5634	377-1630
Refunds/Tuition/Fees	548-6637		881-5634	377-1637
Career Services & Cooperative Work Experience	548-6747	985-3786	881-5781	377-1781
College and Community Development Division		985-3731	881-5611	
Continuing Education Division	548-6790	985-3750		377-1711
Cooperative Work Experience	548-6747		881-5735	377-1781
Counseling - Personal	548-6615		881-5779	377-1771
Dean of Students	548-6770		881-5771	377-1771
Developmental Education Division	548-6830		881-5720	377-1720
Engineering Technology Division				377-1715
Financial Aid	548-6760		881-5760	377-1760
Fine Arts Division	548-6830		881-5107	377-1507
Fitness Center	548-6891		881-5848	
Health Sciences, Physical Education and Child Development Division	548-6679		881-5925	
Human Resources	548-6660	985-3780	881-5660	
Humanities and International Studies Division	548-6830		881-5810	377-1510
Learning Resources Center/Library	548-6860		881-5860	377-1560
Mathematics and Natural Sciences Division	548-6830		881-5880	377-1580
Plant Operations/Security	548-6690	985-3777	881-5690	
President's Office	548-6600	758-3800	881-5600	
PROMISE Program	548-6851		881-5126	
Provost's Office	548-6800		881-5801	377-1551
Public Relations and Publications Office	548-6610		881-5610	
Recruitment and Retention Office			881-5133	
Registrar's Office	548-6744	985-3720	881-5744	377-1744
Small Business Development Center		985-3770		
Social Sciences and Public Services Division	548-6830		881-5800	
Student Activities	548-6788		881-5788	377-1788
Student Development Center	548-6700		881-5700	377-1770
Tech Prep (Global Edge)	548-6723			
Texas Academic Skills Program (TASP)	548-6888		881-5902	377-1522
Testing Center	548-6849		881-5922	377-1522
Vice President and Associate Vice President for Instruction	548-6800		881-5801	
For offices not listed	548-6790	985-3790	881-5790	377-1790



## INSTRUCTIONAL DIVISIONS

### BUSINESS & COMPUTER SCIENCE

**Dean: Dr. Lillie Palmer**

Central Park Campus	B305	.....972-548-6830
Spring Creek Campus	J122	.....972-881-5831
Preston Ridge Campus	H245	.....972-377-1731

- Accounting
- Business Administration
- Business Law
- Business Multimedia Technology
- Computer Information Systems
- Computer Science
- Economics
- Fashion Marketing
- Legal Assistant/Paralegal
- Management
- Management Development
- Marketing
- Office Administration
- Real Estate
- Small Business Management
- Software Development

### DEVELOPMENTAL EDUCATION

**Dean: Ms. Juanita Austin**

Central Park Campus	B305	.....972-548-6830
Spring Creek Campus	K104	.....972-881-5720

- English - Developmental
- ESL - English as a Second Language
- Mathematics - Developmental
- Reading - Developmental

### ENGINEERING TECHNOLOGY

**Associate Dean: Mr. John Baltzer**

Preston Ridge Campus	H210	.....972-377-1715
----------------------	------	-------------------

- Computer Aided Drafting & Design
- Computer Network Technology
- Electronic Technology
- Electronics Engineering Technology
- Engineering
- Semiconductor Manufacturing Technology



## FINE ARTS

Dean: Mr. Michael Crawford

Spring Creek Campus F135 .....972-881-5107  
Central Park Campus B305 .....972-548-6830

- Applied Graphic Design Technology
- Art
- Music
- Photography
- Theatre/Drama

## HEALTH SCIENCES, PHYSICAL EDUCATION & CHILD DEVELOPMENT

Dean: Mr. Rex Parcells

Central Park Campus E302 .....972-548-6679  
Spring Creek Campus A 218 .....972-881-5925

- Child Development
- Dental Hygiene
- Emergency Medical Technology
- Health, PE and Dance
- Nursing
- Phlebotomy
- Physical Therapist Assistant
- Respiratory Care

## HUMANITIES & INTERNATIONAL STUDIES

Dean: Mr. Mitchell Smith

Central Park Campus B305 .....972-548-6830  
Spring Creek Campus B189 .....972-881-5810

- Communications
- English
- Foreign Languages
- Humanities
- International Studies
- Interpreter Preparation Program/Deaf
- Journalism
- Philosophy
- Radio and Television
- Sign Language
- Speech

## MATHEMATICS & NATURAL SCIENCES

Dean: Dr. Sheryl Kappus

Central Park Campus A300 .....972-548-6830  
Spring Creek Campus K102 .....972-881-5880  
Preston Ridge Campus .....972-377-1580

- Biology
- Chemistry
- Dietary Manager
- Environmental Science
- Horticulture/Landscape Technology
- Mathematics
- Nutrition
- Physical Science
- Physics
- Pre-Dental
- Pre-Medical
- Pre-Veterinary

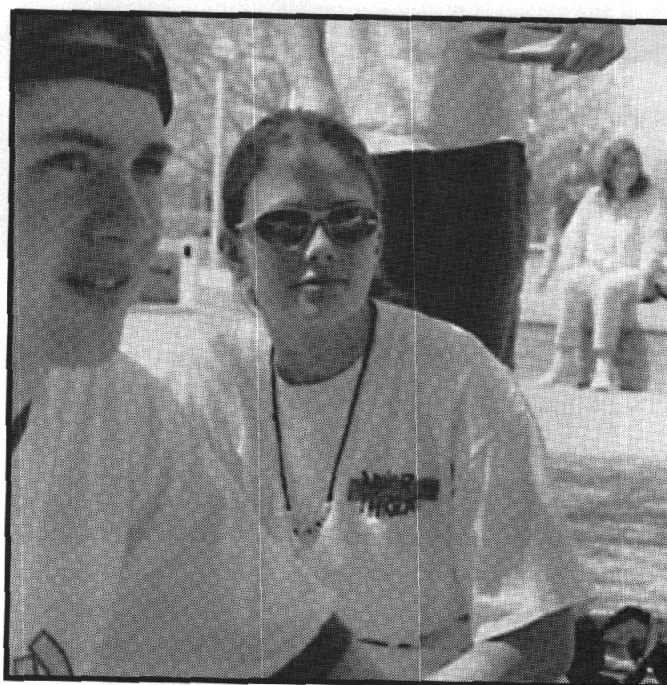
## SOCIAL SCIENCES & PUBLIC SERVICES

Interim Dean: Mr. Gary Hodge

Central Park Campus B305 .....972-548-6830  
Spring Creek Campus B240 .....972-881-5800

- Anthropology
- Criminal Justice
- Fire Science
- Geography
- Government
- History
- Law Enforcement Academy
- Psychology
- Sociology

## DISCIPLINE COORDINATORS



### Academic & Personal Enhancement (ACPE)

Linda Qualia .....SCC/G201 ....881-5779

### Accounting (ACCT)

Dean Wallace .....SCC/H207 ....881-5706

### Applied Graphic Design Technology (AGDT)

Gaye Cooksey .....SCC/K119 ....881-5968

David Najjab .....SCC/K118 ....881-5647

### Anthropology (ANTH)

Jeff MacKinnon .....SCC/H219 ....881-5112

### Art (ARTS)

Elizabeth Siber .....SCC/C152 ....881-5158

### Biology (BIOL)

David-McCulloch .....SCC/J225 ....881-5991

### Business Administration (BUSI)

Larry Beck .....SCC/J103 ....548-5832

Peter Dawson (BLAW) .....PRC/F235 ....377-1707

### Chemistry (CHEM)

Fred Jury .....SCC/H116 ....881-5883

### Child Development (CHDV) and Early Childhood Administration

Elaine Boski .....SCC/B175 ....881-5967

### Chinese (CHIN)

Elke Matijevich .....SCC/K229 ....881-5970

### Communications (COMM)

Journalism, Radio & Television, Speech

Shelley Lane .....SCC/B108 ....881-5821

### Photography

Gary Bishop .....SCC/K119 ....881-5159

June Van Cleef .....SCC/H206 ....881-5827

### Computer Aided Drafting and Design (CADD, INTD)

Glenn Adams .....PRC/H114 ....377-1689

### Computer Information Systems (CSCI) & Computer Science (COSC)

Judy Etchison .....PRC/H113 ....377-1688

William Blitt .....SCC/J115 ....881-5784

### Computer Network Technology

Peter Brierley .....PRC/H110 ....377-1686

### Criminal Justice (CRIJ)

Keith Haley .....SCC/B119 ....881-5984

### Dance (DANC)

Jill Whitson .....SCC/B117 ....881-5913

### Dental Hygiene (DENH)

Joanne Fletcher .....CPC/E212 ....548-6738

### Dietary Manager (DTMG)

Marie Walt .....SCC/K219 ....881-5157

### Drama (DRAM)

Brad Baker .....SCC/C155 ....881-5679

### Economics (ECON)

Mike Cohick .....SCC/J104 ....881-5840

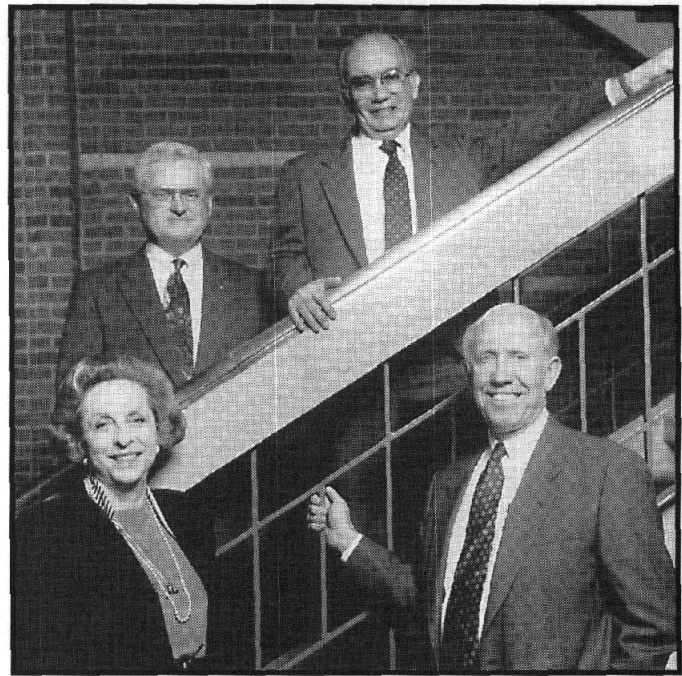
### Electronic Technology (ELAT)

Joe Hackney .....PRC/H115 ....377-1746



<b>Electronic Engineering Technology (ELET)</b>	
Joe Hackney	PRC/H115 . . . 377-1746
<b>Emergency Medical Services (EMTP)</b>	
Robert Sherard	CPC/E307 . . . 548-6848
<b>Engineering (ENGR)</b>	
Glenn Adams	PRC/H114 . . . 377-1689
<b>English—Developmental (ENGL)</b>	
Hazel Phillips	SCC/H220 . . . 881-5124
<b>English (ENGL)</b>	
Sherill Cobb	SCC/B193 . . . 881-5812
<b>English as a Second Language (ESLC, ESLG, ESLR, ESLW)</b>	
Peggy Breedlove	SCC/H222 . . . 881-5703
<b>Fire Science (FISC)</b>	
Pat McAuliff	CPC/A219 . . . 548-6837
<b>French (FREN)</b>	
Kemal Moula	SCC/G217 . . . 881-5678
<b>Geography (GEOG)</b>	
Debbie White	SCC/H221 . . . 881-5163
<b>Geology (GEOL)</b>	
Robert Forester	SCC/K228 . . . 881-5937
<b>German (GERM)</b>	
Elke Matijevich	SCC/K229 . . . 881-5970
<b>Government (GOVT)</b>	
Ted Lewis	PRC/F213 . . . 377-1535
Loren Miller	SCC/H216 . . . 881-5895
<b>History (HIST)</b>	
Matt Coulter	SCC/B116 . . . 881-5816
Larry Collins	CPC/A353 . . . 548-6820
<b>Horticulture/Landscape Technology (HORT)</b>	
Kevin Starnes	SCC/J220 . . . 881-5908
<b>Humanities (HUMA)</b>	
Peggy Brown	SCC/H236 . . . 881-5808
<b>Interpreter Preparation Program/Deaf (IPPD)</b>	
Helene Cohen-Gilbert	SCC/G227 . . . 881-5152
<b>Japanese (JAPN)</b>	
Elke Matijevich	SCC/K229 . . . 881-5970
<b>Law Enforcement Academy</b>	
Ron Spears	CPC/A354 . . . 548-6861
<b>Legal Assistant/Paralegal (LEGL)</b>	
P. Dee Roessler	CPC/A200a . . . 548-6823
<b>Management Development</b>	
Russell Kunz	PRC/F236 . . . 377-1692
<b>Marketing (MRKT)</b>	
Gloria Cockerell	SCC/J247 . . . 881-5736
<b>Mathematics—Developmental (MATH)</b>	
Rosemary Karr	SCC/K218 . . . 881-5865
<b>Mathematics (MATH)</b>	
Denise Brown	SCC/B134 . . . 881-5886
Doug Proffer	SCC/J238 . . . 881-5889
<b>Music (MUSI)</b>	
Brian Allison	SCC/B182 . . . 881-5813
<b>Nursing (NURS)</b>	
Vivian Lilly	CPC/E308 . . . 548-6883
<b>Office Administration (OFAD)</b>	
Diana Ramsower	SCC/J117 . . . 881-5835
Mary Jane Tobaben	PRC/H118 . . . 377-1701
<b>Philosophy (PHIL)</b>	
Rodney Boyd	PRC/F242 . . . 377-1537
<b>Phlebotomy (HLSC)</b>	
Anita Lau	CPC/A325 . . . 548-6840
<b>Photography (ARTS)</b>	
Gary Bishop	SCC/K119 . . . 881-5159
June Van Cleef	SCC/H206 . . . 881-5827
<b>Physical Education, Health (PHED)</b>	
Susan Evans	SCC/A211 . . . 881-5150
<b>Physical Therapist Assistant (PTAS)</b>	
Colleen Grafa	CPC/E305 . . . 548-6854
<b>Physics (PHYS)</b>	
Michael Broyles	SCC/J139 . . . 881-5882
<b>Psychology (PSYC)</b>	
Dan Lipscomb	SCC/G225 . . . 881-5715
Barbara Lusk	CPC/B200c . . . 548-6809
<b>Reading—Developmental (READ)</b>	
Edelin Rubino	SCC/D114 . . . 881-5956
<b>Real Estate (RLST)</b>	
Patricia Banta	CYC/B323 . . . 985-3707
<b>Respiratory Care (RTTP)</b>	
Allen Barbaro	CPC/D308 . . . 548-6870
<b>Russian (RUSS)</b>	
Elke Matijevich	SCC/K229 . . . 881-5970
<b>Semiconductor Manufacturing Technology</b>	
Joe Hackney	PRC/H115 . . . 377-1746
<b>Sign Language (SGNL)</b>	
Helene Cohen-Gilbert	SCC/G227 . . . 881-5152
<b>Sociology (SOCL)</b>	
Debbie White	SCC/H221 . . . 881-5163
<b>Small Business Management (SBMT)</b>	
Gloria Cockerell	SCC/J247 . . . 881-5736
<b>Spanish (SPAN)</b>	
Estelita Young	SCC/G215 . . . 881-5724
<b>Speech Communication (SPCH, COMM)</b>	
Shelley Lane	SCC/B108 . . . 881-5821

## HISTORY OF CCCC



Collin County Community College offered its first classes on-site at area high schools in the fall of 1985, with the Central Park Campus in McKinney opening its doors to students in January 1986. This campus includes a 207,000 square-foot facility set on 115 acres near the intersection of Highway 75 and Highway 380. In addition to offering general education courses, CPC is the home of the Center for Health Studies and the dental hygiene, law enforcement and fire science academies.

CCCC's plans for expansion continued to unfold in the fall of 1988 as the Spring Creek Campus was completed. This 400,000 square-foot complex houses a physical education unit, two theatres, Macintosh graphic design lab, conference center and cafeteria and is the home for CCCC's fine arts classes and athletic teams. It's located at the intersection of Spring Creek Parkway and Jupiter Road in Plano.

In July of 1995, CCCC opened its newest campus, Preston Ridge, located near State Highway 121 and Preston Road in Frisco. Convenient for many who live in western Collin County, Preston Ridge houses many of CCCC's high-tech courses like computer science, electronic engineering and computer aided drafting and design. A new physical education center, including a natatorium, is opening during the 1997-98 school year.

A fourth site for the CCCC district was purchased in 1993, the Courtyard Center for Professional and Economic Development. Located near the corner of Preston Road and Park Boulevard in west Plano, the Courtyard Center houses continuing education, real estate and contract training programs and the Small Business Development Center.

Day, evening and weekend classes are offered at CCCC campuses. And all residents of Collin County are encouraged to use CCCC facilities such as libraries and Alternative Learning Centers, and to attend campus events like theater productions, art exhibits, concerts and athletic events.

### MISSION STATEMENT

Collin County Community College affirms as its mission the commitment to provide, within the resources available, educational programs and services that meet the individual and community needs. The district seeks to promote lifelong individual growth and excellence through strengthening the intellect, character and capabilities of all students. The college acts as a resource to local, state, national and international communities by providing educational, cultural and civic programs and services.

### PHILOSOPHY AND PURPOSE

The philosophy of Collin County Community College is to achieve its mission by promoting:

- Universal access
- Personal development
- Open involvement and active participation in the learning and decision-making process
- Recognition, acceptance and encouragement of diversity
- High standards of innovation and excellence
- Recognition of the dignity and worth of all individuals



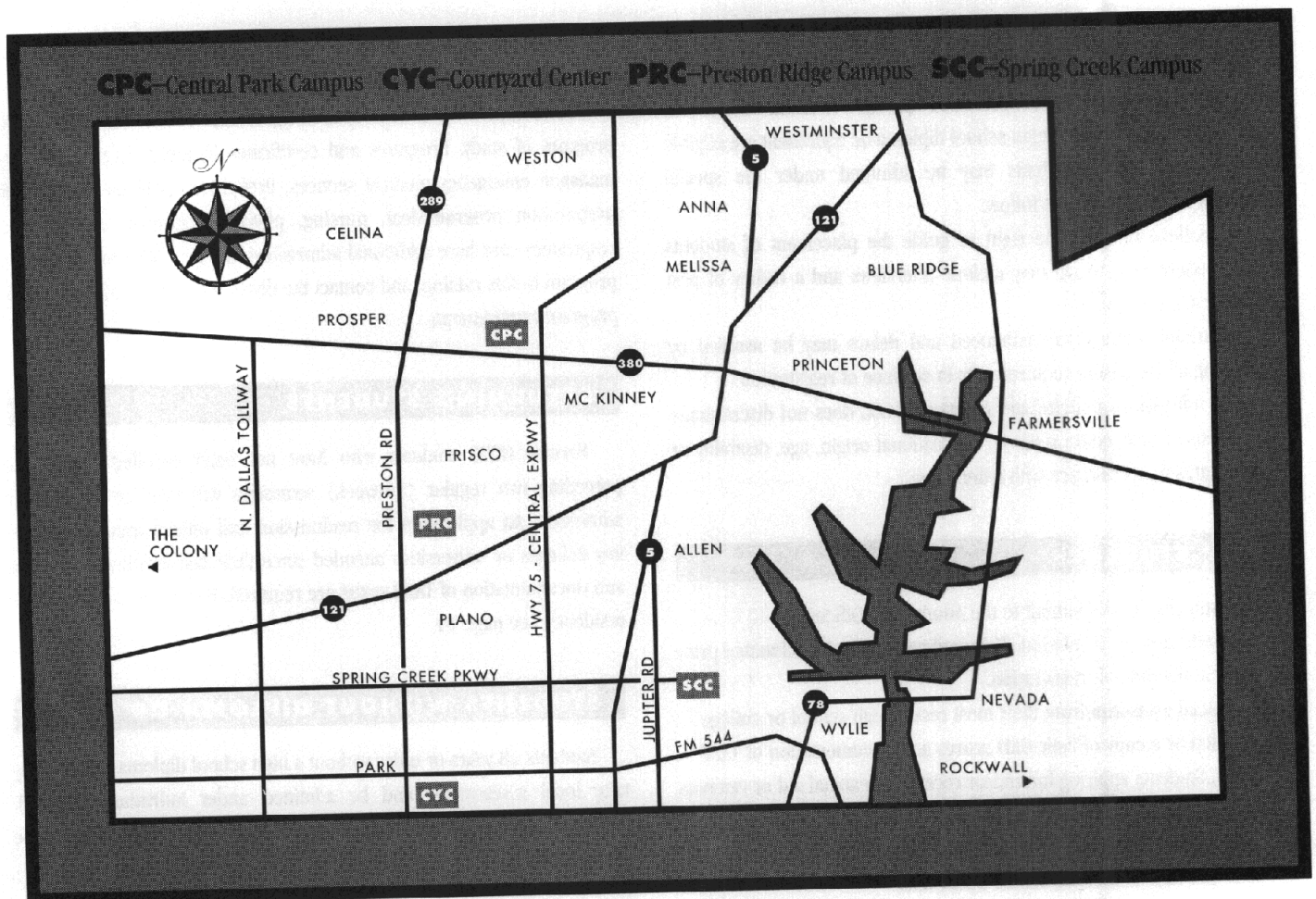
## GOALS

- To expand knowledge and develop skills through an integrated general education curriculum and support services that enable students to grow within a changing environment and to be productive citizens of the community and workplace
- To assist students in identifying and accomplishing their educational, career and personal goals
- To create an environment that promotes cultural understanding, social responsibility and international awareness
- To contribute to the economic growth and development of Collin County by offering diverse programs and services
- To develop and effectively utilize human, fiscal and physical resources of the college



Founding Board Members are pictured opposite left: Sue Olivier, Carey Cox, Tino Trujillo and Bob Collins. Additional Board Members pictured above: Glenn Justice, Margaret Reynolds, E.T. Boone, Gary Harris and Sam Roach.

## MAP OF CAMPUSES



## ADMISSIONS AND REGISTRATION



### ADMISSIONS PROCEDURES & RESIDENCY

CCCC operates under an "open door" policy. Students **who** are 18 years of age or older with a **high** school diploma or equivalent are eligible for admission. Other students **may** be admitted under the special admission requirements that **follow**.

The college reserves the right to guide the placement of students **through** assessment, which may include **interviews** and a review of past **academic** achievement.

Registration options are enhanced and delays may be **avoided** by completing **all** admission requirements **in advance** of registration.

In all admissions **policies** and **practices**, CCCC does not discriminate on the **basis** of race, color, religion, sex, national **origin**, age, disability or **veteran** status in accordance with federal law.

**New** students should submit to the Admissions Office:

1. An application for admission. **This** application may be submitted prior to, or at the time of, **registration**.
2. **An** official transcript from their most recent **high** school or college attended or a copy of **their** GED scores and documentation of TASP status. Students applying for and/or receiving financial aid or **veterans** benefits are **required** to submit a **wmplete** record of **all** academic work including high school transcripts. **Degree-seeking** students will be **required** to submit **all** official transcripts.

3. Students who have completed the SAT **and/or** **ACT** are encouraged to submit their **scows**.

Admission to the college does not guarantee admission to a specific program of study. Programs and certificates in dental hygiene, dietary manager, emergency medical services, **firefighter** certificate, interpreter preparation **program/deaf**, nursing, physical **therapist** assistant and respiratory care have additional admissions criteria. Refer to the specific program in this catalog, and **contact** the **division** office for information on program requirements.

### RETURNING STUDENTS

Former CCCC students **who** have not been enrolled during the preceding two regular (16-week) semesters **will** need to reapply for admission. **An** application **for** **readmission** and **official** transcripts from any colleges or universities attended since their last enrollment at CCCC and documentation of TASP **status** are required. For more information on residency, **see** page 14.

### STUDENTS WITHOUT DIPLOMA OR GED

Students 18 years or older without a high school diploma or **GED** **may** take local **assessments** and be admitted under individual approval. Students under 18 without a **high** school diploma or equivalent will be required to:



1. complete CCCC assessments in **reading**, writing and math,
2. provide documentation that he/she is no longer enrolled in a high school program,
3. submit a transcript from last school attended and
4. interview with a college representative.

Anyone admitted without a GED or high school diploma **will** be strongly encouraged to complete the GED during the first semester of his/her enrollment at CCCC. Course selection and load may be restricted. Continued enrollment is provisional.

Transfer students who are in good standing academically and otherwise at the last institution of higher education they attended are eligible for **admission**. **An** official college transcript from the college most recently attended and TASP status documentation are required.

Students who transfer to CCCC from other institutions of higher education may be awarded credit according to the conditions that follow.

1. Credit must have been earned at a **regionally** accredited institution of higher education. *Foreign transcripts will not be evaluated.*
2. An official transcript from all institutions of higher education attended by the student must be on file at CCCC.
3. Students must be currently admitted to CCCC to request a degree plan.
4. Official course descriptions from the catalog under which the student attended may be required for evaluation.
5. Credit for courses equivalent to those listed in the CCCC *catalog* **will** be accepted if the courses are required on the student's degree plan for graduation. Other credits may be accepted in lieu of elective courses depending on the student's program of study
6. Only the grade and credits earned in the most recent repeated course will be used in computing the grade point average and applied toward degree or program requirements.
7. Official **evaluations** are conducted by the degree plan coordinator. Final approval rests with the division dean.
8. Grades of "D" are accepted from other institutions; however, a cumulative GPA of 2.0 is required for graduation. Grades of "F" and "I" do not transfer.
9. Waivers for physical education requirements may be granted for medical reasons. A written statement from a physician and one additional hour of electives are required. Credit for PHED courses is awarded for military training upon receipt of a student's DD214 (Honorable Discharge).
10. While there is no limit on the number of hours that can be transferred into CCCC from other institutions, there is **an** 18 credit hour residency requirement to **earn** an associate degree from CCCC. Students obtaining certificates containing 18 hours or less must complete course work in residence at CCCC. Petitions to transfer credits into certificate programs containing **18** hours or less may be made to the division dean through the degree plan coordinator.

11. **Time limits** and **minimum** grade requirements may be imposed for transfer work into select programs. Contact the program coordinator or division dean for details.
12. **CCC** does not evaluate transcripts (except for TASP exemption purposes) or award transfer credit earned at foreign institutions; however, students may be eligible for credit through examination at the college.

## HOME SCHOOL STUDENTS

Home school students interested in applying to CCCC who are under the age of 18 should:

1. provide a completed SAT I score report with a verbal **ANI** math score of no less than 500 for **each** section,
2. complete CCCC assessments scoring at the college level in reading, **writing**, and math,
3. submit a transcript or academic record from the last or current high school attended (including home school programs) and
4. schedule **an** appointment with the Coordinator of Special Admissions. Course selection and load are not to exceed two college credit courses per semester. Admission and continued enrollment are provisional.

## HIGH SCHOOL CONCURRENT ENROLLMENT

### (PROJECT FIRST STEP)

High school students who have completed their junior year and are interested in concurrent admission, also known as Project First Step, to CCCC should

1. contact their high school counselor's office to obtain a concurrent enrollment permission form with appropriate signatures (from the high school counselor's office),
2. provide an official high school transcript,
3. take required CCCC institutional assessments (reading and writing assessments are required math assessment is optional depending on course selection) and
4. make an appointment with a Special Admissions representative.

High school students in grades 9-11 must also submit **an** SAT I score report with a verbal and math score of no less than 500 for each section. High school students should contact the CCCC TASP office before taking the TASP examination.

Instructor approval **may** be required. All **high** school students who are admitted must **maintain** at least a 2.0 GPA (no grade below a "C"), and **will** be enrolled provisionally on a semester by semester basis. Credit will be awarded according to state, local and institutional policies in effect at the time of enrollment. Course selection may be limited and course load should not exceed two classes per semester.

## TECH PREP

High school students enrolled in Tech Prep programs may be eligible for college credit upon enrollment at CCCC. Enrollment in at least one college-level course at CCCC is required. Tech Prep students should provide the Admissions and Records Office with:

1. high school transcripts reflecting Tech Prep courses and grades,
2. an application for admission,
3. a petition for Tech Prep credit.

## INTERNATIONAL STUDENTS

Students on temporary visas or holding permanent residence cards may be eligible for admission. To verify residency status, students are required to present their visa or permanent residence card with their application.

### INTERNATIONAL STUDENT ADMISSIONS/F-1, F-2 VISAS

All international students must provide the Special Admissions Office:

1. an application for admission,
2. an official international TOEFL score of 525 or above,
3. a completed statement of financial support (available from the Special Admissions Office),
4. official transcripts (school records) and/or test results reflecting completion of 12 years of primary and secondary education,
5. official transcripts (school records) from all colleges and universities previously attended and
6. a valid visa or passport upon arrival.

International students who do not qualify under these requirements will be advised by the Special Admissions Office as to how they might acquire the necessary qualifications. Students with a TOEFL score between the range of 425-524 may be considered for admission upon the written recommendation of the ESL Coordinator and by meeting all other requirements. Students would be admitted on a provisional basis and would be required to be enrolled in 12 semester hours of ESL courses continuously for both the Fall and Spring semesters. These students would be required to submit an official TOEFL score report of 525 or above in order to pursue college level courses. It is recommended that all admission materials be received 30 days prior to regular registration to ensure issuance of the I-20. *Foreign transcripts will not be evaluated.*

## STUDENTS ON ACADEMIC SUSPENSION

Students currently on suspension from, or otherwise ineligible for admission to, other institutions of higher education must petition for admission. For consideration students must do the following *prior* to the first class day:

1. provide official transcripts from all colleges and universities previously attended,
2. provide completed petition for enrollment form and
3. schedule an interview with the Academic Action Coordinator.

Admission and continued enrollment are provisional. The college reserves the right to limit the number of hours or specify courses in which a student on suspension may enroll. Probationary status may be imposed until the student has a 2.0 cumulative G.P.A. for two semesters. See the section on Academic Standards on page 20 or contact the Coordinator for Academic Action for more information.

## RESIDENCE REQUIREMENTS

To be considered a Texas resident, students must clearly establish residence in Texas for the 12 months preceding their enrollment. Documentation of Texas residency may be required.

1. An in-county student is an individual who is a resident of Texas and who resides in Collin County at the time of registration.
2. An out-of-county student is a resident of Texas who resides outside of Collin County at the time of registration.
3. An out-of-state student is an individual who has not resided in Texas for 12 months preceding registration or whose permanent resident card is less than 12 months old. Most students on temporary visas will also be classified as non-residents for tuition purposes.

The responsibility for registering under the proper residency classification is that of the student, and any question concerning the student's right to classification as a resident of Collin County must be clarified prior to enrollment at CCCC. Changes of address, name, etc. must be reported promptly to the Admissions and Records Office. This enables students to receive registration and other information from various college departments and programs. Changes of address affecting residency should promptly be reported to the Admissions and Records Office.

Students who are dependent on a parent's residence status must also submit the top portion of the Federal Income Tax form for the current and preceding years.

### DOCUMENTS TO SUPPORT RESIDENCY

Documentation of Texas residency may be required if the information given on the enrollment application is not adequate to prove residency. If so, the following documents may be used in meeting residency requirements:

- Permanent Texas driver's license or Texas I.D. card (at least one year old)
- Texas high school transcript (if enrolled within the last 12 months)
- Letter of employment on company letterhead (verifying one year of employment)
- Texas voter's registration card (at least one year old)
- Lease agreement covering the past 12 months
- Collin County property tax statements

## AD VALOREM WAIVERS

Students who have not lived in Texas for the 12 months preceding registration, but who own property in Collin County, may be eligible for an ad valorem waiver. A copy of one's deed or most recent property tax statement is required for verification. If this waiver is based on a student's parents' property ownership, a copy of their most recent Federal Income Tax form showing the student as a dependent is also required. Once Texas residency has been established (12 months), the student should submit the necessary documentation to the Admissions and Records Office. At that point, ad valorem waivers will no longer be necessary. Property owners on most types of temporary visas are not eligible for the ad valorem waiver. Students must generally be U.S. citizens or permanent residents to be eligible for an ad valorem waiver.

## ORIENTATION

Orientation provides an overview of the policies, procedures, services and student activities at CCCC. The initial concerns of both traditional and non-traditional students are addressed. The orientation dates and times are available at the information centers.

## REGISTRATION PROCEDURES

### TELEPHONE EXPRESS REGISTRATION (TEX)

TEX provides students with an opportunity to register early in courses for the upcoming semester. This process is designed for students who have completed admissions and assessment requirements and met with an adviser. TEX registration enables students to have earlier course selection, deferred tuition payment and more comprehensive advisement. See the current Schedule of Classes for a listing of dates, times and complete instructions regarding TEX.

### REGULAR REGISTRATION

Regular registration is scheduled prior to the beginning of classes with admissions, assessment and advising services available at that time. Comprehensive admissions, assessment and advising programs are more easily obtained prior to regular registration, and students are encouraged to complete these steps early. Tuition and fees are due at the time of registration. See the current Schedule of Classes for a listing of regular registration times and locations.

### LATE REGISTRATION

Students who must register late should do so within the published late registration schedule. A late registration fee will be assessed. This fee is not assessed to students who have completed registration during Telephone EXpress or regular registration periods and are making schedule changes, or to students who are registering on an audit basis. Students may also add available classes prior to the third class hour of the course being added. See page 17 for details.

## REGISTRATION FOR CONTINUING EDUCATION CLASSES

Each semester CCCC offers continuing education classes to community members through the Continuing Education Division. Registration for these classes can be done in four ways:

1. Walk-in registration: Available at Courtyard Center, Central Park, Preston Ridge or Spring Creek. Times are listed in the current Continuing Education Schedule of Classes.
2. Phone-in registration (credit card only): Call (972) 548-6855 or (972) 985-3711. Times and dates are listed in the current Continuing Education Schedule of Classes.
3. Mail-in registration: Send your registration information to: Registration, Collin County Community College, Courtyard Center for Professional and Economic Development, 4800 Preston Park Blvd., Box 12, Plano, Texas 75093. See the current Continuing Education Schedule of Classes for registration deadlines.
4. Fax-in registration (credit card only): Check the current Continuing Education Schedule of Classes for fax availability. Fax your registration to (972) 985-3723 or (972) 548-1702.

See page 38 for more information on continuing education.

## STUDENT ID CARDS

All credit students at CCCC are required to have a student identification card to use the services provided by the Bookstore, Fitness Center, Admissions and Records Office, Student Activities Office, Career Services Office, Testing Center, and other offices and labs. Students will have one ID card to use throughout their enrollment at CCCC and must be issued a validation sticker (free of charge) at the beginning of each semester in which they are enrolled.

A \$2 non-refundable fee is assessed with other registration fees for each student who has not previously purchased an ID card. *First-time cards and validation stickers are issued during registration periods to all new and returning students. Replacement cards will be made at a cost of \$2 each for those whose cards have been lost or stolen, who have had a name change, or who would prefer a new photo.*

Students should go to the Student Activities Office at Central Park or Spring Creek campuses or to the Testing Center at Preston Ridge Campus with a valid photo ID to have their student ID cards and/or validation stickers issued.

Fall ID cards are made and validated beginning in early August, Wintermester/Spring ID cards beginning in early December and Maymester/Summer ID cards beginning in early May.



## TUITION AND FEES

Tuition is based on residency and the number of credit hours for which a student enrolls. Following is a schedule of tuition and fees by residency classification.

Lab fees are additional costs. Additional fees may be assessed as new programs are developed. These fees will be kept to a practical minimum.

Special fees and charges may be added as necessary and as approved by the board of trustees.

It is the policy of CCCC to revoke check writing privileges to persons from whom we have received more than three returned checks.

Students participating in commencement ceremonies must purchase graduation regalia (cap and gown) from the college bookstore.

### TUITION AND FEES SCHEDULE

Credit Hours	In-County	Out-of-County	Out-of-State
	\$26/credit hour	\$33/credit hour	\$68/credit hour
1	\$35*	\$35*	\$210*
2	\$52	\$66	\$136*
3	\$78	\$99	\$204*
4	\$104	\$132	\$272
5	\$130	\$165	\$340
6	\$156	\$198	\$408
7	\$182	\$231	\$476
8	\$208	\$264	\$544
9	\$234	\$297	\$612
10	\$260	\$330	\$680
11	\$286	\$363	\$748
12	\$312	\$396	\$816
13	\$338	\$429	\$884
14	\$364	\$462	\$952
15	\$390	\$495	\$1,020
16	\$416	\$528	\$1,088
17	\$442	\$561	\$1,156
18	\$468	\$594	\$1,224
19	\$494	\$627	\$1,292
20	\$520	\$660	\$1,360
21	\$546	\$693	\$1,428

\*Includes minimum tuition required by law.

#### COST PER CREDIT HOUR EXAMPLE

In addition to tuition, each credit hour cost includes the following fees:  
Building Use Fee \$9 and Student Activities Fee \$1.

Per Hour	In-County	Out-of-County	Out-of-State
Tuition	\$16	\$23	\$58
Bldg. Use Fee	9	9	9
Student Activities	1	1	1
Total	\$26	\$33	\$68

## OTHER FEES

Other fees are applied as required regardless of residency.

### Per Semester

Student records fee .....\$2

### First Enrollment

Student ID fee\*\* .....\$2  
(replacement cards cost an additional \$2 each)

### Other Fees

Lab fees\*\*\* .....\$00-24 per lab  
Audit fee\*\* .....\$25 per course  
Credit by exam fee\*\* .....\$30 per course  
Late registration fee\*\* .....\$10  
Returned check fee .....\$20

\*\* non-refundable

\*\*\* some physical education classes have higher fees

*Note: Firefighters qualifying for a tuition and lab fee waiver are required to pay the \$9 per credit hour building use fee.*

*Note: Valedictorians qualifying for a tuition waiver are required to pay the \$9 per credit hour building use fee.*

*Note: Veterans qualifying for a tuition and fee waiver are required to pay the \$.50 per credit hour student activity fee.*

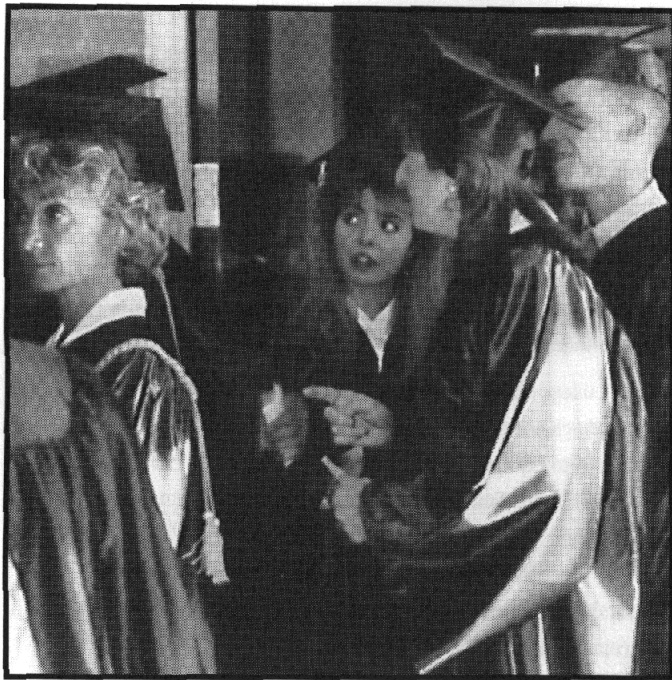
*Note: Fees for continuing education courses can be found in the current Continuing Education Schedule of Classes.*

## SENIOR CITIZEN REDUCED TUITION

Students age 55 and older by the first class day of the semester are eligible to pay a reduced tuition as follows:

Age 55-64 .....\$10 per credit hour for tuition and building use fee; other fees will be charged as above.

Age 65 & Older .....Six credit hours per semester are free on a space available basis; student must pay building use fee; other fees will be charged as above.



## ACADEMIC POLICIES

### ADDING/DROPPING COURSES

Any change in a student's class schedule may be made by telephone (during Telephone EXpress registration) or by submitting an Add/Drop form to the Admissions and Records office, when TEX is not available. Students may add available classes prior to the beginning of the third class hour. Students may withdraw from a course with a grade of "W" through the end of the 12th class week during a regular (16-week) term, through the end of the fourth week in a short (five-week) summer term, through the end of the seventh week in a long (10-week) summer term, and through the end of the second week in Maymester or Wintermester. (Contact the Admissions and Records Office for withdrawal deadlines for other terms.)

Students who are enrolled in a developmental course for TASP purposes may not drop or withdraw from their only developmental course unless they completely withdraw from the college. For information, see the Dean of Developmental Education. International students and students receiving financial aid or veteran's assistance should see the appropriate college official before dropping or withdrawing. See "Withdrawal from the College," page 22, for exact procedures.

Students should contact their professors prior to initiating a drop or withdrawal. A student who discontinues class attendance and does not officially drop or withdraw from the course will receive a performance grade.

### AUDITING COURSES

Registration to audit a course will be permitted as long as a credit student is not displaced from the class as a result of the audit. Requests for audit are processed during late registration and the add/drop period only. Registered students may not change to audit status. Audit students may change to credit status prior to the term's census date. An audit student is subject to the usual registration process. Tuition and fees for an audit are included in the tuition and fees schedule. Since state funding is not received for audits, a special non-refundable audit fee is assessed in addition to tuition (see page 16).

Students who are auditing classes will not receive grades or credit for the course, but the transcript will indicate that the course was audited. Students who are auditing classes will not be required to take tests; however, participation in regular class activities is expected. Foreign language classes may not be audited. (The Continuing Education Department offers foreign language classes. See the current Continuing Education Schedule of Classes).

### CLASS ATTENDANCE

Regular classroom attendance is expected of all students. Class attendance requirements are determined by professors; therefore, a student should ascertain each professor's attendance policy on the first day of the class.

Students who receive Veteran's Administration educational benefits must conform to attendance and academic standards as established by the Veteran's Administration and college policy. Information concerning requirements for attendance, satisfactory progress, certification of benefits and all other questions affecting veteran students may be obtained from the director of financial aid/veterans affairs. It is the veteran student's responsibility to determine and conform to college policies affecting veterans.

## RELIGIOUS HOLIDAYS

In accordance with Section 51.911 of the Texas Education Code, CCCC will allow a student who is absent from class for the observance of a religious holy day to take an examination or complete an assignment scheduled for that day within a reasonable time. Students are required to file a written request with each professor within the first 15 days of the semester to qualify for an excused absence. A copy of the state rules and procedures regarding holy days and the form for notification of absence from each class under this provision are available from the Admissions and Records Office.

## GRADING SYSTEM

A	Excellent	4 grade points per credit hour
B	Above Average	3 grade points per credit hour
C	Average	2 grade points per credit hour
D	Below Average	1 grade point per credit hour
F	Failure	0 grade points per credit hour
W	Withdrawal	0 grade points per credit hour; is not computed toward cumulative GPA or cumulative hours.
I	Incomplete	0 grade points per credit hour; not computed toward cumulative GPA unless it is replaced with a performance grade. (See "Incomplete Grades & Contracts" section.)
IP	In-Progress	0 grade points per credit hour; not computed toward cumulative GPA. Student has completed 70 percent of the program but is not yet at competency level; must complete the remaining work during the next long semester or receive an "IP" as the permanent grade. "IP" earned only in ENGL 0300, 0305, 0310, 0315 and ESL classes.
AU	Audit	0 grade points per credit hour; is not computed toward cumulative grade point average nor cumulative hours.
CR	Credit	0 grade points per credit hour; is not computed in GPA but is computed in cumulative hours. Earned only when recording non-traditional credit or continuing education units.
Z	No grade reported	0 grade points per credit hour unless it is replaced by professor with a performance grade; is not computed in cumulative grade point nor cumulative hours.

P Pass 0 grade points per credit hour; is not computed in GPA but is computed in cumulative hours.

At the completion of each term, the college will determine the student's semester and cumulative grade point averages, which will be recorded on the student's official transcript. Grades earned in developmental education courses are not included in the grade point average. Grades are available through Telephone EXpress (TEX).

## GRADUATION

The college offers Associate of Arts, Associate of Science and Associate of Applied Science degrees and certificate programs. Students who plan to graduate from CCCC should request a degree plan prior to the completion of 30 credit hours. Students must be currently admitted to CCCC to request a degree plan. Students may graduate under any of the college's catalogs from the preceding five years as long as the student was enrolled under that catalog; however, students may benefit from graduating under the requirements of the most recent catalog.

A student who completes specific course requirements for a degree or certificate with a minimum cumulative grade point average of 2.0 is a candidate for graduation.

Degree honors will be awarded for students with the following cumulative grade point average at CCCC:

4.0	Summa cum laude
3.75-3.99	Magna cum laude
3.5-3.74	Cum laude

To be eligible for graduation honors, students must complete 30 hours at CCCC. Honors are calculated using all CCCC college-level coursework and transfer courses from other accredited colleges and universities. (Grades earned in developmental education are not included.)

## ASSOCIATE DEGREES

Students may earn an Associate of Arts degree or an Associate of Science degree. Students may also earn an Associate of Applied Science degree and certificates. See pages 40-100 for specific degree plans. To graduate, students must complete a minimum of 18 credit hours at CCCC and satisfy all other degree requirements. Non-traditional and developmental course credit does not meet this residency requirement.

Candidates for an associate's degree should submit an application for graduation no later than the deadline established for that semester.

## SUMMER GRADUATES

Students with six hours or less remaining toward completion of an associate's degree may participate in the current year's graduation ceremonies provided they are pre-registered for the appropriate summer courses. Students planning to complete graduation requirements during a summer session and participating in graduation ceremonies must file for graduation by the preceding spring semester deadline. Otherwise, summer graduates may participate in the following year's ceremonies.



## **CERTIFICATE PROGRAM**

Students obtaining certificates containing 18 hours or less must complete course work in residence at CCCC. Petitions for transfer credits into certificate programs containing 18 hours or less may be made to the division dean through the degree plan coordinator. Certificates will be awarded upon completion of program requirements. Students earning certificates may participate in commencement ceremonies.

## **HIGH ACADEMIC ACHIEVEMENT**

All students who complete 12 or more quality credit hours during a regular (16-week) term with a current 3.5 GPA or above qualify for the Dean's List.

All students who complete 12 or more quality semester hours during a regular (16-week) term with a current 4.0 GPA qualify for the President's List.

## **INCOMPLETE GRADES & CONTRACTS**

Incomplete contracts must be agreed to and signed by the involved student, professor and appropriate division dean at the close of the term in order for a grade of "I" to be assigned. The contract must define the exact requirements the student is to fulfill in order to receive a performance grade. Requirements of incomplete contracts must be completed as specified in the contract, but by no later than the end of the following 16-week term. The contract may state that if the work is not completed as specified, the grade will be changed to a performance grade based on the quality and amount of work completed. If no performance grade is specified on the contract and the contract is not fulfilled, an "I" will remain on the permanent record.

## **NON-TRADITIONAL COLLEGE CREDIT (NTCC)**

Various credit options enable persons who have acquired knowledge and skills in non-traditional ways to demonstrate academic achievement. Credit may be given for college-level experience as demonstrated by acceptable test results regardless of the means by which the knowledge was acquired, except for college credit that has been previously granted. Students may also receive credit for some previous military training. Please note that a fee for test administration and transcript recording will be assessed. Without special permission from the vice president of instruction, no more than 18 hours of NTCC may be counted toward a degree.

For additional information regarding CLEP examinations, departmental examinations, advanced placement tests, the Customized Articulation Program, Tech Prep, armed forces credit and credit for the completion of the Certified Professional Secretaries examination, contact the director of testing or the Admissions and Records Office.

## **GLOBAL EDGE - TECH PREP**

Refer to pages 14 and 39.

## **ADVANCED PLACEMENT TESTS OF THE COLLEGE BOARD (AP)**

Beginning freshmen who have received college-level training in secondary schools and who present scores of three, four or five on the appropriate Advanced Placement Examination will be granted, on request, placement and credit for comparable courses at the college following the completion of six semester hours at the college. For more information contact the director of testing.

## **ARMED FORCES CREDIT**

In addition to using credit earned at other institutions to achieve advanced placement at the college, students may also receive such standing by presenting evidence of having satisfactorily completed a program of military training for which equivalent college credit may be given in accordance with the American Council on Education Standards and Recommendations. Armed Forces credit is evaluated by the degree plan coordinator.

## **COLLEGE-LEVEL EXAMINATION PROGRAM (CLEP)**

Most public-supported colleges and universities have agreed to accept as transfer credits all CLEP credit granted by regionally accredited institutions using the criteria below. Students planning to use CLEP credit to meet degree requirements at other institutions should check the requirements of the receiving institution. CLEP General Exams are not evaluated for credit at CCCC. CCCC uses these criteria for CLEP Subject Examination evaluation:

1. CLEP credit shall be recorded on transcripts so as to be clearly recognized as credit earned by examination (CR) rather than through residency course work.
2. CLEP credits shall not be granted if they duplicate credits for courses already completed.
3. Credit is awarded for CLEP Subject Examination scores at or above the 70th percentile. Official score reports should be sent to the director of testing.
4. A \$10 non-refundable fee will be charged for each CLEP examination in addition to the required fee for the CLEP examination.

## **CREDIT BY EXAM (DEPARTMENTAL EXAMS)**

Credit for some courses may be granted upon successful completion of a comprehensive examination over the content of the course. A non-refundable fee is charged for each course examination. Students must be currently or previously enrolled or have earned credit at the college to receive credit by examination. Students may not request credit by examination in courses for which they are currently enrolled. Credit by examination may be attempted only once for any given course. The student must score at or above 70 percent to receive credit for the course. Some credit by examination may require portfolio review.

## OUTSIDE AFFILIATIONS

All learning experiences undertaken in affiliation with outside agencies are under the control and supervision of a faculty member or clinical coordinator at CCCC.

## PORTFOLIO REVIEW FOR CREDIT

If a credit by exam requires portfolio review before credit is awarded the students must follow the steps outlined below.

1. Student must pick up an institutional credit by exam/portfolio review form from the director of testing at Spring Creek Campus.
2. Contact one of the full-time faculty in the discipline for an appointment to review the student's portfolio.
3. The professor will review the portfolio to see if the coursework meets all the course requirements for which the student seeks credit.
4. If the student's portfolio meets or exceeds the competencies, then the professor will complete the credit-by-exam form and will send the student to the director of testing.

If the student's coursework does not meet the competencies, he/she will be advised to take the course.

## STUDENT RECORDS

### PROCEDURE TO INSPECT EDUCATION RECORDS

Students may inspect and review their education records upon request to the registrar. Students should submit to the registrar a written request which identifies as precisely as possible the record or records he or she wishes to inspect. Contact the registrar for procedures on students' rights of inspection, review, and correction of educational records.

### DISCLOSURE OF EDUCATION RECORDS

CCCC will disclose information from a student's education records only with the prior written consent of the student, except with regard to the law that provides for disclosure without consent as indicated below:

1. To school officials who have a legitimate educational interest in the records.
2. To other schools.
3. To certain officials of the U.S. Department of Education, the Comptroller General, and state and local educational authorities, in connection with certain state or federally supported education programs.
4. In connection with a student's request for or receipt of financial aid, as necessary to determine the eligibility, amount or conditions of the financial aid, or to enforce the terms and conditions of the aid.
5. If required by a state law requiring disclosure that was adopted before Nov. 19, 1974.
6. To organizations conducting certain studies for or on behalf of the college.
7. To accrediting organizations to carry out their functions.
8. To parents of an eligible student who claim the student as a dependent

for income tax purposes.

9. To comply with a judicial order or a lawfully issued subpoena.
10. To appropriate parties in a health or safety emergency.
11. As it relates to directory information, unless the student restricts directory information.
12. To the student.

## DIRECTORY INFORMATION

Directory information may be released to the general public without the student's consent. Directory information is defined as:

1. Student name
2. Student address
3. Telephone listing
4. Date and place of birth
5. Major field(s) of study
6. Participation in officially recognized activities and sports
7. Weight and height of athletic team members
8. Dates of attendance/enrollment
9. Most recent previous educational institution attended
10. Degrees and awards received
11. Photo/visual likeness

A student may request that directory information be withheld from the public by completing and filing a request with the Admissions and Records Office. This request should be submitted during the first twelve days of class of a regular semester, or prior to the census date of the current semester. If no request is filed, directory information will be released upon inquiry. Filed requests are valid until revoked by the student.

Directory information is the only part of a student's record that may be released without the student's prior written permission, except with regard to the law that provides for disclosure without consent.

## REPEATING COURSES

Only the grade and credits earned in the most recent course repeated will be used in computing the grade point average and applied toward degree or program requirements. Grades of all courses taken will be recorded on the student's transcript. Otherwise, courses that may be repeated for credit more than one time are specified in the course description.

Veterans should consult the director of financial aid/veterans affairs before repeating any course. Transfer students should check with receiving institutions for repeat policies.

## ACADEMIC STANDARDS

In order to encourage students to make progress towards their goals, the college has established minimum standards for satisfactory academic progress. After completing 18 quality hours, all students must maintain a minimum 2.0 cumulative GPA to be in good standing. Quality hours refer

to the number of college-level hours a student completes at CCCC, excluding developmental, non-traditional and transfer work. These quality hours are used in calculating a student's GPA at CCCC.

Students who do not earn at least a 2.0 cumulative GPA will be placed on one of the following six academic actions:

1. Academic Warning
2. Academic Probation
3. Continued Enrollment on Probation
4. Academic Suspension
5. Second Suspension
6. Academic Dismissal

Students placed on an academic action status are requested to participate in the Students on Academic Action Program, (SOAAP). The goal of SOAAP is to help students develop an individualized plan for success and achieve and maintain a 2.0 minimum cumulative GPA. To this end, students on an academic action status are encouraged to seek assistance from the adviser for academic action.

Students will be removed from their academic action status when their cumulative GPA is 2.0 or greater.

### **ACADEMIC WARNING**

Students with less than 18 cumulative quality hours at the College who have not earned a minimum 2.0 cumulative GPA will be placed on Academic Warning. Students on Academic Warning will receive written notification of their status each regular semester. Students on Academic Warning should seek advisement prior to continued enrollment; however, no registration restrictions apply.

### **Academic Probation**

Students who have accumulated 18 or more quality hours with less than a 2.0 cumulative GPA at the College will be placed on Academic Probation and notified in writing of their probationary status. Students on Academic Probation will be required to obtain the signature of the adviser for academic action on their advising registration ticket prior to registering for further classes. Students on academic probation are also required to submit a mid-semester progress report to the adviser for academic action. Students who have registered early and have been subsequently placed on Academic Probation should meet with the adviser for academic action prior to the end of the add/drop period.

### **Continued Enrollment on Probation**

Students may enroll for classes while on Academic Probation as long as they earn a 2.0 or better grade point average for the current semester. Students on Continued Enrollment on Probation status will be required to obtain the signature of the adviser for academic action on their advising registration ticket prior to registering for further classes. Students on Continued Enrollment on Probation status are also required to submit a Mid-Semester Report to the adviser for academic action.

### **Academic Suspension**

Students on Probation who earn less than a 2.0 current GPA for the semester will be placed on Academic Suspension. Students on Academic Suspension who petition for re-enrollment for the next regular semester following the semester in which they were placed on suspension are required to participate in SOAAP.

Participation in SOAAP for students on Academic Suspension is defined as:

1. attendance at a minimum of two advising sessions, one before registration and one during the semester,
2. registration for and completion of a study skills class or attendance at study skills seminars as required by the adviser for academic action,
3. the submission of all required forms to the adviser for academic action, to include the petition for re-enrollment from Academic Action and a mid-semester progress report.

A student classified as suspended will not be allowed to attend Collin County Community College for the required suspension period if during the initial semester of attendance following their petition for re-enrollment they did not fully participate in SOAAP as required by the adviser for academic action. Non-participation is viewed as a lack of intent by the student to improve his/her academic progress.

Students who registered early and are subsequently placed on Academic Suspension may be administratively withdrawn unless they petition for continued enrollment. Guidelines for re-enrollment are established by the Academic Progress Task Force.

### **Second Suspension**

Students who are suspended for the second time may not re-enroll for one calendar year and are not eligible to petition for re-enrollment during that calendar year.

### **Dismissal**

A student who re-enrolls after the second suspension will be required to maintain a minimum current 2.0 GPA for each semester attended while enrolled on an academic action status. The student who fails to maintain a minimum current GPA of 2.0 while enrolled on an academic action status is subject to Academic Dismissal from Collin County Community College. The Academic Progress Task Force will consider appeals after a period of one calendar year.

### **VETERAN STUDENTS**

Veteran students who make unsatisfactory academic progress will be reported to the Veterans Administration as being on suspension at the end of the second consecutive semester when the cumulative GPA remains below 2.0. If a non-punitive grade is assigned to a veteran and is not converted to a punitive grade within a limited period of time, this will be reported to a VA Regional Office within 30 days of issuance of the non-punitive grade, and benefits will be reduced accordingly. Students who fail



to meet these academic standards of progress will jeopardize eligibility to receive financial aid and/or other benefits such as those from the Veterans Administration.

### STUDENT CLASSIFICATIONS

- **Freshman:** A student who has successfully completed fewer than 30 quality hours
- **Sophomore:** A student who has successfully completed 30 or more quality hours
- **Full-time:** A student enrolled for 12 credit hours or more in a regular semester or six credit hours or more in a short summer session
- **Part-time:** A student enrolled for 11 credit hours or less in a regular semester or three credit hours or less in a five-week summer session.

Classification varies for courses meeting on alternative or accelerated schedules.

### STUDENT LOAD

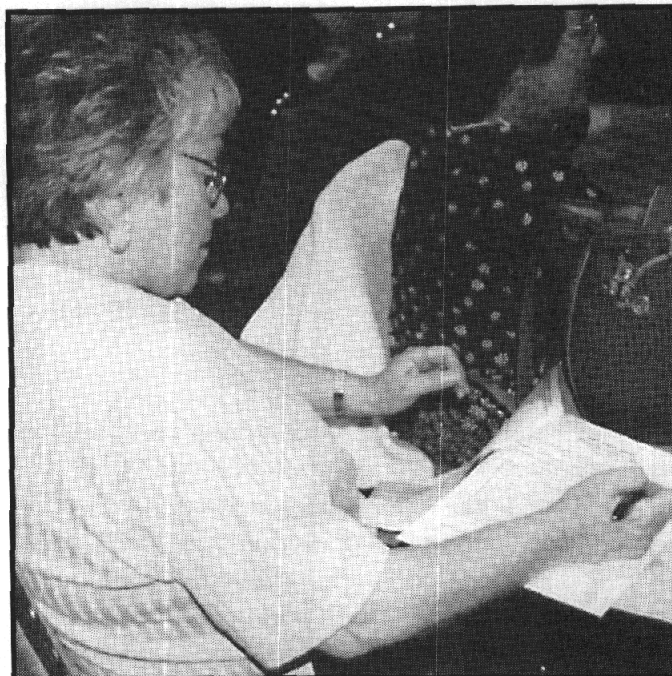
A full-time student load is a minimum of 12 credit hours per 16-week semester. Students taking 11 credit hours or less per 16-week semester are classified as part-time students. Full-time status during the summer sessions or accelerated sessions may vary. For clarification, see "Student Classifications" or the registrar.

Students with disabilities should contact the ACCESS office at (972) 881-5898 for student classification/load information.

Students may, with special permission of a full-time academic adviser, enroll for more than 18 credit hours during a regular session and seven hours in a summer session. Normally, permission will not be granted unless the student has a 3.0 cumulative grade point average and plans to carry no more than 21 hours during a regular semester or nine hours or less during a summer session.

### TRANSCRIPTS

Requests for official transcripts must be made by the student to the Admissions and Records Office. A student's written permission must be on file in the Admissions and Records Office before transcripts are released (except for releasing to the student or another school.) To request a transcript, students may complete a transcript request form available from the Admissions and Records Office, or send a signed request letter addressed to the Admissions and Records Office.



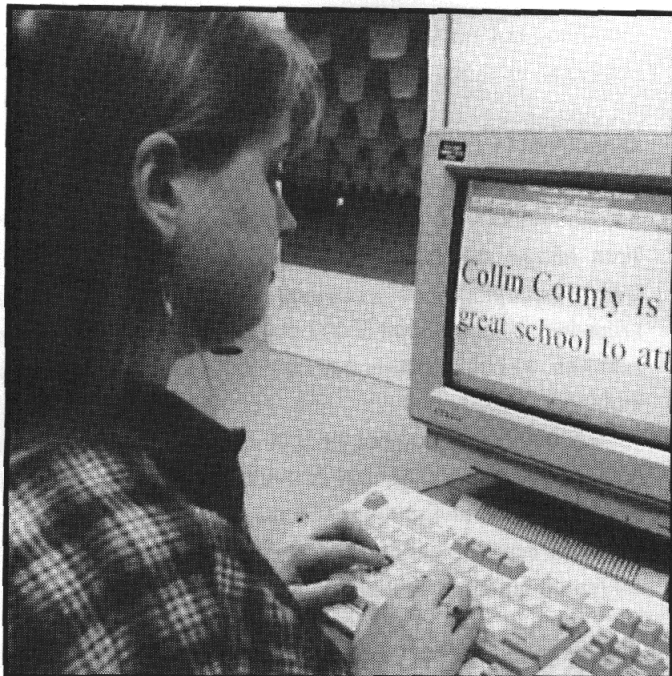
### VETERANS' CERTIFICATION

Veterans wishing to enroll and receive benefits should contact the director of financial aid/veterans affairs. In order to receive benefits, veterans must maintain satisfactory progress as stipulated by the Veterans Administration and college policy. All prior credit earned through civilian or military education must be submitted to the degree plan coordinator for transfer evaluation.

### WITHDRAWAL FROM THE COLLEGE

Students may withdraw with a grade of "W" through the end of the 12th week during the regular (16-week) semester or the end of the fourth week during the short summer session, by completing a form in the Admissions and Records Office. Students may also withdraw from the college by sending a written request for such action. The request must include the student's signature and the student's address, social security number, phone number(s), and course names and numbers. The date postmarked on the envelope will be the official withdrawal date. Students should contact their professor prior to initiating a drop or withdrawal. Withdrawal from the college should be student-initiated.

Students who are enrolled in a developmental course for TASP purposes may not drop/withdraw from their only developmental course unless they completely withdraw from all college courses. A student who discontinues class attendance and does not officially withdraw will receive a performance grade for the course. Students who do not attend/participate in TASP required remediation may be administratively withdrawn from all courses with no refund.



## STUDENT DEVELOPMENT

### ACADEMIC ADVISING

Academic advising, an integral component of each student's success at CCCC is a continual process at the college. Any prospective student interested in talking with an adviser should contact the Academic Advising Department located within the Student Development Center at each campus. New students are advised through the Academic Advising Department *prior* to their first registration at CCCC.

Students are strongly encouraged to meet with an academic adviser each semester to evaluate their academic progress.

Academic advising in the Student Development Center offers:

- Assistance for undecided and new students in selecting a field of study
- Facts about classes and programs
- Assistance with registration as a CCCC student and adjustment to college
- Information about academic requirements
- A source of information about procedures involving dropping a class, appealing grades, registration, etc.
- A place to start when seeking to establish a degree plan; and
- Transfer information for those planning to attend a four-year institution (Transfer Lab).

### ACADEMIC & PERSONAL ENHANCEMENT

(Formerly Human Development)

Credit and non-credit courses and seminars are available for students to enrich their development in study skills, career planning, leadership and personal development.

### ACCESS

ACCESS (Accommodations at Collin County for Equal Support Services) is a comprehensive accommodation program for all CCCC students. Following ADA guidelines and 504 Rehabilitation Act of 1973, reasonable accommodations for students with disabilities are provided. Students with disabilities are encouraged to make an appointment with ACCESS at least one month prior to the beginning of classes. Services include: interpreters, notetakers, readers and test assistants.

Tutoring is also available for all students at the college.

A licensed educational diagnostician conducts psychoeducational evaluations for students requesting them. Results are evaluated and recommendations are made.

The ACCESS office is located at SCC/G200. Please contact this office at (972) 881-5898 or (972) 881-5950 TDD for services on all campuses.

## ARTICULATION AND TRANSFER

A transfer lab is available to students on all three campuses located in the Student Development Center. The transfer lab has materials that help students transfer courses and/or programs from CCCC to four-year institutions. Check the transfer lab for up-to-date information on other institutions.

- Students are encouraged to meet with an adviser
- Four-year institutions determine courses which will be required for degrees. Check the appropriate catalog for current degree plans
- Some courses are designed for job entry and career preparation and may not meet degree requirements
- Courses in developmental education and some courses in human development are designed for individual skill and personal improvement and generally will not transfer to a four-year institution
- Check the specific college catalog for admission, housing, scholarship and financial aid deadlines

When duplicating (repeating) a course at CCCC, check with the receiving institution on their policy for accepting course duplications

### RESOLUTION OF TRANSFER DISPUTES

CCCC works closely with other institutions to make the transfer process as smooth as possible. The Texas Higher Education Coordinating Board has established procedures to be followed when transfer credit for lower division courses is disputed. The individual courses covered by this procedure are defined by the Coordinating Board's guide entitled "Transfer of Credit Policies and Curricula."

#### Resolution of Transfer Disputes for Lower-Division Courses

The following procedures shall be followed by public institutions of higher education in the resolution of credit transfer disputes involving lower-division courses:

1. If an institution of higher education does not accept course credit earned by a student at another institution of higher education, the receiving institution shall give written notice to the student and to the sending institution that transfer of the course credit is denied.
2. The two institutions and the student shall attempt to resolve the transfer of the course credit in accordance with board rules and/or guidelines.
3. If the transfer dispute is not resolved to the satisfaction of the student or the sending institution within 45 days after the date the student received written notice of denial, the institution whose credit is denied for transfer shall notify the Commissioner of the denial.

The Commissioner of Higher Education or the commissioner's designee shall make the final determination about the dispute concerning the transfer of course credit and give written notice of the determination to the involved student and institutions.

A complete copy of the guide, including definitions, and Transfer Dispute Resolution Forms are available at CCCC from the director of

articulation and transfer, (972) 881-5757 and the vice president of instruction, (972) 881-5801.

### GUARANTEE FOR TRANSFER CREDIT

CCCC guarantees to its students, who have met the requirements of selected "Transfer Guides," the transferability of course credits to those Texas colleges and universities that participate in the Guarantee for Transfer Credit program. If such courses are rejected, the student may take tuition-free alternate courses at CCCC that are acceptable to the four-year institution. Special conditions that apply to the guarantee program are available on request.

This guarantee is designed for CCCC students who have made firm decisions about their major and the institution to which they plan the transfer. CCCC has worked with several Texas institutions to make transfer guarantees possible. Students should contact the director of articulation and transfer for further information.

### "NEXT STEP" TRANSFER PROGRAM

"Next Step" is a program designed to assist students' transition from CCCC to four-year institutions by providing the following:

- List of course equivalences for CCCC and four-year institutions
- Information on transfer of credit
- Directory listing addresses and phone numbers for four-year institutions
- Course and program transfer guides
- Library of catalogs for both out-of-state and Texas colleges and universities
- Degree plans for four-year institutions

It is the responsibility of the student to check with the college or university to which they wish to transfer for all requirements. The student should know admissions requirements, specific department requirements, deadlines and courses that will satisfy a specific degree.

### DUAL OPPORTUNITIES AGREEMENTS

#### Collin County Community College (CCCCD)/Dallas County Community College District (DCCCD):

Collin County residents may enroll in select technical programs offered by the DCCCD at in-county tuition rates. Likewise, Dallas County residents may enroll in select technical programs offered by CCCC. For more information contact Academic Advising, SCC - (972) 881-5778, PRC - (972) 377-1770 or CPC - (972) 548-1660.

#### Collin County Community College (CCCCD)/Grayson County College (GCC):

CCCC and GCC have agreed to offer a select number of programs in a 1 + 1 arrangement. The 1 + 1 program allows students to enroll in prerequisite courses at CCCC and transfer to GCC to complete study within selected majors. For more information contact the Academic Advising Department.



## Collin County Community College/Richland College Semiconductor Manufacturing Technology

CCCC, Richland College and selected semiconductor technology companies located in Collin and/or Dallas County have completed a partnership agreement to provide education/training in semiconductor manufacturing technology.

The two colleges share curricula, equipment, laboratory facilities and other resources to provide excellent instructional opportunities for all students enrolled in this program. Course offerings will be structured to allow company employees on flexible work schedules to participate. For further information, contact Engineering Technology, PRC, (972) 377-1717.

### ASSESSMENT AND TESTING SERVICES

Testing Centers are located on all campuses for basic skills testing, proctoring and national testing. CCCC is an official testing site for the SAT, ACT and Texas Academic Skills Program (TASP).

#### TASP—TEXAS ACADEMIC SKILLS PROGRAM

In an effort to ensure that all students pursuing higher education have certain basic skills, the State of Texas has enacted legislation which requires the following:

The Texas State Education Code requires that all students "...who entered public institutions of higher education in the fall of 1989 and thereafter be tested. TASP is a test in reading, writing and mathematics that is required of all students taking college-level courses at a public college in Texas." If you are pursuing a certificate in a program with less than nine semester credit hours of general education courses, you may request "TASP Waived" (not required) status by contacting the TASP office. You do not have to take TASP if you have completed three college-level hours prior to fall of 1989. Transfer students with fewer than 60 semester credit hours or the equivalent and nondegree seeking students who have not previously taken the TASP must take the test in the semester in which they accumulate their ninth college level hour at a Texas public institution. All students seeking teacher certification will be required to take TASP. Performance on TASP will not be used as a condition for admission to CCCC.

In addition, students may seek exemption from TASP based on a composite ACT score of 26 or higher (with individual math and English scores of no less than 22), as of April 1995 and thereafter: re-centered SAT scores of 1180 (combined with a minimum of 550 on the mathematical and verbal tests each), prior to April 1995: original scale scores of 1090 (combined with a minimum of 530 on the mathematical test and 470 on the verbal test), or TAAS scale scores of 1780 on the writing test and a Texas Learning Index (TLI) of 86 on the mathematics test and 89 on the reading test. ACT and SAT scores can be no more than five years old. TAAS scores can be no more than three years old.

Students may continue to take and accumulate lower division courses past the 60 hour limit, but will be unable to graduate with a degree or eligible certificate until they have passed the TASP test. Until TASP is

successfully completed, continuous remediation is mandated. New students will be required to furnish the college with necessary proof regarding TASP status. The test fee will be paid by the student.

*Note: For specific current information about TASP and CCCC's testing, contact the director of testing. Please note that, in addition to the state test, the college requires new students to be assessed in reading, writing and math for diagnostic and course placement purposes. All students who wish to enroll in any English or mathematics courses must be assessed for proper course placement. Developmental classes and tutorial assistance are available for students who need or want this support. Transfer students must provide documentation of TASP status. Documentation may be in the form of official TASP score reports or official transcripts.*

Students requesting exemption from TASP should provide the Admissions Office with documentation of at least three hours of college-level credit earned prior to Sept. 1, 1989. Documentation may include:

- an official transcript (college, university, trade, foreign university or military);
- an official score report (AP, CLEP, DANTES).

Students may also apply in writing for TASP Waived Status based on the following criteria:

1. The student is 55 years old or older and does not intend to seek a degree or certificate from a Texas public institution of higher education.
2. The student is enrolled on a temporary basis in a Texas public institution of higher education and is also enrolled in a private, independent or out-of-state institution of higher education. The student must present evidence of enrollment in the other institution.

#### BASIC SKILLS ASSESSMENT

Basic skills assessment is the process each student must complete to identify strengths and/or weaknesses in the following areas:

- Computer Science
- English as a Second Language
- Mathematics
- Reading
- Writing

Basic skills assessment in reading is required for all first-time students. Students who wish to enroll in any of the following courses must be assessed:

- English: English 0300, 0305, 0315 and 1301
- English as a Second Language classes
- Mathematics: Math 0302, 0305, 0310, 1314, 1316, 1324, 1332, 1342 and 2312. Other assessments may be required based upon faculty and adviser recommendations.

#### Computer Science Assessment Policy

Basic skills assessment in Computer Science is required to substitute COSC 1306 with any other COSC or CSCI course.

### **Developmental Mathematics Assessment Policy**

All students enrolling in mathematics courses are required to participate in assessment or show proof of prerequisites (a transcript validating that the prerequisite course has been passed within the last three years). A student may be placed in the developmental mathematics sequence (Math 0300, 0302, 0305, 0310) by scores on COMPASS. A student is allowed to take the assessment twice before the mathematics entry level is established prior to enrollment that semester. If a student decides not to enroll in a mathematics course during the semester of assessment, the student may retain this assessment score for one year, or may reassess prior to the beginning of the semester when enrollment is planned. However, once a student has been placed in the proper course and has enrolled in the developmental mathematics sequence of courses, the student must continue from the point of entry through MATH 0310 before enrolling in MATH 1324 or 1314. (MATH 0305 is the prerequisite for MATH 1332).

Students will not be allowed to retake the math assessment test once they enroll in a developmental math course unless they have an approved re-evaluation petition, appropriate re-assessment score, and approval from the dean of Developmental Education.

### **Developmental Writing Assessment Policy**

First-time students must take the English 1301 placement exam to assess into a developmental writing class. Once students have enrolled in a developmental writing course (ENGL 0300, 0305, 0315), they may not assess again until they pass the departmental final in the course into which they have placed.

Students enrolled in ENGL 0300, 0305, 0315 must complete all course requirements (which include all required assignments, regular attendance, and passing the departmental final) and earn a passing grade. Based on the results of the departmental final, students may be recommended to retake the English 1301 placement exam. Current developmental writing students may take the English 1301 placement exam only after the departmental final has been administered at the end of each semester. The 1301 English placement exam scores are retained for one year.

### **English as a Second Language**

Students who are interested in taking English as a Second Language (ESL) as a non-credit course through Continuing Education must first take the CLOZE Test in the Testing Center. Students who are interested in taking ESL courses as a credit course must first take the ESL Assessment. Students are placed in the appropriate course based on scores earned on the assessment. Please see the current schedule of classes for dates and times of the testing session(s).

Generally, assessment results are valid for one year. The results of the basic skills assessment guides the adviser and student in proper course placement. These results are used for course placement only and do not affect the admission status of the student.

### **ASSESSMENT PRIOR TO TASP**

Students required to participate in TASP (see "Texas Academic Skills Program," page 25) must take TASP in the semester they accumulate nine or more hours of college-level course work. If students have earned nine or more college-level credit hours at the end of a given semester, they must take TASP before they will be eligible to enroll in college-level courses at any Texas public institution of higher education. For most students this will mean taking TASP in their first semester. TASP registration bulletins are available from the Testing Centers and Information Centers at CCCC. Passing scores for the TASP are:

- Mathematics 230
- Reading 230
- Writing 220

### **OTHER TESTING SERVICES**

The Testing Center also offers an extensive testing program in the following areas:

- Certified Professional Secretaries Examination
- CLEP – College-Level Examination Program
- ACT – American College Testing Program
- ACE – Automechanics Certification Examination
- SAT – Scholastic Aptitude Test
- PEP – ACT Proficiency Examination Program
- Credit By Exam Subject tests designed by CCCC faculty
- Correspondence Testing (A fee of \$20 is required for test administration)
- International Society of Certified Electronics Technicians (ISCET)
- FCC Certification
- MCAT – Medical College Admissions Test
- MECF – Mobile Electronics Certification Program
- TCLOSE – Texas Commission on Law Enforcement Officer Standards and Education

CCCC codes for these tests are shown below:

- CLEP (Spring Creek Campus) 1951
- ACT (Central Park Campus) 4046
- ACT (Spring Creek Campus) 4209
- SAT (Central Park Campus) 44-646
- SAT (Spring Creek Campus) 44-702
- TASP (Central Park Campus) 137
- TASP (Spring Creek Campus) 138

Students requiring more information on the above programs should contact the director of testing.

## **CAREER SERVICES & COOPERATIVE WORK EXPERIENCE**

Career Services & Cooperative Work Experience offer a variety of services to enhance the career planning and exploration process. Four major steps have been outlined to assist students in making career decisions and completing the job search process. These services are FREE to students, and many are available to members of the community at a nominal charge.

### **STEP ONE: SELF ASSESSMENT**

What are your work values, interests, abilities and how do they relate to careers? What school subjects appeal to you? How do you spend your free time? What are your hobbies? What did you enjoy about your previous jobs? What skills do you possess and what careers use these skills? How do all of the above relate to career choices?

Self Assessment is the first step in choosing a career path. The following resources are available:

- Career Assessments: Myers-Briggs, COPES, COPS
- Sigi Plus (System of Interactive Guidance and Information)
- "Discover" Computerized Career Guidance Program. (This program is available on interactive CD-ROM at the Preston Ridge Campus.)
- Self-Directed Search (SDS)
- Focus II (Computerized Summary of Career Planning Ideas)

These assessments are available in the Career Laboratory by appointment. Professional interpretations are available, by appointment, once the assessments are complete.

### **STEP TWO: KNOW THE CAREER FIELDS**

In step two you will investigate career fields and explore specific jobs as they relate to your self-assessment. Career Services maintains a resource library which has a variety of books, computerized programs, videos, and manuals:

- Resource Library
- "Discover"
- Career Visions Program
- Internship Program
- Annual Career Week, including a Job Fair
- Workshops and Seminars

### **STEP THREE: KNOW THE JOB MARKET**

Job market information including current trends, salary surveys, and job availability is provided in the Career Laboratory. Listings containing area employment agencies, human resource departments and job hot line telephone numbers are also available.

Employment assistance provided for currently enrolled students includes the following:

### **On Campus Employment**

Campus departments hire student workers to perform a variety of job functions. Students are eligible to work a maximum of 20 hours per week and are paid the minimum wage. The minimum wage effective September 1, 1997 is \$5.15 per hour. Student workers are classified as Student Assistants or Federal Work Study students. Federal Work Study students must apply and qualify for financial aid.

### **Off Campus Employment**

CCCC students are assisted in securing employment opportunities throughout the community. Job listings are available from a wide variety of career fields. Assistance is provided for students seeking employment upon graduation. A database service has been designed especially for these students.

Cooperative Education is an option for students wanting course credit for employment relating to their field of study. Specific details are outlined under the Cooperative Work Experience heading.

### **STEP FOUR: PREPARE AND MARKET YOURSELF**

To help you prepare for entry into the job market, the Career Laboratory offers word processing programs and a laser printer by appointment, resume critiques, interview coaching, and videotaped interviews.

Also available are handouts on:

- Cover Letters
- Interviewing
- Resumes
- After the interview

### **Technical Career Advisor**

Career Services provides a Technical Career Adviser for Associate of Applied Science majors, students who are enrolled in a certificate program, and students identified as Special Population. Contact the Technical Career Adviser for advisement, job search assistance or to enroll in the Job-Seeker Database.

### **GUARANTEE FOR JOB COMPETENCY**

Graduates of the Associate of Applied Science (AAS) degree program or recipients of a Certificate of Proficiency, who are judged by their employer to be lacking in technical job skills identified as exit competencies for their specific degree program, will be provided up to nine tuition-free credit hours of additional skill training by CCCC. Special conditions that apply to the guarantee are as follows:

1. The graduate must have earned the AAS degree or Certificate of Proficiency beginning May 1993, or thereafter, in a technical, vocational or occupational program identified in the college's general catalog.
2. The graduate must have completed the AAS degree at CCCC with 45 hours in residence and must have completed the degree within a five-



year time span. All course work for the certificate must have also been completed at CCCC within a five-year time span.

3. Graduates must be employed full-time in an area directly related to the area of program concentration as certified by the appropriate division dean.
4. Employment must commence within six months of graduation or certification.
5. The employer must certify, in writing, that the employee is lacking entry-level skills identified by CCCC as program exit competencies and must specify the areas of deficiency within 90 days of the graduate's initial employment.
6. The employer, graduate, division dean, job placement counselor and appropriate faculty member will develop a written educational plan for retraining.
7. Retraining will be limited to nine credit hours related to the identified skill deficiency and to those classes regularly scheduled during the period covered by the retraining plan.
8. All retraining must be completed within a calendar year from the time the educational plan is agreed upon.
9. The graduate and/or employer is responsible for the cost of books, fees and other course-related expenses.
10. The guarantee does not imply that the graduate will pass any licensing or qualifying examination for a particular career.
11. The program can be initiated by employer or graduate by a written request to the vice president of instruction within 90 days of the graduate's initial employment. For more information, please contact the director of career services.

## COOPERATIVE WORK EXPERIENCE

Cooperative Work Experience (CWE) is an educational program (course) designed to provide actual work experience which relates classroom study to career choice. The course elements include hands-on work experience, specific learning objectives, and participation in specialized, professional development seminars to build the skills employers are requesting. The integration of academic concepts with planned, supervised work experience assists students in developing greater self-awareness and validating career direction.

CWE is designed to serve students in two-year technical fields as well as transfer-oriented students desiring academic co-ops. Additionally, service learning opportunities are available in non-paid, volunteer community service projects. CWE has open enrollment every month based upon when a student accepts a position. Students must obtain permission from the CWE office to register for these courses, and some courses also require instructor consent.

To be eligible, students must be working towards a degree or certificate, must have a minimum 2.5 GPA, must be able to work at least 20 hours per week, and must be concurrently enrolled in at least one three-hour academic course at CCCC.

A student who is presently employed may use a current job for the CWE course if it relates to his/her ultimate career goal. Students who are seeking related work experience may utilize the CWE job recruitment service to obtain a job that can be used to receive college credit. Working a minimum of 20 hours per week for a 16-week semester, along with 16 hours of classroom seminars, allows a student to earn three credit hours towards a program. Additional options for other than three-hour credit work experiences may be available within certain guidelines.

## STUDENTS WITH EDUCATION AND EXPERIENCE (S.E.E.)

SEE is a cooperative education-based retention program for students at risk of leaving the education system. This nationally recognized program is open to qualified students whose educational/career goals allow for enrollment in CWE. SEE consists of mentoring, employer/student shadowing, professional development programs, career awareness and counseling plus referral. Contact the CWE office for more information.

## SUCCESS

SUCCESS is a Cooperative Work Experience program that unites classroom study with community service. Students approved for the program may receive stipends for volunteer community service projects. The program helps to develop a unique linking system which bonds students to their communities and increases their civic knowledge. Contact the CWE office for more information. For more information, call SCC, (972) 881-5781; CWE (972) 881-5735; CPC, (972) 548-6747; or PRC, (972) 377-1781.

## COUNSELING SERVICES

### PERSONAL COUNSELING

The college's counseling program is designed to support and assist students who have personal issues which impact their college experience. The college is aware of the interaction between personal development, emotional wellness and success in academic pursuits. Therefore, Counseling Services offers accessible assistance in the areas of therapeutic intervention, prevention and support. Staffed by licensed professionals and supervised interns, Counseling Services provides individual personal counseling, facilitates various support groups, sponsors personal growth seminars and encourages awareness of issues of concern to both traditional and non-traditional students.

Counseling addresses issues which include:

- Crisis intervention
- Depression
- Stress management
- Anxiety
- Relationships
- Alcohol and other drugs
- Eating disorders
- Trauma recovery
- Assertiveness
- Grief issues

The counseling program is designed to offer crisis intervention, solution-oriented therapy, assessment and referral services. The

counseling staff adheres to ethical and legal standards and contact with the counseling center is confidential. There is no fee charged to students for counseling services. For additional information or assistance with counseling concerns, call SCC, (972) 881-5779; CPC, (972) 548-6615; or PRC, (972) 377-1771.

### **PROMISE PROGRAM**

The PROMISE Program is available to assist displaced homemakers/single parents in coping with major life transitions due to separation, divorce, widowhood, spousal disability or single parenthood. The PROMISE Program provides comprehensive support services aimed at helping the displaced homemaker/single parent to re-enter the work force and to contribute fully to the well-being of their family and community.

The program provides services that include:

- Vocational training and educational advancement
- Vocational assessment and career counseling
- Personal counseling
- Life skills workshops
- Educational assessment
- Information and referral
- Job readiness and re-employment preparation
- Support network and support groups

Please call the PROMISE Program for more information at CPC, (972) 548-6851; SCC, (972) 881-5126; or metro (972) 881-5790, ext. 6851.

## **FINANCIAL AID**

As a service to CCCC students, the Financial Aid Office administers a financial aid program which includes scholarships, grants, loans, and part-time employment. Financial aid officers are trained to assist students in realizing their goals.

A primary purpose of the college's financial aid program is to provide assistance for students who otherwise might find it difficult or impossible to attend college. All students are encouraged to apply for financial aid. CCCC does not award federal grants, loans, or work-study to students with a bachelor's degree. Students should not withdraw from college for financial reasons without first having consulted the Director of Financial Aid/Veterans Affairs. All financial aid students must familiarize themselves with the standards of academic progress. For more information call CPC, (972) 548-6760; SCC, (972) 881-5760; or PRC, (972) 377-1760.

### **FINANCIAL AID PROGRAMS - FEDERAL ASSISTANCE**

#### **Federal Pell Grant—**

Eligibility for the Pell Grant is based on the financial strength of the student and/or the student's family as well as the student's enrollment status (range: \$400-\$2,700/year).

### **Federal Supplemental Educational Opportunity Grant (FSEOG)**

The FSEOG provides assistance for eligible students who show financial need and are making satisfactory progress toward their educational goal. Priority consideration is given to students demonstrating the greatest amount of financial need (range: \$200-\$2,000/year).

### **Federal Work-Study (FWS)**

Students demonstrating financial need may be considered for the work-study program. Students are employed to work at various jobs on campus or at other district sites. They are allowed to work to earn the amount that is designated in their award package (range: \$1,318-\$3,296/year).

### **Federal Stafford Loan Program**

This program permits a student to borrow money from a commercial lending agency without the need for collateral. The federal government guarantees repayment of the loan and pays interest on the subsidized amount borrowed until six months after the student graduates or ceases to be at least a half-time student. Eligibility is based on financial need; but for periods of enrollment beginning on or after October 1, 1992, students can get a Stafford Loan regardless of need; that is, regardless of their family's income. Variable interest rates are set each fiscal year but not higher than 8.25 percent, and current interest rates are 7.66. Students can borrow \$2,625 for the first year of completion in their program of study. During the second year, the student may borrow \$3,500. The maximum amount students may borrow each academic year depends on their eligibility, dependency status, year in school, previous student loans they have borrowed and their hourly enrollment for the year.

### **Federal PLUS Loans**

Federal PLUS Loans are for parents who want to borrow money to help pay for their children's education. The loan provides additional funds for education expenses. Like Federal Stafford Loans, PLUS Loans are made by a lender such as a bank, credit union, or savings and loan association. Credit rates will vary. Parents may borrow up to the cost of education less resources and aid.

## **FINANCIAL AID PROGRAMS - STATE ASSISTANCE**

### **Texas Public Education Grant (TPEG)**

The TPEG program is a state financial aid program designed to assist students attending state supported colleges. Students must show financial need and be making satisfactory progress toward their educational goals. The actual amount of the grant will vary depending on the availability of funds to the college, the student's family financial condition, and other financial aid that the student may be receiving (range: \$200-\$2,000/year).

### **Texas Public Education - State Student Incentive Grant (TPE-SSIG)**

The TPE-SSIG is a state program that bases grants on the financial need of the applicant. Eligibility is determined by the college and is based on financial need and availability of funds (range: \$100-\$1,000/year). See the Financial Aid Office for more information.

### **ADDITIONAL FINANCIAL AID INFORMATION**

Many of the financial aid programs listed are under constant state and federal review and are subject to change. See the Student Financial Aid Handbook for additional information.

Students may apply for financial aid by completing the Free Application for Federal Student Aid (FAFSA). The FAFSA is available in the Financial Aid Office and most high school counseling offices. Financial aid priority deadlines are as follows:

- Fall semester - June 1
- Spring semester - November 1
- Summer terms - March 1

### **INSTITUTIONAL POLICY OF SATISFACTORY ACADEMIC PROGRESS FOR FINANCIAL AID**

Federal law requires that to receive financial aid, students must be making satisfactory progress in their course of study. CCCC requires the following standards:

#### **Grade Point Average (GPA) Requirements:**

1. A student must maintain a 2.0 GPA for each semester or the combined summer sessions for which an award is approved.
2. A transfer student from a college outside of the district must have a cumulative 2.0 GPA as evidenced by an official academic transcript.
3. All transfer students or new applicants with less than a 2.0 GPA will be allowed to be awarded financial aid under the following conditions listed below:
  - a. Student must complete 12 hours and maintain a 2.0 GPA of the last 12 hours at CCCC before financial aid is granted.
  - b. Student will be granted one semester on probation if Section 3a above is fulfilled.

#### **Completion Requirements**

1. A student enrolled full-time (12 credit hours or more) must complete a minimum of nine credit hours for any semester or the combined summer sessions for which funding is received.
2. A student enrolled in six to eleven credit hours must complete a minimum of six credit hours for any semester or the combined summer sessions for which funding is received.
3. A student who is enrolled in one to five credit hours in any semester or combined summer sessions must complete all attempted credit hours.
4. An "IP" or "T" in developmental courses will not satisfy the completion requirements.
5. Developmental courses will be included to determine the financial aid student's GPA and completion requirements.

6. A student who fails all of his/her courses within a semester or term or withdraws from all classes will be immediately suspended from financial aid the next semester or term enrolled at CCCC.

### **Failure to Meet the Standards of Academic Progress**

In the following provisions, probation or suspension means financial aid probation or suspension, not academic probation or suspension.

1. Following the first semester in which the above standards of academic progress are not met, the student will be placed on probation and will be notified of that status.
2. If the student's current GPA is at least a 2.0, but his/her cumulative GPA is below a 2.0, aid will be awarded on an extended probationary status.
3. The student who fails to meet the standards of academic progress during the semester of attendance while on probation will be placed on suspension and denied further funding.
4. During the first period of suspension, the student must enroll at least half-time for one semester at CCCC, pay the expenses related to that enrollment, and maintain the standards of academic progress to re-establish eligibility for financial aid.
5. If failure to meet satisfactory progress results in a second suspension from financial aid, the student must enroll at least half-time for the equivalent of two semesters at CCCC, pay the expenses related to that enrollment, and maintain the standards of academic progress to re-establish eligibility for financial aid.
6. Following any period of suspension, the student will again be eligible for funding on a probationary basis for one semester or combined summer sessions.
7. If failure to meet satisfactory progress results in a third suspension from financial aid, no additional aid will be awarded. Exceptions may be petitioned to the dean of students.

#### **Notification**

A student who is placed on probation or suspension will be notified in writing.

#### **Incremental Measurement of Progress**

Academic progress of recipients will be measured three times a year following the fall and spring semesters and summer sessions.

#### **Maximum Time Period for Completing Educational Objectives**

1. Students receiving financial aid funds will be expected to complete their educational objective or course of study within a reasonable period of time. THE MAXIMUM CREDIT HOUR LIMIT AT CCCC IS 75 CREDIT HOURS (including all transfer credit), excluding developmental education courses.
2. Funding beyond the maximum credit hour limit may be approved by the Financial Aid Task Force and must be based on mitigating circumstances.



## Appeal Process

A student who has been denied financial aid because of a failure to meet any of the criteria of the standards of satisfactory academic progress may petition the Financial Aid Appeals Task Force by writing a letter explaining any mitigating circumstances. The Financial Aid Appeals Task Force will evaluate the petition and decide whether to award the student financial aid. The following provisions must be included in the appeal letter:

1. Clear statement of any mitigating circumstances (explain why you should be granted an exemption from the 2.0 GPA and/or 75 credit hour limit).
2. Official academic transcripts from all colleges, universities, and/or trade schools attended are required. These must be provided even if you withdrew from all classes.
3. Documentation to provide support of your appeal (for example, verification from your doctor, copy of death certificate, etc.) if applicable.
4. Letters from people to support your request (for example, instructors, counselors).
5. Information requested from Items 1 and 2 must be submitted before the Task Force will review your appeal. Items 3 and 4 are optional. The student's appeal must be submitted to the Financial Aid Office no later than the Friday before the last Wednesday of the month. The Task Force will meet the last working Wednesday of each month. The Financial Aid Office will contact students of the Task Force's decision in writing within seven working days of the scheduled meeting.

## Effects on Funding

1. Certain courses not considered for funding are:
  - a. Courses taken as an audit, and
  - b. Courses taken outside the degree plan; however, developmental courses, if required as a prerequisite to enable a student to successfully complete a student's educational goal or TASP requirements, may be considered for funding.
2. Credit hours earned by a placement test will not be considered for funding.
3. All courses for which an "I," "IP," "F" or "W" grade is received will not be treated as completed courses.
4. Repeated courses may be considered for funding if the student received a passing grade of "D" or better when the course was first taken.
5. Financial aid may be paid for developmental courses that are prerequisites for credit courses or are mandated TASP requirements.

## FINANCIAL AID PROGRAMS - SCHOLARSHIPS

Scholarships at CCC are generally awarded on the basis of academic achievement, need, merit, special population, or a combination of each. Scholarships are designed to encourage and assist students in pursuing academic excellence, merit, and leadership roles. All students are encouraged to apply.

## Some of the Foundation Scholarships available:

Botsford/J.C. Penney, Christ United Methodist Church Men's Club, Collin County Bar Association, Eric Douglas Funk Music, Jack Hatchell Public Administration/Engineering, Ann Eliza and Clyde Miller, Carole A. Anthony Performing Arts, Dr. John H. Anthony Endowment, Dr. Walter L. Pike Memorial, Dr. Richard H. Sewell Memorial, Gladys Young Music, Patty Burton Memorial, Special Population: Disabled/First Generation Student/Single Parent/Displaced Homemaker, Collin County Legal Secretaries Association, Trustees Merit-Based for Continuing Student, Trustees Merit-Based for First Year Student, Cooperative Work Experience Student of the Year Award, Jackie Dooley Memorial Scholarship for Learning Disabled Students, Frito-Lay Endowment, HCA Medical Center of Plano Endowment, John Ferguson Endowment, Foundation Scholar Program, Louise M. King Endowment, Performing Arts, Rodeo Club, Trustee-Merit Based, and the E.L. Roy-H.P. Cohick.

## Athletic Scholarships:

Men's and Women's Basketball, Men's Baseball, Men's and Women's Tennis, Women's Volleyball.

## CCCC Departmental Scholarships:

Music, Photography and Theatre scholarship information is located in the Foundation Office, the Financial Aid Office and on the scholarship bulletin board at the CPC, SCC, and PRC Campuses.

## FINANCIAL AID PROGRAMS - OTHER

### Waivers

State tuition waivers provide qualifying students with exemptions from certain tuition and fee charges in public colleges. Contact either the Financial Aid Office or the Admissions Office for additional information for a specific waiver. A few of the state waivers including the appropriate office administering the waiver are listed below:

### Financial Aid Waivers

- Hazlewood Act
- Highest Ranking High School Graduates
- Orphans of National Guard Members
- Blind/Deaf Students
- Children of Disabled Firemen and Peace Officers
- Children of Prisoners of War or Persons Missing in Action
- Firemen Enrolled In Fire Science Courses
- Aid for Dependent Children
- Early High School Graduation

### Admissions Waivers

- Ad-Valorem Tax
- Concurrent Enrollment
- Dual Agreement-Grayson County
- Dual Agreement-Dallas County
- Contract Training for Out of District

## **Veterans Educational Benefits**

CCCC is fully approved for training of veterans under the provision of the G.I. Bill (Public Laws 346,550,16 and 89-358). Veterans and dependents of veterans should apply to the Financial Aid/Veterans Affairs Office before the school term begins. Paperwork should be filed six weeks prior to registration, if possible. All prior credit earned through civilian or military education must be submitted to the degree plan coordinator for transfer evaluation. Veterans must maintain satisfactory academic progress. Students who make unsatisfactory academic progress will be reported to the Veterans Regional Office as being on suspension at the end of the second consecutive semester when the cumulative GPA remains below 2.0. If a nonpunitive grade is assigned to a veteran and is not converted to a punitive grade, this will be reported to the VA Regional Office within 30 days of issuance of the nonpunitive grade, and benefits will be reduced accordingly.

## **HEALTH SERVICES**

The college is dedicated to the total well-being of its students. Health fairs, alcohol and drug awareness programs, aerobic and other fitness courses are geared toward student wellness. Although the college does not employ a nurse or physician, first aid kits are available at the Information Center, Fitness Center, Physical Plant, Student Activities Office and division offices.

## **IMMUNIZATIONS**

Due to recent measles outbreaks, the Texas State Board of Health is requesting students born after Jan. 1, 1957, confirm appropriate immunizations or immunity to the following diseases: tetanus/diphtheria, mumps, measles and rubella.

## **STUDENT ACTIVITIES**

### **PROGRAMS**

We believe that your active involvement in your educational experience greatly increases your likelihood of having a successful and rewarding college career. All students, therefore, are encouraged to participate in activities that will foster social, cultural and intellectual growth.

The Student Activities Office offers programs such as LeaderQuest, entertainers, social and cultural events, guest speakers, field trips and the like. In conjunction with CCCC's laboratory component, many student activities programs integrate in-class material with events outside the traditional classroom environment.

A variety of registered clubs and student organizations, including the representative Student Advisory Council, offer opportunities for involvement, and you are encouraged to join these or form new groups that meet your interests. Student Activities staff members are available to help you become involved in college programs and activities. Contact the Student Activities Office - CPC/D109, (972) 548-6788; PRC, (972) 377-1788; and SCC/F129, (972) 881-5788 for more information.

## **INVOLVEMENT IN INSTITUTIONAL GOVERNANCE**

You are encouraged to become involved with institutional governance by expressing your thoughts and feelings about college policies, procedures and activities. The president, vice presidents and all college employees are interested in your ideas, opinions and suggestions.

Through participation in Student Advisory Council, representation on college task forces, participation in V.I.P. luncheons and dinners, and personal conversations with faculty and staff, you are encouraged to communicate your needs, desires and proposals for change.

In addition, you are encouraged to form relevant clubs, organizations and special interest groups to further your own interests and become involved with the college through co- and extra-curricular activities.

See the current *CCCC Student Handbook* for detailed information on how to get involved in student activities, student clubs and organizations and institutional governance.

## **STUDENT CODE OF CONDUCT**

CCCC students are both citizens and members of the academic community. As citizens and students they enjoy the same freedom of speech, peaceful assembly and right of petition that other citizens enjoy. As members of the academic community, they are subject to the obligations which are theirs by virtue of this membership.

The college expects its students to conduct themselves in such a way as to reflect credit upon the institution they represent. There are two basic standards of behavior required of all students:

1. They shall adhere to college policies and municipal, county, state and federal laws; and
2. They shall not interfere with or disrupt the orderly educational processes of the college.

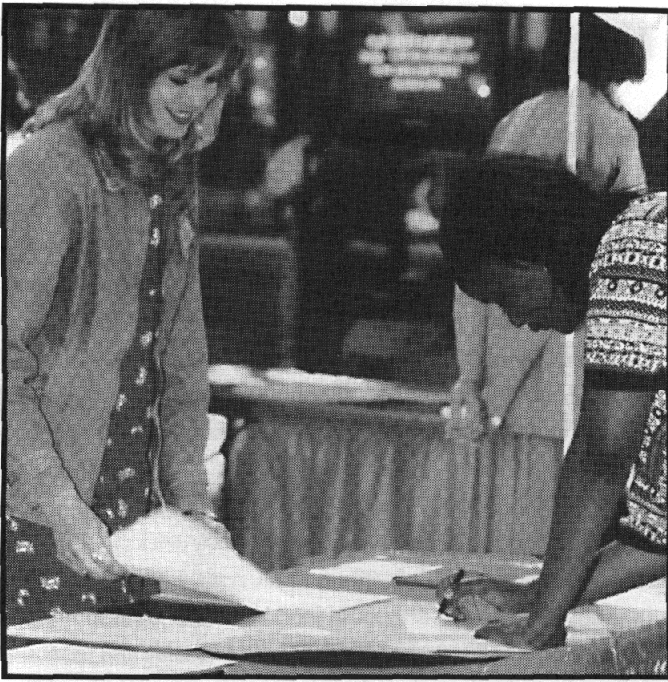
Students are entitled to only those immunities or privileges by law as enjoyed by other citizens. For more information, see the *CCCC Student Handbook* or contact the Dean of Students' Office.

## **STUDENTS WITH DISABILITIES**

All campuses are accessible to all individuals with disabilities. Sign language interpreters, adaptive equipment, and academic and personal advising are provided to make college life more convenient.

The Special Needs Center, located within the Learning Resources Center, is equipped with low-vision readers, a scanner and a voice synthesized speech program on IBM-compatible personal computers.

Contact the ACCESS office, SCC, G200, (972) 881-5898, (972) 881-5950/TDD for information about CCCC's facilities and specialized services.



## BOOKSTORE

The bookstore is an auxiliary enterprise of CCCC. Textbooks are selected by the faculty and ordered through the bookstore. Book prices are established by the book publishers and change at their discretion. The majority of textbooks **are** billed to the college at the selling price less 25 percent. Used books, sold at 75 percent of the **new** price, are purchased by the bookstore wherever available.

### TEXTBOOK AND LANGUAGE TAPE REFUNDS

Students who change courses or select the wrong books and language tapes may return them for a refund under the following conditions:

1. Books or language tapes are returnable during the first **10** calendar days of the fall and spring semesters and the first **five days** of the summer semesters.
2. Students must have their original cash register receipt to receive a **refund**. **No cash** refunds given on credit card sales.
3. Students should not write in **new** books **until** they are certain they have the correct books. **New** books that are soiled, damaged or have been written in will not receive a **full** refund.
4. Books and cassette tapes in shrink wrap (**plastic or vinyl packaging**) must be returned unopened in the original package. Books cannot be accepted if the shrink wrap has been removed.
5. Defective books, missing pages, etc., purchased from CCCC bookstores will be replaced at no charge during the semester in which they were purchased.

### SOFTWARE RETURNS

Software that is unopened must be returned with original receipt no later than two weeks from date of purchase. Software that is opened is not returnable.

### TEXTBOOK SHORTAGES

The bookstore makes every effort to have the required textbooks by registration week. For **various** reasons, there may be shortages: out-of-print or out-of-stock by the publisher, **unexpected** increases in enrollment, late placement of orders by the faculty, **missing** shipments and **human error**. Every attempt is made to **minimize** these problems.

### TEXTBOOK BUYBACK

Books are bought back every day at their current market value. Up to fifty percent of the original purchase price, subject to the following conditions, will be paid during final exams of each semester:

1. Books must be in clean, salable condition.
2. Books must be required for **use by** the college during the next **semester**.
3. Books must be current editions.
4. Workbooks, lab manuals, study guides, mass-market paperbacks, books with torn covers, excessive **markings** and water damage, books with perforated pages and books containing diskettes cannot be bought back.
5. Books cannot be bought back if the store is overstocked or if needs for the following semester have been filled.



The faculty, not the bookstore, decide whether or not each textbook will be used again. Unless an instructor tells the bookstore he/she will use that title again, the bookstore must assume it will not be used. Books falling into this category can be bought from students only at used wholesale prices. Old editions have no value and cannot be resold even to wholesalers. Some courses at CCCC are not taught every semester and students may wish to sell their books when that course is offered again, provided the faculty member requires the same books.

### CHECK CASHING

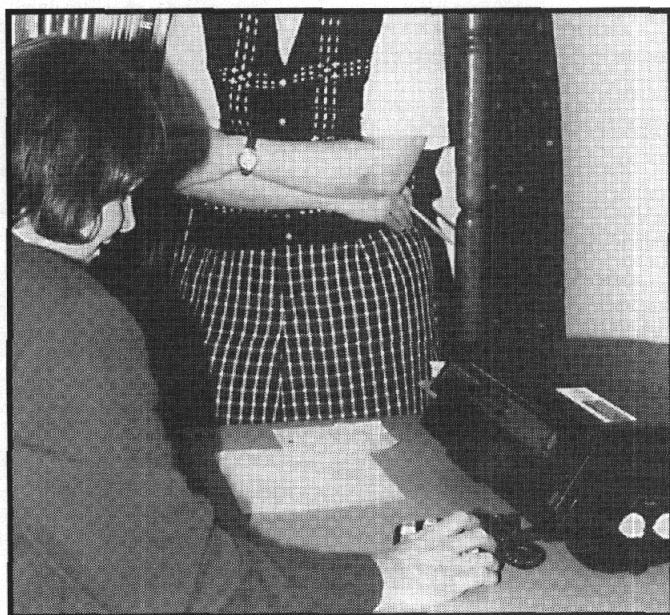
With proper identification, checks may be cashed in the amount of \$10 with or without a purchase. Mastercard, VISA and Discover cards, as well as cash and checks, are accepted as payment. When writing a check or using a credit card, you must also show your current student ID card.

### CHILD DEVELOPMENT CENTERS

CCCC provides Child Development Centers at the Spring Creek and Central Park campuses. The SCC center enrolls children in morning and full-day programs. The center at CPC offers more flexibility with enrollment, offering morning and full-day options to fit student schedules. Both centers serve as a laboratory site for the Child Development Department. The programs are open to children of students, faculty/staff and to the community as spaces are available.

The children's program is designed to promote physical, social, emotional and cognitive development in a nurturing and supportive environment. Daily activities are based on individual children's needs and interests.

For more information, please call the following numbers: CPC (972) 548-6852; SCC (972) 881-5945.



### DEVELOPMENTAL EDUCATION

Developmental Education courses are designed to provide students with the basic skills needed to achieve success in college-level courses and to pass TASP. Currently, courses are offered in math, reading, writing and ESL. The instructional formats vary and include individualized, self-paced and lecture approaches. If basic skills assessment scores indicate that a student would be better prepared by taking a developmental education class prior to enrollment in a college-level class, the student must enroll in the developmental class.

Developmental classes and other support programs are specifically designed to help students gain the skills and self-confidence needed to successfully complete credit courses. Since the fall of 1989, the implementation of Texas House Bill 2182 (TASP) mandated that students who are not ready for college-level courses must take developmental classes. Each of the developmental disciplines (math, reading, English as a Second Language and writing) is designed to provide the skills tested on TASP.

In addition to the courses, developmental education also offers study skill seminars which teach students basic study and test-taking skills. A schedule of these free seminars is published each semester. Copies of the schedule may be obtained at the Information Center at all campuses. Please call (972) 881-5720 for additional information.

### EXPERIENTIAL LEARNING

A variety of learning laboratories are in use at CCCC to facilitate experiential learning by students.

### BEHAVIORAL SCIENCES LABORATORY

Behavioral Science laboratories are located at the Spring Creek and Central Park campuses. They are designed to provide students with the opportunity to replicate and/or conduct research projects in psychology and sociology. The labs provide students with an environment in which to conduct practical applications of theoretical principles from course work as well as opportunities to conduct original projects to promote the use of the investigative methods of the behavioral sciences.

The laboratories are equipped with computers, audio-visual equipment, biofeedback equipment and other state-of-the-art equipment. They include an observation room that connects to the classroom/research laboratory.

### COOPERATIVE WORK EXPERIENCE

See page 28.

### MACINTOSH WRITING CLASSROOMS

Several sections of English 1301 and 1302 are taught in the Macintosh classrooms located on the second floor of the Spring Creek Campus LRC, the second floor of the Central Park Campus and the second floor of the



Preston Ridge Campus. Students in these classes use software including WordPerfect™, Internet™, Netscape™, Aspects™, Dialogue Notebook, Correct Grammar™ and CD-Roms.

### MATH LAB

The Math Labs assist students enrolled in CCCC developmental math and college credit math courses and help students with math-based assignments in other disciplines. The staff includes faculty, instructional associates and student tutors. Students may use videos, graphing calculators and computers to complete homework assignments. Study sessions for college algebra labs, trig labs, business pre-calculus labs and business calculus labs are scheduled. At the beginning of each semester, workshops are held for students using graphing calculators. Hours for drop-in assistance vary and are posted on each campus at the beginning of each semester.

### STUDENT MEDIA WORKSHOP

A video production and editing facility is available for course-assigned student projects. Computer generated special effects may be added as well as titles and credits. Two studio-quality cameras are available as well as equipment for special effects and graphics. A Commodore Amiga 2500 with Video Toaster and audio-dubbing capabilities enable students to produce professional-looking videos.

### WRITING CENTER

The Writing Centers are staffed by instructors to help students with writing assignments. Appointments are recommended but drop-in students are also welcome. The Writing Centers are on all campuses in the LRC.

## INTERCOLLEGIATE ATHLETICS

The college offers intercollegiate athletic programs in men's basketball, baseball and tennis, and in women's basketball, volleyball, tennis and softball. These teams are affiliated with the National Junior College Athletic Association (NJCAA) and participate in regional events which may lead to national competition. To participate in intercollegiate athletic programs at CCCC, students should contact the athletic director at (972) 881-5888 for more information.

## INTERDISCIPLINARY HONORS PROGRAM

The Honors Program at CCCC is designed to provide a challenging learning experience for students with advanced academic skills. In small classes (maximum 15 students) advanced and highly motivated students engage in discussion, research and creative projects geared to their special abilities and commitment to learning. In the honors forum of thoughtful and communicative participants, interaction among students is fundamental. Among other benefits to students are an honors course designation on the transcript and possible qualification for honors scholarships.

Students are usually recommended to honors courses by professors. However, any disciplined student with accelerated skills is invited to consider the program and may enroll in honors courses with the instructor's approval.

Inquiries should be directed to the chair of the Honors Task Force at (972) 881-5803 or the Academic Advising Center (972) 881-5778.

## INTERNATIONAL STUDIES PROGRAM

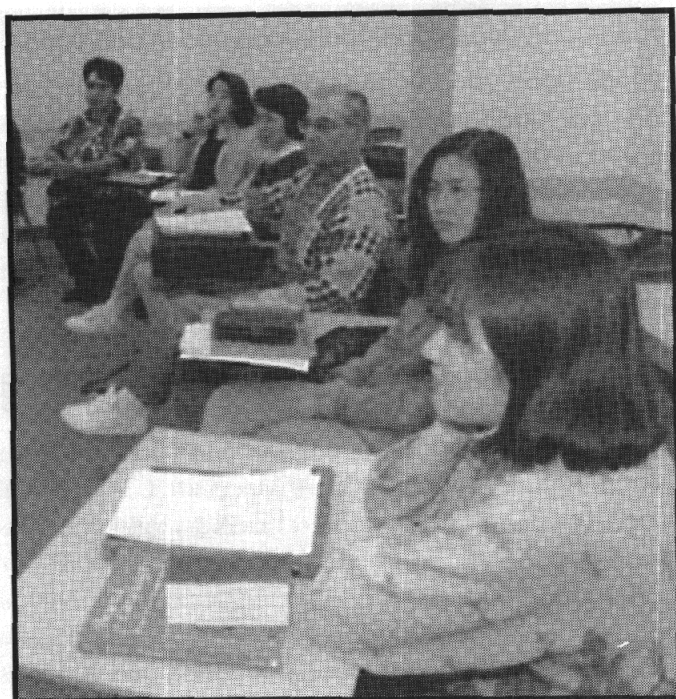
The college offers international study programs in a variety of fields to help prepare students for the increasingly internationalized world. International programs (some offered in alternate years) include the following

### DEAF STUDIES IN PARIS

A first-hand investigation of the relationship between deaf cultures of America and France. May be taken as a field trip in Deaf Culture (IPPD 1303) or independently through Continuing Education.

### INTERNATIONAL INTERSHIPS

From time to time the college may offer students opportunities to earn credit by working abroad in fields such as photography or child care. Interested students should inquire at the office of the appropriate division dean.



### **INTERNATIONAL MARINE BIOLOGY PROGRAM**

An increasing awareness of the global importance of the ocean environment has led to the establishment of this program which features a one-week field trip to selected coral reefs. Students earn four credits for enrolling in *Marine Biology* (BIOL 1470) and for participating in its field trip which emphasizes reef ecology and the biology of reef organisms.

### **MAYMESTER IN BELIZE/CENTRAL AMERICA**

CCCC students study *anthropology, sociology or humanities* in this on-site exploration of a multicultural society in transition from colonialism to independence.

### **MONTH-IN-GERMANY/AUSTRIA PROGRAM**

The Month-in-Germany/Austria program offers students seven hours of college credit in German language and music appreciation. Participants spend one week in a major German-speaking city, followed by three weeks in a dramatic Alpine setting near the Austrian border.

### **MONTH-IN-PARIS PROGRAM**

This program offers a combination of study and travel in France for students interested in the French language and western world art. Students live and study in Paris during the month of July and earn seven college-level credits. Offered biennially since 1987, the program requires no previous language training.

### **SEMESTER IN MEXICO**

Students admitted to this fall-semester program study Spanish, Mexican civilization and international business and live with a Mexican host family. Prerequisite: one year of college Spanish or the equivalent.

## **LEARNING RESOURCES CENTERS (LRC)**

The Learning Resources Centers are located on the Central, Preston Ridge and Spring Creek Campuses. Each LRC consists of a library, an Alternative Learning Center and a Media Center. The LRCs provide access to books, periodicals, videos, computers, electronic databases, the World Wide Web and a knowledgeable staff to assist students and community residents.

### **ALTERNATIVE LEARNING CENTERS**

The Alternative Learning Centers provide alternatives to traditional classroom learning and instruction through the innovative use of technology. The ALCs consist of computer laboratories and classrooms, as well as specialized learning labs such as the Science Place.

The ALC can assist any discipline in utilizing technology to augment traditional classroom instruction. Currently, English, Foreign Language and Humanities classes are taught using the ALCs Power Macintosh labs. The Science Place provides students with models for the study of anatomy and physiology.

### **LIBRARIES**

The libraries offer reference, interlibrary loan, library instruction and circulation services to students, faculty and community members. Books, periodicals, books on audio tape, videos, CDs and other materials are available for study and recreation. The libraries also provide a variety of CD-ROM computer databases, as well as World Wide Web access. Library orientations may be scheduled for classes to familiarize students with the services and materials available to them.

### **MEDIA SERVICES**

Media Services provides audio/visual equipment and software to classrooms throughout the district. They also coordinate Distance Learning courses and the Student Media Workshop.

### **Distance Learning (Formerly Telecourses)**

CCCC offers a variety of credit courses through instructional television and video check-out from the Alternative Learning Center (ALC). Registration for these courses is during regular registration, and students are required to attend an orientation session for each distance learning course taken.

Courses may apply toward associate degree requirements; many fit into certificate program requirements, and the majority fulfill requirements for BA and BS degrees. Consult the current *Schedule of Classes* for available telecourses and distance learning courses.

Distance Learning provides credit courses through instructional television and video. Courses may be viewed on Plano Telecable and TCI Cablevision via KDTN TV-2. Video tapes are also available for viewing in the LRC. Students are required to attend an on-campus orientation for each course.



## Student Media Workshop

The Student Media Workshop provides a video production and editing facility for course-assigned student projects. Two studio-quality cameras are available as well as equipment for special effects and graphics. Computer-generated special effects may be added as well as titles and credits. The workshop enables students to produce professional-quality videos for their classes.

## SAFETY AND SECURITY

Safety and security is a concern for all members of the college community including students, college employees and visitors. Possession of firearms or other lethal weapons on campus or at college-sponsored events is illegal, except for commissioned police officers as prescribed by law. See the student Code of Conduct in the current CCCC *Student Handbook* for detailed information.

In compliance with the Drug-Free Schools and Communities Act Amendment of 1989 (Public Law 101-226) and Texas House Resolution 2253 and Senate Resolution 645, CCCC forbids the unlawful manufacture, distribution, sale, possession or use of illegal drugs, alcoholic beverages and tobacco products on campus or at college sponsored events. For more information, refer to the current CCCC *Student Handbook*, or contact the dean of students, director of counseling or the director of human resources.

## REPORTING EMERGENCIES

If an emergency should arise on campus, report it to the Information Center receptionist located on the first floor of each campus. Contact faculty within the classroom if a problem should arise during a class. Emergency medical services will be notified for students when necessary.

If an emergency arises at an off-campus location, immediately notify a faculty member, who will then notify the building site supervisor.

## EMERGENCY CLOSING OF M E COLLEGE

If classes have been cancelled, local radio and television stations will make the announcement. A decision to cancel classes will usually be made by 3 p.m. for evening classes and by 6 a.m. for day classes.

## STUDENT WELLNESS

### FITNESS CENTER

A major emphasis of the Physical Education and Dance department at CCCC is to encourage lifetime fitness. Students may use the Fitness Center at Central Park Campus, Spring Creek Campus or Preston Ridge Campus during the times posted. The CPC Fitness Center consists of locker room facilities, a weight training room, a dance studio, and three racquetball courts.

The SCC Fitness Center consists of the main gymnasium with rubber running track, weight training room, dance studio, four racquetball

courts, locker room facilities, eight lighted tennis courts and play fields.

The RRC Fitness Center consists of a gymnasium, dance studio, weight training room, natatorium, indoor archery/golf range, and locker room facilities.

Before beginning a new exercise regimen, students, faculty, staff and community members are encouraged to take a fitness assessment in the Wellness Center. Contact the wellness coordinator to set up an individual wellness program.

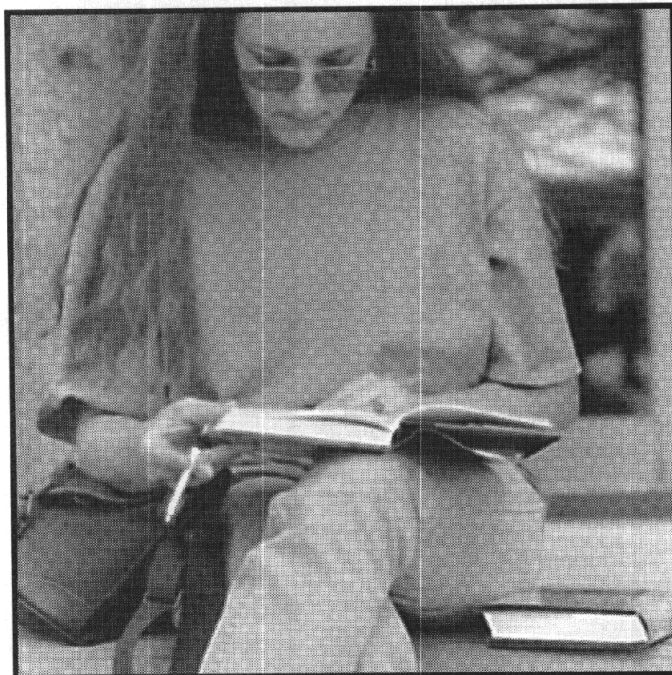
Collin County residents who are not enrolled in classes at the college will have the opportunity to take advantage of these facilities by paying a membership fee. Contact the Fitness Center at CPC/E121, (972) 548-6891 or SCC/A103, (972) 881-5848 for further information and hours of operation.

## INTRAMURALS

The intramural sports program includes volleyball, basketball, flag football, softball, soccer, bowling, golf, racquetball and tennis. These are an integral part of the total physical education program at CCCC. For information, contact the director of intramurals at (972) 881-5848 or (972) 548-6891.



## CONTINUING EDUCATION & SPECIAL SERVICE PROGRAMS



### CONTINUING EDUCATION

Collin County Community College is dedicated to presenting dynamic and flexible educational programs to the community throughout our geographical area. The college strives to make programs readily accessible and bring learning opportunities to the public as conveniently and economically as possible.

Learning goes beyond initial career preparation, traditional concepts of full-time study and program degree completion and encourages education renewal. CCCC endeavors to provide learning opportunities for adults of all ages to develop their personal and professional potential and upgrade job-related skills.

The college, through the Continuing Education Division, can provide services which encompass a broad range of purposes:

- addressing adults' career needs by assisting them to cope with the explosion of new information and techniques, work toward job advancement, or move into a new career
- providing job-specific customized training for use by business and industry with curricula relevant to needs of the local economy
- contributing to the growth and development of local business and industry through economic development activities on local, state and national levels
- responding to the non-academic or extra-curricular interests and needs of adults by providing a sufficient number of personal development courses

- facilitating the interaction between the college and the community

Each of these specific purposes within the Continuing Education Division relates to the purpose of promoting the philosophy of "lifelong learning" at CCCC. CCCC's flexible continuing education program offers courses, programs and conferences geared to professional development. Course material is adapted to the needs of the particular groups of participants.

### CONTINUING EDUCATION COURSES

The Continuing Education Division publishes a schedule each semester with approximately 600 courses pertaining to business and professional development, personal development and extra-curricular activities. Conferences, seminars and workshops on special topics are also offered throughout the year.

### CONTINUING EDUCATION UNITS

The Continuing Education and Contract Training offices may offer courses which award credit or Continuing Education Units (CEU), depending upon the offering. CEUs are nationally recognized to record satisfactory completion of certain approved occupationally related programs. Courses are offered throughout the county at a variety of sites depending on the types of courses and availability of facilities.

For more information on how the Continuing Education Division can be your connection to lifelong learning, please call (972) 985-3750 in Plano or (972) 548-6790 in McKinney.

## SPECIAL SERVICE PROGRAMS

### CONTRACT TRAINING

The Contract Training Office responds immediately to the current needs of business and industry by delivering job-specific customized in-house training. This may mean entry-level or a "quick start" training of employees of new and expanding business and industry, re-training of employees for new technological developments or extension of technical assistance to business and industry in the essential managerial functions of planning, organizing, implementing and controlling.

### COLLIN COUNTY LAW ENFORCEMENT ACADEMY

The Law Enforcement Academy received academy status in June of 1990 from the Texas Commission of Law Enforcement Officer Standards and Education (TCLEOSE). Working with the Collin County Sheriff's Office and other law enforcement agencies, the Law Enforcement Academy provides quality training programs by and for experienced law enforcement officers.

These courses provide basic and advanced training designed to enhance both the technical skills as well as the professionalism of law enforcement officers. The Law Enforcement Academy provides TCLEOSE training credits as well as Continuing Education Units to all students successfully completing program requirements.

### FIRE PROTECTION TRAINING

Collin County Community College recognizes the demand for specialized training for fire and rescue personnel. Fire suppression and rescue courses are designed for paid and volunteer firefighters. Experienced instructors represent area fire departments and are certified by the Texas Commission on Fire Protection. Classes are offered at a reasonable cost with convenient registration.

### COLLEGE AND COMMUNITY DEVELOPMENT

The College and Community Development Division supports the entire college by promoting and facilitating delivery of college programs and services to the community. The division serves as an economic resource for the community. The college created the Business and Community Relations Office to assist in reaching out to the community as a part of CCCC's coordinated marketing strategy.

### GLOBAL EDGE TECH PREP CONSORTIUM

The needs of Collin County employers for skilled workers are changing dramatically. To assure that students obtain the technical and lifelong learning skills required for immediate and continued employment, CCCC, local public school districts and area businesses have formed a consortium to transform education.

Global EDGE will provide students with appropriate, flexible and seamless programs throughout the public school and higher education systems. The learning environment will reflect work place experiences,

and work transition programs will provide students with on-the-job learning experiences and smooth transitions from school to the workplace.

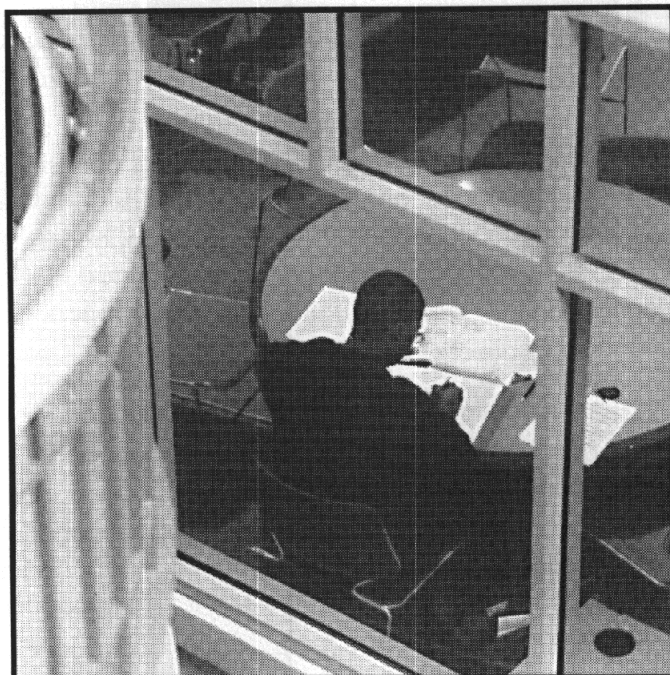
CCCC and Tech Prep consortium partners have developed Tech Prep programs that provide high school students with the opportunity to obtain free college credit while preparing for the world of work. These programs now include: Electronics Technology, Computer Aided Drafting and Design, Criminal Justice, Child Development, Office Administration, Management Development, Computer Network Technology and Semiconductor Technology. New programs are created based upon occupational demand and interest. Students may elect to complete a Tech Prep program upon graduation from high school, or continue at the community college in pursuit of a certificate, applied associate degree, or an enhanced skills certificate. These degrees will provide students with nationally-recognized credentials that will place them in high-skill, high-wage jobs. For more information, call (972) 548-6723 in McKinney or (972) 881-5790, ext. 6723 in Plano.

### SMALL BUSINESS DEVELOPMENT CENTER

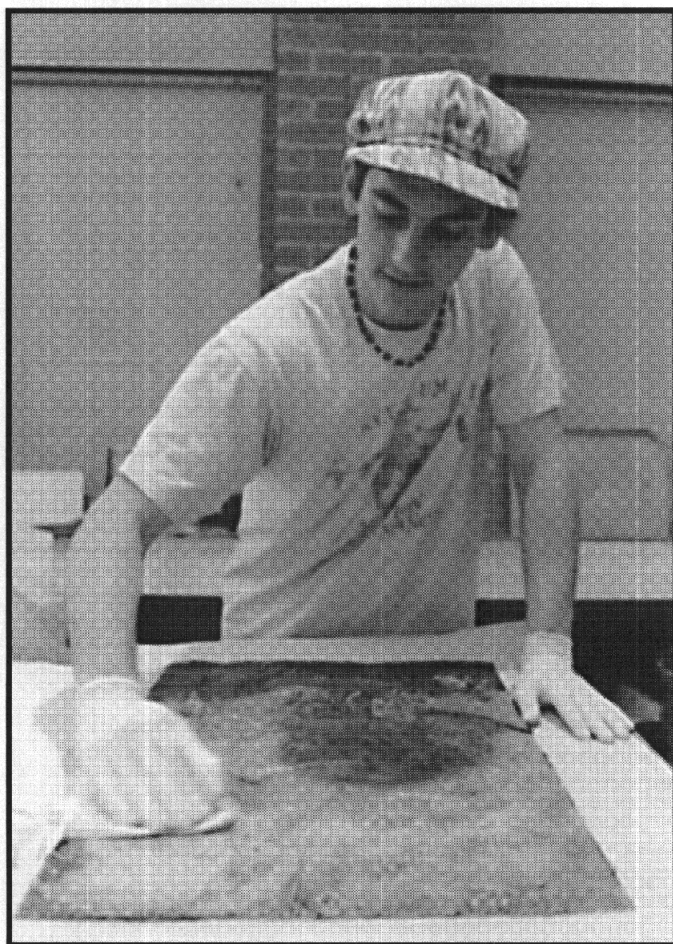
The SBDC, a partnership between the U.S. Small Business Administration and CCCC, aims to promote the economic health and success of small businesses in Collin County. The SBDC provides free, in-depth small business counseling as well as seminars and workshops on topics relevant to established, new and potential small business owners.







## DEGREE PLANS



### ASSOCIATE OF ARTS & ASSOCIATE OF SCIENCE

The Associate of Arts and Associate of Sciences degrees are designated for students planning to transfer credits to a baccalaureate degree program at four-year institutions. The curriculum suggested in this catalog will satisfy the requirements of most four-year institutions. Students must consult the catalog of the institutions to which they wish to transfer. These catalogs should be used by students working with an academic adviser in planning their academic program. The selection of science, math and elective credit courses is often based on the requirements of the specific four-year institution.

Current college/universities catalogs, transfer guides/guaranteed programs, and all transfer information is available in the CCCC Transfer Lab located at each campus.

The Associate of Arts and Associate of Sciences degrees are awarded to students who meet the following requirements along with graduation requirements listed on page 18.

1. A minimum of 60 credit hours (excluding developmental credit).
2. General Education core of 45 credit hours.
3. Electives should consist of a minimum of 15 credit hours chosen from recommended course list or with assistance from an academic adviser.
4. A minimum of 18 credit hours must be earned in residency at CCCC.

## ASSOCIATE OF ARTS

### GENERAL EDUCATION CORE<sup>1</sup>

#### I. English: 9 credit hours

ENGL 1301	Composition/Rhetoric I
and ENGL 1302	Composition/Rhetoric II
and ENGL 2xxx	

#### II. Speech C

SPCH 1301	Fundamentals of Speech Communications
or SPCH 1315	Public Speaking

#### III. Social Sciences: 12 credit hours

GOVT 2301	American Government I
and GOVT 2302	American Government II
HIST 1301	U.S. History I
and HIST 1302	U.S. History II

#### IV. Mathematics: 3 credit hours

MATH	Any college level mathematics course as determined by area of emphasis.
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#### V. Natural Science: 8 credit hours

Lab Sciences to be chosen from any lab science course. See course description for prerequisite.

#### VI. Computer Literacy: 3 credit hours

COSC 1306	Computer Essentials
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#### VII. Humanities/Fine Arts

HUMA 1301	Introduction to Humanities
or ARTS 1301	Art Appreciation
or ARTS 1303	Art History I
or ARTS 1304	Art History II
or DRAM 1310	Introduction to Theatre
or MUSI 1306	Music Appreciation
or MUSI	
or PHIL xxxx	

#### VIII. Behavioral Science: 3 credit hours

PSYC 2301	General Psychology
or SOCI 1301	Introduction to Sociology

#### IX. Physical Education and Dance: 1 credit hour

PHED/DANC	
or I	

General Education Core	45	
<u>Electives</u>	<u>15</u>	
Total	60	Credit Hours Minimum

<sup>1</sup>Fire Science (Associate of Arts) program at CCCC has specific core curriculum requirements. Please refer to the degree plan for details.

## ASSOCIATE OF SCIENCE

### GENERAL EDUCATION CORE

#### I. English: 6 credit hours

ENGL 1301	Composition/Rhetoric I
and ENGL 1302	Composition/Rhetoric II
and ENGL 2xxx	
or SPCH 1315	Public Speaking

#### III. Social Sciences: 12 credit hours

HIST 1301	U.S. History I
and HIST 1302	U.S. History II
GOVT 2301	American Government I
and GOVT 2302	American Government II

#### IV. Mathematics: 6 credit hours

MATH 1342	Statistics
MATH 2312	Pre-calculus for Math and Science (or higher as determined by area of emphasis)

#### V. Natural Science: 8 credit hours (as determined by area of emphasis)

BIOL 1406	General Biology I
BIOL 1407	General Biology II
CHEM 1411	General Chemistry I
CHEM 1412	General Chemistry II
GEOL 1404	Historical Geology
PHYS 1401	General Physics I
PHYS 1402	General Physics II

#### VI. Computer Literacy: 3 credit hours

COSC 1306	Computer Essentials
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#### VII. Humanities/Fine Arts: 3 credit hours

HUMA 1301	Introduction to Humanities
or ARTS 1301	Art Appreciation
or ARTS 1303	Art History I
or ARTS 1304	Art History II
or DRAM 1310	Introduction to Theatre
or MUSI 1306	Music Appreciation
or MUSI	
or PHIL xxxx	

#### VIII. Behavioral Science: 3 credit hours

PSYC 2301	General Psychology
or SOCI 1301	Introduction to Sociology

#### IX. Physical Education and Dance: 1 credit hour

PHED/DANC	Any activity course
or PHED 1238	Concepts of Physical Fitness and Wellness

General Education Core	45	Credit Hours
<u>Electives</u>	<u>15</u>	<u>Credit Hours Minimum</u>
Total	60	Credit Hours Minimum

## ASSOCIATE OF APPLIED SCIENCE

The Associate of Applied Science degree (AAS) is awarded upon completion of a prescribed two-year program of study designed to prepare students to enter and compete in the job market. AAS curricula are designed to enable the graduate to enter an occupation with marketable skills, an acceptable level of technical competency, and the ability to communicate effectively.

### CERTIFICATE PROGRAMS

CCCC offers certificate programs designed to meet specific employment needs of the community. Students who enroll in certificate programs are generally interested in re-entering the job market after an absence, changing careers, or upgrading job related skills in order to enhance employment specialization. Although certificates are normally one year in length, the specific number of credit hours varies by program area.

### TRANSFER AGREEMENTS

Transfer agreements have been established allowing graduates with specific Associate of Applied Science degrees to continue their education in a Bachelor of Applied Arts and Sciences degrees at specific four-year universities. For detailed information contact the coordinator of the AAS program, academic advising, or the articulation and transfer office.

### PROGRAM ADVISORY COMMITTEES

Advisory committees are used by the instructional division in each technical program area for program development, evaluation, long-range planning, development of employment opportunities for graduates, and other program issues.

Theses committees provide an essential link between the education institution and the business community to ensure that graduates are adequately prepared for employment.

Members of the advisory committees are selected from related industry, prospective employers, and other knowledgeable community representatives.

The Associate of Applied Science degree is awarded to students who meet the specific degree requirements along with graduation requirements listed on page 18. The general core and the total number of hours required to graduate with an AAS degree vary. Student must complete the specific degree with assistance from an academic adviser. A minimum of 18 credit hours must be earned in residency at CCCC.

## GENERAL EDUCATION CORE<sup>1</sup>

### I. English: 3 credit hours

ENGL 1301 Composition/Rhetoric I

### II. Speech Communications: 3 credit hours

SPCH 1311 Fundamentals of Speech Communications

or SPCH 1315 Public Speaking

or SPCH 1321 Business and Professional Speaking

### III. Mathematics: 3 credit hours

MATH College level mathematics course. The math requirements may vary from the core. Check each degree plan.

### IV. Computer Literacy: 3 credit hours

COSC 1306 Computer Essentials

### V. Economics: 3 credit hours

ECON 1301 Introduction to Economics

or ECON 2301 Principles of Macroeconomics

or ECON 2302 Principles of Microeconomics

### VI. Humanities/Fine Arts: 3 credit hours

HUMA 1301 Introduction to Humanities

or ARTS 1301 Art Appreciation

or ARTS 1303 Art History I

or ARTS 1304 Art History II

or DRAM 1310 Introduction to Theatre

or MUSI 1306 Music Appreciation

or MUSI 2308 Introduction to Music Literature

or PHIL xxxx Any philosophy course

### VII. Behavioral Science: 3 credit hours

PSYC 2301 General Psychology

or PSYC 2302 Applied Psychology

### VIII. Physical Education and Dance: 1 credit hour minimum

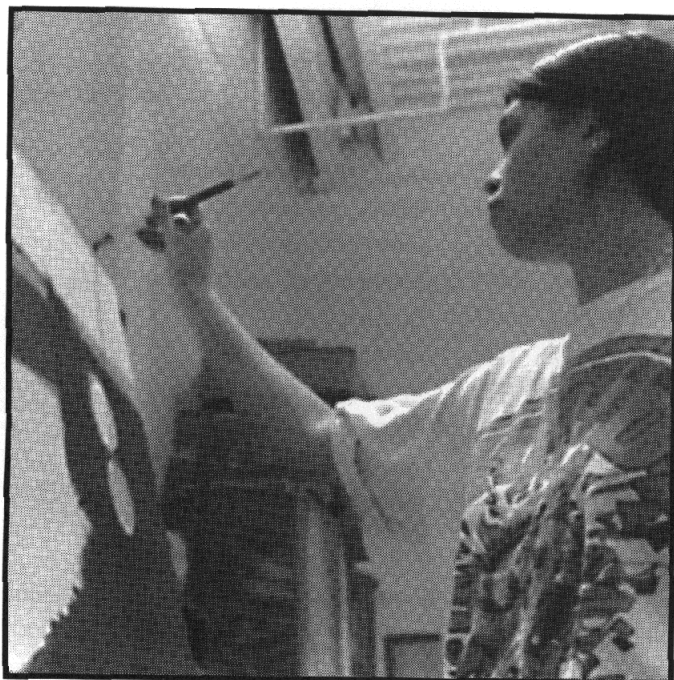
PHED/DANC Any activity course

or PHED 1238 Concepts of Physical Fitness and Wellness

Total General Education Core 22 Credit Hours Minimum

<sup>1</sup>Computer Network Technology, Criminal Justice, Dental Hygiene, Fire Science (also Associate of Arts), Interpreter Preparation Program/Deaf (IPPD), Nursing, Physical Therapist Assistant, Respiratory Care and Semiconductor Manufacturing Technology programs at CCCC have specific core curriculum requirements. Please refer to the degree plan for details.





## ASSOCIATE OF ARTS

### TRANSFER DEGREE

The Associate of Arts degree is awarded for any one of the following areas of concentration:

- Accounting
- Anthropology
- Art
- Business Administration
- Criminal Justice
- Drama
- Economics
- English
- Fire Science
- French
- Geography
- German
- Government
- History
- Legal Assistant
- Music
- Philosophy
- Photography
- Psychology
- Sociology
- Spanish
- Speech

### COOPERATIVE WORK EXPERIENCE (CWE)

Under supervision of the college and the employer, students combine classroom learning with work experience. Credit is earned for specified hours worked, completion of specific learning objectives, and professional development seminar participation. This is an academic course requiring CWE permission to enroll. Placement assistance is provided or approval of current position for the program.

**SEE THE FOLLOWING PAGES FOR DEGREE PLANS.**



**ACCOUNTING**

This Associate of Arts degree provides general academic courses and electives that enable students who intend to major in accounting to transfer to four-year institutions. Because of the various transfer requirements of different four-year institutions and to ensure enrollment in appropriate courses, students should consult with a CCCC adviser and the institution which they plan to attend.

**I. General Education Core 45 credit hours**

See page 41.

MATH 1324 is recommended.

**II. Recommended Electives 15 credit hours**

A.	ACCT	2301	Principles of Accounting I	3
B.	ACCT	2302	Principles of Accounting II	3
C.	ECON	2301	Principles of Macroeconomics	3
D.	ECON	2302	Principles of Microeconomics	3
E.	MATH	1325	Calculus for Business/Economics	3
F.	ACCT	7300	Cooperative Education	3

**ANTHROPOLOGY**

The Associate of Arts degree provides general academic courses and electives that enable students who intend to major in Anthropology to transfer to four-year institutions. Because of the various transfer requirements of different four-year institutions, and to ensure enrollment in appropriate courses, students should consult with a CCCC adviser and the institution which they plan to attend.

The anthropology program is designed to provide students with essential life skills and help them better understand themselves and the world around them. Anthropology asks, "What does it mean to be human?" "What different ways are there of being human?" "How are we to understand these commonalities and differences?" These are critical questions for a world torn by racial and ethnic conflicts and divided by bigotry and unequal opportunities for individual growth and societal development. The study of such questions requires the integration of archaeological, biological, and cultural research – the basic components of anthropology. Anthropology majors or minors gain a solid foundation in the discipline which prepares them for transferring into a university program.

**CAREER OPPORTUNITIES**

The majority of students selecting anthropology as their concentration at CCCC transfer into a four-year program. There are entry level positions available in Cultural Resource Management firms upon completion of an associate's degree. Anthropology majors at four-year institutions typically seek careers in teaching the social sciences or research and planning in governmental or corporate settings. An anthropology minor is an excellent choice for students considering careers in business, medicine, law, government, or diplomacy.

**I. General Education Core 45 credit hours**

See page 41.

**II. Recommended Electives 15 credit hours**

A.	ANTH	2301	Physical Anthropology	3
B.	ANTH	2302	Introduction to Archaeology	3
C.	ANTH	2351	Cultural Anthropology	3
D.	ANTH	2389	Academic Co-op Anthropology	3
E.	BIOL	1471	Human Anatomy and Physiology Basics	4
F.	BIOL	2416	Genetics	4
G.	GEOG	1302	Cultural Geography	3
H.	SOCI	1301	Introduction to Sociology	3
I.	SOCI	2319	Minority Studies	3

**ART**

(Also see Photography)

The Associate of Arts degree provides general academic courses and electives that enable students who intend to major in Art to transfer to four-year institutions. Because of the various transfer requirements of different four-year institutions, and to ensure enrollment in appropriate courses, students should consult with a CCCC adviser and the institution which they plan to attend.

The fine arts program offers courses in foundation classes such as drawing and design and specialization classes such as painting, watercolor, ceramics, sculpture, printmaking, computer design and computer painting. All labs include professional quality equipment such as an intaglio printing press, a variety of ceramic kilns, electric pottery wheels and a metal-casting foundry. Two gallery spaces serve to acquaint students with current professional artists and to showcase student work in competitions and all-student shows. Seminars in professional practices help prepare the students to function as fine artists. Instructors are highly trained, practicing artists who are dedicated to encouraging the individual student to reach his or her highest level of skill and creativity.

**CAREER OPPORTUNITIES**

Careers in fine arts are varied. Most visible are the practicing, professional fine artists and art teachers. Other career opportunities include work in museums as docents; museum curators; art historians; art restorers; exhibition designers; sales positions in galleries; artists' representatives; art brokers; art therapists; medical illustrators; art administrators and directors of cultural arts programs; color, space or texture consultants; commercial artists; illustration and design of books and advertising; window display; interior design; fabric, wall and floor covering design. Students may enroll in academic co-op through Cooperative Work Experience to obtain practical experience in the career field.

**I. General Education Core 45 credit hours**

See page 41.

**II. Recommended Electives 15 credit hours**

A. ARTS 1301	Art Appreciation	3
B. ARTS 1303	Art History I	3
C. ARTS 1304	Art History II	3
D. ARTS 1311	Design I	3
E. ARTS 1312	Design II	3
F. ARTS 1316	Drawing I	3
G. ARTS 1317	Drawing II	3
H. ARTS 1325	Art for Elementary Educators	3
I. ARTS 1370	Problems in Contemporary Art	3
J. ARTS 2311	Introduction to Color/Painting	3
K. ARTS 2316	Painting I	3
L. ARTS 2317	Painting II	3
M. ARTS 2323	Life Drawing	3
N. ARTS 2324	Life Drawing II	3
O. ARTS 2326	Sculpture I	3
P. ARTS 2327	Sculpture II	3
Q. ARTS 2333	Printmaking I	3
R. ARTS 2334	Printmaking II	3
S. ARTS 2336	Fibers I: Papermaking	3
T. ARTS 2346	Ceramics I	3
U. ARTS 2347	Ceramics II	3
V. ARTS 2366	Watercolor I	3
W. ARTS 2367	Watercolor II	3
X. ARTS 2389	Academic Co-op Arts	3

**BUSINESS ADMINISTRATION**

The Associate of Arts with a c consists of a 45-credit hour ge hours of suggested electives. The program is designed to provide the lower level courses for completing a bac or universities. This program p pursue accounting, economics, finance, marketing or management majors at many four-year institutions. Students may enroll in Cooperative Work Experience to gain practical work experience in the career field.

**I. General Education Core 45 credit hours**

See page 41.

MATH 1324 is recommended.

**II. Recommended Electives 15 credit hours**

A. ACCT 2301	Principles of Accounting I	3
B. ACCT 2302	Principles of Accounting II	3
C. CSCI 1320	BASIC Programming	3
D. ECON 2301	Principles of Macroeconomics	3
E. ECON 2302		3
F. ENGL 2372	& Drama	3

G. MATH 1325	Calculus for Business and Economics	3
H. MATH 1342	Statistics	3
		3

**CRIMINAL JUSTICE**

(Also see Associate of Applied Science Criminal Justice)

The Associate of Arts degree provides general academic courses and  
major in Criminal Justice to  
of the various transfer  
requirements of different four-year institutions, and to ensure enrollment  
it with a CCCC adviser and

The criminal justice program prepares its graduates for entry-level  
and corrections at the local,  
Through classroom and  
laboratory experiences, students acquire the fundamental knowledge and  
system, its agencies,  
transfer to a four-year  
institution will have a solid foundation upon which to build as they pursue

graduates at all levels of  
government as:

- Law Enforcement Officers
- Investigators
- Corrections Officers
- Victim Services Counselors
- Youth Service and Juvenile Court Officers
- Probation Officers and Parol Officers

Students planning to transfer to a four-year institution should consult  
with the coordinator of the criminal justice program.

N. SPCH 1315	Public Speaking	3
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**DRAMA**

The Associate of Arts degree provides general academic courses and electives that enable students who intend to major in Drama to transfer to four-year institutions. Because of the various transfer requirements of different four-year institutions, and to ensure enrollment in appropriate courses, students should consult with a CCCC adviser and the institution which they plan to attend.

The theatre program at CCCC is the defending national champion of collegiate drama, as determined by the Kennedy Center/American College Theatre Festival and has been ranked among the top 50 collegiate drama programs nationally during each of the past five years.

The Quad C Theatre program strives to introduce students to the aesthetic and analytical elements of theatrical productions. It offers studies in the principles and practices of acting, stagecraft, basic costuming preparation, theatre marketing, technical theatre production and stage management. The labs permit students hands-on experiences through performances, as well as shop and crew duties. Our studies include contemporary theories and classical aspects of theatrical studios.

The Quad C Theatre Program at CCCC offers a full curriculum of theatre study including work in beginning and advanced acting, voice and diction, scenic, sound, and lighting design, costume design and stage makeup, theatre history and dramatic literature, and specialty courses in circus skills, stunt work, stage combat, directing, musical theatre, and acting for the camera.

Students and community members interested in theatre performance are encouraged to audition for the plays performed each year.

Theatre program faculty and students have experience in professional stage and motion picture work, including such projects as the Broadway

musical "*Sarafina!*"; rock tours with Van Halen, and Michael Jackson; films such as "*Young Guns*," "*JFK*," "*Cry Baby*," and "*Selena*."

The theatre facility is comprised of two separate performance spaces including the 365-seat John Anthony Theatre and the 100-seat Black Box Theatre. The multi-million dollar complex also houses three dressing rooms, a theatre box office, a costume vault and construction shop, a scene and paint shop, in addition to acting/directing classroom spaces.

For more information about the Quad C Theatre Program, contact the coordinator of theatre SCC/C155, (972) 881-5679 or e-mail [bbaker@fs7host.ccccd.edu](mailto:bbaker@fs7host.ccccd.edu).

**CAREER OPPORTUNITIES**

- Theater Education
- Performer
- Technical Director
- Lighting Technician
- Sound Technician
- Scenic Artist
- Costume Technician
- Producer/Director
- Theatre Marketing and Management

### I. General Education Core 45 credit hours

See page 41.

### II. Recommended Electives 15 credit hours

A. DRAM 1171	Theatre Practicum: Performance .....	1
B. DRAM 1172	Theatre Practicum: Technical .....	1
C. DRAM 1310	Introduction to the Theatre .....	3
D. DRAM 1330	stagecraft I .....	3
E. DRAM 2331	Stagecraft II .....	3
F. DRAM 1341	Theatrical Makeup .....	3
G. DRAM 1351	Acting I .....	3
H. DRAM 1352	Acting II .....	3
I. DRAM 2351	Acting III .....	3
J. DRAM 1376	Introduction to Costuming .....	3
K. DRAM 2336	Voice and Diction .....	3
L. DRAM 2361	History of Theatre I .....	3
M. DRAM 2362	History of Theatre II .....	3
N. DRAM 2366	History of Film Making I .....	3
O. DRAM 2367	History of Film Making II .....	3
P. DRAM 2371	Theatre Outreach .....	3
Q. DRAM 2371	Introduction to Musical Theatre .....	3
R. DRAM 2371	Stage Lighting .....	3
S. DRAM 2371	Introduction to Directing .....	3
T. DRAM 2371	New York Theatre Field Studies .....	3
U. DRAM 2371	Acting for Film & Television .....	3
V. DRAM 2371	Stage Management .....	3
W. DRAM 2371	Advanced Stage Combat .....	3
X. DRAM 2379	Business of Theatre .....	3



## ECONOMICS

The Associate of Arts degree with a concentration in economics establishes an academic foundation for future studies at a college or university. Students develop an understanding of past and present economic theories and learn to apply this information toward solving tomorrow's economic problems.

### CAREER OPPORTUNITIES

Numerous career opportunities are available to graduates with a background in economics. Areas of career opportunities are listed below. Prospective students should bear in mind that many of these areas require training beyond the Associate of Arts degree, and some may require professional degrees.

- Banking and Finance
- College Teaching
- Economists
- Governmental Agencies
- Investment Specialists
- Planners

#### I. General Education Core

45 credit hours

See page 41.

MATH 1324 is recommended.

#### II. Recommended Electives

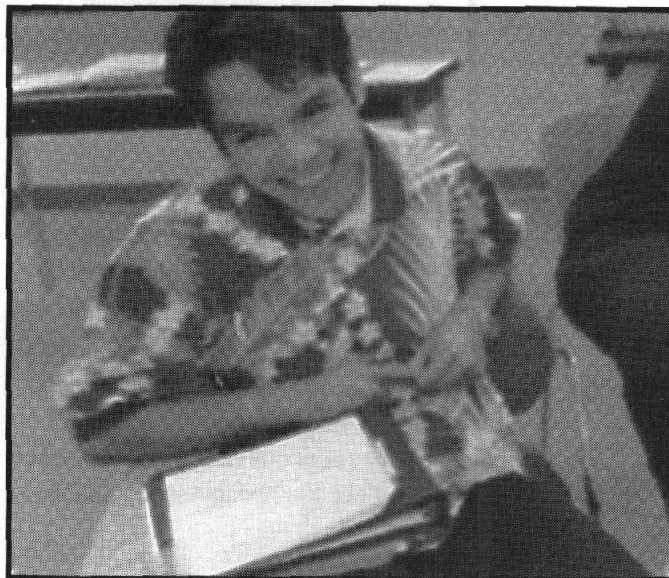
15 credit hours

A.	ACCT	2301	Principles of Accounting I	3
B.	ACCT	2302	Principles of Accounting II	3
C.	CSCI	1320	BASIC Programming	3
D.	ECON	2301	Principles of Macroeconomics	3
E.	ECON	2302	Principles of Microeconomics	3
F.	ENGL	2372	Forms of Literature II-Poetry & Drama	3
G.	MATH	1325	Calculus for Business and Economics	3
H.	MATH	1342	Statistics	3
I.	PSYC	2301	General Psychology	3

## ENGLISH

The Associate of Arts degree provides general academic courses and electives that enable students who intend to major in English to transfer to four-year institutions. Because of the various transfer requirements of different four-year institutions, and to ensure enrollment in appropriate courses, students should consult with a CCCC adviser and the institution which they plan to attend.

A concentration in English emphasizes the development of writing skills, reasoning and critical thinking. Composition and rhetoric courses focus on expository and persuasive writing including argumentation, logical thinking and research. An integral part of each course is a lab component which is designed to help students identify weak areas in their writing, eliminate individual writing problems and strengthen writing skills.



The Writing Center, another part of the English program, provides professional consultation to students across the curriculum. At the center, students can get immediate help in composing, writing and revising papers, resumes, reports, etc. Some Composition/Rhetoric I courses are taught in the Macintosh classroom. Students may also enroll in Cooperative Work Experience to gain practical work experience.

### CAREER OPPORTUNITIES

- Positions requiring writing skills
- Positions requiring editing/proofing skills
- Positions requiring word processing skills
- Positions requiring knowledge of the research process

Combined with further study, the associate degree with an emphasis in English may equip students for a variety of careers in education, law, government and public information.

#### I. General Education Core

45 credit hours

See page 41.

#### II. Recommended Electives

15 credit hours

A.	ENGL	2307	Creative Writing	3
B.	ENGL	2311	Technical Writing	3
C.	ENGL	2322	British Literature I	3
D.	ENGL	2323	British Literature II	3
E.	ENGL	2327	American Literature I	3
F.	ENGL	2328	American Literature II	3
G.	ENGL	2332	World Literature I	3
H.	ENGL	2333	World Literature II	3
I.	ENGL	2371	Forms of Literature I-Short Story and Novel	3
J.	ENGL	2372	Forms of Literature II-Poetry & Drama	3
K.			Foreign Language Sequence I	4
L.			Foreign Language Sequence II	4

**FIRE SCIENCE**

(Also see Associate of Applied Science Fire Science)

65 credit hours minimum required to graduate

The Fire Science program is designed to give a broad perspective on providing fire protection. The program is applicable for students wishing to enter the field of fire service as well as persons already working as firefighters or in related career fields. Students acquire the technical knowledge needed to combat the fire problems created by modern living.

CCCC's courses are scheduled to accommodate traditional firefighter work shifts. Full-time, full-paid firefighters employed by any political subdivision enrolled in fire science courses offered as a part of CCCC's fire science curriculum, are exempt from payment of tuition and laboratory fees.

Students planning to transfer to a four-year institution should check with an academic adviser.

**CAREER OPPORTUNITIES**

Today's fire protection responsibilities provide new and exciting challenges in both the public and private sectors. Students enrolled in the Fire Science program prepare for occupations involving fire suppression, investigation, prevention and education. These challenging job opportunities include:

- Firefighter
- Fire Department Officer
- Municipal Emergency Administrator
- Safety Technician
- Hazardous Material Team Member
- Fire Equipment Sales and Service Representative
- Industrial Fire Protection Technician

**I. General Education Core 37 credit hours**

A.	ENGL	1301	Composition/Rhetoric I	3
B.	ENGL	1302	Composition/Rhetoric II	3
C.	COSC	1306	Computer Essentials	3
D.	SPCH	1311	Fundamentals of Speech Communication	3
E.	MATH	1332	Contemporary Mathematics	3
F.	GOVT	2301	American Government I	3
G.	GOVT	2302	American Government II	3
H.	HIST	1301	U.S. History I	3
I.	HIST	1302	U.S. History II	3
J.	CHEM	1405	Introduction to Chemistry I	4
K.	CHEM	1407	Introduction to Chemistry II	4
or	FISC	2310	Chemistry of Hazardous Materials II	3
L.			Humanities/Fine Arts <sup>1</sup>	3

**II. Technical Core 22 credit hours**

A.	FISC	1310	Fire Prevention	3
B.	FISC	1320	Fire Administration I	3
C.	FISC	1330	Fire Protection Systems	3
D.	FISC	1335	Building Codes and Construction	3
E.	FISC	1340	Fire Cause and Origin Determination	3

F. FISC 1450 Firefighting Tactics and Strategy . . . . .4

G. FISC 2305 Chemistry of Hazardous Materials I . . . . .3

**III. Commission Approved Fire Science Electives 6 credit hours**

A. FISC 1305 Fundamentals of Fire Protection . . . . .3

B. FISC 1315 Fire Safety Education . . . . .3

C. FISC 1325 Industrial Fire Protection I . . . . .3

D. FISC 2310 Chemistry of Hazardous Materials II . . . . .3

E. FISC 2320 Fire Administration II . . . . .3

F. FISC 2330 Introduction to CAMEO . . . . .3

G. FISC 2335 Methods of Fire Service Instruction . . . . .3

<sup>1</sup>Choose a Humanities/Fine Arts course from the Associate of Arts General Education Core.

**FRENCH**

The Associate of Arts degree provides general academic courses and electives that enable students who intend to major in French to transfer to four-year institutions. Because of the various transfer requirements of different four-year institutions, and to ensure enrollment in appropriate courses, students should consult with a CCCC adviser and the institution which they plan to attend.

A concentration in French provides the essential language background for the advanced study of French, for competency in understanding, speaking, and writing the language, and for a more rapid acquisition of other foreign languages (particularly romance languages like Spanish). The courses are oral-proficiency based in order to enable the student to converse in French as quickly as possible.

**CAREER OPPORTUNITIES**

When combined with further study beyond the associate degree, an emphasis in French may lead to careers in education, information science, business, or government.

In light of the economic opportunities presented by the emergence of a European community, the mastery of French and other European languages may lead to exciting career opportunities when combined with a business or marketing degree.

**I. General Education Core 45 credit hours**

See page 41.

**II. Recommended Electives 15 credit hours**

A.	FREN	1411	Beginning French I	4
B.	FREN	1412	Beginning French II	4
C.	FREN	2311	Intermediate French I	3
D.	FREN	2312	Intermediate French II	3
E.	FREN	1100	French Conversational I <sup>1</sup>	1
F.	FREN	1110	French Conversational II <sup>2</sup>	1
G.	FREN	2303	French Literature I	3
H.	FREN	2304	French Literature II	3

<sup>1</sup>Co-requisite of FREN 2311

<sup>2</sup>Co-requisite of FREN 2312



## GEOGRAPHY

The Associate of Arts degree provides general academic courses and electives that enable students who intend to major in Geography to transfer to four-year institutions. Because of the **various** transfer requirements of different four-year institutions, and to ensure enrollment in appropriate courses, students should consult with a **CCCC** adviser and the institution which they plan to attend.

As our world approaches the Information Age and we enter a period in human history marked by increasing globalization, it is important for students to be geographically literate. The geography program is designed to expand students' knowledge about the physical and cultural environments of the world and prepare them for a **career** in the global market.

### CAREER OPPORTUNITIES

Students transferring into a four-year institution geography curriculum can prepare for diverse careers in urban planning, petroleum exploration, cartography (mapping) and corporate planning for expansion and development. Many universities **require** education majors to take a geography course as part of their degree.

#### I. General Education Core 45 credit hours

See page 41.

#### II. Recommended Electives 15 credit hours

A.	GEOG 1301	Physical Geography	.....3
B.	GEOG 1302	Cultural Geography	.....3
C.	GEOG 1303	World Regional Geography	.....3
D.	ANTH 2351	Cultural Anthropology	.....3
E.	HIST 2311	Western Civilization I	.....3
E	HIST 2312	Western Civilization II	.....3
G.	PSYC 2301	General Psychology	.....3
H.		Foreign Language Sequence I	.....4
I.		Foreign Language Sequence II	.....4

## GERMAN

The Associate of Arts degree provides general academic courses and electives that enable students who intend to major in German to transfer to four-year institutions. Because of the **various** transfer requirements of different four-year institutions, and to ensure enrollment in appropriate courses, students should consult with a **CCCC** adviser and the institution which they plan to attend.

A concentration in German provides the essential language background for the advanced study of *German*, for competency in understanding, speaking, and writing the language, and for a more rapid acquisition of **other** foreign languages (particularly Germanic languages like Dutch). The courses are oral-proficiency based in order to enable students to converse in German as quickly as possible.

### CAREER OPPORTUNITIES

The recent reunification of Germany has created many job opportunities in international relations, business, and finance. *German* has emerged as an important language in both the European **community** and the world market. Combining the **study** of German with business or **related** degrees provides students with the tools to live and work in an international environment.

#### I. General Education Core 45 credit hours

See page 41.

#### II. Recommended Electives 15 credit hours

A.	GERM 1411	Beginning German I	.....4
B.	GERM 1412	Beginning German II	.....4
C.	GERM 2311	Intermediate German I	.....3
D.	GERM 2312	Intermediate German II	.....3
E	GERM 1100	Conversational German I <sup>1</sup>	.....1
E	GERM 1110	Conversational German II <sup>2</sup>	.....1
G.	GERM 2303	German Literature I	.....3
H.	GERM 2304	German Literature II	.....3

<sup>1</sup>Co-requisite of GERM 2311

<sup>2</sup>Co-requisite of GERM 2312

## GOVERNMENT

An Associate of Arts degree in government is a stepping stone to a liberal arts education. The **second** step is a bachelor's degree from a four-year institution. The government program **features** introductory courses in American and **Texas** politics. The courses emphasize contemporary political analysis, critical **thinking** and **hands-on** experiential learning exercises.

### CAREER OPPORTUNITIES

A major in government provides an excellent background for law school, a **career** in education or a broad background in the **liberal** arts which is valued by employers in all **areas**.

#### I. General Education Core 45 credit hours

See page 41.

#### II. Recommended Electives 15 credit hours

A.	CRJ 1301	Introduction to Criminal Justice	.....3
B.	ECON 2301	Principles of Macroeconomics	.....3
C.	ECON 2302	Principles of <b>Microeconomics</b>	.....3
D.	GOVT 2304	Introduction to Political Science	.....3
E.	PHIL 2303	Logic	.....3
E	PHIL 2306	Ethics	.....3
G.	PSYC 2301	General Psychology	.....3
H.		Foreign Language Sequence I	.....4
I.		Foreign Language Sequence II	.....4

**HISTORY**

The Associate of Arts degree provides general academic courses and electives that enable students who intend to major in History to transfer to four-year institutions. Because of the various transfer requirements of different four-year institutions, and to ensure enrollment in appropriate courses, students should consult with a CCCC adviser and the institution which they plan to attend.

The history program is designed for students interested in completing an associate degree as well as students pursuing a bachelors degree. The American survey history course meets the state's requirement for six hours of American history. In addition to the survey courses, the program also includes classes in Western Civilization (required by some colleges) and courses designed to examine a specific topic in detail, such as: the 1960s, the Civil War, the History of Religion in the United States, Texas History and the History of Race Relations in the United States. These courses count as elective hours, or in some cases will transfer as part of the state's six hour requirement.

**CAREER OPPORTUNITIES**

Background acquired by students majoring in history prepares them for careers in a variety of fields such as journalism, law, politics, social work, television and radio, etc.

A degree in history is also beneficial to students seeking a career as a writer or teacher but also will provide career opportunities in such adjacent fields as public history, museum curator, archivist, research associate for public and private agencies, and in developing fields like environmental historian for state agencies, contract work for legal firms and in the areas of computer/video/film documentaries.

**I. General Education Core 45 credit hours**

See page 41.

**II. Recommended Electives 15 credit hours**

A.	ECON	2301	Principles of Macroeconomics	3
B.	ECON	2302	Principles of Microeconomics	3
C.	HIST	2301	Texas History	3
D.	HIST	2311	Western Civilization I	3
E.	HIST	2312	Western Civilization II	3
F.	PHIL	1301	Introduction to Philosophy	3
G.	PHIL	2303	Logic	3
H.	PSYC	2301	General Psychology	3
I.	SOCI	1301	Introduction to Sociology	3
J.			Foreign Language Sequence I	4
K.			Foreign Language Sequence II	4

**LEGAL ASSISTANT/PARALEGAL**

(Also see Associate of Applied Science Legal Assistant)

This Associate of Arts degree is designed for students planning to pursue a four-year degree in legal assistant/paralegal. Required legal courses are Law and Judicial Systems, Civil Procedure, Law Office Management, and Legal Research.

**CAREER OPPORTUNITIES**

Employment opportunities for entry-level legal assistants/paralegals are available to students who have completed an associate's degree. Students who transfer to a four-year university after completion of their associate's degree, and complete a bachelor's degree, afford themselves the opportunity to enter the labor market at a higher level.

**JOB DESCRIPTION**

Law firms, corporations, and governmental agencies hire legal assistants to manage an array of legal responsibilities under the direction and supervision of a licensed attorney. Legal assistants must be proficient in computer skills, legal terminology, and legal procedures. Responsibilities routinely performed by legal assistants include drafting legal documents, performing legal research, obtaining information relevant to cases, interviewing clients, and assisting in trial preparation.

**I. General Education Core 45 credit hours**

See page 41.

**II. Recommended Electives 15 credit hours\***

A.	LEGL	1301	Law and Judicial Systems	3
B.	LEGL	1302	Legal Research	3
C.	LEGL	1305	Law Office Management	3
D.	LEGL	2301	Civil Procedure	3
E.	OFAD	1325	Office Support Software	3
F.	OFAD	1331	Beginning Word Processing	3
G.	OFAD	2303	Advanced Keyboarding/Legal	3

\*Additional hours may be required for transfer. See the program coordinator.

**MUSIC**

(Also see Associate of Applied Science Commercial Music)

The Associate of Arts degree provides general academic courses and electives that enable students who intend to major in music to transfer to four-year institutions. Because of the various transfer requirements of different four-year institutions, and to ensure enrollment in appropriate courses, students should consult with a CCCC adviser and the institution which they plan to attend.

The music department offers a two-year Associate of Arts degree, emphasizing a strong curriculum of music theory, music literature, private study and ensemble participation.

**CAREER OPPORTUNITIES**

- Music Education
- Performer

**I. General Education Core 45 credit hours**

See page 41.

**II. Recommended Electives 15 credit hours**

A.	MUSI	1301	Music Fundamentals	3
B.	MUSI	1311	Music Theory I	3
C.	MUSI	1312	Music Theory II	3
D.	MUSI	2311	Music Theory III	3
E.	MUSI	2312	Music Theory IV	3
F.	MUSI	1116	Aural Skills I	1
G.	MUSI	1117	Aural Skills II	1
H.	MUSI	2116	Aural Skills III	1
I.	MUSI	2118	Aural Skills IV	1
J.	MUSI	1306	Music Appreciation	3
K.	MUSI	1310	Music In America	3
L.	MUSI	2308	Introduction to Music Literature	3
M.	MUSI	1162	Vocal Diction I	1
N.	MUSI	1165	Vocal Diction II	1
O.	MUSI	1183	Class Voice	1
P.	MUSI	1192	Class Guitar I	1
Q.	MUSI	1193	Class Guitar II	1
R.	MUSI	1171	Leisure Piano I	1
S.	MUSI	1172	Leisure Piano II	1
T.	MUSI	1181	Beginning Piano I	1
U.	MUSI	1182	Beginning Piano II	1
V.	MUSI	2181	Beginning Piano III	1
W.	MUSI	2182	Beginning Piano IV	1
X.	MUSI	1173	Secondary Applied Music (private study)	1
Y.	MUSI	1273	Principal Applied Music (private study)	2
Z.	MUSI	1263	Improvisation	2
AA.	MUSI	1286	Introduction to Song Writing	2
BB.	MUSI	1287	Introduction to Composition	2
CC.	MUSI	1386	Arranging	3
DD.	MUSI	1271	Introduction to Synthesis & MIDI	2
EE.	MUSI	1272	Advanced Synthesis & MIDI	2
FF.	MUSI	1371	Audio Engineering I	3
GG.	MUSI	1372	Audio Engineering II	3
HH.	MUSI	2371	Audio Engineering III	3
II.	MUSI	2372	Audio Engineering IV	3
JJ.	MUSI	2350	Audio for Multimedia I	3
KK.	MUSI	2351	Audio for Multimedia II	3
LL.	MUSI	1131	Small Ensembles	1
MM.	MUSI	1159	Vocal Ensemble	1
NN.	MUSI	2124	Band	1
OO.	MUSI	2143	Chorus	1
PP.	BUSI	2379	Business of Music I	3
QQ.	BUSI	2378	Business of Music II	3

**PHILOSOPHY**

The Associate of Arts degree provides general academic courses and electives that enable students who intend to major in Philosophy to transfer to four-year institutions. Because of the various transfer requirements of different four-year institutions, and to ensure enrollment in appropriate courses, students should consult with a CCCC adviser and the institution which they plan to attend.

The philosophy program seeks to develop men and women dedicated to the pursuit of knowledge. Students become acquainted with the main problems of philosophy. Emphasis is placed on philosophical thinking which enables graduates to integrate their work and their lives.

**CAREER OPPORTUNITIES**

- Preparation for those who plan to major in philosophy at a four-year institution
- Preparation for related fields such as law, government, education, business, science and the humanities

**I. General Education Core 45 credit hours**

See page 41.

**II. Recommended Electives 15 credit hours**

A.	PHIL	1301	Introduction to Philosophy	3
B.	PHIL	1304	Comparative Religion	3
C.	PHIL	2303	Logic	3
D.	PHIL	2306	Ethics	3
E.	PSYC	2301	General Psychology	3
F.	HDEV	1205	Personal Development	2
G.			Foreign Language Sequence I	4
H.			Foreign Language Sequence II	4

**PHOTOGRAPHY**

The Associate of Arts degree provides general academic courses and electives that enable students who intend to major in Photography to transfer to four-year institutions. Because of the various transfer requirements of different four-year institutions, and to ensure enrollment in appropriate courses, students should consult with a CCCC adviser and the institution which they plan to attend.

The photography program is designed to equip students with the various technical and aesthetic skills necessary for a career in professional photography either as a fine arts photographer or a commercially directed photographer.

For commercial photography, instructional emphasis is offered in product illustration, news/editorial photography, color processing and printing, the portrait, large format photography and digital photography. For fine arts photography, courses are offered in landscape, portrayal, large format cameras and the zone system, non-silver processes and portfolio.



**CAREER OPPORTUNITIES**

Jobs in photography vary and can be applied to related disciplines:

- Portrait Studio
- Commercial Illustration
- Product Catalog Illustration
- Industrial Photography
- Digital Image Manipulation
- News/Editorial
- Multimedia Presentation
- Freelance Work
- Photo Lab Technician
- Architectural Photographer
- Historical Documentary Photographer
- Teaching

**I. General Education Core 45 credit hours**

See page 41.

**II. Recommended Electives 15 credit hours**

- |              |   |    |
|--------------|---|----|
| A. ARTS 2356 | Photography I .....   | .3 |
| B. ARTS 2357 | Photography II .....  | .3 |
| C. ARTS 2370 | Photography Portrayal .....                                 | .3 |
| D. ARTS 2371 | Contemporary Studies in the Visual Arts Photography I ..... | .3 |
| E. ARTS 2372 | History of Photography .....                                | .3 |
| E. ARTS 2389 | Academic Co-op Photography .....                            | .3 |
| G. COMM 1316 | Photo Illustration .....                                    | .3 |
| H. COMM 1317 | Photographer - Client .....                                 | .3 |
| I. DRAM 2366 | History of Film Making I .....                              | .3 |

<sup>1</sup>Check the current class schedule for each semester topics

**PSYCHOLOGY**

An Associate of Arts degree in psychology serves as a foundation for continued studies in psychology. Since most careers in psychology require a graduate degree, many students transfer to four-year institutions and eventually enter graduate school in psychology. The psychology program features a variety of introductory courses exploring the nature of behavior and mental processes. Featured courses include general psychology, applied psychology and life-span psychology. These courses emphasize current psychological theory and research, as well as the practical application of the basic principles of psychology to the student's daily life. Many courses in the program require participation in hands-on, experiential laboratory exercises which further emphasize practical application of course material.

**CAREER OPPORTUNITIES**

Students who earn advanced degrees in psychology are often employed as counselors, psychotherapists and mental health workers. With further study, a psychology degree may also be used as a stepping-stone to a career in education, business, law or medicine.

**I. General Education Core 45 credit hours**

See page 41.

**II. Recommended Electives 15 credit hours**

- |              |   |    |
|--------------|---|----|
| A. PSYC 2301 | General Psychology .....                | .3 |
| B. PSYC 2306 | Human Sexuality .....                   | .3 |
| C. PSYC 2314 | Life Span Psychology .....              | .3 |
| D. PSYC 2315 | Psychology of Personal Adjustment ..... | .3 |
| E. PSYC 2316 | Psychology of Personality .....         | .3 |
| E. PSYC 2319 | Social Psychology .....                 | .3 |
| G. PSYC 2371 | Selected Topics in Psychology .....     | .3 |
| H. SOCI 1301 | Introduction to Sociology .....         | .3 |
| I. SOCI 1306 | Social Problems .....                   | .3 |
| J. SOCI 2301 | Marriage and Family .....               | .3 |
| K. SOCI 2371 | Selected Topics in Sociology .....      | .3 |

**SOCIOLOGY**

The majority of students who select sociology as their concentration at the community college transfer into a four-year program. Career opportunities are available in entry level positions with social service agencies upon completion of an associate's degree. The sociology program is designed to provide students with essential life skills gaining them a better understanding of themselves and the world around them. Sociology courses at CCCC enable students to comprehend the tremendous social changes coming about with the transition of our world into the Information Age. Sociology examines how social forces influence human behavior. Students develop critical thinking skills and a global perspective which benefits them regardless of their college major. Sociology majors or



minors **gain** a solid foundation in the discipline which prepares them for transferring into a university program.

### CAREER OPPORTUNITIES

Sociology is an excellent minor for students considering careers in education, business, law, medicine or psychology. The knowledge gained from sociology courses enhances a student's chances of being successful in accomplishing their career and life **goals**.

Sociology majors typically seek careers in teaching, social services or **research** and planning in governmental or corporate settings.

#### I. General Education Core 45 credit hours

See page 41.

II. Recommended Electives 15 credit hours	
A. SOCI 1301	Introduction to Sociology .....3
B. SOCI 1306	Social Problems ..... 3
C. SOCI 2306	Human Sexuality .....3
D. SOCI 2301	Marriage and Family .....3
E. SOCI 2319	Minority Studies ..... 3
E. SOCI 2371	Selected Topics in Sociology .....3
G. ANTH 2351	Cultural Anthropology .....3
H. PSYC 2301	General Psychology .....3
I. PSYC 2314	Life Span Psychology .....3
J. PSYC 2316	Psychology of Personality .....3
K. PSYC 2319	Social Psychology .....3

### SPANISH

The Associate of Arts degree with a concentration in Spanish provides the essential language background for **the** advanced study of Spanish, for the mastery of the competencies in listening, speaking, and writing the language, and for a more rapid acquisition of other foreign languages (such as Romance languages like French.) The courses are oral-proficiency based in order to enable the student to converse in Spanish as quickly as possible.

### CAREER OPPORTUNITIES

The demand for Spanish both in the community and the business environment is **growing** rapidly. Combining Spanish with another field **can** expand opportunities in nursing, teaching, computer science, sociology, banking, counseling, law and many other **areas**.

#### I. General Education Core 45 credit hours

See page 41.

II. Recommended Electives 15 credit hours	
A. SPAN 1300	Conversational Spanish I .....3
B. SPAN 1310	Conversational Spanish II .....3
C. SPAN 1411	Beginning Spanish I .....4
D. SPAN 1412	Beginning Spanish II .....4

E. SPAN 2311	Intermediate Spanish I .....3
E. SPAN 2312	Intermediate Spanish II .....3
G. SPAN 2321	Spanish Literature I .....3
H. SPAN 2322	Spanish Literature II .....3

### SPEECH

The Associate of Arts degree with a concentration in Speech Communication **gives** students a **broad** background in communication competencies. Speech Communication courses improve interpersonal communication skills and teach presentation techniques. **Students** taking courses in Speech Communications gain enhanced awareness of the **impact** communication skills have both in the personal and professional arenas. Both the traditional rhetorical approach (oral presentation) **and** the behavioristic approach (**communication** theory and skill) are reflected in Speech Communication course offerings.

Students who **desire** practical experience in their career fields may enroll in an academic co-op through Cooperative Work Experience.

### CAREER OPPORTUNITIES

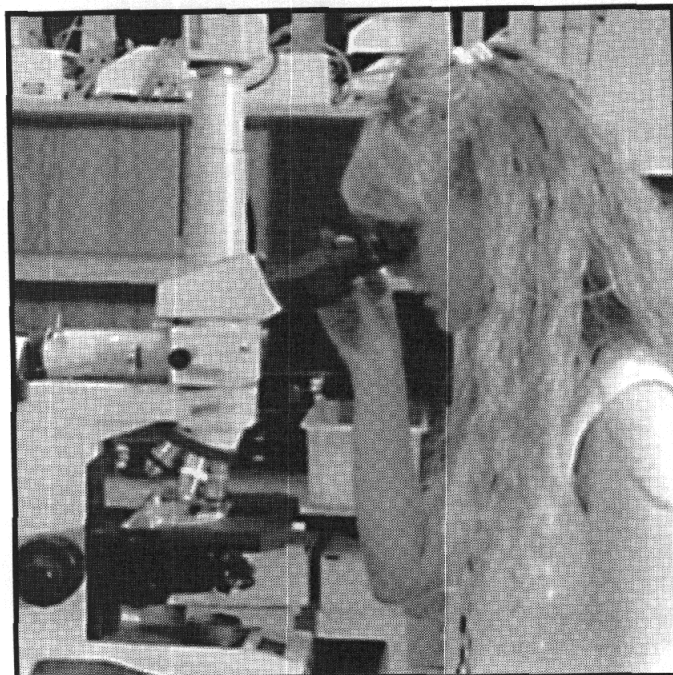
The Associate of Arts degree in Speech Communication provides students with a solid foundation for **careers** that involve a **high** degree of interaction **with** the public. Occupations involving marketing research, conference **and** special events planning, product/service demonstrations and sales **are** possible careers.

The Associate of Arts degree in Speech Communication provides the academic foundation to **successfully** complete a bachelor's degree at a four-year institution, and then to pursue a career in fields such as mass media, public relations, law, government, personnel, employee relations **and** education.

#### I. General Education Core 45 credit hours

See page 41.

II. Recommended Electives 15 credit hours	
A. SPCH 1311	Fundamentals of Speech Communication ...3
B. SPCH 1315	Public Speaking .....3
C. SPCH 1318	Interpersonal Communication .....3
D. SPCH 1321	Business and Professional Speaking .....3
E. SPCH 1371	Public Speaking II .....3
F. SPCH 2341	Oral Interpretation .....3
G. SPCH 2370	Language and Communication .....3
H. COMM 2331	Radio and TV Announcing .....3
I. COMM 2332	Radio and TV News .....3
J. DRAM 1351	Acting I ..... 3
K. DRAM 1352	Acting II . . . . . 3

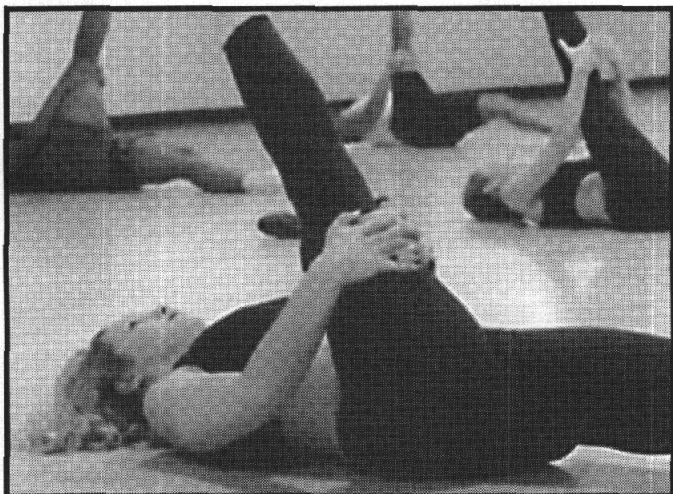


## ASSOCIATE OF SCIENCE

### TRANSFER DEGREE

The Associate of Science degree is awarded for any one of the following areas of concentration:

- Biology
- Chemistry
- Computer Science
- Engineering
- Geology
- Horticulture/Landscape Technology
- Mathematics
- Physical Education & Health
- Physics
- Pre-Dentistry
- Pre-Medicine
- Pre-Professional Studies in Law
- Pre Veterinary Medicine
- Pre-Pharmacy



### PRE-PROFESSIONAL PROGRAMS

No college/university awards a “pre” degree. Students are advised to consult with an academic adviser at CCCC to determine the area of concentration providing the most appropriate background (*freshman/sophomore courses*) for the programs listed above and for selected health science fields.

### EDUCATION

Suggested curriculum for Elementary (Interdisciplinary Studies) and Secondary Education majors is located in the transfer lab at Spring Creek Campus in G103, Central Park Campus in A108, and Preston Ridge Campus in F135, Founder’s Hall. Completion of the suggested curriculum along with the appropriate General Education Core will qualify students for an associate’s degree before transferring to a four-year institution. Check with a CCCC academic adviser for information

### COOPERATIVE WORK EXPERIENCE (CWE)

Under supervision of the college and the employer, students combine classroom learning with work experience. Credit is earned for specified hours worked, completion of specific learning objectives, and professional development seminar participation. This is an academic course requiring CWE permission to enroll. Students may use CWE placement assistance or seek approval for current career-related employment.



**BIOLOGY**

The Associate of Science degree with a biology concentration provides an educational foundation to prepare students to pursue university studies leading to a bachelor's degree in a science-related field. Today, more than ever, an understanding of biology is critical to human life and the future of the planet. Fast-paced developments in medicine, genetics and environmental issues can be bewildering without basic knowledge of biological science. An excellent instructional staff, computer-aided instruction, state-of-the-art laboratory facilities, and an emphasis on current research give biology students at CCCC a personalized, high quality educational experience.

**CAREER OPPORTUNITIES**

Many career opportunities are available in the biological sciences. In particular, the areas of health care, genetic research and environmental science are predicted to provide many job opportunities in the coming decade. The career areas listed below require training beyond the Associate of Science degree and some will require a post-graduate degree.

- Agriculture
- Allied Health Sciences
- Biotechnology
- Botany
- Dentistry
- Ecology
- Environmental Science
- Genetic Counseling
- Genetic Engineering
- Marine Science
- Medicine
- Medical Research
- Medical Technology
- Microbiology
- Nutrition and Dietary Science
- Pharmacology
- Physical Therapy
- Science Education
- Toxicology
- Veterinary Science
- Wildlife Biology

**I. General Education Core** **45 credit hours**  
See page 41.

**II. Recommended Electives** **15 credit hours**

A.	BIOL	1322	General Nutrition	.....3
B.	BIOL	1411	General Botany	.....4
C.	BIOL	1424	Systematic Botany	.....4
D.	BIOL	1470	Marine Biology	.....4
E.	BIOL	2370	Special Problems in Biology	.....3
F.	BIOL	2371	Special Topics in Biology	.....3
G.	BIOL	2389	Academic Co-op Biology	.....3
H.	BIOL	2401	Anatomy and Physiology I	.....4
I.	BIOL	2402	Anatomy and Physiology II	.....4
J.	BIOL	2406	Introductory Ecology	.....4
K.	BIOL	2416	Genetics	.....4
L.	BIOL	2418	Invertebrate Zoology	.....4
M.	BIOL	2420	Microbiology	.....4
N.	BIOL	2428	Comparative Vertebrate Anatomy	.....4
O.	BIOL	2470	Human Genetics	.....4

P.	CHEM	1411	General Chemistry I	.....4
Q.	CHEM	1412	General Chemistry II	.....4
R.	CHEM	2423	Organic Chemistry I	.....4
S.	CHEM	2425	Organic Chemistry II	.....4
T.	ENVR	1470	West Texas Natural History	.....4
U.	HISC	1300	Medical Terminology	.....3
V.	MATH	1342	Statistics	.....3
W.	PHYS	1401	General Physics I	.....4
X.	PHYS	1402	General Physics II	.....4
Y.	PHYS	2425	College Physics I	.....4
Z.	PHYS	2426	College Physics II	.....4

**CHEMISTRY**

The Associate of Science degree with a concentration in chemistry establishes an academic foundation for further studies in the sciences. Courses include general chemistry and organic chemistry, as well as an introduction to chemistry designed for students who are novices in the science disciplines.

Solving problems in chemistry requires creativity and curiosity as well as logic and reasoning. An excellent instructional staff, computer-aided instruction, laboratory facilities and current scientific literature give chemistry students at CCCC a personalized high quality educational experience.

**CAREER OPPORTUNITIES**

Modern society offers both challenging and lucrative careers to employees with scientific and technical backgrounds. Careers listed below demand a knowledge of chemistry and many require academic training beyond the Associate of Science degree.

- Biomedical Engineer
- Chemical Engineer
- Cosmetics Researcher
- Dietician
- Environmental Scientist
- Geophysicist
- Industrial Researcher
- Medical Technologist
- Nurse
- Oceanographer
- Perfumer
- Pharmacist
- Physician
- Veterinarian

**I. General Education Core** **45 credit hours**  
See page 41.

**II. Recommended Electives** **15 credit hours**

A.	CHEM	1170	Biochemistry	.....1
B.	CHEM	2389	Academic Co-op Chemistry	.....3
C.	CHEM	2401	Analytical Chemistry	.....4
D.	CHEM	2423	Organic Chemistry I	.....4
E.	CHEM	2425	Organic Chemistry II	.....4
F.	MATH	2415	Calculus III	.....4
G.	MATH	2320	Differential Equations	.....3
H.	PHYS	2425	College Physics I	.....4
I.	PHYS	2426	College Physics II	.....4

**COMPUTER SCIENCE**

(Also see Associate of Applied Science Computer Science Software Development)

The Associate of Science degree with a concentration in computer science prepares students for work in a variety of related areas. The course work for a BS in Computer Science is similar at most four-year institutions; however, the student is advised to consult an academic adviser when deciding upon which university to attend and which course of study to pursue.

**CAREER OPPORTUNITIES**

Presently more than two-thirds of all technical, and a large percentage of managerial positions in industry, are occupied by software engineers and computer scientists. The computer science program prepares students for transfer to a four-year institution where they can specialize in such disciplines as Computer Science and Computer Software Engineering.

**I. General Education Core****45 credit hours**

See page 41.

**II. Recommended Electives****15 credit hours**

15 credit hours minimum

A.	COSC	1317	Scientific Programming	.....3
B.	COSC	1318	Programming Concepts Using Pascal	.....3
C.	COSC	1320	Structured Programming in C++	.....3
D.	COSC	2318	Data Structures Using Pascal	.....3
E.	COSC	2325	Assembly Language	.....3
F.	ENGL	2311	Technical Writing	.....3
G.	ENGL	2xxx	Any Sophomore Literature Course	.....3
H.	MATH	2318	Linear Algebra	.....3
I.	PHIL	2303	Logic	.....3

**ENGINEERING**

The Associate of Science degree in engineering prepares students for transfer to four-year institutions in most engineering degrees. The student is advised to consult with an academic adviser when selecting a transfer college or university.

**CAREER OPPORTUNITIES**

Presently more than two-thirds of all technical, and a large percentage of managerial positions in industry, are occupied by engineers. The engineering program prepares students for transfer to a four-year institution where they can specialize in such disciplines as:

- Aerospace Engineering
- Agriculture Engineering
- Bioengineering
- Biochemical & Food Engineering
- Chemical Engineering
- Civil Engineering
- Computer Science Engineering
- Electrical Engineering
- Forest Engineering
- Industrial Engineering
- Mechanical Engineering
- Nuclear Engineering
- Ocean Engineering
- Petroleum Engineering
- Radiological Health Engineering

**I. General Education Core****45 credit hours**

See page 41.

**II. Recommended Electives****15 credit hours**

A.	ENGR	1304	Engineering Graphics	.....3
B.	ENGR	2301	Engineering Mechanics I	.....3
C.	ENGR	2302	Engineering Mechanics II	.....3
D.	ENGR	2332	Materials and Processes	.....3
E.	ENGR	2405	Electrical Circuit Analysis	.....3
F.	CHEM	1411	General Chemistry I	.....4
G.	CHEM	1412	General Chemistry II	.....4
H.	COSC	1318	Programming Concepts Using Pascal	.....3
I.	ENGL	2311	Technical Writing	.....3
J.	MATH	2318	Linear Algebra	.....3
K.	MATH	2320	Differential Equations	.....3
L.	MATH	2415	Calculus III	.....4

**GEOLOGY**

The science of geology seeks to understand the earth and the natural processes that act within the earth's environment. The basic concepts of geology overlap several disciplines. A knowledge of geology provides a background for careers in geology and environment fields.

The Associate of Science degree with a concentration in geology prepares the student to pursue university studies leading to a bachelor's degree. The basic AS program in geology prepares the student for further education in fields such as *geology, environmental science, or resource management*. Students seeking advanced degrees in geological or environmental fields should select electives related to their field of interest.

Students planning to transfer to a four-year institution should check with the specific degree plan requirements of their intended major.

**CAREER OPPORTUNITIES**

Geology students may select a career in a wide range of geological and environmental fields. The student should bear in mind that most of these career areas require education or training beyond the Associate of Science degree. Career fields available to the geology student include:

- Geology
- Geophysics
- Geochemistry
- Seismology
- Mining Technology
- Environmental Science
- Environmental Engineering
- Oceanography
- Soil Science
- Civil Engineering
- Hydrogeology
- Resource Management
- Waste Management
- Land-use Planning

**I. General Education Core****45 credit hours**

See page 41.

**II. Recommended Electives****15 credit hours**

A.	GEOL	1402	Dinosaurs!	.....4
B.	GEOL	1405	Environmental Geology	.....4

C.	GEOL	2409	Rock and Minerals Identification	.....4
D.	GEOL	2389	Academic Co-op Geology	.....3
E.	CHEM	1411	General Chemistry I	.....4
E	CHEM	1412	General Chemistry II	.....A
G.	COSC	1318	Programming Concepts Using Pascal	.....3
H.	ENGL	2311	Technical Writing	.....3
I.	ENVR	1470	West Texas Natural History	.....4
J.	MATH	1342	statistics	.....3
K.	MATH	2413	calculus I	.....4
L.	MATH	2414	calculus II	.....4
M.	PHYS	2425	College Physics I	.....4
N.	PHYS	2426	College Physics II	.....4

## HORTICULTURE/LANDSCAPE TECHNOLOGY

(Also see Associate of Applied Science Horticulture Technology)

The demand for developing new plants through research increases continuously. Students interested in continuing their education at a four-year university may begin by completing the core courses offered through the AS-Horticulture curriculum. Smaller class size allows students greater opportunity for individual study and prepares them for advanced courses in Horticultural Science at a university.

### CAREER OPPORTUNITIES

- Extension Horticulturist
- Plant Research and Development
- County Agent
- Horticultural Education
- Department of Agriculture

#### I. General Education Core 45 credit hours

See page 41.

#### II. Recommended Electives 15 credit hours

A.	HORT	1300	Basic Horticulture	.....3
B.	HORT	1305	Soils and Plant Nutrition	.....3
C.	HORT	1310	Plant Pests and Controls	.....3
D.	HORT	1315	Interior Plants	.....3
E.	HORT	1400	Woody Plant Materials	.....4
E	HORT	1401	Herbaceous Plant Materials	.....4
G.	HORT	2325	Plant Propagation Techniques	.....4
H.	AGRI	1407	Agronomy	.....4

The Associate of Science degree provides general academic courses and electives that enable students who intend to major in mathematics to transfer to four-year institutions. Because of the various transfer requirements of different four-year institutions, and to ensure enrollment in appropriate courses, students should consult with a CCCC adviser and the institution which they plan to attend.

The mathematics program offers courses which meet general mathematics requirements for associate degrees and for transfer and technical programs. More advanced courses prepare students for majors in mathematics, science and engineering. All courses include calculator or computer use, and lab components emphasize applications of mathematical concepts. Mathematics instruction at CCCC features a well-qualified instructional staff and a mathematics laboratory providing personal, computer and audio-visual tutorial assistance.

### CAREER OPPORTUNITIES

Mathematics majors have many potential career opportunities. They may provide technical assistance in business, engineering science, medicine and many other fields. In addition, a knowledge of mathematics plays a crucial role in providing access to a wide range of technical information in areas that are not so obviously dependent upon mathematics.

- Actuary
- Statistician
- Teacher
- consultant
- Operations Researcher

#### I. General Education Core 45 credit hours

See page 41.

#### II. Recommended Electives 15 credit hours

A.	MATH	2312	Pre-Calculus for Math and Science	.....3
B.	MATH	2318	Linear Algebra	.....3
C.	MATH	2320	Differential Equations	.....3
D.	MATH	2389	Academic Co-op Mathematics	.....3
E.	MATH	2413	Calculus I	.....4
E	MATH	2414	Calculus II	.....4
G.	MATH	2415	Calculus III	.....4
H.	COSC	1318	Programming Concepts Using Pasd	.....3
I.	ENGL	2311	Technical Writing	.....3
J.	ENGL	2xxx	Any Sophomore Literature Course	.....3
K.	PHIL	2303	Logic	.....3

## PHYSICAL EDUCATION & HEALTH

The Associate of Science degree provides general academic courses and electives that enable students who intend to major in physical education and health to transfer to four-year institutions. Because of the various transfer requirements of different four-year institutions, and to ensure enrollment in appropriate courses, students should consult with a CCCC adviser and the institution which they plan to attend.

Students may earn an Associate of Science degree with a concentration in physical education. The degree program emphasizes the inter-relatedness of several fields of study. Physical skills and knowledge are acquired through the physical education activity and theory classes. Offerings in the humanities, social sciences and biological sciences also prepare the student for a career in physical education.



**CAREER OPPORTUNITIES**

Physical education offers challenging, rewarding careers. Listed below are some of the possibilities, many of which may require training beyond the Associate of Science degree.

- Athletic Director
- Personal Trainer
- Aerobic Instructor
- Athletic Trainer
- Coach
- Fitness Center Instructor
- Recreation Coordinator
- Sports Administrator
- Sports Medicine
- Teacher

**I. General Education Core 45 credit hours**

See page 41.

**II. Recommended Electives 15 credit hours**

- |              |  |
|--------------|--|
| A. PHED 1238 | Concepts of Physical Fitness and Wellness . . .2 |
| B. PHED 1301 | Introduction to Physical Education . . . . .3    |
| C. PHED 1304 | Personal Health . . . . .3                       |
| D. PHED/DANC | Any Activity Course . . . . .1                   |
| E. PHED 2389 | Academic Co-op Physical Education . . . . .3     |
| F. BIOL 2401 | Anatomy and Physiology I . . . . .4              |
| G. BIOL 2402 | Anatomy and Physiology II . . . . .4             |
| H. PSYC 2301 | General Psychology . . . . .3                    |

**PHYSICS**

The Associate of Science degree provides general academic courses and electives that enable students who intend to major in physics to transfer to four-year institutions. Because of the various transfer requirements of different four-year institutions, and to ensure enrollment in appropriate courses, students should consult with a CCCC adviser and the institution which they plan to attend.

The science of physics seeks to understand the physical universe and deals with the behavior of matter and energy at the most fundamental level. By observation, physicists search for the basic principles that explain natural phenomena. The concepts of physics overlap many disciplines. A knowledge of physics provides a strong background for careers in science, engineering, computer technology or education.

The Associate of Science degree with a concentration in physics prepares the student to pursue university studies leading to a bachelor's degree. The basic AS program, at the general physics level, prepares students for further education in fields such as biology, medicine or secondary education. Students seeking a bachelor's degree in fields such as physics, engineering or computer science will require the more advanced mathematics and physics.

Students planning to transfer to a four-year institution should check with the specific degree plan requirements of their intended major.

**DEGREE REQUIREMENTS**

Depending on the career plans of the student, the physics emphasis will be at either the general physics or the college physics level.

**CAREER OPPORTUNITIES**

Physics students may select a career in a wide range of scientific and technical fields. Students should bear in mind that most of these career areas require education or training beyond the Associate of Science degree. Career fields available to the physics student include:

- Aerospace Technology
- Astronomy
- Biophysics
- Chemistry
- Computer Science
- Elementary or Secondary Education
- Engineering-Civil, Electrical or Industrial
- Geophysics
- Hydrogeology
- Medicine
- Meteorology
- Patent Law
- Physics
- Seismology

**I. General Education Core 45 credit hours**

See page 41.

**a. General Physics Level**

Students seeking degrees in biology or pre-medical should select general physics.

**b. College Physics Level**

Students seeking advanced degrees in science and engineering fields should select advanced levels of math and physics sequences (such as courses listed below) for the AS degree.

- |           |                    |
|-----------|--------------------|
| PHYS 2425 | College Physics I  |
| PHYS 2426 | College Physics II |
| MATH 2413 | Calculus I         |
| MATH 2414 | Calculus II        |

**II. Recommended Electives 15 credit hours**

- |              |  |
|--------------|--|
| A. PHYS 1411 | Elementary Astronomy . . . . .4  |
| B. PHYS 2389 | Academic Co-op Physics . . . . .3                                      |
| C. CHEM 1411 | General Chemistry I . . . . .4   |
| D. CHEM 1412 | General Chemistry II . . . . .4  |
| E. COSC 1318 | Programming Concepts Using Pascal . . . . .3                           |
| F. ENGL 2311 | Technical Writing . . . . .3   |
| G. MATH 2312 | Pre-Calculus for Mathematics and Science<br>(General Level) . . . . .3 |
| H. MATH 2318 | Linear Algebra (College Level) . . . . .3                              |
| I. MATH 2320 | Differential Equations (College Level) . . . . .3                      |
| J. MATH 2415 | Calculus III (College Level) . . . . .4                                |



## **ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAMS & CERTIFICATES**

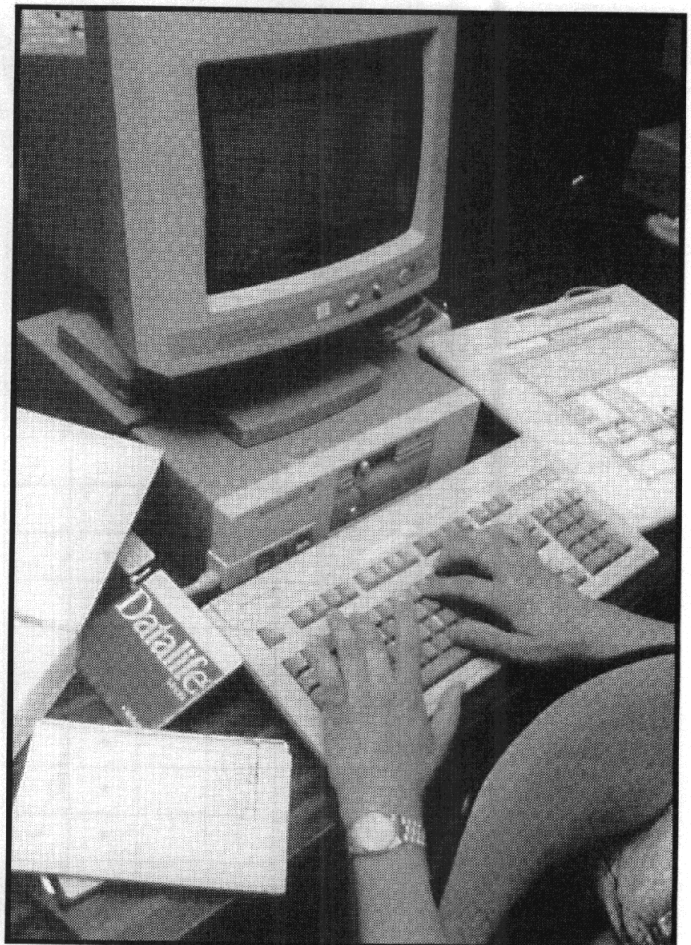
### **TECHNICAL DEGREES**

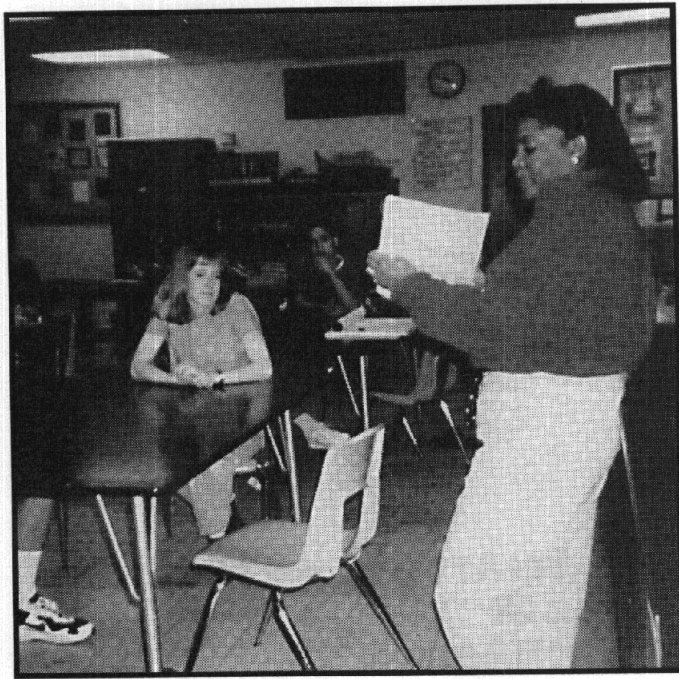
Please refer to the next page for a complete list of career and technical degrees.

### **COOPERATIVE WORK EXPERIENCE (CWE)**

Under supervision of the college and the employer, students combine classroom learning with work experience. Credit is earned for specified hours worked, completion of specific learning objectives, and professional development seminar participation. This is an academic course requiring CWE permission to enroll. Students may use CWE placement assistance or seek approval for current career-related employment.

**SEE THE FOLLOWING PAGES FOR DEGREE PLANS.**





## CAREER AND TECHNICAL DEGREES

### CAREER PROGRAMS

PROGRAM	Associate of Applied Science	Specialization	Certificate	Enhanced Skills Cert. for Tech Prep
<b>Applied Graphic Design Technology</b>	•			
Animation			•	
Computer Graphics			•	
Digital Photography			•	
Digital Video		•		
Graphic Design		•		
Illustration			•	
Internet/Web Design			•	
Multimedia		•	•	
<b>Child Development</b>				
Early Childhood Administrator			•	
Early Childhood Educator			•	
<b>Computer Aided Drafting and Design</b>	•		•	•
Autocad			•	
Commercial Interior Design		•	•	

	Associate of Applied Science	Specialization	Certificate	Enhanced Skills Cert. for Tech Prep
Electronic Design		•	•	
Manufacturing		•	•	
<b>Computer Information Systems</b>	•			•
Business Multimedia Technology		•		
Business Programming		•		
Computer Applications			•	
Computer Operating Systems			•	
Computer Systems		•		
Microcomputer Applications		•		
Information Systems Management			•	
Multimedia Authoring Specialist			•	
Multimedia Presentation Technician			•	
<b>Computer Network Technology</b>	•			
Computer Network Technology			•	
Computer Network Technology Hardware			•	
Computer Network Technology Software			•	



	Associate of Applied Science	Specialization	Certificate	Enhanced Skills Cert. for Tech Prep
<b>Computer Science/Software Development</b>	•			
Assembly Language Programming			■	
Business Programming			■	
C Programming			•	
Programming for Educators			•	
<b>Criminal Justice</b>	•			•
Corrections		■	•	
Law Enforcement		•	•	
<b>Dental Hygiene</b>	■			
<b>Dietary Manager</b>			■	
<b>Electronic Technology</b>	•		•	•
Communications Systems Installation & Repair		•	■	
Computer Maintenance		•	•	
General Electronic Technology		•		
Instrumentation		•	■	
Electronic Engineering Technology	•		•	
<b>Emergency Medical Services</b>			■	
<b>Fire Science</b>	•			
Basic Firefighter			■	
<b>Horticulture Technology</b>				
Horticulture				
Landscape		•		
Landscape Industry			■	
Professional Turf Management				
<b>Interpreter Preparation/Deaf</b>	■			
<b>Legal Assistant/Paralegal</b>	•			
Legal Assistant General			•	
Legal Assistant Specialty			•	
<b>Management Development</b>	•		•	•
<b>Marketing</b>	•			
Marketing/Advertising			•	
Marketing/Fashion			•	
Marketing/International			•	
Marketing/Management			•	

	Associate of Applied Science	Specialization	Certificate	Enhanced Skills Cert. for Tech Prep
Marketing/Research			•	
Marketing/Retailing			•	
Marketing/Sales			•	
Fashion Marketing		•		
<b>Music, Commercial</b>	■			
Audio Engineering		■		
<b>Composer/Arranger/Copyist</b>		•		
Performing Musician		•		
<b>Nursing (ADN)</b>	■			
<b>Office Administration</b>	•			
Administrative Support			•	
Enhanced Office Technology				•
Entry-Level Accounting Clerk			•	
Entry-Level Office Support			■	
<b>Entry-Level Medical Office Support</b>			•	
Legal Office Support			•	
Medical Administrative Assistant			•	
<b>Mid-Level Medical Transcription</b>			•	
Mid-Level Office Support			■	
Word Processing			•	
<b>Phlebotomy</b>			■	
<b>Physical Therapist Assistant</b>	■			
<b>Real Estate</b>	•			
Real Estate General			•	
Real Estate Advanced			■	
<b>Respiratory Care</b>	■			
<b>Semiconductor Manufacturing Technology</b>	•			
Semiconductor Manufacturing Operator			•	
<b>Small Business Management</b>			•	

■ Special Admission Requirement

**Note.** Tech Prep courses are noted within specific A.A.S. programs.

**APPLIED GRAPHIC DESIGN TECHNOLOGY**

67 credit hours minimum to graduate

The program in Applied Graphic Design Technology trains today's artists and designers in the communication medium of the future as well as the present computer-aided communication design. Students work with state-of-the-art hardware and software, creating professional-level publishing, graphics, illustration, animation and imaging. Students also design software and human interface applications. Leading-edge industries support the program fiscally and act as a source of referral and employment for our graduates.

Apple Computer has named CCCC's Applied Graphic Design Technology department one of only three Apple Multimedia Regional Centers in the country. The high visibility of this center enhances CCCC graduates' employment possibilities.

Applied Graphic Design Technology offers an Associate of Applied Science degree with specialization in graphic design, multimedia or digital video. Certificates are also offered in animation, multimedia, computer graphics, digital photography, illustration and Internet/web design.

Students receive a strong background in traditional graphics and illustration together with state-of-the-art training in electronic publishing, imaging, graphics, 3D modeling animation and interactive multimedia. A student ad agency and an active internship program help to bridge the gap from formal training to full-time employment. Students may elect to take Cooperative Work Experience (AGDT 7300) to obtain practical experience in the career field.

Students completing the two-year Commercial Art program in the Plano ISD or the two-year Commercial Art Cluster at Skyline High School may be eligible to receive credit through articulation. Contact the admissions office or program coordinator.

**CAREER OPPORTUNITIES**

Jobs in the Applied Graphic Design Technology field are varied and depend upon the business or agency speciality. Listed below are some of the career opportunities:

- |                                       |                                |
|---------------------------------------|--------------------------------|
| • Production Artist                   | • Graphic Designer             |
| • Art Director                        | • Illustrator                  |
| • Computer Graphics Production Artist | • Computer Illustrator         |
| • Multimedia Director/Author          | • Computer Animator            |
| • Computer Visualization Artist       | • Digital Photo Retouch Artist |

**I. General Education Core** **22 credit hours**  
See page 42.

**II. Technical Core** **12 credit hours**

- |              |  |
|--------------|--|
| A. AGDT 1300 | Survey of Applied Graphic Design Technology . . .3 |
| B. AGDT 1310 | Introduction to Computer Graphics . . . . .3       |
| C. AGDT 1320 | Introduction to Electronic Imaging . . . . .3      |
| D. AGDT 2370 | Professional Practices . . . . .3                  |
- (Exit course. Consent of coordinator required)

**III. Major Courses**

**Graphic Design Specialization** **33 credit hours**

70 Total Credit Hours required for Graphic Design Specialization.

- |              |   |
|--------------|---|
| A. AGDT 1315 | Computer Typography . . . . .3                |
| B. AGDT 1325 | Visual Communications I . . . . .3            |
| C. AGDT 1330 | Beginning Illustration . . . . .3             |
| D. AGDT 1331 | 2D Computer Illustration . . . . .3           |
| E. AGDT 2325 | Electronic Publishing for Graphic Design . .3 |
| F. AGDT 2326 | Graphic Design for Production . . . . .3      |
| G. AGDT 2365 | Ad Agency . . . . .3                          |
| H. ARTS 1311 | Traditional Design I . . . . .3               |
| I. ARTS 1316 | Drawing I . . . . .3                          |

Choose two of the following:

- |              |                                     |
|--------------|-------------------------------------|
| A. AGDT 1326 | Visual Communications II . . . . .3 |
| B. AGDT 2320 | Image Processing . . . . .3         |
| C. AGDT 2330 | Illustration . . . . .3             |
| D. ARTS 2332 | Life Drawing . . . . .3             |

**Electives** **3 credit hours**

- |              |  |
|--------------|--|
| A. AGDT 2331 | Advanced 2D Computer Illustration . . . . .3 |
| B. ARTS 2311 | Introduction to Color/Painting . . . . .3    |
| C. ARTS 2316 | Painting I . . . . .3                        |
| D. ARTS 1317 | Drawing II . . . . .3                        |
| E. ARTS 2333 | Printmaking I . . . . .3                     |

Any other AGDT course approved by coordinator

**Multimedia Specialization** **33 credit hours**

70 Total Credit Hours required for Multimedia Specialization.

- |              |   |
|--------------|---|
| A. AGDT 1332 | Introduction to 3D Computer Illustration . .3 |
| B. AGDT 1340 | Storyboard and Script Design . . . . .3       |
| C. AGDT 1348 | Interactive Design . . . . .3                 |
| D. AGDT 1350 | Introduction to Multimedia Authoring . . . .3 |
| E. AGDT 2332 | 3D Computer Illustration . . . . .3           |
| F. AGDT 2335 | 2D Computer Animation . . . . .3              |
| G. AGDT 2355 | Multimedia Studio . . . . .3                  |
| H. MUSI 2350 | Audio for Multimedia I . . . . .3             |

Choose three of the following:

- |              |   |
|--------------|---|
| A. AGDT 1315 | Computer Typography . . . . .3              |
| B. AGDT 1351 | Interactive Multimedia Authoring . . . . .3 |
| C. AGDT 2320 | Image Processing . . . . .3                 |
| D. AGDT 2336 | Advanced 2D Computer Animation . . . . .3   |
| E. AGDT 2340 | 3D Computer Animation . . . . .3            |
| F. AGDT 2341 | Advanced 3D Computer Animation . . . . .3   |
| G. ARTS 1311 | Traditional Design I . . . . .3             |

**Electives** **3 credit hours**

- |              |                                     |
|--------------|-------------------------------------|
| A. AGDT 1331 | 2D Computer Illustration . . . . .3 |
| B. ARTS 1316 | Drawing I . . . . .3                |
| C. ARTS 1317 | Drawing II . . . . .3               |

Any other AGDT course approved by coordinator

**Digital Video Specialization****27 credit hours**

67 Total Credit Hours required for Digital Video Specialization.

A.	AGDT	1340	Storyboard and Script Design	3
B.	AGDT	2355	Multimedia Studio	3
C.	AGDT	2360	Video for Multimedia	3
D.	AGDT	2361	Digital Post-Production for Multimedia	3
E.	MUSI	2350	Audio for Multimedia I	3
F.	MUSI	2351	Audio for Multimedia II	3

Choose three of the following:

A.	AGDT	1325	Visual Communications I	3
B.	AGDT	1331	2D Computer Illustration	3
C.	AGDT	2320	Image Processing	3
D.	AGDT	2332	3D Computer Illustration	3
E.	AGDT	2340	3D Computer Animation	3
F.	ARTS	1311	Traditional Design I	3
G.	ARTS	2356	Photography I	3
H.	COMM	1316	Photo Illustration	3
I.	DRAM	2366	History of Film Making I	3
J.	DRAM	2371	The Art of Directing	3
K.	DRAM	2371	Acting for Film and Television	3

**Electives****6 credit hours**

A.	ARTS	2356	Photography I	3
B.	COMM	1316	Photo Illustration	3
C.	DRAM	1341	Theatrical Makeup	3
D.	DRAM	1376	Introduction to Costuming	3
E.	DRAM	2366	History of Film Making I	3
F.	DRAM	2367	History of Film Making II	3
G.	DRAM	2371	Acting for Film and Television	3
H.	DRAM	2371	The Art of Directing	3

Any other AGDT course approved by coordinator

**APPLIED GRAPHIC DESIGN CERTIFICATE PROGRAMS**

Some of the courses in the certificate programs may require prerequisites. Please check the course descriptions in the back of this catalog.

**Animation Certificate****42 credit hours**

A.	AGDT	1300	Survey of Applied Graphic Design Tech.	3
B.	AGDT	1310	Introduction to Computer Graphics	3
C.	AGDT	1320	Introduction to Electronic Imaging	3
D.	AGDT	1332	Introduction to 3D Computer Illustration	3
E.	AGDT	1340	Storyboard and Script Design	3
F.	AGDT	1350	Introduction to Multimedia Authoring	3
G.	AGDT	2332	3D Computer Illustration	3
H.	AGDT	2335	2D Computer Animation	3
I.	AGDT	2336	Advanced 2D Computer Animation	3
J.	AGDT	2340	3D Computer Animation	3
K.	AGDT	2341	Advanced 3D Computer Animation	3
L.	AGDT	2355	Multimedia Studio	3

M.	AGDT	2370	Professional Practices	3
N.	MUSI	2350	Audio for Multimedia I	3

**Computer Graphics Certificate****36 credit hours**

A.	AGDT	1300	Survey of Applied Graphic Design Technology	3
B.	AGDT	1310	Introduction to Computer Graphics	3
C.	AGDT	1315	Computer Typography	3
D.	AGDT	1320	Introduction to Electronic Imaging	3
E.	AGDT	1325	Visual Communication I	3
F.	AGDT	1330	Beginning Illustration	3
G.	AGDT	1331	2D Computer Illustration	3
H.	AGDT	2325	Electronic Publishing for Graphic Design	3
I.	AGDT	2365	Ad Agency	3
J.	AGDT	2370	Professional Practices	3
K.	ARTS	1316	Drawing I	3
L.	ARTS	1311	Traditional Design I	3

**Digital Photography Certificate****39 credit hours**

A.	AGDT	1300	Survey of Applied Graphic Design	3
B.	AGDT	1310	Introduction to Computer Graphics	3
C.	AGDT	1325	Visual Communications I	3
or	AGDT	1340	Storyboard and Script Design	3
D.	AGDT	2335	2D Computer Animation	3
or	ARTS	2371	Digital Photography II	3
E.	AGDT	2365	Ad Agency	3
F.	AGDT	2370	Professional Practices	3
G.	ARTS	1311	Design I	3
H.	ARTS	2356	Photography I	3
I.	ARTS	2357	Photography II (Color Theory)	3
J.	ARTS	2371	Digital Photo I	3
K.	COMM	1316	Photo Illustration	3
L.	COMM	1317	Photographer - Client	3
M.	ELECTIVE:		(Select One)	3
	ARTS	2371	Contemporary Studies in the Visual Arts	

Special Topics:

- Fashion Photography
- Architectural Photography
- View Camera/Zone Systems
- Alternative Processes
- Advanced Color Photography

**Illustration Certificate****36 credit hours**

A.	AGDT	1300	Survey of Applied Graphic Design Technology	3
B.	AGDT	1310	Introduction to Computer Graphics	3
C.	AGDT	1320	Introduction to Electronic Imaging	3
D.	AGDT	1325	Visual Communications I	3
E.	AGDT	1330	Beginning Illustration	3
F.	AGDT	1331	2D Computer Illustration	3
G.	AGDT	2330	Illustration	3



## Associate of Applied Science

H.	AGDT	2365	Ad Agency	3
I.	AGDT	2370	Professional Practices	3
J.	ARTS	1311	Traditional Design I	3
K.	ARTS	1316	Drawing I	3
L.	ARTS	2323	Life Drawing	3

### Internet/Web Design Certificate

**36 credit hours**

A.	AGDT	1300	Survey of Applied Graphic Design Tech.	3
B.	AGDT	1310	Introduction to Computer Graphics	3
C.	AGDT	1320	Introduction to Electronic Imaging	3
D.	AGDT	1340	Storyboard and Script Design	3
E.	AGDT	1348	Interactive Design	3
F.	AGDT	2335	2D Computer Animation	3
G.	AGDT	2355	Multimedia Studio	3
H.	AGDT	2361	Digital Post-Production for Multimedia	3
or	AGDT	2332	3D Computer Illustration	3
I.	AGDT	2370	Professional Practices	3
J.	AGDT	2390	Special Topics: Multimedia for Internet	3
K.	AGDT	2391	Advance. Multimedia for the Internet	3
L.	MUSI	2350	Audio for Multimedia I	3

### Multimedia Certificate

**45 credit hours**

A.	AGDT	1310	Introduction to Computer Graphics	3
B.	AGDT	1315	Computer Typography	3
C.	AGDT	1320	Introduction to Electronic Imaging	3
D.	AGDT	1332	Introduction to 3D Computer Illustration	3
E.	AGDT	1340	Storyboard and Script Design	3
F.	AGDT	1348	Interactive Design	3
G.	AGDT	1350	Introduction to Multimedia Authoring	3
H.	AGDT	1351	Interactive Multimedia Authoring	3
or	AGDT	2336	Advanced 2D Computer Animation	3
I.	AGDT	2332	3D Computer Illustration	3
J.	AGDT	2335	2D Computer Animation	3
K.	AGDT	2340	3D Computer Animation	3
L.	AGDT	2355	Multimedia Studio	3
M.	AGDT	2361	Digital Post-Production for Multimedia	3
N.	AGDT	2370	Professional Practices	3
O.	MUSI	2350	Audio for Multimedia I	3

## CHILD DEVELOPMENT CERTIFICATE

(Also a Tech Prep Program)

24-26 credit hours depending on specialization

The Child Development Certificate program is a one-year curriculum designed to prepare individuals for entry-level positions working with young children and their families. The course work can also be applicable as in-service training for teachers, administrators, nannies and family day home providers.

A developmental approach is emphasized which promotes optimal physical, social, emotional, and cognitive growth of children. Students learn management skills which allow them to provide quality programs in safe, nurturing environments.

The classroom learning experiences are supplemented by laboratory activities which promote observational skills and multi-cultural, non-sexist approaches to teaching. Student receive training in observation and evaluation procedures; practice skills necessary for planning, organizing, communicating, and supervising; and learn to work cooperatively with parents and community services.

### REQUIREMENTS FOR ALL CHDV STUDENTS

To participate in the Child Development Center and receive credit for the lab component of courses, the following requirements must be met:

1. Enroll in a CCCC child development course.
2. Within the first week of your first child development course, provide a copy of acceptable tuberculosis test results. Continuing students must submit acceptable tuberculosis results every two years.
3. Complete and sign a student record form as a contract to ensure the following:
  - Verification that you have read and agree to abide by the Texas Minimum Standards for day care centers
  - Verification that you have read and agree to follow the laboratory student guidelines
  - Information provided to a criminal history check by the Texas Department of Protective and Regulatory Services
  - Confirmation that confidentiality and professional discretion will be observed at all times
  - Personal release for video-taping for instructional purposes

Our records should always contain current personal information and is the student's responsibility to keep this information current.

Students need to pick up a CHDV registration packet in the Health Sciences, Physical Education, and Child Development Offices; the Child Development Lab Schools.

Tech Prep students who took collegiate-level courses in Child Development while in high school may elect to receive college credit by contacting a CCCC advisor. A petition for Tech Prep credit should be completed as soon as possible upon admission to CCCC.

## CAREER OPPORTUNITIES

The Child Development Certificates are designed to provide the necessary preparation to work as a day care director, director of children's programs or an educational director. The skills acquired will be directly applicable in a variety of facilities including:

- Child Care Centers
- Preschool Programs
- Family Day Homes
- Employer-Sponsored Child Care
- Church-Sponsored Child Care
- Hospital-Sponsored Child Care
- Before and After School Programs
- Community Center Programs
- Parent and Child Study Programs
- Teacher's Aide
- Director, Assistant Director, Manager or Educational Coordinator in Children's Programs
- In-Home Care Giver or Nanny

## CHILD DEVELOPMENT CERTIFICATE PROGRAMS

Some of the courses in the certificate programs may require prerequisites. Please check the course descriptions in the back of this catalog.

I. Technical Core		18 credit hours
A. CHDV 1300	Early Child Development (0-3)*	3
or CHDV 1301	Early Child Development (3-5)*	3
B. CHDV 1305	Early Childhood Fundamentals*	3
C. CHDV 1310	Nutrition, Health and Safety	3
D. CHDV 1315	Child Guidance	3
E. CHDV 2305	Parents and the Caregiver	3
F. CHDV 2310	Practicum A	3

\*These Tech Prep courses may have been taken in high school.

## II. Major Courses

Choose from Early Childhood Administration or Early Childhood Educator

Early Childhood Administrator		6 credit hours
A. CHDV 2315	Administration of Early Childhood Programs	3
B. CHDV 2316	Organization & Management of Early Childhood Programs	3

Early Childhood Educator		8 credit hours
A. CHDV 2400	Material and Activities Development I	4
B. CHDV 2401	Material and Activities Development II	4

## COMPUTER AIDED DRAFTING & DESIGN

(Also a Tech Prep program)

64 to 70 credit hours depending on the specialization

High-tech industries are constantly creating new career opportunities in exciting, highly specialized fields. The degree opportunities in Computer Aided Drafting and Design (CADD) provides both an educational foundation in computer-aided design and insight into current industry practices. Students in CCCC's intensive CADD hands-on training program are taught the skills a designer, draftsman, architect, or engineer needs for successful CADD operations. The Electronic Design Specialization provides an educational foundation in computer aided Printed Circuit Board (PCB) design. Students in the Manufacturing Specialization are taught the skills the CADD/CAM technician needs to seek high-tech career opportunities in this rapidly growing field. Commercial interior design specialization is an upcoming, fast emerging career field for CADD students. The Interior Design Specialization will prepare the student for a rewarding career in this field. It will also provide the student with a strong foundation in preparation for transfer to many four-year institutions.

Tech prep students who took collegiate-level courses in CADD while in high school may elect to receive college credit by contacting a CCCC advisor. A petition for Tech Prep credit should be completed as soon as possible upon admission to CCCC.

## CAREER OPPORTUNITIES

Enjoy a profitable career in a modern business environment. Expanding job market possibilities related to drafting and design exist in such industries as:

- Manufacturing Firms
- Research Organizations
- Aircraft Industry
- Governmental Agencies
- Computer Centers
- Architectural Firms

## General CADD Specialization

64 credit hours required to graduate

I. General Education Core	22 credit hours
See page 42.	
MATH 1314 (or higher) and CADD 1301 (substituted for COSC 1306) are required for this program.	

II. Technical Core		15 credit hours
A.	ELET 1440	AC/DC Fundamentals . . . . . 4
B.	MATH 2312	Pre-Calculus for Mathematics and Science . 3
C.	PHYS 1401	General Physics I . . . . . 4
D.	PHYS 1402	General Physics II . . . . . 4

III. Major Courses		18 credit hours
A. CADD 1302	Technical Graphics I*	3
B. CADD 1303	Technical Graphics II*	3

## Associate of Applied Science

C.	CADD	1304	Computer Aided Drafting	3
D.	CADD	2303	Advanced CADD	3
E.	CADD	2305	Electronic PCB Drafting	3
F.	CADD	2307	Manufacturing Processes	3

*\*These Tech Prep courses may have been taken in high school.*

IV. Electives				9 credit hours
A.	CADD	2301	Technical Illustration	3
B.	CADD	2302	Computer Aided Design	3
C.	CADD	2306	Descriptive Geometry	3
D.	CADD	7300	Cooperative Education I	3
E.	CADD	7305	Cooperative Education II	3
F.	CADD	7310	Cooperative Education III	3
G.	COSC	2390	Advanced Topics - Autolisp	3

### Manufacturing Specialization

70 credit hours required to graduate

I. General Education Core				22 credit hours
See page 42.				
MATH 1314 (or higher) and CADD 1301 (substituted for COSC 1306) are required for this program.				

II. Technical Core				15 credit hours
A.	ELET	1440	AC/DC Fundamentals	4
B.	MATH	2312	Pre-Calculus for Mathematics and Science	3
C.	PHYS	1401	General Physics I	4
D.	PHYS	1402	General Physics II	4

III. Major Courses				21 credit hours
A.	CADD	1302	Technical Graphics I*	3
B.	CADD	1303	Technical Graphics II*	3
C.	CADD	1304	Computer Aided Drafting	3
D.	CADD	2303	Advanced CADD	3
E.	CADD	2307	Manufacturing Processes	3
F.	CADD	2308	NC Programming	3
G.	CADD	2309	Computer Integrated Manufacturing	3

*\*These Tech Prep courses may have been taken in high school.*

IV. Electives				12 credit hours
A.	CADD	2301	Technical Illustration	3
B.	CADD	2302	Computer Aided Design	3
C.	CADD	2306	Descriptive Geometry	3
D.	CADD	7300	Cooperative Education I	3
E.	CADD	7305	Cooperative Education II	3
F.	CADD	7310	Cooperative Education III	3
G.	COSC	2390	Advanced Topics - Autolisp	3

### Electronic Design Specialization

67 credit hours required to graduate

I. General Education Core				22 credit hours
See page 42.				
MATH 1314 (or higher) and CADD 1301 (substituted for COSC 1306) are required for this program.				

II. Technical Core				18 credit hours
A.	ELAT	2335	Digital Control Applications	3
B.	ELAT	2425	Active Devices	4
C.	ELET	1400	Circuit Analysis I	4
D.	ELET	1401	Circuit Analysis II	4
E.	MATH	2312	Pre-Calculus for Mathematics and Science	3

III. Major Courses				21 credit hours
A.	CADD	1302	Technical Graphics I*	3
B.	CADD	1303	Technical Graphics II*	3
C.	CADD	1304	Computer Aided Drafting	3
D.	CADD	2303	Advanced CADD	3
E.	CADD	2305	Electronic PCB Drafting	3
F.	CADD	2310	Printed Circuit Board Design	3
G.	CADD	2311	Advanced Printed Circuit Board Design	3

*\*These Tech Prep courses may have been taken in high school.*

IV. Electives				6 credit hours
A.	CADD	2301	Technical Illustration	3
B.	CADD	2302	Computer Aided Design	3
C.	CADD	2306	Descriptive Geometry	3
D.	CADD	7300	Cooperative Education I	3
E.	CADD	7305	Cooperative Education II	3
F.	CADD	7310	Cooperative Education III	3
G.	COSC	2390	Advanced Topics - Autolisp	3

### Commercial Interior Design Specialization

67 credit hours required to graduate

I. General Education Core				22 credit hours
See page 42.				
II. Technical Core				12 credit hours
A.	BUSI	1301	Introduction to Business <sup>1</sup>	3
B.	CADD	1301	Computer Graphics Systems*	3
C.	CADD	1302	Technical Graphics I*	3
D.	CADD	1304	Computer Aided Drafting	3

<sup>1</sup> SBMT 1300 may be substituted for BUSI 1301

*\*These Tech Prep courses may have been taken in high school.*

III. Major Courses				21 credit hours
A.	ARTS	1311	Traditional Design I	3
B.	ARTS	1316	Drawing I	3
C.	ARTS	2311	Introduction to Color/Painting	3
D.	CADD	2302	Computer Aided Design	3
E.	INTD	1301	Applied Interior Design I	3
F.	INTD	2302	Applied Interior Design II	3
G.	INTD	2303	Applied Interior Design III	3

IV. Electives				12 credit hours
A.	ARTS	1303	Art History I	3
B.	ARTS	1304	Art History II	3
C.	ARTS	2366	Watercolor I	3
D.	CADD	2301	Technical Illustration	3
E.	CADD	2303	Advanced CADD	3
F.	CADD	7300	Cooperative Education I	3



G.	CADD	7305	Cooperative Education II	.....3
H.	CADD	7310	Cooperative Education III	.....3
I.	COSC	2390	Advanced Topics-Autolisp	.....3
J.	HORT	1315	Interior Plants	.....3
K.	HORT	2300	Introduction Landscape Design	.....3
L.	MRKT	1305	Principles of Marketing	.....3
M.	MRKT	1310	Principles of Advertising	.....3
N.	SBMT	1310	Principles of Retailing	.....3

### ENHANCED SKILLS CERTIFICATE

The Enhanced Skills Certificate in Computer Aided Drafting and Design provides additional training in specific job skills which supplement those acquired within the curriculum for an AAS degree in Computer Aided Drafting and Design. Students will have an opportunity to acquire those employment-related skills while completing the AAS degree requirements or subsequent to earning their AAS in Computer Aided Drafting and Design.

#### Enhanced Skills Certificate Requirements 9 credit hours

A.	CADD	2301	Technical Illustration	.....3
B.	CADD	2302	Computer Aided Design	.....3
C.	COSC	2390	Advanced Topics-Autolisp	.....3

### CADD CERTIFICATE PROGRAMS

Some of the courses in the certificate programs may require prerequisites. Please check the course descriptions in the back of this catalog.

#### I. Autocad Certificate 15 credit hours

A.	CADD	1301	Computer Graphics Systems*	.....3
B.	CADD	1304	Computer Aided Drafting	.....3
C.	CADD	2302	Computer Aided Design <sup>1</sup>	.....3
D.	CADD	2303	Advanced CADD	.....3
E.	COSC	2390	Advanced Topics- Autolisp <sup>1</sup>	.....3

\* This Tech Prep course may have been taken in high school.

<sup>1</sup>Enhanced Skills Certificate

#### II. Commercial Interior Design Certificate 30 credit hours

A.	ARTS	1311	Traditional Design I	.....3
B.	ARTS	1312	Design II	.....3
C.	ARTS	1316	Drawing I	.....3
D.	CADD	1301	Computer Graphics Systems	.....3
E.	CADD	1302	Technical Graphics I	.....3
F.	CADD	1304	Computer Aided Drafting	.....3
G.	CADD	2302	Computer Aided Design	.....3
H.	INTD	1301	Applied Interior Design I	.....3
I.	INTD	2302	Applied Interior Design II	.....3
J.	INTD	2303	Applied Interior Design III	.....3

#### III. Computer Aided Drafting and Design Certificate 30 credit hours

A.	CADD	1301	Computer Graphics Systems*	.....3
B.	CADD	1302	Technical Graphics I	.....3
C.	CADD	1303	Technical Graphics II	.....3
D.	CADD	1304	Computer Aided Drafting	.....3
E.	CADD	2301	Technical Illustration <sup>1</sup>	.....3
F.	CADD	2302	Computer Aided Design <sup>1</sup>	.....3
G.	CADD	2303	Advanced CADD	.....3
H.	CADD	2305	Electronic PCB Drafting	.....3
I.	CADD	2307	Manufacturing Processes	.....3
J.	COSC	2390	Advanced Topics-Autolisp <sup>1</sup>	.....3

\* This Tech Prep course may have been taken in high school.

<sup>1</sup>Enhanced Skills Certificate

#### IV. Electronic Design Certificate 39 credit hours

A.	CADD	1301	Computer Graphics Systems*	.....3
B.	CADD	1302	Technical Graphics I*	.....3
C.	CADD	1303	Technical Graphics II*	.....3
D.	CADD	1304	Computer Aided Drafting	.....3
E.	CADD	2303	Advanced CADD	.....3
F.	CADD	2305	Electronic PCB Drafting	.....3
G.	CADD	2310	Printed Circuit Board Design	.....3
H.	CADD	2311	Advanced Printed Circuit Board Design	.....3
I.	ELAT	2335	Digital Control Applications	.....3
J.	ELAT	2425	Active Devices	.....4
K.	ELET	1400	Circuit Analysis I	.....4
L.	ELET	1401	Circuit Analysis II	.....4

\* These Tech Prep courses may have been taken in high school.

#### V. Manufacturing Design Certificate 30 credit hours

A.	CADD	1301	Computer Graphics System*	.....3
B.	CADD	1302	Technical Graphics I	.....3
C.	CADD	1303	Technical Graphics II	.....3
D.	CADD	1304	Computer Aided Drafting	.....3
E.	CADD	2302	Computer Aided Design	.....3
F.	CADD	2303	Advanced CADD	.....3
G.	CADD	2307	Manufacturing Processes	.....3
H.	CADD	2308	NC Programming	.....3
I.	CADD	2309	Computer Integrated Manufacturing	.....3
J.	COSC	2390	Advanced Topics-Autolisp	.....3

\* This Tech Prep course may have been taken in high school.

**COMPUTER INFORMATION SYSTEMS****BUSINESS PROGRAMMING**

64 credit hours required to graduate

The development and use of computers in business and industry has created a need for many data processing technicians who are proficient in business programming languages as well as computer operations. Many small and medium sized businesses spend a considerable amount of money seeking qualified computer specialists who can solve business problems.

The degree program in Computer Information Systems with an emphasis in Business Programming is for the person who wants to obtain the entry-level skills and technical knowledge necessary for the demands of today's business and industry needs. Areas of study include:

- Business Programming – use of COBOL in a business environment is emphasized
- Financial Skills – accounting and economics courses are used to strengthen the background of the graduate
- Management Skills – information systems management, systems analysis, database management systems, applied psychology and technical writing are used to enhance effective management decisions
- Technical Skills – operating systems, data structures and statistics are presented to further technical competency

Students planning to transfer to a four-year institution should check with an academic adviser.

**CAREER OPPORTUNITIES**

Students in the Business Programming specialization program will receive basic instruction and pre-employment training for positions requiring high degrees of skill and technical knowledge. The CSCI curriculum will extend or improve the existing occupational competence of employed persons. The Business Programming specialization readies students to seek one of many new job opportunities, a few of which are:

- Business Programmer – produces new business programs and modifies existing ones
- Computer Operator – controls and monitors mainframe computer functions
- Database Manager – designs and manages business data systems
- Production Analyst – maintains computer security, computer libraries, and business forms and equipment.

**I. General Education Core****22 credit hours**

See page 42.

MATH 1324 is required for this program.

PSYC 2301 should be taken by students planning to transfer.

**II. Technical Core****15 credit hours**

- |    |      |      |                                   |        |
|----|------|------|-----------------------------------|--------|
| A. | CSCI | 2330 | COBOL I                           | .....3 |
| B. | CSCI | 2350 | Computer Operating Systems        | .....3 |
| C. | CSCI | 2355 | Networking and Telecommunications | .....3 |

- |    |      |      |                               |        |
|----|------|------|-------------------------------|--------|
| D. | COSC | 1320 | Structured Programming in C++ | .....3 |
| E. | COSC | 2380 | Software Engineering          | .....3 |

**III. Major Courses****21 credit hours**

- |    |      |      |                                   |        |
|----|------|------|-----------------------------------|--------|
| A. | CSCI | 2331 | COBOL II                          | .....3 |
| B. | ACCT | 2301 | Principles of Accounting I        | .....3 |
| C. | ACCT | 2302 | Principles of Accounting II       | .....3 |
| D. | COSC | 1318 | Programming Concepts Using Pascal | .....3 |
| E. | COSC | 2318 | Data Structures Using Pascal      | .....3 |
| F. | ENGL | 2311 | Technical Writing                 | .....3 |
| G. | MATH | 1325 | Calculus for Business/Economics   | .....3 |

**IV. Electives****6 credit hours**

- |    |      |      |                                     |        |
|----|------|------|-------------------------------------|--------|
| A. | CSCI | 1305 | Microcomputer Concepts              | .....3 |
| B. | CSCI | 1320 | BASIC Programming                   | .....3 |
| C. | CSCI | 2305 | Integrated Spreadsheet Applications | .....3 |
| D. | CSCI | 2310 | Database Applications               | .....3 |
| E. | CSCI | 2315 | Desktop Publishing                  | .....3 |
| F. | CSCI | 2335 | Data Structures for Business        | .....3 |
| G. | CSCI | 2390 | Special Topics in CSCI I            | .....3 |
| H. | CSCI | 2395 | Special Topics in CSCI II           | .....3 |
| I. | CSCI | 7300 | Cooperative Education I             | .....3 |
| J. | CSCI | 7305 | Cooperative Education II            | .....3 |
| K. | BUSI | 1301 | Introduction to Business            | .....3 |
| L. | CADD | 1301 | Computer Graphics Systems           | .....3 |
| M. | COSC | 2325 | Assembly Language                   | .....3 |

**BUSINESS MULTIMEDIA TECHNOLOGY<sup>1</sup>**

67 credit hours required to graduate

Incorporating technology into instructional processes is one of the greatest challenges educators and trainers face today. Today's progressive companies are using multimedia to provide computer-based training in the classroom and over the world wide web. This program prepares students to create interactive computer-based training modules and simulations as well as multimedia presentations for internal and global delivery.

**CAREER OPPORTUNITIES**

- Interactive Multimedia Programmer/Author – develop and author interactive multimedia programs to be used for instructional purposes
- Support Staff/Teacher Aide – assists instructors in the preparation of multimedia presentations and interactive computer-based training in both business and educational settings
- Instructors – incorporate multimedia in classroom or Internet presentation
- Generalists – individuals who can develop multimedia presentations for any purpose in any environment
- Web Master – create web-based training, deliver and access information over global databases

**I. General Education Core****22 credit hours**

See page 55.

MATH 1324 is required for this program.

**II. Technical Core****9 credit hours**

- |    |      |      |                            |        |
|----|------|------|----------------------------|--------|
| A. | CSCI | 1305 | Microcomputer Concepts     | .....3 |
| B. | CSCI | 2350 | Computer Operating Systems | .....3 |
| C. | ENGL | 2311 | Technical Writing          | .....3 |

**III. Major Courses****27 credit hours**

- |    |      |      |   |        |
|----|------|------|---|--------|
| A. | CSCI | 1310 | Introduction to Graphics                  | .....3 |
| B. | CSCI | 1325 | Introduction to Multimedia                | .....3 |
| C. | CSCI | 1330 | Instructional Design for Business & Educ. | ...3   |
| D. | CSCI | 2325 | Intermediate Multimedia Applications      | ...3   |
| E. | CSCI | 2340 | Project Development and Delivery          | .....3 |
| F. | CSCI | 2365 | Advanced Multimedia Applications          | .....3 |
| or | COSC | 2370 | Advanced Visual Programming               | .....3 |
| G. | CSCI | 7300 | Cooperative Education I                   | .....3 |
| H. | COSC | 1370 | Introduction to Visual Programming        | .....3 |
| I. | COSC | 2371 | Web Authoring                             | .....3 |

**IV. Electives****9 credit hours**

- |    |      |      |  |        |
|----|------|------|--|--------|
| A. | AGDT | 1320 | Introduction to Electronic Imaging       | .....3 |
| B. | AGDT | 1345 | Artist Concept for Interface Design      | .....3 |
| C. | AGDT | 2335 | 2D Computer Illustration                 | .....3 |
| D. | COSC | 1318 | Programming Concepts Using Pascal        | .....3 |
| E. | COSC | 1320 | Structured Programming in C++            | .....3 |
| F. | COSC | 2318 | Data Structures Using Pascal             | .....3 |
| G. | COSC | 2373 | Information Retrieval/Utilization        | .....3 |
| H. | COSC | 2380 | Software Engineering                     | .....3 |
| I. | CSCI | 2305 | Integrated Spreadsheet Applications      | .....3 |
| J. | CSCI | 2315 | Desktop Publishing                       | .....3 |
| K. | CSCI | 2355 | Networking and Telecommunications        | ...3   |
| L. | CSCI | 2395 | Special Topics in Comp. Info. Systems II | ...3   |
| M. | CSCI | 7305 | Cooperative Education II                 | .....3 |
| N. | MUSI | 2350 | Audio for Multimedia I                   | .....3 |

<sup>1</sup>Special Admission Requirement: Keyboarding or consent of instructor.**BUSINESS MULTIMEDIA TECHNOLOGY CERTIFICATES<sup>1</sup>**

Some of the courses in the certificate programs may require prerequisites. Please check the course descriptions in the back of this catalog.

**Multimedia Authoring Specialist Certificate<sup>1</sup>****30 credit hours**

- |    |      |      |   |        |
|----|------|------|---|--------|
| A. | CSCI | 1305 | Microcomputer Concepts                    | .....3 |
| B. | CSCI | 1310 | Introduction to Graphics                  | .....3 |
| C. | CSCI | 1325 | Introduction to Multimedia                | .....3 |
| D. | CSCI | 1330 | Instructional Design for Business & Educ. | ...3   |
| E. | CSCI | 2325 | Intermediate Multimedia Applications      | ...3   |
| F. | CSCI | 2340 | Project Development and Delivery          | .....3 |
| G. | CSCI | 2365 | Advanced Multimedia Applications          | .....3 |
| H. | CSCI | 7300 | Cooperative Education I                   | .....3 |
| I. | COSC | 1306 | Computer Essentials                       | .....3 |

- |    |      |      |                                    |        |
|----|------|------|------------------------------------|--------|
| J. | COSC | 1370 | Introduction to Visual Programming | .....3 |
| or | COSC | 2370 | Advanced Visual Programming        | .....3 |

**Multimedia Presentation Technician Certificate<sup>1</sup>****21 credit hours**

- |    |      |      |   |        |
|----|------|------|---|--------|
| A. | CSCI | 1305 | Microcomputer Concepts                    | .....3 |
| B. | CSCI | 1310 | Introduction to Graphics                  | .....3 |
| C. | CSCI | 1325 | Introduction to Multimedia                | .....3 |
| D. | CSCI | 1330 | Instructional Design for Business & Educ. | ...3   |
| E. | CSCI | 2340 | Project Development and Delivery          | .....3 |
| F. | CSCI | 7300 | Cooperative Education I                   | .....3 |
| G. | COSC | 1306 | Computer Essentials                       | .....3 |

<sup>1</sup>Special Admission Requirement: Keyboarding or consent of instructor.**COMPUTER SYSTEMS**

64 credit hours required to graduate

The area of computer information systems is an exciting field that presents many opportunities for a student who is proficient in both applications and business programming. The skills acquired in this program will enable the student to solve problems that are encountered when working in this ever-changing and growing field. Five certificates are offered that can be a part of this degree. After completing one or more certificates students can continue at Collin County Community College and receive an Associate of Applied Science degree.

The degree program in Computer Information Systems is for persons who want to obtain the entry-level skills and knowledge necessary for the demands of today's business and industry needs. Areas of study include:

- Microcomputer Applications
- Financial Skills
- Business Programming
- Management Skills
- Technical Skills

Students planning to transfer to a four-year institution should check with an academic adviser.

**CAREER OPPORTUNITIES**

Students in the Computer Systems option program will receive basic instruction and pre-employment training for positions requiring high degrees of skill and technical knowledge. The certificates will provide the knowledge to update current job requirements. The skills acquired will be directly applicable in a variety of businesses and industries including:

- |                         |                               |
|-------------------------|-------------------------------|
| • Manufacturing Firms   | • Microcomputer Support Firms |
| • Computer Centers      | • Transportation Industry     |
| • Governmental Agencies | • Financial Firms             |
| • Accounting Firms      |                               |

**I. General Education Core****22 credit hours**

See page 42.

MATH 1324 is required for this program.

PSYC 2301 should be taken by students planning to transfer.



**II. Technical Core****15 credit hours**

A.	COSC	2380	Software Engineering . . . . .	3
B.	CSCI	1320	BASIC Programming . . . . .	3
C.	CSCI	2305	Integrated Spreadsheet Applications . . . . .	3
D.	CSCI	2310	Database Applications . . . . .	3
E.	OFAD	1331	Beginning Word Processing . . . . .	3

**III. Electives****27 credit hours**

A.	COSC	1318	Programming Concepts Using Pascal . . . . .	3
B.	COSC	1320	Structured Programming in C++ . . . . .	3
C.	COSC	2318	Data Structures Using Pascal . . . . .	3
D.	ACCT	1370	Elementary Accounting . . . . .	3
E.	ACCT	2301	Principles of Accounting I . . . . .	3
F.	BUSI	1370	Principles of Management . . . . .	3
G.	BUSI	2372	Organizational Behavior . . . . .	3
H.	CADD	1301	Computer Graphics Systems . . . . .	3
I.	CSCI	1305	Microcomputer Concepts . . . . .	3
J.	CSCI	2315	Desktop Publishing . . . . .	3
K.	CSCI	2330	COBOL I . . . . .	3
L.	CSCI	2331	COBOL II . . . . .	3
M.	CSCI	2335	Data Structures for Business . . . . .	3
N.	CSCI	2350	Computer Operating Systems . . . . .	3
O.	CSCI	2355	Networking and Telecommunications . . . . .	3
P.	CSCI	2390	Special Topics in CSCI . . . . .	3
Q.	CSCI	7300	Cooperative Education I . . . . .	3
R.	CSCI	7305	Cooperative Education II . . . . .	3
S.	ENGL	2311	Technical Writing . . . . .	3

**MICROCOMPUTER APPLICATIONS**

64 credit hours required to graduate

The development and use of computers in business and industry has created a need for many data processing technicians who are proficient in business programming languages as well as a variety of computer application packages.

The United States Office of Technology Assessment estimates that by the year 2000, 80 percent of all jobs will be computer-related.

The Associate of Applied Science degree program in Computer Information Systems with an emphasis in Microcomputer Applications accentuates the entry level technical skills necessary for the demands of today's business and industry needs. These skills are:

- Business Applications – fluency in the use of dBASE, Lotus 1-2-3, Symphony, word processing and desktop publishing software is emphasized
- Technical Skills – operating systems, data structures, networking, telecommunications and microcomputer concepts courses are used to enhance technical competency
- Management Skills – systems analysis and design, applied psychology and database design techniques are used to enhance effective management decisions

Students planning to transfer to a four-year institution should check with an academic adviser.

**CAREER OPPORTUNITIES**

Students in the Microcomputer Applications option will prepare for entry into the work force by experiencing practical applications and “real world” simulations using the latest in advanced software applications packages.

The degree in Computer Information Systems with a Microcomputer Applications option readies students for many new business and industry job opportunities, including:

- Database: dBASE programmer – using the latest database applications programs to design and maintain business data
- PC Support Specialist – business problem solving using a variety of micro-application packages
- Micro Programmer – design new programs and modify existing programs using microcomputer business languages
- PC Service Representative – support networking and the micro-telecommunications industry

**I. General Education Core****22 credit hours**

See page 42.

MATH 1324 is required for this program.

PSYC 2301 should be taken by students planning to transfer.

**II. Technical Core****15 credit hours**

A.	CSCI	1305	Microcomputer Concepts . . . . .	3
B.	CSCI	1320	BASIC Programming . . . . .	3
C.	CSCI	1325	Introduction to Multimedia . . . . .	3
D.	CSCI	2350	Computer Operating Systems . . . . .	3
E.	CSCI	2355	Networking and Telecommunications . . . . .	3

**III. Major Courses****21 credit hours**

A.	CSCI	1310	Introduction to Graphics . . . . .	3
B.	CSCI	2305	Integrated Spreadsheet Applications . . . . .	3
C.	CSCI	2310	Database Applications . . . . .	3
D.	CSCI	2315	Desktop Publishing . . . . .	3
E.	CSCI	2325	Intermediate Multimedia Applications . . . . .	3
F.	ACCT	2301	Principles of Accounting I . . . . .	3
G.	OFAD	1331	Beginning Word Processing . . . . .	3

**IV. Electives****6 credit hours**

A.	CSCI	2330	COBOL I . . . . .	3
B.	CSCI	2331	COBOL II. . . . .	3
C.	CSCI	2335	Data Structures for Business . . . . .	3
D.	CSCI	2390	Special Topics in CSCI I . . . . .	3
E.	CSCI	2395	Special Topics in CSCI II . . . . .	3
F.	CSCI	7300	Cooperative Education I . . . . .	3
G.	CSCI	7305	Cooperative Education II . . . . .	3
H.	BUSI	1370	Principles of Management . . . . .	3
I.	BUSI	2372	Organizational Behavior . . . . .	3
J.	COSC	2380	Software Engineering. . . . .	3

## COMPUTER INFORMATION SYSTEMS CERTIFICATE PROGRAMS

Some of the courses in the certificate programs may require prerequisites. Please check the course descriptions in the back of this catalog.

### Computer Applications Certificate 15 credit hours

A.	CSCI	1305	Microcomputer Concepts*	.....3
B.	CSCI	2305	Integrated Spreadsheet Applications*	.....3
C.	CSCI	2310	Database Applications	.....3
D.	CSCI	2315	Desktop Publishing	.....3
or	CSCI	1325	Introduction to Multimedia	.....3
E.	COSC	1306	Computer Essentials*	.....3

### Computer Operating Systems Certificate 18 credit hours

A.	CSCI	1305	Microcomputer Concepts*	.....3
B.	CSCI	2350	Computer Operating Systems	.....3
C.	COSC	1306	Computer Essentials*	.....3
D.	COSC	1318	Programming Concepts Using Pascal	.....3
E.	COSC	2325	Assembly Language	.....3
F.	COSC	2380	Software Engineering	.....3

### Information Systems Management Certificate 21 credit hours

A.	CSCI	1305	Microcomputer Concepts*	.....3
B.	CSCI	1325	Introduction to Multimedia	.....3
C.	CSCI	2305	Integrated Spreadsheet Applications*	.....3
or	CSCI	2310	Database Applications	.....3
D.	CSCI	2355	Networking and Telecommunications	.....3
E.	COSC	1306	Computer Essentials*	.....3
F.	COSC	1318	Programming Concepts Using Pascal	.....3
or	CSCI	2330	COBOL I	.....3
G.	COSC	2380	Software Engineering	.....3

\* These Tech Prep courses may have been taken in high school.

## ENHANCED SKILLS CERTIFICATES

The Enhanced Skills Certificate in Computer Information Systems Technology provides additional training in specific job skills which supplement those acquired within the curriculum for an AAS degree in Computer Information Systems Technology. Students will have an opportunity to acquire those employment-related skills while completing the AAS degree requirements or subsequent to earning their AAS in Computer Information Systems Technology.

### Enhanced Skills Certificate 9 credit hours

A.	COSC	1370	Visual Basic Programming	.....3
B.	COSC	2390	Introduction to Internet Power Tools	.....3
C.	CSCI	2315	Desktop Publishing	.....3

## COMPUTER NETWORK TECHNOLOGY

72 credit hours required to graduate

The Computer Network Technology program is designed to prepare students to perform tasks in network technology relating to network management, technical support, hardware/software installation, and equipment repair. The program graduate would be able to assemble computers based on customer requirements, install all network writing and interfaces at customer sites, install and debug network software, and maintain network hardware and software. The student would also be qualified to take Novel/Microsoft certification examinations upon completion of the AAS programs.

The program consists of 72 total credit hours, with 28 hours in the major, 22 hours in the general education core, 14 hours in the technical core and 8 hours of electives. Students seeking earlier employment would be able to exit the program within a year with a certificate in one of these speciality areas: Network Technology, Network Technology Hardware, or Network Technology Software.

## CAREER OPPORTUNITIES

Over the past decade, occupational data gathered at the federal, state, and local levels have projected an escalating demand for computer technicians. Network systems technician was selected by the Texas Innovation Network System and the State Board of Education as an emerging occupation, and regionally targeted by INTERLINK (the North Central Texas Quality Workforce Planning Committee) for potential growth and demand. Students seeking earlier employment would be able to exit the program within a year with a certificate in one of three specialty areas: network management, technical support, hardware/software installation and equipment repair.

### I. General Education Core 22 credit hours

See page 42.

Higher mathematics courses may be needed.

May substitute CSCI 1305, ECON 2301 and BUSI 1371.

### II. Technical Core 14 credit hours

A.	ENGL	2311	Technical Writing	.....3
B.	MATH	2312	Pre-Calculus for Math and Science	.....3
C.	ELET	1410	Fundamentals of Computers*	.....4
D.	ELET	1440	AC/DC Fundamentals*	.....4

### III. Major Courses 28 credit hours

A.	ELAT	2330	Instrumentation and Telemetry	.....3
B.	ELET	2430	Computer Maintenance* <sup>1</sup>	.....4
C.	CNWT	1351	Introduction to Computer Networking	.....3
D.	CNWT	1352	Introduction to Telecommunication	.....3
E.	CNWT	1354	Managing Local Area Networks	.....3
F.	CNWT	1453	Wide Area Data Networking	.....4
G.	CNWT	2431	Network Hardware	.....4
H.	CNWT	2432	Computer Communication Hardware	.....4

<sup>1</sup> Enhanced Tech Prep Course

\* These Tech Prep courses may have been taken in high school.

## Associate of Applied Science

### IV. Electives

8 credit hours

A.	CNWT	2461	Microsoft Network Installation & Troubleshooting	.4
B.	CNWT	2462	Managing Microsoft Windows NT	.4
C.	CNWT	2471	Novell Network Installation & Troubleshooting	.4
D.	CNWT	2472	Managing Novell NetWare	.4
E.	ELAT	1405	Electronic Fabrication	.4
F.	CNWT	2190	Selected Topics	.1
G.	ELET	2420	Telecommunications	.4
H.	ELET	2435	Microwave/FR Designs	.4
I.	ELAT	2465	Optoelectronics	.4
J.	CNWT	2490	Selected Topics	.4
K.	ELET	7300	Cooperative Education I	.3
L.	ELET	7305	Cooperative Education II	.3

### COMPUTER NETWORK TECHNOLOGY CERTIFICATES

Some of courses in certificate programs may require prerequisites

#### Computer Network Technology Certificate

28 credit hours

A.	CNWT	1351	Introduction to Computer Networking	.3
B.	CNWT	1352	Introduction to Telecommunication	.3
C.	CNWT	1354	Managing Local Area Networks	.3
D.	CNWT	1453	Wide Area Data Networking	.4
E.	CNWT	2431	Network Hardware	.4
F.	CNWT	2432	Computer Communications Hardware	.4
G.	ELAT	2330	Instrumentation and Telemetry	.3
H.	ELET	2430	Computer Maintenance*	.4

\* This Tech Prep course may have been taken in high school.

#### Electives

8 credit hours

A.	CNWT	2190	Selected Topics I	.1
B.	CNWT	2490	Selected Topics II	.4
C.	CNWT	2461	Microsoft Network Installation & Trouble Shooting	.4
D.	CNWT	2462	Managing Microsoft Windows NT	.4
E.	CNWT	2471	Norvell Network Installation & Trouble Shooting	.4
F.	CNWT	2472	Managing Norvell Netware	.4
G.	ELET	2420	Telecommunications	.4
H.	ELET	2435	Microwave/RF Design	.4
I.	ELAT	1405	Electronic Fabrication	.4
J.	ELAT	2465	Optoelectronics	.4

#### Computer Network Technology Hardware Certificate

15 credit hours

A.	CNWT	2431	Network Hardware	.4
B.	CNWT	2432	Computer Communication Hardware	.4
C.	ELAT	2330	Instrumentation and Telemetry	.3
D.	ELET	2430	Computer Maintenance*	.4

\* This Tech Prep course may have been taken in high school.

### Electives

8 credit hours

A.	ELET	2420	Telecommunications	.4
B.	ELET	2435	Microwave/RF Design	.4
C.	ELAT	1405	Electronic Fabrication	.4
D.	ELAT	2465	Optoelectronics	.4

#### Computer Network Technology Software Certificate

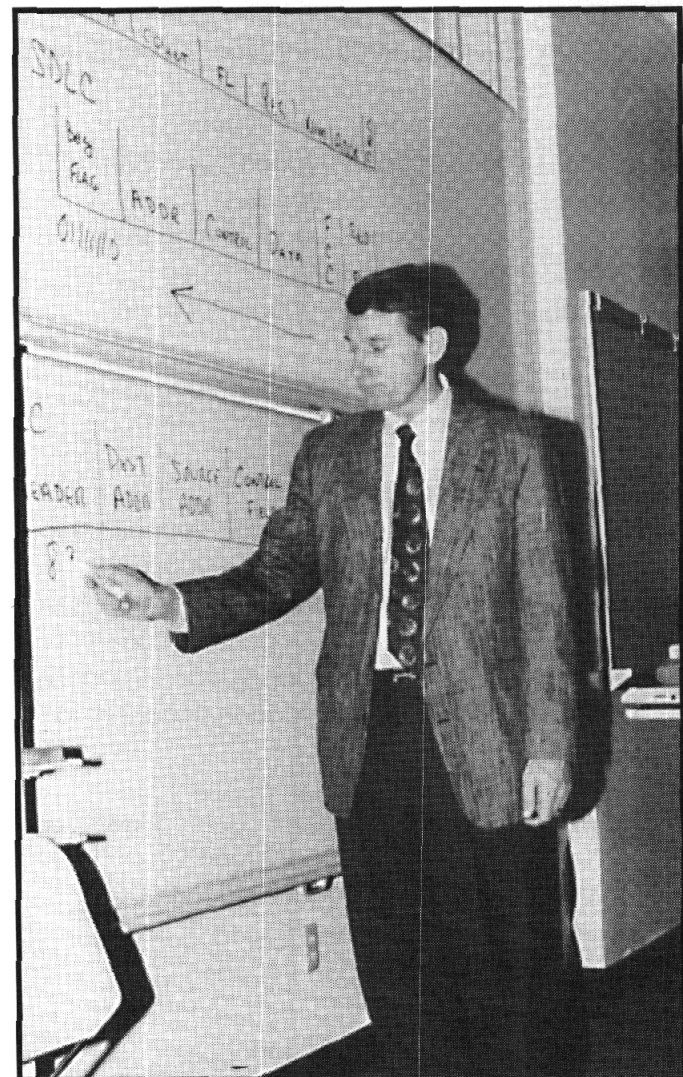
13 credit hours

A.	CNWT	1351	Introduction to Computer Networking	.3
B.	CNWT	1352	Introduction to Telecommunication	.3
C.	CNWT	1453	Wide area Data Networking	.4
D.	CNWT	1354	Managing Local Area Networks	.3

#### Electives

8 credit hours

A.	CNWT	2461	Microsoft Network Installation & Trouble Shooting	.4
B.	CNWT	2462	Managing Microsoft Windows NT	.4
C.	CNWT	2471	Norvell Network Installation & Trouble Shooting	.4
D.	CNWT	2472	Managing Norvell Netware	.4





**COMPUTER SCIENCE****SOFTWARE DEVELOPMENT**

(Also see Associate of Science Computer Science)

65 credit hours required to graduate

The development and use of computers, especially microprocessors, has created a demand for software application programs. There are career opportunities in both real time control programs and systems software development. This involves not only developing programs but correcting and updating existing software.

This degree program requires extensive hands-on programming on both microcomputers and VAX minicomputers. Students planning to transfer to a four-year institution should check with an academic adviser.

**CAREER OPPORTUNITIES**

This program prepares entry-level computer programmers for work in an applications environment. The student gains a background in basic programming concepts including software design and is exposed to present-day computer languages. Careers available include:

- Computer Service Technician
- Computer Programmer
- Software Development Programmer
- Numerical Control Programmer
- Minicomputer Programmer

**I. General Education Core 22 credit hours**

See page 42.

MATH 1314 (or higher) is required for this program.

PSYC 2301 should be taken for students planning to transfer.

**II. Technical Program Core 10 credit hours**

- |    |      |      |                                 |        |
|----|------|------|---------------------------------|--------|
| A. | ELAT | 1400 | Basic Electronics I             | .....4 |
| B. | ENGL | 2311 | Technical Writing               | .....3 |
| C. | MATH | 2312 | Pre-Calculus for Math & Science | .....3 |

**III. Major Courses 24 credit hours**

- |    |      |      |                                       |        |
|----|------|------|---------------------------------------|--------|
| A. | COSC | 1318 | Programming Concepts Using Pascal     | .....3 |
| B. | COSC | 1320 | Structural Programming in C++         | .....3 |
| C. | COSC | 2318 | Data Structures Using Pascal          | .....3 |
| D. | COSC | 2320 | Object-Oriented Programming Using C++ | .....3 |
| E. | COSC | 2325 | Assembly Language                     | .....3 |
| F. | COSC | 2372 | Object-Oriented Design                | .....3 |
| G. | COSC | 2380 | Software Engineering                  | .....3 |
| H. | COSC | 2384 | Large Scale Operating System          | .....3 |
| or | CSCI | 2350 | Computer Operating System             | .....3 |

**IV. Electives 9 credit hours**

- |    |      |      |   |        |
|----|------|------|---|--------|
| A. | COSC | 1317 | Scientific Programming                    | .....3 |
| B. | COSC | 1370 | Introduction to Visual Programming        | .....3 |
| C. | COSC | 2315 | Data Structures Using Object-Oriented C++ | .....3 |
| D. | COSC | 2370 | Advanced Visual Programming               | .....3 |
| E. | COSC | 2371 | Web Authoring                             | .....3 |
| F. | COSC | 2373 | Programming in JAVA                       | .....3 |

- |    |      |      |   |        |
|----|------|------|---|--------|
| G. | COSC | 2374 | Novell NetWare                          | .....3 |
| H. | COSC | 2375 | Advanced Assembly Language Programming  | .....3 |
| I. | COSC | 2379 | Windows Programming with Visual C++     | .....3 |
| J. | COSC | 2387 | Introduction to Artificial Intelligence | .....3 |
| K. | COSC | 2390 | Advanced Topic in Computer Science      | .....3 |
| L. | COSC | 7300 | Cooperative Education I                 | .....3 |

**SOFTWARE DEVELOPMENT CERTIFICATE PROGRAMS**

Some of the courses in the certificate programs may require prerequisites. Please check the course descriptions in this catalog.

**Assembly Language Programming Certificate 21 credit hours**

- |    |      |      |  |        |
|----|------|------|--|--------|
| A. | COSC | 1306 | Computer Essentials                    | .....3 |
| B. | COSC | 1318 | Programming Concepts Using Pascal      | .....3 |
| C. | COSC | 1320 | Structured Programming in C++          | .....3 |
| D. | COSC | 2320 | Object-Oriented Programming in C++     | .....3 |
| E. | COSC | 2325 | Assembly Language Programming          | .....3 |
| F. | COSC | 2375 | Advanced Assembly Language Programming | .....3 |
| G. | COSC | 2380 | Software Engineering                   | .....3 |

**Business Programming Certificate 21 credit hours**

- |    |      |      |  |        |
|----|------|------|--|--------|
| A. | COSC | 1306 | Computer Essentials                      | .....3 |
| B. | COSC | 1318 | Programming Concepts Using Pascal        | .....3 |
| C. | COSC | 2318 | Data Structures Using Pascal             | .....3 |
| D. | COSC | 2380 | Software Engineering                     | .....3 |
| E. | CSCI | 2330 | COBOL I                                  | .....3 |
| or | COSC | 1370 | Introduction to Visual BASIC Programming | .....3 |
| F. | CSCI | 2331 | COBOL II                                 | .....3 |
| or | COSC | 2370 | Advanced Visual BASIC Programming        | .....3 |
| G. | CSCI | 2350 | Computer Operating Systems               | .....3 |

**C Programming Certificate 21 credit hours**

- |    |      |      |   |        |
|----|------|------|---|--------|
| A. | COSC | 1306 | Computer Essentials                       | .....3 |
| B. | COSC | 1318 | Programming Concepts Using Pascal         | .....3 |
| C. | COSC | 1320 | Structured Programming in C++             | .....3 |
| D. | COSC | 2315 | Data Structures Using Object-Oriented C++ | .....3 |
| E. | COSC | 2320 | Object-Oriented Programming in C++        | .....3 |
| F. | COSC | 2379 | Windows Programming with Visual C++       | .....3 |
| G. | COSC | 2380 | Software Engineering                      | .....3 |
| or | COSC | 2372 | Object-Oriented Design                    | .....3 |

**Programming for Educators Certificate 21 credit hours**

- |    |      |      |  |        |
|----|------|------|--|--------|
| A. | COSC | 1306 | Computer Essentials                      | .....3 |
| B. | COSC | 1318 | Programming Concepts Using Pascal        | .....3 |
| C. | COSC | 2318 | Data Structures Using Pascal             | .....3 |
| D. | COSC | 2380 | Software Engineering                     | .....3 |
| E. | CSCI | 1305 | Microcomputer Concepts                   | .....3 |
| F. | CSCI | 1320 | BASIC Programming                        | .....3 |
| or | COSC | 1370 | Introduction to Visual BASIC Programming | .....3 |
| G. | CSCI | 2350 | Computer Operating Systems               | .....3 |

**CRIMINAL JUSTICE**

(Also see Associate of Arts Criminal Justice)

(Also a Tech Prep program)

62 credit hours required to graduate

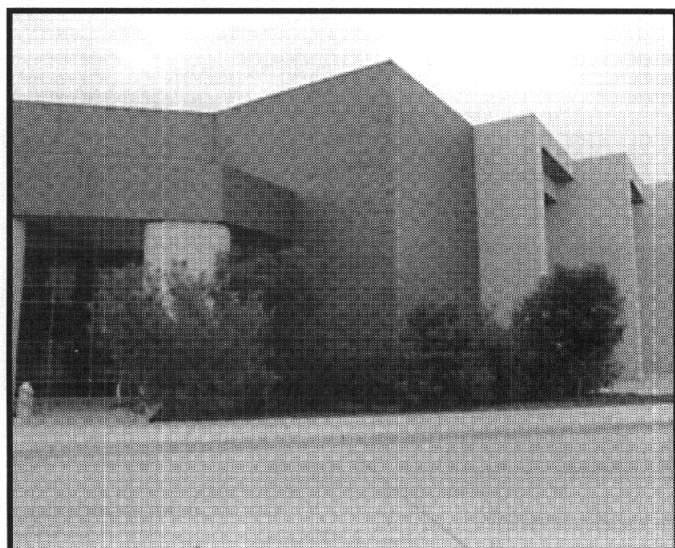
The challenge of crime in a free society has created many employment opportunities for graduates of college programs in law enforcement and corrections. Virtually all public and private labor forecasting organizations predict that law enforcement and corrections career opportunities will grow substantially between now and the turn of the century. Majoring in either law enforcement or corrections, graduates of the 62 semester hour Associate of Applied Science degree will be prepared for entry-level positions in local, county, state, and federal law enforcement, corrections, and juvenile justice agencies.

Tech Prep students who took college-level courses in Criminal Justice while in high school may elect to receive college credit by contacting the CCCC Admissions and Records office. A petition for Tech Prep credit should be completed as soon as possible upon admission to CCCC.

**CAREER OPPORTUNITIES**

Challenging career opportunities exist for graduates as:

- Municipal Police Officers
- State Law Enforcement Officers
- Forest, Watercraft and Game Protection Officers
- Probation Officers and Parole Officers
- Victim Service Counselors
- Corrections Officers for local, county, state and federal corrections institutions
- Community Supervision Officers
- Deputy Sheriffs
- Public Safety Officers
- Federal Law Enforcement Protection Officers
- Public and Private Investigators
- Juvenile Detention Officers

**I. General Education Core** **23 credit hours**

A.	ENGL	1301	Composition/Rhetoric I	.....3
B.	SPCH	1311	Fundamentals of Speech Communication	...3
C.	MATH	1332	Contemporary Mathematics	.....3
D.	COSC	1306	Introduction to Computers	.....3
E.	ECON	2301	Principles of Macroeconomics	.....3
F.			Humanities/Fine Arts	.....3
G.	SOCI	1301	Introduction to Sociology	.....3
H.	PHED	1238	Concepts of Physical Fitness and Wellness	..2

**II. Technical Core** **12 credit hours**

A.	CRIJ	1301	Introduction to Criminal Justice*	.....3
B.	CRIJ	1306	The Courts and Criminal Procedure	.....3
C.	CRIJ	1307	Crime in America*	.....3
D.	CRIJ	1310	Fundamentals of Criminal Law	.....3

\* These Tech Prep courses may have been taken in high school.

**III. Major Courses**

Choose from Law Enforcement or Corrections

**Law Enforcement Specialization** **21 credit hours**

A.	CRIJ	1313	Juvenile Justice System	.....3
B.	CRIJ	2314	Criminal Investigation	.....3
C.	CRIJ	2323	Legal Aspects of Law Enforcement	.....3
D.	CRIJ	2328	Police Systems and Practices	.....3
E.	CRIJ	7300	Cooperative Education I or elective	.....3
F.	GOVT	2301	American Government I	.....3
G.	SOCI	2319	Minority Studies	.....3

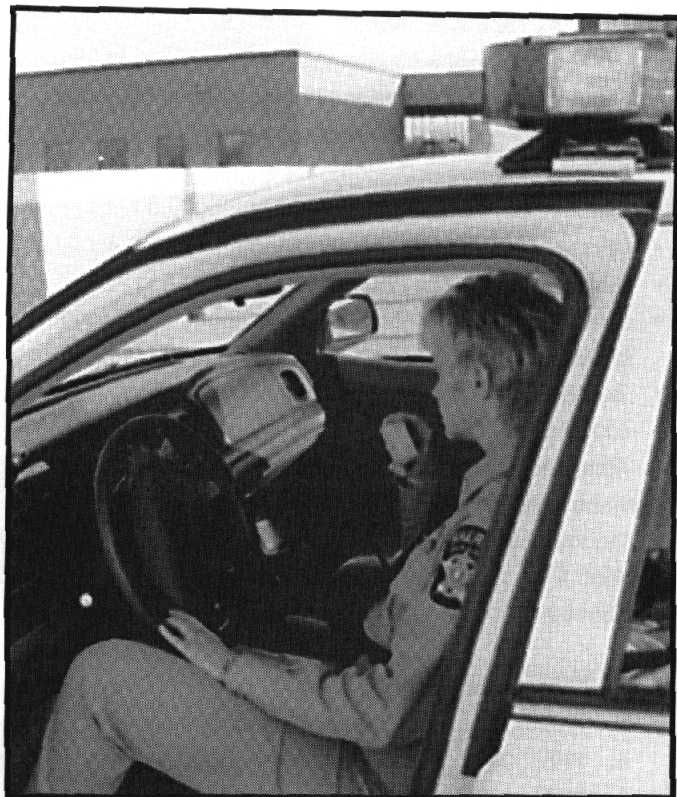
**Corrections Specialization** **21 credit hours**

A.	CRIJ	1313	Juvenile Justice System	.....3
B.	CRIJ	2301	Community Resources in Corrections	....3
C.	CRIJ	2305	Legal Aspects of Corrections	.....3
D.	CRIJ	2313	Correctional Systems and Practices*	....3
E.	CRIJ	7300	Cooperative Education I or elective	....3
F.	PSYC	2371	Individual Counseling	.....3
G.	SOCI	2319	Minority Studies	.....3

\*This Tech Prep course may have been taken in high school.

**IV. Electives** **6 credit hours**

A.	CRIJ	2313	Correctional Systems and Practices	.....3
B.	CRIJ	2314	Criminal Investigation	.....3
C.	CRIJ	2315	Special Topics in Criminal Justice	.....3
D.	CRIJ	2328	Police Systems and Practices	.....3
E.	ANTH	2301	Physical Anthropology	.....3
F.	BUSI	1370	Principles of Management	.....3
G.	HIST	1302	United States History II	.....3
H.	PSYC	2301	General Psychology	.....3
I.	PSYC	2306	Human Sexuality	.....3
J.	PSYC	2316	Psychology of Personality	.....3
K.	PSYC	2319	Social Psychology	.....3
L.	PSYC	2370	Drug Use and Abuse	.....3
M.	SOCI	1306	Social Problems	.....3
or	SOCI	2306	Human Sexuality	.....3



N.	SOCI	2301	Marriage and the Family	.....3
O.	SOCI	2319	Minority Studies	.....3

### ENHANCED SKILLS CERTIFICATES

The Enhanced Skills Certificates in Law Enforcement and in Corrections provides additional training in specific job skills which supplement those acquired within the curriculum for an AAS degree in Criminal Justice. Students will have an opportunity to acquire these employment-related skills while completing the AAS degree requirements or subsequent to earning their AAS in Criminal Justice.

### LAW ENFORCEMENT ENHANCED SKILLS CERTIFICATES

#### Criminal Justice Dual Major Certificate 12 credit hours

A.	CRIJ	2301	Community Resources in Corrections	.....3
B.	CRIJ	2305	Legal Aspects of Corrections	.....3
C.	CRIJ	2313	Correctional Systems and Practices*	.....3
D.	PSYC	2371	Individual Counseling	.....3

\* This Tech Prep course may have been taken in high school.

#### Interpersonal Skills Certificate 12 credit hours

A.	BUSI	1371	Leadership and Human Relations*	.....3
B.	PSYC	2316	Psychology of Personality	.....3
C.	PSYC	2319	Social Psychology	.....3
D.	SPCH	1318	Interpersonal Communications	.....3

\* This Tech Prep course may have been taken in high school.

#### Spanish/English Bilingual Certificate 14 credit hours

A.	SPAN	1411	Beginning Spanish I	.....4
B.	SPAN	1412	Beginning Spanish II	.....4
C.	SPAN	2311	Intermediate Spanish I	.....3
D.	SPAN	2312	Intermediate Spanish II	.....3

#### Texas Peace Officer Certificate

(Continuing Education Units are awarded)

##### CCM 7030 Texas Peace Officer Law (80 hours)

A study of laws directly related to police field work; traffic, intoxicated driver, Penal Code, elements of crime, Family Code, Alcoholic Beverage Code and civil liability.

##### CCM 7031 Texas Peace Officer Procedures (80 hours)

Techniques and procedures used by police officers on patrol. Includes controlled substance identification, handling abnormal persons, traffic collision investigation, note taking and report writing, vehicle operation, traffic direction, crowd control and jail operations.

##### CCM 7032 Texas Peace Officer Skills (96 hours)

Demonstration and practice of the skills expected of a police officer. Patrol, traffic stops, use of force, mechanics of arrest, firearms safety and emergency medical care.

*Note: Texas Peace Officer Enhanced Skills Certificate is offered during summer sessions only. Students will enroll in CCM 7030, 7031, and 7032 sequentially, completing one course per summer session.*

### CORRECTIONS ENHANCED SKILLS CERTIFICATES

#### Criminal Justice Dual Major Certificate 12 credit hours

A.	CRIJ	2314	Criminal Investigation	.....3
B.	CRIJ	2323	Legal Aspects of Law Enforcement	.....3
C.	CRIJ	2328	Police Systems and Practices	.....3
D.	SPCH	1315	Public Speaking	.....3

#### Interpersonal Skills Certificate 12 credit hours

A.	BUSI	1371	Leadership and Human Relations*	.....3
B.	PSYC	2316	Psychology of Personality	.....3
C.	PSYC	2319	Social Psychology	.....3
D.	SPCH	1318	Interpersonal Communications	.....3

\* This Tech Prep course may have been taken in high school.

#### Spanish/English Bilingual Certificate 14 credit hours

A.	SPAN	1411	Beginning Spanish I	.....4
B.	SPAN	1412	Beginning Spanish II	.....4
C.	SPAN	2311	Intermediate Spanish I	.....3
D.	SPAN	2312	Intermediate Spanish II	.....3

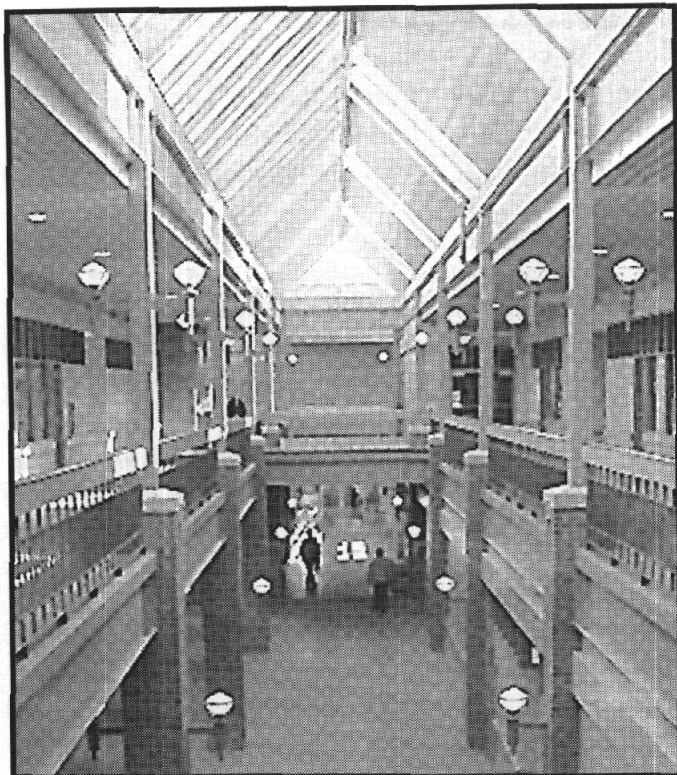
#### Corrections Officer Certificate (Continuing Education Units are Awarded)

##### CCM 1204 Basic Certification for Correctional Officer (128 hours)

This course will certify students for employment with the corrections division of the Texas Department of Criminal Justice.

*Note: Course is offered during summer sessions only.*





## DENTAL HYGIENE

72 credit hours required to graduate

The dental hygiene program is designed to prepare individuals to become licensed health care professionals who specialize in periodontal therapy and oral health education. A broad based education in biological sciences, humanities, dental sciences and clinical technologies prepares the graduate for work in private practice and community settings as a member of the dental health team.

The CCCC Dental Hygiene Program will prepare the graduate to perform clinical procedures and dental nutritional counseling, identify potential health problems and understand the physical and clinical aspects of treatment.

The student is awarded an Associate of Applied Science Degree upon successful completion of the program. The graduate is eligible for national and regional examinations.

Dental hygiene is a two-year program that begins during the fall semester each year. Classes are scheduled at the Central Park Campus in McKinney. Enrollment is limited and admission to the program is competitive. Clinical students are required to submit a physical, dental and visual acuity report on an annual basis.

## ACCREDITATION

The Associate of Applied Science degree in Dental Hygiene is a new program recently approved by the Texas Higher Education Coordinating Board. The College is currently in the process of obtaining accreditation for the program with the American Dental Association.

## SPECIAL ADMISSION REQUIREMENTS

- Proof of high school graduation or GED
- Complete CCCC reading, writing and mathematics assessments.
- GPA of 2.5 or greater on all courses applicable to the dental hygiene program
- Official copies of all college transcripts
- Complete pre-entrance course requirements with a GPA of 2.0
- Complete the PSB exam with a satisfactory result
- A handwritten, one- to two-page essay that discusses why dental hygiene has been selected as a profession
- Two reference forms: one from an employer and one from an educator

Admission is selective. Admission to the college does not guarantee admission to the dental hygiene program.

Registration by permission only. Information and applications may be obtained from the Health Science, Physical Education and Child Development Office.

I. Pre-Entrance Requirements		12 credit hours
A. BIOL	2401	Anatomy and Physiology I . . . . . 4
B. BIOL	2402	Anatomy and Physiology II . . . . . 4
C. BIOL	2420	Microbiology . . . . . 4
II. First Semester		14 credit hours
A. CHEM	1405	Introduction to Chemistry I . . . . . 4
B. DENH	1301	Clinical Practice I . . . . . 3
C. DENH	1413	Oral Anatomy, Embryology, Histology . . . . 4
D. ENGL	1301	Composition and Rhetoric I . . . . . 3
III. Second Semester		15 credit hours
A. DENH	1201	Principles of Nutrition . . . . . 2
B. DENH	1311	Oral Radiology . . . . . 3
C. DENH	1402	Clinical Practice II . . . . . 4
D. PSYC	2301	General Psychology . . . . . 3
E. SPCH	1311	Fundamentals of Speech Communication . . 3
IV. Third Semester		17 credit hours
A. DENH	2210	Dental Pharmacology . . . . . 2
B. DENH	2310	Oral Pathology . . . . . 3
C. DENH	2311	Periodontics . . . . . 3
D. DENH	2403	Community Dental Health . . . . . 4
E. DENH	2501	Clinical Practice III . . . . . 5
V. Fourth Semester		14 credit hours
A. DENH	2312	Oral Medicine . . . . . 3
B. DENH	2315	Dental Materials . . . . . 3
C. DENH	2502	Clinical Practice IV . . . . . 5
D. SOCI	1301	Introduction to Sociology . . . . . 3

*Note: Biology and mathematics courses must have been completed within the last five years to be considered toward degree requirements.*

**DIETARY MANAGER CERTIFICATE**

(Also see **Biology** for Nutrition Courses)

The curriculum is approved by the Dietary Manager's Association. Students will be prepared to test for certification by DMA to be designated a Certified Dietary Manager upon completion of the certificate.

**CAREER OPPORTUNITIES**

Health care food services supervisor for hospitals, nursing homes and other facilities.

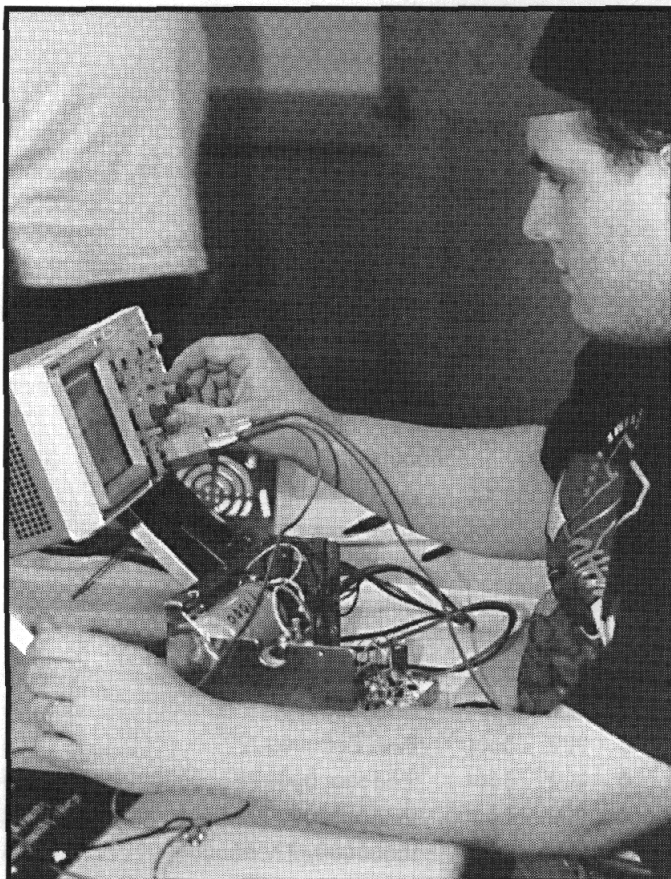
**SPECIAL ADMISSIONS REQUIREMENTS**

- High school diploma or GED Certificate
- Completed admissions procedure packet

Registration is by permission only. Additional information and applications may be obtained from the admissions office or from the Mathematics and Natural Sciences division office.

<b>Dietary Manager Certificate –</b>		<b>18 credit hours</b>
A. DTMG 1600	Dietary Manager I .....	6
B. DTMG 1601	Dietary Manager II .....	6
C. BUSI 1371	Leadership and Human Relations* .....	3
D. COSC 1306	Computer Essentials .....	3

*This Tech Prep course may have been taken in high school.*

**ELECTRONIC TECHNOLOGY****ELECTRONIC ENGINEERING TECHNOLOGY**

67 credit hours required to graduate

**ELECTRONIC TECHNOLOGY**

(Also a Tech-Prep Program)

Graduates of the Electronic Technology degree program will receive training in one of four specialized areas:

- **General Electronic Specialization:** A broad-base training program covering several diversified areas in modern electronics that include telecommunications, computer technology, avionics, robotics and automated manufacturing.
- **Telecommunications Specialization:** A training program developed for the telecommunications industry with strong support and interaction from companies such as Northern Telecom, MU, DSC, Southwestern Bell, Alcatel, Ericsson, Andrews, EDS and other telecommunications companies. This program concentrates on theory, design, troubleshooting and repair of processor-controlled telecommunications equipment used in the control, transmission and reception of audio, video and data signals including telemetry, using various mediums such as wire, wireless and fiber.
- **Computer Maintenance Specialization:** This program trains the student in the theory, application, modification and repair of microcomputers. Emphasis is placed on diagnostic tools, test equipment and providing hands-on practical experience to the student. Modifications include upgrading and interfacing for various control operations.
- **Instrumentation Specialization:** The student is trained in the theory, modification, application and repair of electronic equipment systems used for industrial applications that include manufacturing, materials handling, transportation, mining, telemetry and tracking. Methods and devices covered include, servomechanisms, process control, programmable logic controllers, micro controllers and optoelectronics.

**ELECTRONIC ENGINEERING TECHNOLOGY**

Graduates of the Electronic Engineering Technology degree program will receive training in several diversified areas of electronics. The emphasis of this program will be the application of mathematical theorems and applied physics toward the design and analysis of electronic circuits. Students will be exposed to a combination of classroom theory and hands-on laboratory design and analysis experiments.

**Electronic Technology and Electronic Engineering Technology**

The curriculum includes software design and simulation packages that students use in all courses, programmable graphing calculators that interface with equipment as well as other innovative methods of instruction. Program curriculum and laboratory equipment have been

## Associate of Applied Science

formally evaluated and endorsed by an advisory committee consisting of members of the electronics industry.

Articulation agreements allow the student to transfer their completed program into several four-year institutions toward a baccalaureate degree. Students planning transfers should check with a CCCC academic adviser.

CCCC is a member of the Texas Association of Schools of Engineering Technology and the Texas Technical Society. We are also a certified testing site for the ISCET exam, the FCC exam and the MECP exam.

### CAREER OPPORTUNITIES

Trained electronic technicians and electronic engineering technicians are in high demand in our service area. Industry at present has a shortage of over 3000 technicians and forecasts this to increase over the next decade.

Students completing the Electronic Technology or Electronic Engineering Technology degree program will receive quality training that will provide career opportunities in areas such as:

- Telecommunications
- Computer Systems Applications
- Semiconductor Wafer Fabrication
- Advanced Manufacturing Equipment Applications
- Avionics and Space Communications
- Biomedical Applications and Design
- Printed Circuit Board Design and Manufacturing
- Laser and Fiber Optics Applications

### ELECTRONIC TECHNOLOGY

#### I. General Education Core 22 Credit Hours Minimum

See page 42.

MATH 1314 (or higher) is required for this program

ECON 2301/2302 (substituted for ECON 1301) may be used for this program.

#### II. Technical Core 9 credit hours

- |    |           |                                 |        |
|----|-----------|---------------------------------|--------|
| A. | CADD 2305 | Electronic PCB Drafting         | .....3 |
| B. | ENGL 2311 | Technical Writing               | .....3 |
| C. | MATH 2312 | Pre-Calculus for Math & Science | .....3 |

#### III. Major Courses

##### General Electronic Technology Specialization 30 credit hours

67 credit hours required to graduate

- |    |           |   |        |
|----|-----------|---|--------|
| A. | ELAT 1315 | Basic Digital*                            | .....3 |
| B. | ELAT 1400 | Basic Electronics I*                      | .....4 |
| C. | ELAT 1401 | Basic Electronics II*                     | .....4 |
| D. | ELAT 1405 | Electronic Fabrication I                  | .....4 |
| E. | ELAT 1410 | Solid State Devices*                      | .....4 |
| F. | ELAT 2330 | Instrumentation and Telemetry             | .....3 |
| G. | ELAT 2420 | Fundamentals of Electronic Communications | .....4 |
| H. | ELAT 2425 | Active Devices                            | .....4 |

\*These courses may have been taken in high school.

### Electives

6 credit hours minimum

Choose from the following:

Any ELAT courses not listed in the above program to include:

- |    |           |                          |        |
|----|-----------|--------------------------|--------|
| A. | ELAT 7300 | Cooperative Education I  | .....3 |
| B. | ELAT 7305 | Cooperative Education II | .....3 |

### Communication Systems Installation and Repair Specialization

34 credit hours

71 credit hours required to graduate

- |    |           |   |        |
|----|-----------|---|--------|
| A. | ELAT 1315 | Basic Digital*                            | .....3 |
| B. | ELAT 1400 | Basic Electronics I*                      | .....4 |
| C. | ELAT 1401 | Basic Electronics II*                     | .....4 |
| D. | ELAT 1410 | Solid State Devices*                      | .....4 |
| E. | ELAT 2340 | Power Supply Systems                      | .....3 |
| F. | ELAT 2420 | Fundamentals of Electronic Communications | .....4 |
| G. | ELAT 2465 | Optoelectronics                           | .....4 |
| H. | ELET 2420 | Telecommunications                        | .....4 |
| I. | ELET 2435 | Microwave/R F Design                      | .....4 |

\* These Tech Prep courses may have been taken in high school.

### Electives

6 credit hours

Choose from the following:

Any ELAT courses not listed in the above program to include:

- |    |           |                          |        |
|----|-----------|--------------------------|--------|
| A. | ELAT 7300 | Cooperative Education I  | .....3 |
| B. | ELAT 7305 | Cooperative Education II | .....3 |

### Computer Maintenance Specialization

30 credit hours

67 credit hours required to graduate

- |    |           |                              |        |
|----|-----------|------------------------------|--------|
| A. | ELAT 1405 | Electronic Fabrication I     | .....4 |
| B. | ELAT 2360 | Microcomputer Systems        | .....3 |
| C. | ELAT 2450 | Computer Architecture        | .....4 |
| D. | ELAT 2455 | Applied Computer Programming | .....4 |
| E. | ELET 1405 | Digital IC Analysis          | .....4 |
| F. | ELET 1410 | Fundamentals of Computers*   | .....4 |
| G. | ELET 2325 | Computer Interfacing         | .....3 |
| H. | ELET 2430 | Computer Maintenance*        | .....4 |

\* These Tech Prep courses may have been taken in high school.

### Electives

6 credit hours minimum

Choose from the following:

Any ELAT courses not listed in the above to include:

- |    |           |                          |        |
|----|-----------|--------------------------|--------|
| A. | ELAT 7300 | Cooperative Education I  | .....3 |
| B. | ELAT 7305 | Cooperative Education II | .....3 |

### Instrumentation Specialization

31 credit hours

65 credit hours required to graduate

- |    |           |                               |        |
|----|-----------|-------------------------------|--------|
| A. | ELAT 1315 | Basic Digital*                | .....3 |
| B. | ELAT 1400 | Basic Electronics I*          | .....4 |
| C. | ELAT 1401 | Basic Electronics II*         | .....4 |
| D. | ELAT 1410 | Solid State Devices*          | .....4 |
| E. | ELAT 2330 | Instrumentation and Telemetry | .....3 |
| F. | ELAT 2335 | Digital Control Applications  | .....3 |



G.	ELAT	2336	Programmable Logic Controls	3
H.	ELAT	2360	Microcomputer Systems	3
I.	ELAT	2437	Industrial Automation Controllers	4

\* These Tech Prep courses may have been taken in high school.

#### Electives 6 credit hours

Choose from the following:

A.	ELAT	2340	Powers Supply Systems	3
B.	ELAT	2445	Applied Electronic Circuits	4
C.	ELAT	2450	Computer Architecture	4
D.	ELAT	2455	Applied Computer Programming	4
E.	ELAT	2465	Optoelectronics	4
F.	ELAT	7300	Cooperative Education I	3
G.	ELAT	7305	Cooperative Education II	3

### ENHANCED SKILLS CERTIFICATE

The Enhanced Skills Certificate in Electronic Technology provides additional training in specific job skills which supplement those acquired within the curriculum for an AAS degree in Electronic Technology. Students will have an opportunity to acquire those employment-related skills while completing the AAS degree requirements or subsequent to earning their AAS in Electronic Technology.

#### Enhanced Skills Certificate Requirements 10 credit hours

A.	ELAT	2335	Digital Control Applications	3
B.	ELAT	2336	Programmable Logic Controllers	3
C.	ELAT	2437	Industrial Automation Controllers	4

### ELECTRONIC TECHNOLOGY CERTIFICATE PROGRAMS

Some of the courses in the certificate programs may require prerequisites. Please check the course descriptions in this catalog.

#### Communications Systems Installation & Repair Certificate 34 credit hours

A.	ELAT	1315	Basic Digital*	3
B.	ELAT	1400	Basic Electronics I*	4
C.	ELAT	1401	Basic Electronics II*	4
D.	ELAT	1410	Solid State Devices*	4
E.	ELAT	2340	Power Supply Systems	3
F.	ELAT	2420	Fundamentals of Electronic Communication	4
G.	ELAT	2465	Optoelectronics	4
H.	ELET	2420	Telecommunications	4
I.	ELET	2435	Microwave/R F Design	4

\* These Tech Prep courses may have been taken in high school.

#### Computer Maintenance Technology Certificate 30 credit hours

A.	ELAT	1405	Electronic Fabrication I	4
B.	ELAT	2360	Microcomputer Systems	3
C.	ELAT	2450	Computer Architecture	4
D.	ELAT	2455	Applied Computer Programming	4
E.	ELET	1405	Digital IC Analysis	4
F.	ELET	1410	Fundamentals of Computers	4
G.	ELET	2325	Computer Interfacing	3
H.	ELET	2430	Computer Maintenance	4

#### Electronic Technology Certificate 30 credit hours

A.	ELAT	1315	Basic Digital*	3
B.	ELAT	1400	Basic Electronics I*	4
C.	ELAT	1401	Basic Electronics II*	4
D.	ELAT	1405	Electronic Fabrication I	4
E.	ELAT	1410	Solid State Devices*	4
F.	ELAT	2330	Instrumentation and Telemetry	3
G.	ELAT	2420	Fund. of Electronic Communications	4
H.	ELAT	2425	Active Devices	4

\* These Tech Prep courses may have been taken in high school.

#### Instrumentation Certificate 31 credit hours

A.	ELAT	1315	Basic Digital*	3
B.	ELAT	1400	Basic Electronics I*	4
C.	ELAT	1401	Basic Electronics II*	4
D.	ELAT	1410	Solid State Devices*	4
E.	ELAT	2330	Instrumentation & Telemetry	3
F.	ELAT	2335	Digital Control Applications <sup>1</sup>	3
G.	ELAT	2336	Programmable Logic Controllers <sup>1</sup>	3
H.	ELAT	2360	Microcomputer Systems	3
I.	ELAT	2437	Industrial Automation Controllers <sup>1</sup>	4

<sup>1</sup>Enhanced Skills Certificate Courses

\* These Tech Prep courses may have been taken in high school.

### ELECTRONIC ENGINEERING TECHNOLOGY

67 credit hours required to graduate

#### I. General Education Courses 22 Credit Hours Minimum

See page 42.

MATH 1314 (or higher) is required for this program

ECON 2301/2302(substitute for ECON 1301) may be used.

#### II. Technical Core 15 credit hours

A.	MATH	2312	Pre-Calculus for Math & Science	3
B.	MATH	2413	Calculus I	4
C.	PHYS	1401	General Physics I	4
D.	PHYS	1402	General Physics II	4

#### III. Major Courses 24 credit hours

A.	ELET	1400	Circuit Analysis I	4
B.	ELET	1401	Circuit Analysis II	4
C.	ELET	1405	Digital IC Analysis	4
D.	ELET	1410	Fundamentals of Computers	4
E.	ELET	1415	Circuit Analysis III	4
F.	ELET	2420	Telecommunications	4

#### IV. Electives 6 credit hours minimum

Choose from the following:

A.	ELET	1300	Calculator Applications for Electronics	3
B.	ELET	1440	AC/DC Fundamentals	4
C.	ELET	2325	Computer Interfacing	3
D.	ELET	2380	Selected Topics	3
E.	ELET	2385	Independent Study	3
F.	ELET	2430	Computer Maintenance	4

## Associate of Applied Science

G.	ELET	2435	Microwave/R F Design	4
H.	ELET	7300	Cooperative Education I	3
I.	ELET	7305	Cooperative Education II	3

### ELECTRONIC ENGINEERING TECHNOLOGY CERTIFICATE PROGRAM

Some of the courses in the certificate programs may require prerequisites. Please check the course descriptions in the back of this catalog.

#### Electronic Engineering Technology Certificate 30 credit hours

A.	ELET	1400	Circuit Analysis I	4
B.	ELET	1401	Circuit Analysis II	4
C.	ELET	1405	Digital IC Analysis	4
D.	ELET	1410	Fundamentals of Computers	4
E.	ELET	1415	Circuit Analysis III	4
F.	ELET	2325	Computer Interfacing	3
G.	MATH	2312	Pre-Calculus for Math & Science <sup>1</sup>	3
H.	MATH	2413	Calculus II	4

<sup>1</sup>Higher level mathematics courses may be used.



### EMERGENCY MEDICAL SERVICES CERTIFICATE

(Also see Phlebotomy Certificate)

20 credit hours required to graduate

#### CAREER OPPORTUNITIES

Students certified as Emergency Medical Technician-Basic and Emergency Medical Technician-Paramedic may find employment opportunities with fire departments, private ambulance services, municipal ambulance services, insurance companies, and hospitals. Certified technicians may find rewarding careers such as those listed below.

- Emergency Medical Technician
- Paramedic
- Firefighter
- Hospital Lab Technician
- Patient Care Technician
- Emergency Department Assistant
- Cardiac Lab Technician

#### SPECIAL ADMISSIONS REQUIREMENTS

- Proof of high school diploma or GED
- Be 18 years old or older (special age waiver may be granted to those who are not yet 18 but will turn 18 prior to completion of the course)
- Complete program application procedure
- Complete CCCC reading, writing and mathematics assessments
- Complete PSB examination for Allied Health Professionals

Registration is by permission only. Additional information and applications may be obtained from the Health Science, Physical Education and Child Development Office.

Emergency Medical Services at CCCC establishes an excellent foundation for careers in emergency medicine and related fields. After completion of the following courses, a student qualifies to test for state certification as an ECA, EMT/Basic or EMT/Paramedic.

#### Emergency Medical Services Certificate 20 credit hours

A.	EMTP	1500	Emergency Medical Procedures	5
B.	EMTP	1800	Paramedic Procedures I	8
C.	EMTP	2700	Paramedic Procedures II	7

#### Recommended Elective

Not required for certificate.

A.	EMTP	1300	Emergency Care Attendant/First Responder	3
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## FIRE SCIENCE

(Also see Associate of Arts Fire Science)

68 credit hours minimum required to graduate

The firefighter with a well-balanced educational background will be better prepared to serve and protect the community. The Collin County Community College Associate of Applied Science degree in Fire Science is designed to **give** a broad perspective on **various** facets of providing fire protection. The program is applicable for students wishing to enter the fire service and for persons already employed as firefighters or in related **career** fields. Students acquire the technical knowledge needed to **combat** the fire problems created by modern living.

The Basic Firefighter Certificate is designed to prepare the student for certification as a Basic Firefighter by the Texas Commission on Fire Protection. Students enrolled in the Basic Firefighter Certification Program are involved in various hands-on exercises including rescue practices and live fire training.

Fire Science courses are scheduled to accommodate traditional firefighter work shifts. Full-time, full-paid firefighters employed by any political subdivision enrolled in fire science courses offered as a part of CCC's fire science curriculum are exempt from payment of tuition and laboratory fees.

Students planning to transfer to a four-year institution should check with an academic adviser.

### CAREER OPPORTUNITIES

Today's fire protection responsibilities provide new and exciting challenges in both the public and private sectors. Students enrolled in the Fire Science program prepare for occupations involving fire suppression, investigation, prevention and education. These challenging job opportunities include:

- Firefighter
- Fire Department Officer
- Municipal Emergency Administrator
- Safety Technician
- Hazardous Material Team Member
- Fire Equipment Sales and Service Representative
- Industrial Fire Protection Technician

#### I. General Education Core 32 credit hours

A.	ENGL	1301	Composition/Rhetoric I	3
B.	SPCH	1311	Fundamentals of Speech Communication	3
C.	MATH	1332	Contemporary Mathematics	3
D.	COSC	1306	Computer Essentials	3
E.	ECON	1301	Introduction to Economics	3
F.	HUMA	1301	Introduction to Humanities	3
G.	PSYC	2302	Applied Psychology	3
H.	PHED	1100	Beginning Weight Training and Conditioning	1
I.	CHEM	1405	Introduction to Chemistry	4
J.	ENGL	2311	Technical Writing	3



K.	GOVT	2301	American Government I	3
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#### II. Technical Core 15 credit hours

A.	FISC	1305	Fundamentals of Fire Protection	3
B.	FISC	1315	Fire Safety Education	3
C.	FISC	1325	Industrial Fire Protection I	3
D.	FISC	1330	Fire Protection Systems	3
E.	FISC	1335	Building Codes and Construction	3

#### III. Major Courses 18 credit hours

Select from Fire Academy/Basic Firefighter Courses or Fire Commission Approved Courses

##### Fire Academy/Basic Firefighter Courses

See special admissions requirements for the Fire Academy and the following firefighter courses.

A.	FISC	1011	Firefighter Certification I	3
B.	FISC	1012	Firefighter Certification II	2
C.	FISC	1013	Firefighter Certification III	2
D.	FISC	1014	Firefighter Certification IV	2
E.	FISC	1015	Firefighter Certification V	3
F.	FISC	1016	Firefighter Certification VI	1
G.	EMIP	1500	Emergency Medical Procedures	5

##### Fire Commission Approved Courses

A.	FISC	1310	Fire Prevention	3
B.	FISC	1320	Fire Administration I	3
C.	FISC	1340	Fire Cause and Determination	3
D.	FISC	1450	Firefighting Tactics and Strategy	4
E.	FISC	2100	Seminar	1
F.	FISC	2305	Chemistry of Hazardous Materials I	3
G.	FISC	2310	Chemistry of Hazardous Materials II	3
H.	FISC	2315	Hazardous Materials III	3
I.	FISC	2320	Fire Administration II	3
J.	FISC	2330	Introduction to CAMEO	3
K.	FISC	2335	Methods of Fire Service Instruction	3

#### IV. Elective 3 credit hours

A.	Elective			3
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**FIRE ACADEMY****BASIC FIREFIGHTER CERTIFICATE PROGRAM**

Some of the courses in the certificate programs may require prerequisites. Please check the course descriptions in this catalog.

**SPECIAL ADMISSIONS REQUIREMENTS**

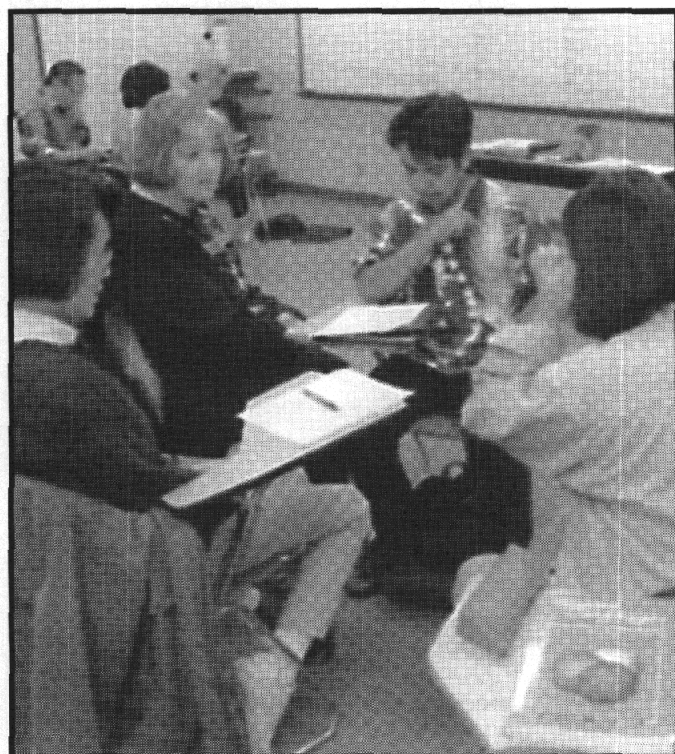
- Have proof of high school graduation or GED
- Complete CCCC reading and mathematics assessments
- Complete the physical ability exam and personal interview scheduled through the program coordinator
- Candidates to the Fire Academy must be in good academic standing

Registration is by permission only. Additional information and applications may be obtained from the Admissions Office, the Social Science and Public Services Office or from the program coordinator.

**Basic Firefighter Certificate****18 credit hours**

A.	FISC	1011	Firefighter Certification I	.....	.3
B.	FISC	1012	Firefighter Certification II	.....	.2
C.	FISC	1013	Firefighter Certification III	.....	.2
D.	FISC	1014	Firefighter Certification IV	.....	.2
E.	FISC	1015	Firefighter Certification V	.....	.3
F.	FISC	1016	Firefighter Certification VI	.....	.1
G.	EMTP	1500	Emergency Medical Procedures	.....	.5

*Note: Students planning to transfer to a four-year institution should check with an academic adviser.*

**HORTICULTURE TECHNOLOGY**

(Also see Associate of Science Horticulture/Landscape Technology)  
70 credit hours required to graduate

Challenging careers for the 1990's and beyond may be found in the horticulture industry. The horticulture program prepares graduates for immediate positions in the nursery, landscape and professional turfgrass industries. In addition, students upgrade their knowledge and skills in various areas of the industry by attending classes pertaining to certain aspects of the horticulture industry.

The horticulture program contains three specialization areas: Horticulture Technology, Landscape Technology, and Professional Turfgrass Management. While a student will ultimately choose a specific specialization, cross-training opportunities are available no matter which specialty is chosen. Many courses are shared by each specialization curriculum.

A teaching staff with industry experience provides a practical academic approach to the study of horticulture technology. Small classes, laboratory opportunities, and a focus on experiential learning provides each student with a personalized, high quality education.

Students planning to transfer to a four-year institution should refer to the Associate of Science degree.

**CAREER OPPORTUNITIES**

The field of horticulture is constantly changing. Public awareness of the value of landscape development, gardening and turfgrass management, along with increasing technological sophistication is contributing to the need for trained people in the horticulture industry. Some opportunities for employment are:

- Landscape Contracting and Management
- Professional Turfgrass Management
- Grounds Supervision
- Nursery Ownership and Management
- Park Maintenance
- Greenhouse and Nursery Production

**I. General Education Core****22 credit hours**

See page 42.

**II. Technical Core****18 credit hours**

A.	HORT	1300	Basic Horticulture	.....	.3
B.	HORT	1305	Soils & Plant Nutrition	.....	.3
C.	HORT	1310	Plant Pests and Controls	.....	.3
D.	HORT	2290	Selected Topics in Horticulture	.....	.2
E.	HORT	2350	Practicum	.....	.3
F.	HORT	2400	Site Analysis and Surveying	.....	.4

**III. Major Core 30 credit hours for each specialization****Horticulture Specialization 26 credit hours**

- A. HORT 1400 Woody Plant Materials .....4
- B. HORT 1401 Herbaceous Plant Materials .....4
- C. HORT 2300 Introduction to Landscape Design .....3
- D. HORT 2320 Floriculture .....3
- E. HORT 2325 Plant Propagation Techniques .....3
- F. HORT 2330 Nursery Management .....3
- Choose two of the following: .....6 credit hours
- A. HORT 1315 Interior Plants .....3
- B. HORT 1320 Turfgrass Science and Management .....3
- C. HORT 2315 Landscape Management. ....3

**Electives (see IV.) 4 credit hours minimum****Landscape Specialization 27 credit hours**

- A. HORT 1200 The Landscape Industry .....2
- B. HORT 1320 Turfgrass Science and Management. ....3
- C. HORT 1400 Woody Plant Materials .....4
- D. HORT 1401 Herbaceous Plant Materials .....4
- E. HORT 2300 Introduction to Landscape Design. ....3
- F. HORT 2309 Landscape Technology I .....3
- G. HORT 2310 Landscape Technology II .....3
- Choose two of the following: .....5-6 credit hours
- A. HORT 1225 Irrigation Systems .....2
- B. HORT 2315 Landscape Management. ....3
- C. HORT 2340 Arboricultural Techniques .....3

**Electives (see IV.) 3 credit hours minimum****Professional Turf Management Specialization 25 credit hours**

- A. HORT 1225 Irrigation Systems .....2
- B. HORT 1320 Turfgrass Science and Management. ....3
- C. HORT 1335 Plants of North Texas .....3
- D. HORT 2210 Equipment Management. ....2
- E. HORT 2335 Professional Turfgrass Management. ....3
- F. HORT 2336 Golf Course and Park Management. ....3
- G. HORT 2337 Specialized Turfgrass Management. ....3
- Choose two of the following: .....6 credit hours
- A. HORT 2300 Introduction to Landscape Design .....3
- B. HORT 2340 Arboricultural Techniques .....3
- C. BUSI 1372 Supervisory Management. ....3

**Electives (See IV.) 5 credit hours minimum****IV. Electives**

- A. HORT 1330 Native Plants of Texas .....3
- B. ACCT 2301 Principles of Accounting .....3
- C. BUSI 1301 Introduction to Business .....3
- D. BUSI 1374 Personnel Management .....3
- E. SPAN 1411 Beginning Spanish .....4

**LANDSCAPE INDUSTRY CERTIFICATE**

The certificate program in landscape industry is an early exit point for the Landscape Specialization. This allows persons entering the landscape contracting and management field an opportunity to gain an education, even though they have little or no previous academic background. Interested persons should contact the coordinator of the horticulture/landscape technology program at Spring Creek Campus.

**Landscape Industry Certificate 37 credit hours**

- A. HORT 1200 The Landscape Industry .....2
- B. HORT 1225 Irrigation Systems .....2
- C. HORT 1300 Basic Horticulture .....3
- D. HORT 1305 Soils and Plant Nutrition .....3
- E. HORT 1310 Plant Pests and Controls .....3
- F. HORT 1320 Turfgrass Science and Management. ....3
- G. HORT 1400 Woody Plant Materials .....4
- H. HORT 1401 Herbaceous Plant Materials .....4
- I. HORT 2309 Landscape Technology I .....3
- J. HORT 2310 Landscape Technology II .....3
- K. HORT 2350 Practicum .....3
- L. HORT 2400 Site Analysis and Surveying .....4

**INTERPRETER PREPARATION PROGRAM/DEAF (IPPD)**

(Also see Sign Language)

71 credit hours required to graduate (includes ASL I, II, &amp; Fingerspelling)

The Interpreter Preparation Program (IPPD) strives to provide a focused and balanced education for students whose goal is to become a Sign Language Interpreter. With an emphasis on receptive skills, the program concentrates on synthesizing the study of American Sign Language (ASL), Deaf Culture, and interpreting as a profession. Interpreting requires excellence in ASL and a thorough knowledge of oneself and one's ethics because interpreters are privy to much confidential information. The Collin County Community College Interpreter Preparation Program has a higher number of deaf teachers and lab technicians than non-deaf teachers and lab technicians, allowing students the opportunity to become fluent in ASL and to develop culturally-appropriate behaviors and responses.

**CAREER OPPORTUNITIES**

The career opportunities for persons with an IPPD Associate of Applied Science degree are varied and widespread, and include educational, medical, legal, mental health and community-based employment. Because of the passage of the Americans with Disabilities Act, there is currently a national and statewide shortage of interpreters. Moreover, the quality as well as the quantity of the interpreters that the market demands is increasing. In addition, many interpreters are self-employed and work as independent contractors for various corporations and government service agencies.

**PASS/FAIL OPTION FOR SIGN LANGUAGE ONLY**

The Pass/Fail Option will not satisfy the following:

- Degree seeking transfer course work.
- IPPD special admissions/continuation requirement.

Students may not convert a Pass/Fail grade to a letter grade; these students must retake the course.

Non-degree seeking students may take a sign language class as Pass/Fail. Degree seeking students should not pursue this option.

**SPECIAL ADMISSIONS REQUIREMENTS**

(9 credit hours)

1. Completion of the Interpreter Preparation Program packet (IPPD packet), which includes:
  - Official transcripts sent to the Admissions and Records Office at CCCC
  - Application to the Interpreter Preparation Program
  - Current reading, writing, and math assessment scores
2. Assessment into:
  - READ 0310 or higher
  - ENGL 0305 or higher
  - MATH 0305 or higher

3. Demonstration of competencies or completion with a GPA of at least 2.5 in the following:
  - SGNL 1401-American Sign Language I (ASL I)
  - SGNL 1402-American Sign Language II (ASL II)
  - IPPD 1104 (Fingerspelling)\*

4. Recommendation from the IPPD committee. Personal interview to assess ASL skills is required.

\*Note: IPPD 1104 can only be counted once in total hours required for degree as either a prerequisite or under the major core.

**CONTINUATION REQUIREMENTS**

Beginning with IPPD 2401 (ASL III), the student must maintain at least a B average in each IPPD course in order to continue in the program.

**PROGRAM EXIT REQUIREMENTS**

In order to graduate, the student must demonstrate the ability to:

- Interpret between 100-120 wpm as measured by interactive videotape and/or audiotape selections
- Transliterate between 100-120 wpm as measured by interactive videotape and/or audiotape selections
- Voice interpret with 85-100 percent accuracy as measured by interactive videotapes and/or role plays

**I. General Education Core****23 credit hours**

A.	ENGL	1301	Composition/Rhetoric I	.....3
B.	SPCH	1311	Fundamentals of Speech Communication	...3
	or SPCH	1315	Public Speaking	.....3
	or SPCH	1321	Business and Professional Speaking	....3
C.	MATH		Any college-level mathematics course <sup>1</sup>	....3
D.	COSC	1306	Introduction to Computers	.....3
E.	ECON	1301	Introduction to Economics	.....3
	or ECON	2301	Principles of Macroeconomics	.....3
	or ECON	2302	Principles of Microeconomics	.....3
	or SBMT	1300	Small Business Management <sup>2</sup>	.....3
F.	PHIL	2306	Ethics <sup>2</sup>	.....3
G.	PSYC	2302	Applied Psychology	.....3
	or PSYC	2301	General Psychology	.....3
H.	PHED	1238	Concepts of Physical Fitness & Wellness <sup>2</sup>	...2
	or	Any 2 activities courses		.....2

<sup>1</sup>MATH 1332 (Contemporary Math) recommended for IPPD majors

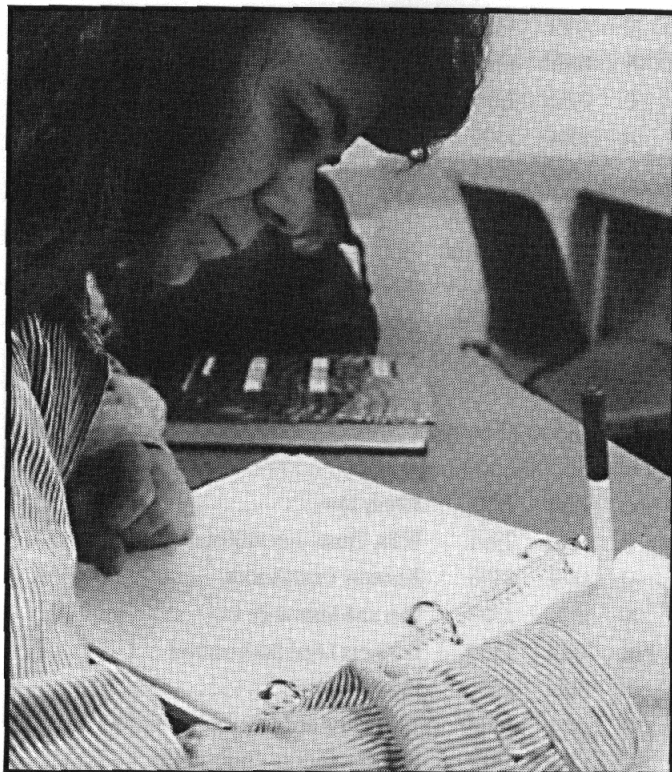
<sup>2</sup>Recommended for IPPD majors, but will consider other humanities courses.

**II. Technical Core****6 credit hours**

Choose from the following:

A.	ENGL	1302	Composition/Rhetoric II	.....3
B.	ANTH	2351	Cultural Anthropology	.....3
C.	SPCH	1315	Public Speaking	.....3
D.	SPCH	1318	Interpersonal Communication	.....3
E.	DRAM	1351	Acting I	.....3





## LEGAL ASSISTANT/PARALEGAL

(Also see Associate of Arts Legal Assistant/Paralegal)

64 credit hours required to graduate

The Associate of Applied Science degree is designed for students who plan to enter the job market upon completion of the two-year degree. In addition to the 22-credit hour general education core, students are required to complete 37 credit hours of legal and office administration courses which provide skills development and training for entry into the labor market. Required legal courses are Law and Judicial Systems, Civil Procedure, Law Office Management, and Legal Research.

### CAREER OPPORTUNITIES

Employment opportunities for entry-level legal assistants/paralegals are available to students who have completed the Associate of Applied Science degree.

Law firms, corporations, and governmental agencies hire legal assistants to manage an array of legal responsibilities under the direction and supervision of a licensed attorney. Entry-level legal assistants/paralegals must possess the clerical skills of a legal secretary, as well as the legal skills to perform such tasks as legal research, client interviews, and trial preparation.

### III. Major Courses 30 credit hours

A.	IPPD	1303	Deaf Culture	3
B.	IPPD	1305	Multi-Cultural Aspects of the Deaf Community	3
C.	IPPD	2201	Interpreting Practicum I	2
D.	IPPD	2202	Interpreting Practicum II	2
E.	IPPD	2304	Introduction to Interpreting	3
F.	IPPD	2305	Interpreting I	3
G.	IPPD	2307	Sign-to-Voice Interpreting	3
H.	IPPD	2308	Interpreting II	3
I.	IPPD	2401/SGNL 2401	American Sign Lang III <sup>3</sup>	4
J.	IPPD	2402/SGNL 2402	American Sign Lang IV <sup>3</sup>	4

<sup>3</sup>The IPPD prefix is reserved for students in the Interpreter Preparation Program. Other students must use the SGNL prefix.

### IV. Electives 3 credit hours

A.	BUSI	1307	Personal Finance	3
B.	BUSI	1371	Leadership and Human Relations*	3
C.	CRIJ	1306	The Courts and Criminal Procedure	3
D.	CRIJ	1313	Juvenile Justice System	3
E.	HLSC	1300	Medical Terminology	3
F.	SOCI	1306	Social Problems	3
G.	SOCI	2319	Minority Studies	3
H.	SGNL	2109	ASL Conversation <sup>4</sup>	1

<sup>4</sup>This course may be repeated for credit up to 3 times.

Prerequisite: SGNL/IPPD 2401 or 2402 or consent of instructor.

\* This Tech Prep course may have been taken in high school.

### I. General Education Core 22 credit hours

See page 42.

Higher levels of mathematics and economics may be substituted with program coordinator approval.

SOCI 1301 may be substituted for PSYC 2302.

### II. Technical Core 15 credit hours

A.	ACCT	2301	Principles of Accounting I	3
B.	ENGL	1302	Composition/Rhetoric II	3
C.	OFAD	1331	Beginning Word Processing*	3
D.	OFAD	1332	Intermediate Word Processing*	3
E.	OFAD	2303	Advanced Keyboarding	3

\* These Tech Prep courses may have been taken in high school.

### III. Major Courses 12 credit hours

A.	LEGL	1301	Law and Judicial Systems	3
B.	LEGL	1302	Legal Research	3
C.	LEGL	1305	Law Office Management	3
D.	LEGL	2301	Civil Procedure	3

### IV. Electives 15 credit hours

A.	LEGL	2303	Family Law	3
B.	LEGL	2304	Wills, Trusts and Probate	3
C.	LEGL	2306	Business Organizations	3
D.	LEGL	2307	Tort and Insurance Law	3
E.	LEGL	2308	Business Legal Environment	3
F.	LEGL	7300	Cooperative Education I	3
G.	BUSI	2301	Business Law	3
H.	CRIJ	1301	Introduction to Criminal Justice*	3
I.	CRIJ	1306	Courts and Criminal Procedure	3

## Associate of Applied Science

J.	CRIJ	1310	Fundamentals of Criminal Law	.....3
K.	ENGL	2xxx	Any Sophomore Literature Course	.....3
L.	GOVT	2302	American Government II	.....3
M.	RLST	1315	Promulgated Contract Law	.....3
N.	RLST	2320	Real Estate Law	.....3

\* This Tech Prep course may have been taken in high school.

### LEGAL ASSISTANT/PARALEGAL CERTIFICATE PROGRAMS

Two certificate programs are available to students who have either three years work experience in a legal field, or five years secretarial experience. The General Certificate (27 credit hours) requires completion of 15 credit hours in office skills courses and 12 credit hours in basic legal courses.

The Specialty Certificate requires completion of 15 credit hours in law courses. This certificate is appropriate for students who have completed either a two-year degree or the General Certificate, as well as for students who have five years full-time work experience in a related field and permission of the program coordinator.

Some of the courses in the certificate programs may require prerequisites. Please check the course descriptions in the back of this catalog.

#### Legal Assistant/Paralegal General Certificate 27 credit hours

A.	LEGL	1301	Law and Judicial Systems	.....3
B.	LEGL	1302	Legal Research and Writing	.....3
C.	LEGL	1305	Law Office Management	.....3
D.	LEGL	2301	Civil Procedure	.....3

E.	ACCT	1370	Elementary Accounting	.....3
E.	COSC	1306	Computer Essentials	.....3
G.	OFAD	1325	Office Support Software	.....3
H.	OFAD	1331	Beginning Word Processing	.....3
I.	OFAD	2303	Advanced Keyboarding	.....3

To receive a certificate upon completion of these courses, the student must:

#### 1. Submit verification of:

- Three years full-time employment in a legal related field or
- Five years full-time employment in a secretarial related field and

#### 2. File a degree plan in the Admissions and Records office.

#### Legal Assistant/Paralegal Specialty Certificate 15 credit hours

Choose five of the following courses

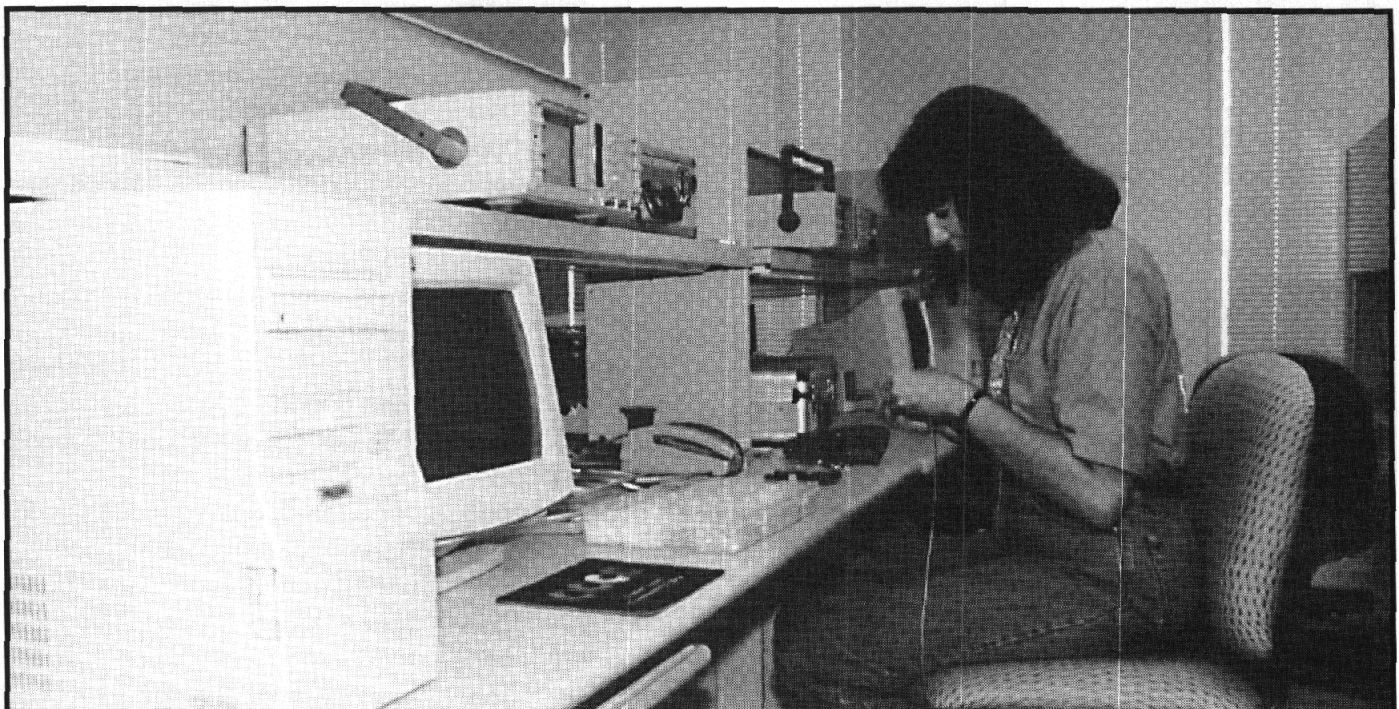
A.	LEGL	2303	Family Law	.....3
B.	LEGL	2304	Wills, Trusts and Probate	.....3
C.	LEGL	2306	Business Organization	.....3
D.	LEGL	2307	Tort and Insurance Law	.....3
E.	LEGL	2308	Business Legal Environment	.....3
F.	BUSI	2301	Business Law	.....3
G.	CRIJ	1306	The Courts and Criminal Procedure	.....3
H.	CRIJ	1310	Fundamentals of Criminal Law	.....3
I.	RLST	1315	Promulgated Contract Law	.....3
J.	RLST	2320	Real Estate Law	.....3

To receive a certificate upon completion of these courses, the student must:

#### 1. Submit verification of:

- Completion of the LEGAL ASSISTANT/PARALEGAL GENERAL CERTIFICATE or
- Five years full-time employment in a legal related field, and

#### 2. File a degree plan in the Admissions and Records office.



**MANAGEMENT****MANAGEMENT DEVELOPMENT**

(Also a Tech Prep Program)

67 credit hours required to graduate

The world of management development is an exciting field that presents many unique opportunities. Every business, organization and group needs effective leaders to plan, organize, lead and control the many activities that accompany a successful venture. Topics include basic management foundations and theories, human resource management, human relations training, sales and promotion, and capital acquisition skills.

The skills acquired in this program will enable the student to identify and resolve many problems that are encountered daily when working with individuals, groups and organizations.

Students planning to transfer to a four-year institution should check with a CCCC academic adviser.

Tech Prep students who took collegiate-level courses in Management Development while in high school may elect to receive college credit by contacting a CCCC advisor. A petition for Tech Prep credit should be completed as soon as possible upon admission to CCCC.

**CAREER OPPORTUNITIES**

Earning an Associate of Applied Science degree in Management Development can enable the student to work in many fields:

- Manufacturing
- Restaurant
- Retail
- Hotel/Motel
- Service
- General Office

Management is an element common to all organizations. As a result, jobs will always be available in many fields, including government and public service.

**I. General Education Core 22 credit hours**

See page 42.

Students planning to transfer should consult a CCCC adviser before selecting math, economics or psychology.

**II. Technical Core 12 credit hours**

- |    |      |      |                            |        |
|----|------|------|----------------------------|--------|
| A. | BUSI | 1370 | Principles of Management*  | .....3 |
| B. | BUSI | 1372 | Supervisory Management     | .....3 |
| C. | BUSI | 1374 | Personnel Management       | .....3 |
| D. | ACCT | 2301 | Principles of Accounting I | .....3 |

**III. Major Courses 27 credit hours**

- |    |      |      |                                 |        |
|----|------|------|---------------------------------|--------|
| A. | BUSI | 1371 | Leadership and Human Relations* | .....3 |
| B. | BUSI | 1378 | High Performance Work Teams     | .....3 |
| C. | BUSI | 2370 | Quality and Leadership          | .....3 |
| D. | BUSI | 2371 | Quality Management Techniques*  | .....3 |
| E. | BUSI | 2373 | Management of Change*           | .....3 |
| F. | BUSI | 2376 | Strategic Management            | .....3 |
| G. | BUSI | 7300 | Cooperative Education I         | .....3 |

H.	CSCI	2305	Integrated Spreadsheet Applications*	.....3
----	------	------	--------------------------------------	--------

I.	SBMT	1305	Small Business Finance	.....3
----	------	------	------------------------	--------

\* These Tech Prep courses may have been taken in high school.

**IV. Elective****6 credit hours**

- |    |      |      |   |        |
|----|------|------|---|--------|
| A. | BUSI | 1301 | Introduction to Business                | .....3 |
| B. | BUSI | 2301 | Business Law                            | .....3 |
| C. | BUSI | 2372 | Organizational Behavior                 | .....3 |
| D. | BUSI | 2378 | Selected Topics in Personnel Management | ..3    |
| E. | BUSI | 2379 | Selected Topics in Business Principles  | ....3  |
| F. | BUSI | 7305 | Cooperative Education II                | .....3 |
| G. | ACCT | 2302 | Principles of Accounting II             | .....3 |
| H. | ENGL | 2311 | Technical Writing                       | .....3 |
| I. | MRKT | 1305 | Principles of Marketing                 | .....3 |

**ENHANCED SKILLS CERTIFICATE**

The Enhanced Skills Certificate in Management Development provides additional training in specific job skills which supplement those acquired within the curriculum for an AAS degree in Management Development. Students will have an opportunity to acquire those employment-related skills while completing the AAS degree requirements or subsequent to earning their AAS in Management Development.

**Enhanced Skills Certificate****9 credit hours**

- |    |      |      |                               |        |
|----|------|------|-------------------------------|--------|
| A. | BUSI | 2370 | Quality Management            | .....3 |
| B. | BUSI | 2371 | Quality Management Techniques | .....3 |
| C. | BUSI | 2373 | Management of Change          | .....3 |

**MANAGEMENT DEVELOPMENT CERTIFICATE**

Some of the courses in the certificate programs may require prerequisites. Please check the course descriptions in the back of this catalog.

**Management Development General Certificate 33 credit hours**

- |    |      |      |                                 |        |
|----|------|------|---------------------------------|--------|
| A. | BUSI | 1370 | Principles of Management*       | .....3 |
| B. | BUSI | 1371 | Leadership and Human Relations* | .....3 |
| C. | BUSI | 1372 | Supervisory Management          | .....3 |
| D. | BUSI | 1374 | Personnel Management            | .....3 |
| E. | BUSI | 1378 | High Performance Work Teams*    | .....3 |
| F. | BUSI | 2370 | Quality Management              | .....3 |
| G. | BUSI | 2371 | Quality Management Techniques   | .....3 |
| H. | BUSI | 2373 | Management of Change            | .....3 |
| I. | BUSI | 2376 | Strategic Management            | .....3 |
| J. | BUSI | 7300 | Cooperative Education I         | .....3 |
| K. | ACCT | 2301 | Principles of Accounting I      | .....3 |

\* These Tech Prep courses may have been taken in high school.



**MARKETING**

61 credit hours required to graduate

Marketing incorporates professional education courses to prepare individuals for career paths with retail or wholesale organizations, profit or non-profit service organizations, governmental agencies and academic institutions.

This program is designed to give a thorough background in aspects of marketing and to provide methods for improving skills for people already employed in a marketing career.

Marketing students who have questions or plan to transfer to four-year institutions should check with the program coordinator.

**CAREER OPPORTUNITIES**

Marketing provides the essential core of marketing practices and prepares students for positions in:

- Retailing
- Wholesaling
- Marketing Management
- Sales
- Sales Management
- Consulting
- Directing
- Promotion
- Advertising
- Industrial Marketing Management
- International Marketing
- Customer Service

**I. General Education Core 22 credit hours**

See page 42.

MATH 1324 & PSYC 2301 should be taken by students planning to transfer.

**II. Technical Core 15 credit hours**

- |              |                             |        |
|--------------|-----------------------------|--------|
| A. MRKT 1305 | Principles of Marketing     | .....3 |
| B. MRKT 1315 | Principles of Selling       | .....3 |
| C. ACCT 2301 | Principles of Accounting I  | .....3 |
| D. SBMT 1300 | Small Business Management I | .....3 |
| E. BUSI 2301 | Business Law                | .....3 |

**III. Major Courses 18 credit hours**

- |              |                           |        |
|--------------|---------------------------|--------|
| A. MRKT 1310 | Principles of Advertising | .....3 |
| B. MRKT 2305 | Market Research           | .....3 |
| C. MRKT 2310 | Promotional Techniques    | .....3 |
| D. MRKT 2315 | Business Ethics           | .....3 |
| E. MRKT 2320 | International Marketing   | .....3 |
| F. SBMT 1310 | Principles of Retailing   | .....3 |

**IV. Electives 3 credit hours**

- |              |                                    |        |
|--------------|------------------------------------|--------|
| A. MRKT 2300 | Fashion Show Production            | .....3 |
| B. MRKT 2330 | Marketing Special Topics           | .....3 |
| C. MRKT 7300 | Cooperative Education I            | .....3 |
| D. MRKT 7305 | Cooperative Education II           | .....3 |
| E. AGDT 1300 | Survey of Advertising Art          | .....3 |
| F. AGDT 1325 | Visual Communications I            | .....3 |
| G. COMM 1307 | Introduction to Mass Communication | ....3  |

**V. Elective 3 credit hours**

- |             |        |
|-------------|--------|
| A. Elective | .....3 |
|-------------|--------|

**MARKETING CERTIFICATE PROGRAMS**

Some of the courses in the certificate programs may require prerequisites. Please check the course descriptions in the back of this catalog.

**Marketing/Advertising Certificate 15 credit hours**

- |              |   |        |
|--------------|---|--------|
| A. MRKT 1305 | Principles of Marketing                     | .....3 |
| B. MRKT 1310 | Principles of Advertising                   | .....3 |
| C. MRKT 1315 | Principles of Selling                       | .....3 |
| D. MRKT 2310 | Promotion Techniques                        | .....3 |
| E. MRKT 2330 | Marketing Special Topics (Media Management) | .3     |

**Marketing/Fashion Certificate 15 credit hours**

- |              |                           |        |
|--------------|---------------------------|--------|
| A. MRKT 1305 | Principles of Marketing   | .....3 |
| B. MRKT 1310 | Principles of Advertising | .....3 |
| C. MRKT 1315 | Principles of Selling     | .....3 |
| D. MRKT 1320 | Fashion Design            | .....3 |
| E. MRKT 1325 | Fashion Buying            | .....3 |

**Marketing/International Certificate 15 credit hours**

- |              |   |        |
|--------------|---|--------|
| A. MRKT 1305 | Principles of Marketing                     | .....3 |
| B. MRKT 1310 | Principles of Advertising                   | .....3 |
| C. MRKT 1315 | Principles of Selling                       | .....3 |
| D. MRKT 2320 | International Marketing                     | .....3 |
| E. MRKT 2330 | Marketing Special Topics (Customer Service) | .3     |

**Marketing/Management Certificate 15 credit hours**

- |               |                           |        |
|---------------|---------------------------|--------|
| A. MRKT 1305  | Principles of Marketing   | .....3 |
| B. MRKT 1310  | Principles of Advertising | .....3 |
| C. MRKT 1315  | Principles of Selling     | .....3 |
| D. Electives* | .....6                    |        |

\*Electives must be chosen from the following:

- |           |   |        |
|-----------|---|--------|
| MRKT 2330 | Marketing Special Topics (Customer Service) | .3     |
| MRKT 2330 | Marketing Special Topics (Problem Solving)  | .3     |
| SBMT 1300 | Small Business Management I                 | .....3 |

**Marketing/Research Certificate 15 credit hours**

- |              |                           |        |
|--------------|---------------------------|--------|
| A. MRKT 1305 | Principles of Marketing   | .....3 |
| B. MRKT 1310 | Principles of Advertising | .....3 |
| C. MRKT 1315 | Principles of Selling     | .....3 |
| D. MRKT 2305 | Market Research           | .....3 |
| E. MRKT 2315 | Business Ethics           | .....3 |

**Marketing/Retailing Certificate 15 credit hours**

- |              |                             |        |
|--------------|-----------------------------|--------|
| A. MRKT 1305 | Principles of Marketing     | .....3 |
| B. MRKT 1310 | Principles of Advertising   | .....3 |
| C. MRKT 1315 | Principles of Selling       | .....3 |
| D. SBMT 1300 | Small Business Management I | .....3 |
| E. SBMT 1310 | Principles of Retailing     | .....3 |

**Marketing/Sales Certificate****15 credit hours**

A. MRKT 1305	Principles of Marketing	.....3
B. MRKT 1310	Principles of Advertising	.....3
C. MRKT 1315	Principles of Selling	.....3
D. MRKT 1316	Sales Management	.....3
E. MRKT 2330	Marketing Special Topics	.....3

**FASHION MARKETING**

61 credit hours required to graduate

Positions in Fashion Marketing fall into five general categories: production, administration, design, selling and communication.

The Fashion Marketing incorporates both marketing and management aspects of skill needed for a fashion merchandising career.

**CAREER OPPORTUNITIES**

- Marketing Director
- Costing Engineer
- Piece Goods Buyer
- Order Processor
- Draper
- Sketcher
- Designer
- Showroom Salesperson
- Buyer
- Public Relations
- Fashion Director

**I. General Education Core****22 credit hours**

See page 42.

MATH 1324 & PSYC 2301 should be taken by students planning to transfer.

**II. Technical Core****12 credit hours**

A. ACCT 2301	Principles of Accounting I	.....3
B. MRKT 1305	Principles of Marketing	.....3
C. MRKT 1315	Principles of Selling	.....3
D. SBMT 1300	Small Business Management I	.....3

**III. Major Courses****18 credit hours**

A. MRKT 1300	Fashion Marketing	.....3
B. MRKT 1320	Fashion Design	.....3
C. MRKT 1325	Fashion Buying	.....3
D. MRKT 2300	Fashion Show Production	.....3
E. MRKT 2305	Market Research	.....3
F. SBMT 1310	Principles of Retailing	.....3

**IV. Electives****6 credit hours**

A. ACCT 2302	Principles of Accounting II	.....3
B. AGDT 1325	Visual Communications I	.....3
C. ARTS 2336	Fibers I: Papermaking	.....3
D. BUSI 2301	Business Law	.....3
E. MRKT 7300	Cooperative Education I	.....3
F. MRKT 7305	Cooperative Education II	.....3
G. SPGH 1321	Business and Professional Speaking	.....3

**V. Elective****3 credit hours**

A. Elective	.....3
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**MUSIC, COMMERCIAL**

(Also see Associate of Arts Music)

67 credit hours required to graduate

The Associate of Applied Science degree program in Commercial Music, one of only two such degree programs currently offered in the Dallas area, offers three areas for study: Performance, Audio Engineering and Composer/Arranger/Copyist. The Commercial Music program offers real-world experience as well as the theoretical background needed to successfully pursue a career in the music industry. Students may enroll in academic co-op through Cooperative Work experience for practical training in the field. Former students currently work in recording studios, tape duplication and editing facilities, sound reinforcement companies, performing ensembles and many perform professionally. Others elect to transfer upon degree completion to a four-year university for further studies and specialization.

Students planning to transfer to a four-year institution should check with the music department.

**CAREER OPPORTUNITIES**

- Audio duplication/manufacture
- Audio Engineering
- Digital audio editing
- Instrumental/vocal arranging
- Jingle composition
- Performance
- Music marketing
- Music transcribing
- Studio management
- Synthesizer programming

**I. General Education Core****22 credit hours**

See page 42.

AGDT 1310 Introduction to Computer Graphics may be substituted for COSC 1306.

MUSI 2308 is recommended for Humanities/Fine Arts requirement.

**II. Technical Core****20 credit hours**

A. BUSI 2379	Business of Music I	.....3
B. MUSI 1371	Audio Engineering I	.....3
C. MUSI 1311	Music Theory I	.....3
D. MUSI 1116	Aural Skills I	.....1
E. MUSI 1312	Music Theory II	.....3
F. MUSI 1117	Aural Skills II	.....1
G. MUSI 1181	Beginning Piano I <sup>1</sup>	.....1
H. MUSI 1182	Beginning Piano II	.....1
I. MUSI 1271	Introduction to Synthesis & MIDI	.....2
J. MUSI 2286	Arranging	.....2

<sup>1</sup>If applied area is piano, total credit hours is 18. Exempt from MUSI 1181 and MUSI 1182.

**Audio Engineering Specialization**

<b>I. General Education Core</b>		<b>22 credit hours</b>
<b>II. Technical Core</b>		<b>18-20 credit hours</b>
<b>III. Major Courses</b>		<b>17 credit hours</b>
A. MUSI	1372	Audio Engineering II .....3
B. MUSI	2371	Audio Engineering III .....3
C. MUSI	2372	Audio Engineering IV .....3
D. ELAT	1400	Basic Electronics I .....4
E. MUSI	1173	Secondary Applied Music <sup>1</sup> .....1
and/or MUSI	1273	Principal Applied Music <sup>1</sup> .....2
F. MUSI		Ensembles <sup>2</sup> .....2

<sup>1</sup>These courses may be taken in any combination to total 2 credit hours.<sup>2</sup>For a list of ensembles, contact the Music Department.**IV. Audio Engineering Electives** **8-10 credit hours**

A. MUSI	1263	Improvisation .....2
B. MUSI	1272	Advanced Synthesis & MIDI .....2
C. MUSI	1286	Introduction to Songwriting .....2
D. MUSI	1287	Introduction to Composition .....2
E. MUSI	1301	Music Fundamentals .....3
F. MUSI	2350	Audio for Multimedia I .....3
G. MUSI	2351	Audio for Multimedia II .....3
H. BUSI	2378	Business of Music II .....3
I. MUSI	2389	Academic Coop Music .....3

Any other music courses approved by coordinator.

**Composer/Arranger/Copyist Specialization**

<b>I. General Education Core</b>		<b>22 credit hours</b>
<b>II. Technical Core</b>		<b>18-20 credit hours</b>
<b>III. Major Courses</b>		<b>16 credit hours</b>
A. MUSI	2311	Music Theory III .....3
B. MUSI	2116	Aural Skills III .....1
C. MUSI	2312	Music Theory IV .....3
D. MUSI	2118	Aural Skills IV .....1
E. MUSI	1263	Improvisation .....2
F. MUSI	1173	Secondary Applied Music <sup>1</sup> .....1
and/or MUSI	1273	Principal Applied Music <sup>1</sup> .....2
G. MUSI		Ensembles <sup>2</sup> .....2

<sup>1</sup>These courses may be taken in any combination to total 4 credit hours.<sup>2</sup>For a list of ensembles contact the Music Department.**IV. Composer/Arranger/Copyist Electives** **9-11 credit hours**

A. MUSI	1183	Class Voice .....1
B. MUSI	1272	Advanced Synthesis & MIDI .....2
C. MUSI	1286	Introduction to Songwriting .....2
D. MUSI	1287	Introduction to Composition .....2
E. MUSI	1372	Audio Engineering II .....3
F. MUSI	2181	Beginning Piano III .....1
G. MUSI	2182	Beginning Piano IV .....1
H. MUSI	2308	Introduction to Music Literature* .....3
I. MUSI	2350	Audio for Multimedia I .....3
J. MUSI	2351	Audio for Multimedia II .....3
K. MUSI	2389	Academic Co-op Music .....3

Any other music course approved by coordinator.

\* If not already taken to satisfy Humanities/Fine Arts requirement.

If applied instrument is piano, total credit hours is 11.

**Performing Musician Specialization**

<b>I. General Education Core</b>		<b>22 credit hours</b>
<b>II. Technical Core</b>		<b>18-20 credit hours</b>
<b>III/ Major Courses</b>		<b>20 credit hours</b>
A. MUSI	2311	Music Theory III .....3
B. MUSI	2116	Aural Skills III .....1
C. MUSI	1263	Improvisation .....2
D. MUSI	1272	Advanced Synthesis & MIDI .....2
E. MUSI	1173	Secondary Applied Music <sup>1</sup> .....1
or MUSI	1273	Principal Applied Music <sup>1</sup> .....2
F. MUSI		Ensembles <sup>2</sup> .....4

<sup>1</sup>These courses may be taken in any combination to total 8 credit hours.<sup>2</sup>For a list of ensembles contact the Music Department.**IV. Performing Musician Electives** **5-7 credit hours**

A. MUSI	1162	Vocal Diction I .....1
B. MUSI	1165	Vocal Diction II .....1
C. MUSI	1286	Introduction to Songwriting .....2
D. MUSI	1287	Introduction to Composition .....2
E. MUSI	1372	Audio Engineering III .....3
F. MUSI	2118	Aural Skills IV .....1
G. MUSI	2181	Beginning Piano III .....1
H. MUSI	2182	Beginning Piano IV .....1
I. MUSI	2308	Introduction to Music Literature* .....3
J. MUSI	2312	Music Theory IV .....3
K. MUSI	2350	Audio for Multimedia I .....3
L. BUSI	2378	Business of Music II .....3

Any other music courses approved by coordinator

If applied instrument is piano, total credit hours is 6.

\* If not already taken to satisfy Humanities/Fine Arts requirement.



## NURSING

72 credit hours required to graduate

This two-year Associate of Applied Science degree is offered to prepare the student to make application to the Board of Nurse Examiners for licensure as a registered nurse. The nursing curriculum is accredited by the Board of Nurse Examiners for the State of Texas and the National League for Nursing.

The course of study consists of five nursing courses which include a classroom and a clinical component. These courses must be taken in sequence to assure progression from simple to complex.

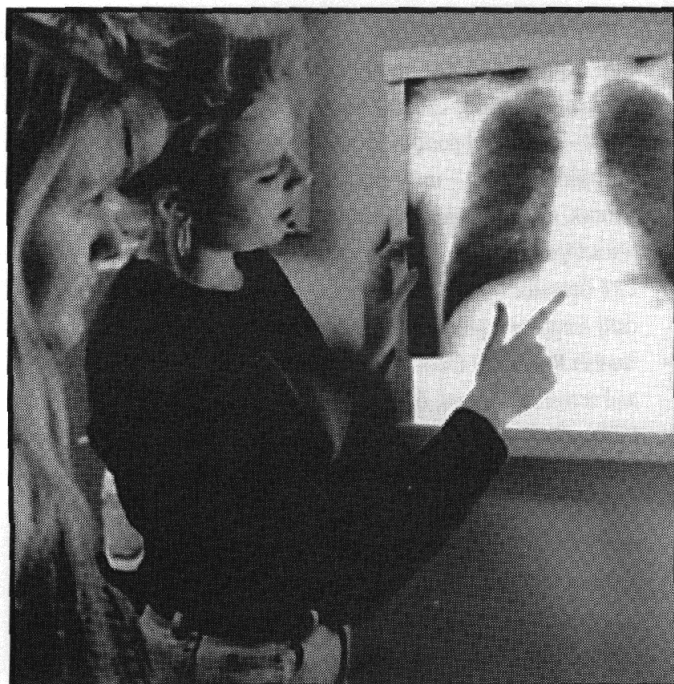
Collin County healthcare facilities enthusiastically support the ADN program. Several healthcare facilities throughout the metroplex are used for the clinical experience. The role of the nurse continues to change in an evolving healthcare system. Students are also given varied experiences in community-focused care.

The National League for Nursing Accrediting Commission has information regarding required tuition, fees and length of program. This information can be obtained by contacting the NLNAC at:

National League for Nursing Accrediting Commission  
350 Hudson Street  
New York NY 10014  
(212) 989-9393

### SCHOLARSHIPS

Various scholarships are available to students when they have been accepted into the nursing program. Most scholarships are awarded based on financial need. Other types of monetary support are available through the Financial Aid office.



### SPECIAL ADMISSION REQUIREMENTS

- GPA of 2.5 or greater on all courses applicable to the nursing program
  - Official copies of all college transcripts
  - Complete the PSB—(Nursing School Aptitude Exam) prior to January 31 with a satisfactory result
  - Complete pre-entrance course requirements with a minimum 2.5 GPA
- Admission is selective. Admission to the college does not guarantee admission to the nursing program.

Registration is by permission only. Information and applications may be obtained from the Health Science, Physical Education and Child Development Division Office.

Student placement in mathematics and English is based upon the results of assessments and subjects completed before admission.

I. Pre-Entrance Requirements		15 credit hours
A. BIOL 2401	Anatomy and Physiology I	4
B. BIOL 2402	Anatomy and Physiology II	4
C. BIOL 2420	Microbiology	4
D. MATH 1324	Pre-Calculus for Business/Economics	3
or MATH 1342	Statistics	3
or MATH 1314	College Algebra	3
II. First Semester		14 credit hours
A. NURS 1800	Nursing I	8
B. ENGL 1301	Composition/Rhetoric I	3
C. PSYC 2301	General Psychology	3
III. Second Semester		15 credit hours
A. NURS 1805	Nursing II	8
B. PHED	Any Activity Course	1
C. PSYC 2314	Life Span Psychology	3
D.	Humanities/Fine Arts <sup>1</sup>	3
IV. Summer Semester		4 credit hours
A. NURS 2400	Nursing III	4
V. Fourth Semester		12 credit hours
A. NURS 2900	Nursing IV	9
B. SOCI 1301	Introduction to Sociology	3
or SOCI 1306	Social Problems	3
or SOCI 2371	Death and Dying	3
VI. Fifth Semester		12 credit hours
A. NURS 2905	Nursing V	9
B. Elective <sup>2</sup>		3

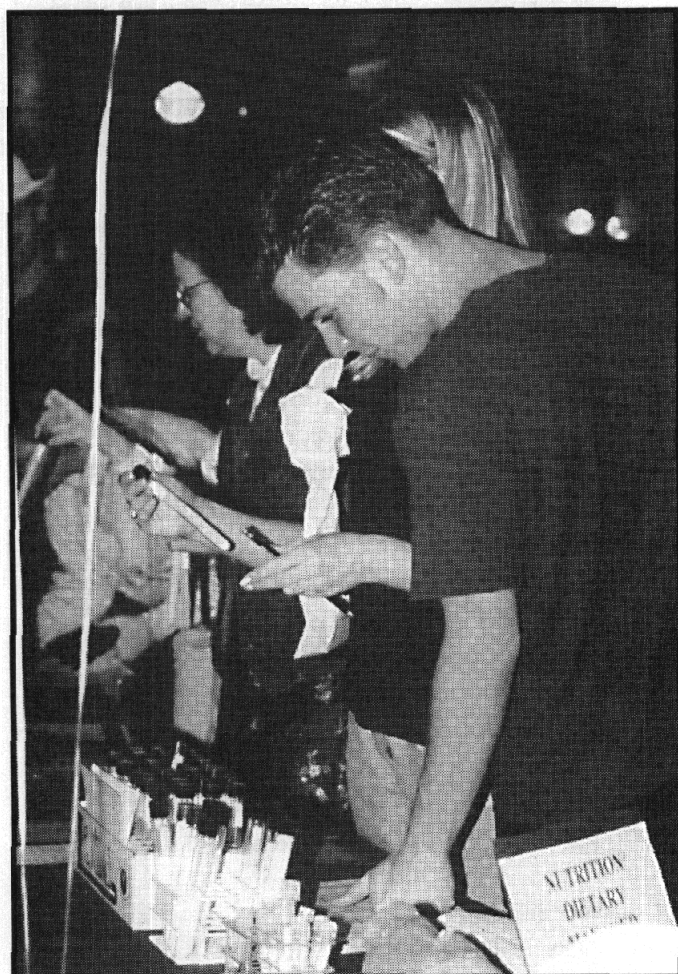
<sup>1</sup>Choose a Humanities/Fine Arts/Philosophy course from the General Education Core for the Associate of Applied Science Degree on page 42.

<sup>2</sup>Elective must be chosen from discipline outside Nursing.

Note: Biology and mathematics courses must have been completed within the last five years to be considered toward degree requirements.

## NUTRITION

Refer to Biology and Nutrition for descriptions of each nutrition course. For certificate information refer to Dietary Manager on page 77.



## OFFICE ADMINISTRATION

### GENERAL

62 credit hours required to graduate

The degree in Office Administration is designed to incorporate both the technical and behavioral aspects of jobs in the automated office. This program enables the student to master office skills and select a specialty by choosing the proper electives. Areas of study include:

- Office Skills – document production, business telephone techniques, and electronic memory calculators
- Proofreading/Editing – language applications for business correspondence and documents
- Computers and Spreadsheet Software – hands-on experience with DOS, Windows, spreadsheet and database programs such as LOTUS 1-2-3, Excel, and Access
- Word Processing – hands-on experience using software such as WordPerfect for DOS, WordPerfect for Windows, Microsoft Word for Windows, and other popular software for document production and desktop publishing
- Records Management – ARMA filing rules, design and implementation of efficient and cost-effective system
- Office Management – administrative details, and office procedures
- Medical Records – transcription and coding of patient records and reports
- Financial Responsibilities – insurance claims, accounting systems, fees and payments

Tech Prep students who took collegiate-level courses in Office Administration while in high school may elect to receive college credit by contacting a CCCC advisor. A petition for Tech Prep credit should be completed as soon as possible upon admission to CCCC.

### CAREER OPPORTUNITIES

Job opportunities for those with Office Administration training (depending on electives chosen) would include:

- Typist – entry-level position requiring accurate typing skills (50 wpm)
- Receptionist/Typist – individuals for front desk positions to answer phones, type and handle various other duties such as machine transcription
- CRT Operator – enter bills of lading by CRT, answer phones, process daily shipping reports and shipping labels
- Human Resources Clerk – primary responsibilities include greeting and screening visitors, data input, and general office support
- Billing Clerk – detail-oriented person to process invoices, purchase orders, and inventory records using the computer and ten-key skills
- Secretary/Administrative Assistant – assisting the executive in decision making, conducting research, meeting the public, and office skills
- Medical Secretary or Medical Transcriptionist – work for a doctor in a general practitioner's office, a group practice, a dental office, hospitals, clinics, or in the home

- Medical Insurance Claims Support – work for public health departments, convalescent and nursing homes, health insurance companies, manufacturers and distributors of **drugs**, pharmaceutical products, surgical instruments, and hospital supplies or medical laboratories
- **Legal Office Support** – work in a law office using entry-level law office clerical **skills**

Some of the courses required for the AAS Office **Administration** degree are also excellent preparation for the experienced secretary who plans to take the **Certified Professional Secretary exam**. The secretary who has already passed the CPS exam may apply for academic credit from CCCC to be applied toward the AAS degree in **Office Administration**.

#### I. General Education Core 22 credit hrs

See page 42.

MATH 1324 may be substituted for **MATH 1332**

#### II. Technical Core 13 credit hrs

- |              |                            |   |
|--------------|----------------------------|---|
| A. OFAD 1210 | Records Management         | 2 |
| B. OFAD 1211 | Proofreading/Editing       | 2 |
| C. OFAD 1302 | Intermediate Keyboarding*  | 3 |
| D. OFAD 1315 | Electronic Calculator      | 3 |
| E. OFAD 1331 | Beginning Word Processing* | 3 |

\* These Tech Prep courses may have been taken in high school.

#### III. Major Courses 12 credit hrs

- |              |                               |   |
|--------------|-------------------------------|---|
| A. OFAD 1332 | Intermediate Word Processing' | 3 |
| B. OFAD 2303 | Advanced Keyboarding          | 3 |
| C. OFAD 2305 | Machine Transcription         | 3 |
| or OFAD 2306 | Medical Transcription I       | 3 |
| D. OFAD 2315 | Office Procedures             | 3 |

#### IV. Electives<sup>2</sup> 15 credit hours

- |              |                                      |   |
|--------------|--------------------------------------|---|
| A. OFAD 1310 | Medical Insurance Coding             | 3 |
| B. OFAD 1320 | Business Correspondence              | 3 |
| C. OFAD 1325 | Office Support Software              | 3 |
| D. OFAD 2306 | Medical Transcription I              | 3 |
| E. OFAD 2307 | Medical Transcription II             | 3 |
| F. OFAD 2333 | Advanced Word Processing             | 3 |
| G. OFAD 7300 | Cooperative Education I              | 3 |
| H. OFAD 7305 | Cooperative Education II             | 3 |
| I. ACCT 1370 | Elementary Accounting'               | 3 |
| J. CSCI 1305 | Microcomputer Concepts*              | 3 |
| K. CSCI 2305 | Integrated Spreadsheet Applications* | 3 |
| L. CSCI 2310 | Database Applications                | 3 |

\* These Tech Prep courses may have been taken in high school

<sup>1</sup>Select class section according to major (general, legal, medical)

<sup>2</sup>Permission may be granted by OFAD Coordinator to substitute one non-OFAD course for one elective. HLSC 1300 Medical Terminology is recommended for medical OFAD majors and can be used as one of the 15 credit hour elective.

## OFFICE ADMINISTRATOR CERTIFICATE PROGRAMS

Some of the courses in the certificate programs may require prerequisites. Please check the course descriptions in the back of this catalog.

### OFFICE SUPPORT

The Entry-Level Office Support Certificate, the Mid-Level Office Support Certificate, the Administrative Support Certificate and the Entry-Level Accounting Clerk Certificate Programs are designed to prepare individuals for general office support or accounting clerk positions. Each level will feed into the next level while increasing your knowledge.

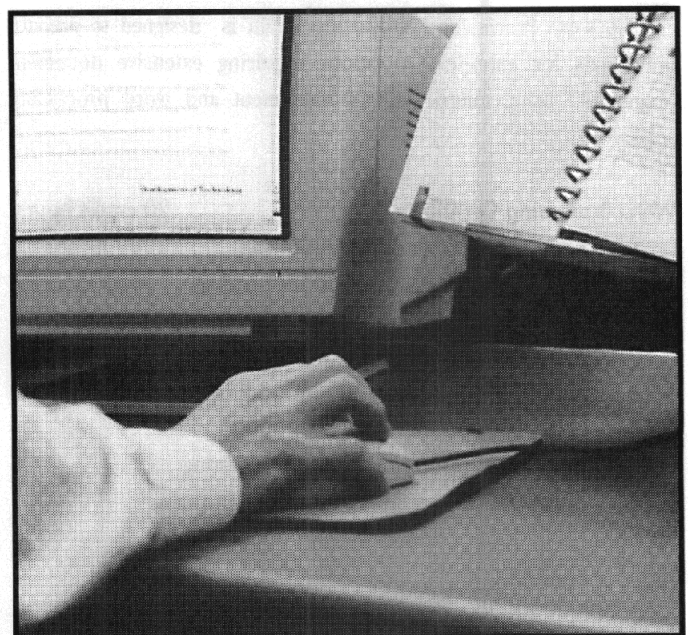
#### Entry-Level Office Support Certificate 16 credit hours

- |              |                            |   |
|--------------|----------------------------|---|
| A. OFAD 1210 | Records Management         | 2 |
| B. OFAD 1211 | Proofreading/Editing       | 2 |
| C. OFAD 1301 | Beginning Keyboarding*     | 3 |
| or OFAD 1302 | Intermediate Keyboarding*  | 3 |
| D. OFAD 1315 | Electronic Calculator      | 3 |
| E. OFAD 1331 | Beginning Word Processing* | 3 |
| F. OFAD 2315 | Office Procedures          | 3 |

#### Mid-Level Office Support Certificate 19 credit hrs

- |              |                              |   |
|--------------|------------------------------|---|
| A. OFAD 1210 | Records Management           | 2 |
| B. OFAD 1211 | Proofreading/Editing         | 2 |
| C. OFAD 1302 | Intermediate Keyboarding*    | 3 |
| D. OFAD 1315 | Electronic Calculator        | 3 |
| E. OFAD 1332 | Intermediate Word Processing | 3 |
| F. OFAD 2305 | Machine Transcription        | 3 |
| G. OFAD 2315 | Office Procedures            | 3 |

\* These Tech Prep courses may have been taken in high school.





**Administrative Support Certificate****25 credit hours**

A.	OFAD	1210	Records Management	2
B.	OFAD	1211	Proofreading/Editing	2
C.	OFAD	1302	Intermediate Keyboarding*	3
D.	OFAD	1320	Business Correspondence	3
E.	OFAD	2303	Advanced Keyboarding	3
F.	OFAD	2315	Office Procedures	3
G.	OFAD	2333	Advanced Word Processing	3
H.	CSCI	2305	Integrated Spreadsheet Applications*	3
I.	CSCI	2310	Database Applications	3

**Entry-Level Accounting Clerk Certificate****18 credit hours**

A.	OFAD	1301	Beginning Keyboarding*	3
or	CSCI	2305	Integrated Spreadsheet*	3
B.	OFAD	1302	Intermediate Keyboarding*	3
C.	OFAD	1315	Electronic Calculator	3
D.	OFAD	1331	Beginning Word Processing*	3
E.	OFAD	2315	Office Procedures	3
F.	ACCT	1370	Elementary Accounting	3
or	ACCT	2301	Principles of Accounting	3

**Enhanced Office Technology Certificate****12 credit hours**

This certificate is designed to enhance an Office Administration degree and/or certificate and prepare the student for a higher-level position in an office environment.

A.	BUSI	1371	Leadership and Human Relations*	3
B.	OFAD	1320	Business Correspondence	3
C.	CSCI	1305	Microcomputer Concepts*	3
D.	CSCI	2305	Integrated Spreadsheet Applications*	3

\*These Tech Prep courses may have been taken in high school.

**WORD PROCESSING**

The Word Processing Certificate program is designed to prepare individuals for entry-level positions requiring extensive document preparation using microcomputer equipment and word processing software.

**Word Processing Certificate****20 credit hours**

A.	OFAD	1211	Proofreading/Editing	2
B.	OFAD	1302	Intermediate Keyboarding*	3
C.	OFAD	1325	Office Support Software	3
D.	OFAD	1331	Beginning Word Processing*	3
E.	OFAD	1332	Intermediate Word Processing	3
F.	OFAD	2303	Advanced Keyboarding	3
G.	OFAD	2333	Advanced Word Processing	3

\*These Tech Prep courses may have been taken in high school.

**MEDICAL OFFICE SUPPORT**

The Entry-Level Medical Office Support and Medical Administrative Assistant Certificate Programs are designed to prepare individuals for positions in a medical office or health care facility.

**Entry-Level Medical Office Support Certificate****19 credit hours**

A.	OFAD	1210	Records Management	2
B.	OFAD	1211	Proofreading/Editing	2
C.	OFAD	1302	Intermediate Keyboarding*	3
D.	OFAD	1315	Electronic Calculator	3
E.	OFAD	1325	Office Support Software	3
or	OFAD	1332	Intermediate Word Processing/Medical	3
F.	OFAD	1331	Beginning Word Processing/Medical	3
G.	HLSC	1300	Medical Terminology	3

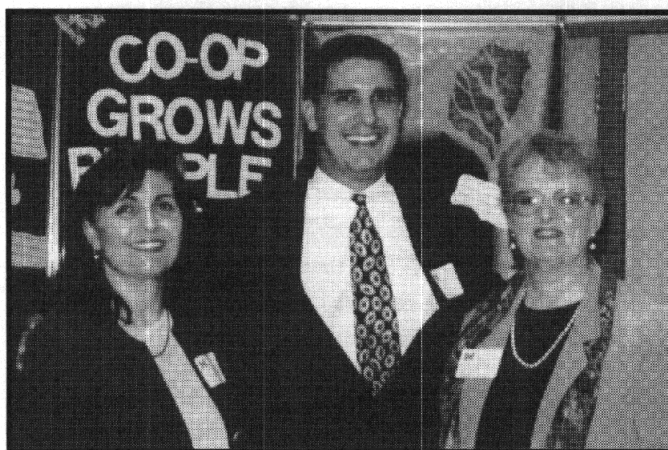
**Medical Administrative Assistant Certificate****25 credit hours**

A.	OFAD	1210	Records Management	2
B.	OFAD	1211	Proofreading/Editing	2
C.	OFAD	1302	Intermediate Keyboarding*	3
D.	OFAD	1310	Medical Insurance Coding	3
E.	OFAD	1325	Office Support Software	3
or	OFAD	1332	Intermediate Word Processing/Medical	3
F.	OFAD	2303	Advanced Keyboarding	3
G.	OFAD	2306	Medical Transcription I	3
H.	OFAD	2315	Office Procedures	3
I.	HLSC	1300	Medical Terminology	3

\*These Tech Prep courses may have been taken in high school.

**MEDICAL TRANSCRIPTION**

The Entry-Level Medical Transcription Skills and the Mid-Level Transcription Skills Certificate Programs are designed to prepare individuals as medical language specialists who interpret and transcribe dictation by physicians and other healthcare professionals regarding patient assessment, workup, therapeutic procedures, clinical course, diagnosis, prognosis, etc. in order to document patient care and facilitate delivery of healthcare services.



**Entry-Level Medical Transcription Skills Certificate 17 credit hours**

A.	OFAD	1211	Proofreading/Editing	2
B.	OFAD	1331	Beginning Word Processing/Medical	3
C.	OFAD	1332	Intermediate Word Processing/Medical	3
D.	OFAD	2306	Medical Transcription I	3
E.	OFAD	2307	Medical Transcription II	3
F.	HLSC	1300	Medical Terminology	3

**Mid-Level Medical Transcription Skills Certificate 41 credit hours**

High school English skills demonstrated or take ENGL 0310. Computer keyboarding skills demonstrated or take OFAD 1200. WordPerfect 5.1/DOS skills demonstrated or take OFAD 1325 or OFAD 1331/Medical.

A.	OFAD	1201	Speedbuilding	2
or	OFAD	1200	Computer Keyboarding	2
B.	OFAD	1211	Proofreading/Editing	2
C.	OFAD	1325	Office Support Software <sup>1</sup>	3
D.	OFAD	2306	Medical Transcription I	3
E.	OFAD	2309	Special Topics in Medical Transcription	3
F.	OFAD	7300	Cooperative Education I	3
or	OFAD	2310	Medical Transcription Simulation	3
G.	OFAD	2307	Medical Transcription II	3
H.	BIOL	1471	Human Anatomy & Physiology Basics	4
I.	HLSC	1300	Medical Terminology	3
J.	HLSC	1305	Advanced Medical Terminology	3
K.	HLSC	1310	Human Diseases	3
L.	HLSC	2300	Medical Procedures	3
M.	HLSC	2305	Pharmacology	3
N.	HLSC	2310	Professional and Medicolegal Issues	3

**LEGAL**

The Legal Office Support Certificate Program is designed to prepare the student for legal office support with entry-level law office clerical skills and also allows the student to complete prerequisite courses leading to Legal Assistant programs.

**Legal Office Support Certificate 19 credit hours**

A.	LEGL	1301	Law and Judicial Systems	3
B.	OFAD	1210	Records Management	2
C.	OFAD	1211	Proofreading/Editing	2
D.	OFAD	1302	Intermediate Keyboarding	3
E.	OFAD	1331	Beginning Word Processing/Legal	3
F.	OFAD	1332	Intermediate Word Processing/Legal	3
G.	OFAD	2305	Machine Transcription/Legal	3

<sup>1</sup>WordPerfect 7.0/Windows.

**PHLEBOTOMY CERTIFICATE**

7 credit hours

Phlebotomy is a special one-semester program that consists of two courses combining classroom instruction, student laboratory, and clinical experience in affiliated medical laboratories. The program prepares students with career entry skills in phlebotomy, fulfills requirements for a Certificate of Completion in Phlebotomy, and completes prerequisites for certification by examination as a phlebotomist. All graduates of the Phlebotomy Program are eligible for national certification by examination by the Board of Registry, American Society of Clinical Pathologist (PBT category), or the National Certification Agency for Clinical Laboratory Personnel (CLPIb category). The Collin County Community College Phlebotomy Program is approved by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). All clinical practicums are under the supervision of a certified medical technologist or certified phlebotomist.

**CAREER OPPORTUNITIES**

Certified Phlebotomists may find employment opportunities with hospital laboratories, veterinary laboratories, multi-physician clinics, doctors' offices, health department laboratories, insurance companies and reference laboratories.

**SPECIAL ADMISSIONS REQUIREMENTS**

- Proof of high school diploma or GED
- Complete program application procedure
- Complete CCCC reading and mathematics assessments
- Evidence of good physical and mental health

Practicum space is limited, so students will be admitted on a selected basis. Application must be submitted before August 1 for the Fall semester and December 1 for the Spring semester. Student liability and up-to-date immunization are also required for all laboratories and clinical practicums.

Registration is by permission only. Additional information and application packets may be obtained from the Health Sciences, Physical Education and Child Development Office.

A.	HLSC	1500	Phlebotomy	5
B.	HLSC	1200	Phlebotomy Practicum	2

**PHYSICAL THERAPIST ASSISTANT**

72 credit hours required to graduate

The PTA program is designed to prepare skilled technical health workers to perform certain physical therapy procedures and related tasks under the direction and supervision of a licensed physical therapist. The PTA degree is not a transitional degree to becoming a licensed physical therapist. Prospective students need to be aware that becoming a PTA does not enhance the student's likelihood to being accepted to a Bachelor/Master Physical Therapist degree program.

The Physical Therapist Assistant curriculum balances educational and technical courses and includes hands-on, supervised practicum at local hospitals and clinics. Upon successful completion of the program, the student is awarded an Associate of Applied Science degree and is eligible to sit for the licensing examination administered by the Texas Board of Physical Therapy Examiners.

This is a two-year course of study between Collin County Community College and Grayson County College.

Students applying to this program need to be aware that required courses will be taught at both campuses and that dependable transportation to the GCC campus is the responsibility of the individual.

**ACCREDITATION**

GCC and CCCC are seeking accreditation by the Commission on Accreditation in Physical Therapy Education (CAPTE) of the American Physical Therapy Association. CAPTE has granted candidate for accreditation status to the program. This program has submitted a Declaration of Intent to Apply for Accreditation, which is the formal application required in the pre-accreditation stage.

**SPECIAL ADMISSION REQUIREMENTS**

- Proof of high school graduation or GED
- Official copies of all college transcripts
- Complete CCCC reading, writing and mathematics assessments
- A handwritten, one-to-two page essay that explains the applicant's interest in the PTA program
- Minimum of 20 hours of observation in two different physical therapy clinics (for a total of 40 hours), or two previous work experiences in physical therapy

Registration is by permission only. Information and applications may be obtained from the Health Sciences, Physical Education and Child Development Division offices.

<b>I. Pre-Entrance Requirements</b>		<b>7 credit hours</b>
A. BIOL	2401	Anatomy and Physiology I . . . . .4
B. MATH	1316	Trigonometry . . . . .3
<b>II. Summer Semester</b>		<b>7 credit hours</b>
A. BIOL	2402	Anatomy and Physiology II . . . . .4
B. HLSC	1300	Medical Terminology . . . . .3
<b>III. Second Semester</b>		<b>18 credit hours</b>
A. ENGL	1301	Composition and Rhetoric I . . . . .3
B. PHYS	1401	General Physics I . . . . .4
C. PSYC	2301	General Psychology . . . . .3
D. PTAS	1401	Introduction to Physical Therapy . . . . .4
E. PTAS	1402	Physical Therapy Procedures . . . . .4
<b>IV. Third Semester</b>		<b>17 credit hours</b>
A. COSC	1306	Introduction to Computer Science . . . . .3
B. PSYC	2314	Life Span Psychology . . . . .3
C. PTAS	1403	Kinesiology . . . . .4
D. PTAS	1404	Physical Agents . . . . .4
E. SPCH	1311	Fundamentals of Speech . . . . .3
<b>V. Summer Semester</b>		<b>4 credit hours</b>
A. PTAS	2401	Clinical Practicum I (Massage) . . . . .4
<b>VI. Fourth Semester</b>		<b>14 credit hours</b>
A.		Humanities/Fine Arts/Philosophy <sup>1</sup> . . . . .3
B. PTAS	2301	Clinical Pathophysiology . . . . .3
C. PTAS	2402	Therapeutic Exercise . . . . .4
D. PTAS	2403	Advanced Topics in Rehabilitation . . . . .4
<b>VII. Fifth Semester</b>		<b>5 credit hours</b>
A. PTAS	2101	PTA Seminar (Medical Ethics) . . . . .1
B. PTAS	2404	Clinical Practicum II . . . . .4

<sup>1</sup>Choose a Humanities/Fine Arts/Philosophy course from the General Education Core for the Associate of Applied Science Degree on page 42.

Note: Biology and mathematics courses must have been completed within the last five years to be considered toward degree requirements.



## REAL ESTATE

63 credit hours required to graduate

Real Estate is a dynamic field in which highly motivated men and women can and do create their own success stories. The degree program in Real Estate is designed with flexibility to allow students to successfully achieve a goal, whether it be personal knowledge, receipt of a degree, completion of a certificate program, transfer to a four-year institution or real estate licensure.

Students will explore a variety of topics including:

- Fundamentals and principles of real estate
- Sources of financing
- State and federal influences on financing
- Legal rights of owners, buyers and brokers
- Property appraisal
- Contract negotiations
- Closing

An excellent instructional staff and a cooperative education program with local brokers give real estate students at CCCC a personalized, practical, high quality educational experience.

Students planning to transfer to a four-year institution should check with a CCCC academic adviser.

### CAREER OPPORTUNITIES

The study of real estate can be the beginning of an interesting and profitable career. Real estate is a vast and complex industry, and career options are numerous. Some of the possibilities are:

- Brokerage
- Appraisal
- Finance
- Property Development
- Counseling
- Education
- Insurance

#### I. General Education Core 22 credit hours

See page 42.

#### II. Technical Core 8 credit hours

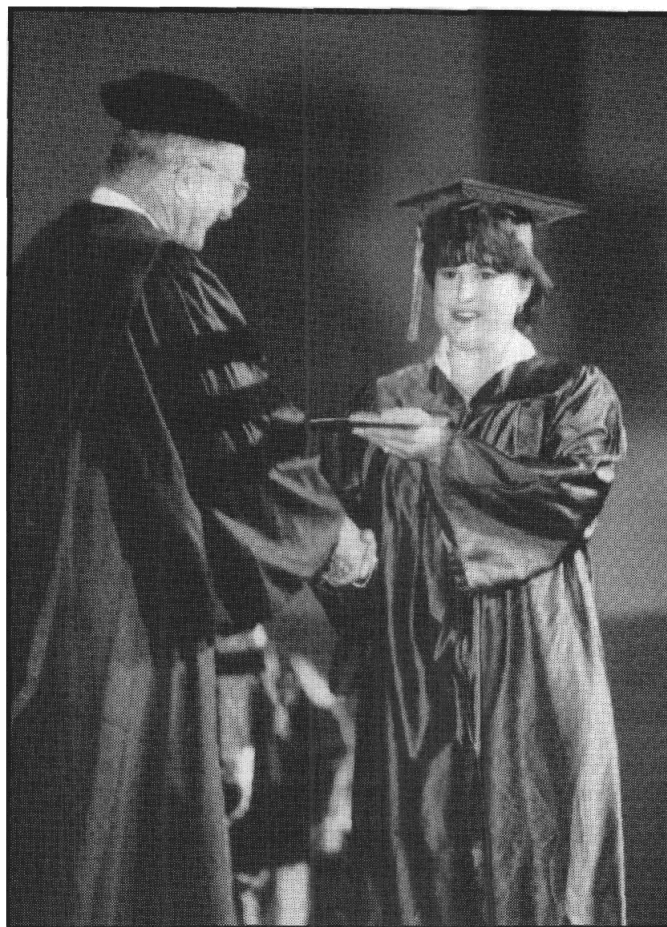
- |              |                          |   |
|--------------|--------------------------|---|
| A. BUSI 1301 | Introduction to Business | 3 |
| B. ENGL 1302 | Composition/Rhetoric II  | 3 |
| C. OFAD 1200 | Computer Keyboarding     | 2 |

#### III. Major Courses 21 credit hours

- |              |                                 |   |
|--------------|---------------------------------|---|
| A. RLST 1301 | Real Estate Principles I        | 3 |
| B. RLST 1302 | Real Estate Principles II       | 3 |
| C. RLST 1303 | Law of Agency                   | 3 |
| D. RLST 1305 | Real Estate Math                | 3 |
| E. RLST 1315 | Promulgated Contract Forms      | 3 |
| F. RLST 1320 | Real Estate Sales and Marketing | 3 |
| G. RLST 2310 | Real Estate Finance             | 3 |

#### IV. Electives 9 credit hours

Minimum three credit hours in the major electives, the other six credit hours may be selected from either the major or related electives listed



#### Major Electives

		minimum 3 credit hours
A. RLST 1310	Real Estate Appraisal	3
B. RLST 2305	Real Estate Investments	3
C. RLST 2315	Real Estate Property Management	3
D. RLST 2320	Real Estate Law	3
E. RLST 2325	Real Estate Commercial	3
F. RLST 2330	Real Estate Financial Analysis	3
G. RLST 2335	Real Estate Brokerage	3

#### Related Electives

		See IV.
A. RLST 2101	Real Estate Selected Topics I	1
B. RLST 2104	Appraisal Ethics	1
C. RLST 2302	Real Estate Selected Topics II	3
D. RLST 7300	Cooperative Education I	3
E. RLST 7305	Cooperative Education II	3
F. ACCT 2301	Principles of Accounting I	3
G. BUSI 1370	Principles of Management	3
H. BUSI 1374	Personnel Management	3
I. BUSI 2301	Business Law	3
J. CSCI 2305	Integrated Spreadsheet Applications	3
K. MKT 1316	Sales Management	3
L. SBMT 1300	Small Business Management I	3
M. SBMT 1310	Principles of Retailing	3

## Associate of Applied Science

### V. Elective

3 credit hours

- A. Elective .....3

*Note: Elective must be chosen from discipline outside Real Estate.*

### REAL ESTATE CERTIFICATE PROGRAMS

Some of the courses in the certificate programs may require prerequisites. Please check the course descriptions in the back of this catalog.

#### Real Estate General Certificate

15 credit hours

- A. RLST 1301 Real Estate Principles I .....3  
B. RLST 1302 Real Estate Principles II .....3  
C. RLST 1303 Law of Agency .....3

#### Electives

6 credit hours

- A. RLST 1305 Real Estate Math .....3  
B. RLST 1310 Real Estate Appraisal .....3  
C. RLST 1315 Promulgated Contract Forms .....3  
D. RLST 1320 Real Estate Sales and Marketing .....3  
E. RLST 2101 Real Estate Selected Topics I .....1  
F. RLST 2302 Real Estate Selected Topics II .....3  
G. RLST 2305 Real Estate Investments .....3  
H. RLST 2310 Real Estate Finance .....3  
I. RLST 2315 Real Estate Property Management .....3  
J. RLST 2320 Real Estate Law .....3  
K. RLST 2325 Real Estate Commercial .....3  
L. RLST 2330 Real Estate Financial Analysis .....3  
M. RLST 2335 Real Estate Brokerage .....3  
N. RLST 7300 Cooperative Education I .....3  
O. RLST 7305 Cooperative Education II .....3

#### Real Estate Advanced Certificate

30 credit hours

- A. RLST 1301 Real Estate Principles I .....3  
B. RLST 1302 Real Estate Principles II .....3  
C. RLST 1303 Law of Agency .....3  
D. RLST 1305 Real Estate Math .....3  
E. RLST 1310 Real Estate Appraisal .....3  
F. RLST 1315 Promulgated Contract Forms .....3  
G. RLST 1320 Real Estate Sales and Marketing .....3  
H. RLST 2310 Real Estate Finance .....3

#### Electives

6 credit hours

- A. RLST 2101 Real Estate Selected Topics I .....1  
B. RLST 2302 Real Estate Selected Topics II .....3  
C. RLST 2305 Real Estate Investments .....3  
D. RLST 2315 Real Estate Property Management .....3  
E. RLST 2320 Real Estate Law .....3  
F. RLST 2325 Real Estate Commercial .....3  
G. RLST 2330 Real Estate Financial Analysis .....3  
H. RLST 2335 Real Estate Brokerage .....3  
I. RLST 7300 Cooperative Education I .....3  
J. RLST 7305 Cooperative Education II .....3

## RESPIRATORY CARE

72 credit hours required to graduate

Respiratory care offers a program which prepares individuals for an allied health specialty in clinical care and management of respiratory disorders. The 22-month program graduates a student with an Associate in Applied Science degree and qualifies the individual to apply for the Registered Respiratory Therapist board examination.

The student is required to maintain a GPA of 2.0 in general academic coursework and in all science courses. The minimum grade in all respiratory care classes will be a C (2.0 GPA).

### PROGRAM COMPLETION REQUIREMENTS

All students are required to complete comprehensive program examinations to receive their certificate of completion and degree. The CRTT SAE will be given in the fall semester of the second year. The RRT SAE will be given in the spring semester. The student will have two opportunities to pass all exams. Satisfactory completion is required for graduation from the program.

### TRANSITION PROGRAM

The college offers a transition program to allow students who hold a CRTT credential and have one year of experience to receive their degree and become registry-eligible. Contact the program director for additional information.

### CAREER OPPORTUNITIES

Career opportunities in the health care industry for registered respiratory therapists are increasing rapidly. Recent surveys indicate that the supply of trained respiratory care professionals has not been sufficient to meet the progressive growth in demand.

### SPECIAL ADMISSION REQUIREMENTS

- Proof of high school graduation or GED
- Official copies of all college transcripts
- Complete CCCC reading, writing and mathematics assessments
- Complete Psychological Services Bureau, Health Occupations Aptitude Exam
- Complete the written and skills exam in EMTP 1100 according to the standards set by the American Heart Association

Registration is by permission only. Information and applications may be obtained from the Health Sciences, Physical Education and Child Development Division office or the program coordinator.

#### I. Pre-Entrance Requirements

- Prepared to enter BIOL 2401 (Anatomy and Physiology I) with completion of:
  - a. Two years of high school biology
  - b. BIOL 1406 (General Biology I)
- Prepared to enter college-level math



## SEMICONDUCTOR MANUFACTURING TECHNOLOGY

70 credit hours required to graduate

This program is designed to prepare students to work in the semiconductor manufacturing industry. Semiconductor manufacturing consists of a series of complex processes by which miniaturized electrical devices or microchips are created for electronic equipment. Students would receive instruction in related academic subjects, safety procedures, statistical process control techniques, and the operation of machinery and equipment for the fabrication and processing of semiconductors. This program is a joint work force education program with Richland College.

The degree program consist of 70 credit hours, with 44 hours in the major area of study, 11 hours in technical core courses, 15 hours in general education core courses and 3 hours of electives. This prepares students for employment as semiconductor equipment technicians. As an alternative, students may complete a 38-credit hour certificate program that certifies them for employment as a semiconductor equipment operator.

### CAREER OPPORTUNITIES

The semiconductor manufacturing industry is growing dramatically, thanks to the speed with which technological changes are incorporating microelectronic devices in our everyday lives. Microchips are critical components in a multitude of products for the home, office, and car. The semiconductor technician/operator is listed as a statewide targeted occupation by the Texas State Occupational Information Coordinating Committee in its June 1996 report on Texas Emerging and Evolving occupations. The Dallas/Fort Worth metroplex semiconductor industry projects a growth of 12,000 jobs over the next five years. North Texas has the largest concentration of semiconductor industries in the nation.

<b>II. First Semester</b>		<b>16 credit hours</b>
A. BIOL 2401	Anatomy and Physiology I	4
B. RTTP 1300	Respiratory Care Science	3
C. RTTP 1400	Fundamentals of Respiratory Care I	4
D. RTTP 1500	Clinical Practice I	5
<b>III. Second Semester</b>		<b>16 credit hours</b>
A. BIOL 2402	Anatomy and Physiology II	4
B. RTTP 1205	Respiratory Pharmacology	2
C. RTTP 1310	Clinical Practice II	3
D. RTTP 1315	Respiratory Disease	3
E. RTTP 1405	Fundamentals of Respiratory Care II	4
<b>IV. Summer Semester</b>		<b>7 credit hours</b>
A. RTTP 1320	Clinical Practice III	3
B. RTTP 1410	Fundamentals of Respiratory Care III	4
<b>V. Fourth Semester</b>		<b>15 credit hours</b>
A. MATH 1314	College Algebra	3
or MATH 1324	Pre-Calculus for Business and Economics	3
or MATH 1342	Statistics	3
B. PSYC 2301	General Psychology	3
or PSYC 2302	Applied Psychology	3
or SOCI 1301	Introduction to Sociology	3
C. RTTP 2310	Perinatal Respiratory Care	3
D. RTTP 2320	Advanced Respiratory Care	3
E. RTTP 2330	Clinical Practice IV	3
<b>VI. Fifth Semester</b>		<b>18 credit hours</b>
A. BIOL 2420	Microbiology	4
B. EMTP 1100	Advanced Cardiac Life Support	1
C. ENGL 1301	Composition and Rhetoric I	3
D.	Humanities/Fine Arts/Philosophy <sup>1</sup>	3
E. RTTP 2110	Clinical Simulations	1
E. RTTP 2340	Clinical Practice V	3
G. RTTP 2350	Advanced Patient Assessment	3

<sup>1</sup>Choose a Humanities/Fine Arts/Philosophy course from the General Education Core for the Associate of Applied Science Degree on page 42.

<b>I. General Education Core</b>		<b>15 credit hours</b>
See page 42.		
Higher levels of mathematics courses can be taken		
PSYC 2302 is recommended for SEMI majors		
<b>II. Technical Core</b>		<b>11 credit hours</b>
A. MATH 1316	Trigonometry	3
B. PHYS 1401	General Physics	4
C. CHEM 1405	Introduction to Chemistry	4
<b>III. Major Courses</b>		<b>44 credit hours</b>
A. SEMI 1370	Semiconductor Manufacturing I	3
B. ELET 7300	Cooperative Education I	3
C. ELAT 1400	Basic Electronics I*	4
D. ELAT 1401	Basic Electronics II*	4
E. ELAT 1410	Solid State Devices*	4
F. ELAT 2425	Active Devices	4
G. ELET 1405	Digital II Analysis	4
H. ELET 2325	Computer Interfacing	3
I. ENGT 1471	Fluid Power Systems	4



## Associate of Applied Science

J.	ENGT	1472	Computer Aided Instrumentation & Testing	.4
K.	ELAT	2437	Industrial Automation Controllers	.4

\* These Tech Prep courses may have been taken in high school.

III. Electives				3 credit hours
A.	SEMI	2370	Semiconductor Manufacturing II	.3
or	ELET	7305	Cooperative Education II	.3

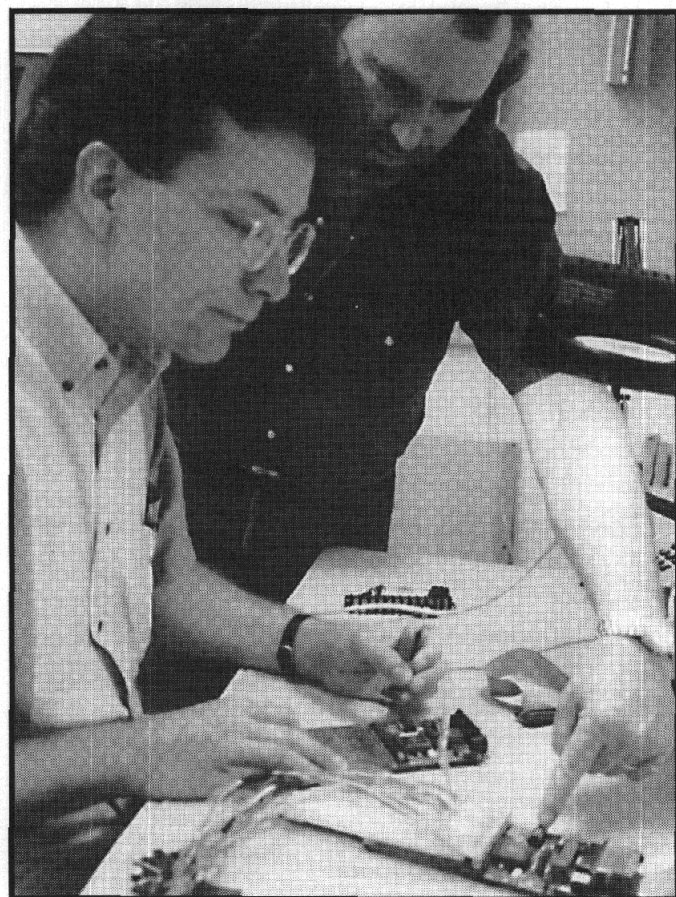
## SEMICONDUCTOR MANUFACTURING TECHNOLOGY CERTIFICATE

Some courses in certificate programs may require prerequisites.

### Semiconductor Manufacturing Operator Certificate 38 Credit Hours

A.	ENGL	1301	Composition/Rhetoric I	.3
B.	MATH	1314	College Algebra	.3
C.	MATH	1316	Trigonometry	.3
D.	ENGT	1471	Fluid Power Systems	.4
E.	CHEM	1405	Introduction to Chemistry I	.4
F.	PHYS	1401	General Physics I	.4
G.	PSYC	2302	Applied Psychology	.3
H.	ELAT	1400	Basic Electronics I*	.4
I.	ELAT	1401	Basic Electronics II*	.4
J.	ELET	7300	Cooperative Education I	.3
K.	SEMI	1370	Semiconductor Manufacturing I*	.3

\* These Tech Prep courses may have been taken in high school.



## SMALL BUSINESS MANAGEMENT

The Small Business Management Certificate is designed to provide an understanding of how to operate a business. Topics include how to prepare a business plan, raise capital, plan cash flow requirements, create tax strategies, develop marketing programs and establish rewarding employee benefit plans.

This program offers a unique opportunity for the student to generate ideas, identify and resolve business problems and develop an entrepreneurial management style.

### CAREER OPPORTUNITIES

The Small Business Management Certificate provides the essential core of management practices and prepares students for:

- Entrepreneurship
- Manufacturing
- Construction
- Retail
- Services
- Personnel

The federal government considers 97 percent of American businesses to be small businesses; one half of those employed in this country work in small business enterprises. Small businesses create over 80 percent of all new jobs in the United States.

Some courses in the certificate programs may require prerequisites. Please check the course descriptions in the back of this catalog.

### Small Business Management Certificate 15 credit hours

A.	SBMT	1300	Small Business Management I	.3
B.	SBMT	1305	Small Business Financing	.3
C.	SBMT	1310	Principles of Retailing	.3
D.	SBMT	2300	Small Business Management II	.3
E.	MRKT	1305	Principles of Marketing	.3



## ACADEMIC & PERSONAL ENHANCEMENT

(Formerly Human Development)

### ACPE 0200 STUDY SKILLS

Designed to assist students in improving their study **skills** and habits. Various methods and techniques will be explored, including time management, **notetaking**, reading, communication, test preparation, test **taking**, problem solving and learning **styles**. (This course may not be used to satisfy the requirements of an associate's degree.) 2 credit hours.

### ACPE 1200 CAREER PLANNING & COUEGE SURVIVAL

Designed to assist students in exploring career options and acquiring **skills** and information to facilitate successful achievement of educational and career goals. Included will be an understanding of programs and resources at CCCC, long and short range career strategies and occupational opportunities. (This course may not be used to satisfy the requirements of an associate's degree.) 2 credit hours.

### ACPE 1205 LEADERSHIP & PERSONAL DMLOPMENT

Concepts of leadership and personal development will be explored both theoretically and practically. Topics include communication styles, leadership **strategies**, goal setting, interpersonal relationships and **conflict** resolution. These skills can be applied to all areas of a student's life. (This course may not be used to satisfy the requirements of an associate's degree.) 2 credit hours.

## ACCOUNTING

### ACCT 1370 ELEMENTARY ACCOUNTING

Designed for those persons who need to be familiar with the basic principles of accounting in order to manage the financial records of a business. It covers the recording and reporting of business transactions including the accounting cycle, financial statements and payroll. Lab required. 3 credit hours.

### ACCT 2301 PRINCIPLES OF ACCOUNTING I

(financial Accounting)

Accumulation and use of accounting **information** in business; fundamental concepts and records, operating cycle; income measurement; preparation and **analysis** of financial statements; sole proprietorship, partnership, and corporation accounting. Lab **required**. 3 credit hours.

### ACCT 2302 PRINCIPLES OF ACCOUNTING II

(Managerial Accounting)

Uses of accounting data by business management; cost behavior analysis; control of manufacturing product costing; cost-volume-profit analysis; budgeting controls; standard costing; responsibility accounting; capital budgeting; analysis of financial statements. Prerequisites: **ACCT 2301** and **COSC 1306**. Lab required. 3 credit hours.

## **ACCT 7300 COOPERATIVE EDUCATION I**

Under supervision of the college and the employer, students combine classroom learning with career related work experience. Credit is earned for completion of specific learning objectives and seminar participation. Contact the CWE office. 3 credit hours.

## **AGRONOMY**

(Also see Horticulture/Landscape Technology)

### **ARGI 1407 AGRONOMY**

An introduction to the economic importance of plants to man and society. Includes a study of cropping systems, nutrition, crop hazards, fertilizers, weeds, crop improvement, plant classification, structure and growth. Lab required. 4 credit hours.

## **ANTHROPOLOGY**

### **ANTH 2301 PHYSICAL ANTHROPOLOGY**

An overview of human origins and cultural adaptations combining study of our nearest relatives, the chimpanzees, with analysis of reproductions of fossil bones. Unit concerning forensic anthropology explains how crimes can be solved from analysis of skeletal material. Students work with actual human bone. Students have the opportunity to participate in field trip to zoo. 3 credit hours.

### **ANTH 2302 INTRODUCTION TO ARCHAEOLOGY**

Study of famous archaeological sites. Introduction to fundamentals of fieldwork methods and interpretation, including how to conduct a field excavation, simulated practice dig, hands-on work with artifacts, and visit to an archaeological site. 3 credit hours.

### **ANTH 2351 CULTURAL ANTHROPOLOGY**

Utilization of the comparative method to examine the concepts of culture and society. The social and cultural beliefs and practices of people of diverse ethnic backgrounds are investigated and compared. Includes anthropological fieldwork. 3 credit hours.

### **ANTH 2389 ACADEMIC CO-OP ANTHROPOLOGY**

An instructional program designed to integrate on-campus study with practical hands-on work experience in Anthropology. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of Anthropology. Contact the CWE office. Prerequisites: Consent of instructor. 3 credit hours.

## **APPLIED GRAPHIC DESIGN TECHNOLOGY**

### **AGDT 1300 SURVEY OF APPLIED GRAPHIC DESIGN TECHNOLOGY**

Introduction to Applied Graphic Design Technology including investigation into the various career opportunities and into the workings of an agency or in-house studio. Understanding of the relationship of art and visual communication and the psychology of effective media use will be covered. This course addresses technological advances that affect Graphic Design Communications and introduces various forms of New Media. Lecture only. 3 credit hours.

### **AGDT 1310 INTRODUCTION TO COMPUTER GRAPHICS**

Introduction to the computer as an art tool. Exposure to the various fields of computer graphics including electronic publishing and computer illustration. Introduction to basic computer functions; draw, paint and text tools, terminology, technology, keyboard familiarization, mouse use, software function and access. Lab required. 3 credit hours.

### **AGDT 1315 TYPOGRAPHY**

Introduction and exploration through the definition, design, beginning manipulation, psychology of type, and rendering of type. Practical knowledge of typography will be gained through hand skills and computer application. Prerequisite: AGDT 1310. Lab required. 3 credit hours.

### **AGDT 1320 INTRODUCTION TO ELECTRONIC IMAGING**

Introduction to electronic imaging and color separation using the computer as the primary tool. Photo retouch and manipulation, scanned art imaging and computer generated art image processing. Photo and Fine Arts majors welcome. Prerequisite AGDT 1310. Lab required. 3 credit hours.

### **AGDT 1325 VISUAL COMMUNICATIONS I**

Introduction to the field of graphic design including basic terminology, tools and media, typography, layout and design concepts, reproduction process and problem solving. Prerequisite: ARTS 1311. Lab required. 3 credit hours.

### **AGDT 1326 VISUAL COMMUNICATIONS II**

Intermediate level graphic design course. Emphasis is on photo-ready production skills (traditional and computer), comp production, creative ads, marker skills, storyboards and logo design. Prerequisite: AGDT 1325. Lab required. 3 credit hours.

### **AGDT 1330 BEGINNING ILLUSTRATION**

Introduction to conceptual visualization of ideas. Techniques of black and white, dry and wet media are explored with emphasis on concept, light and value, line, and communication. Practical knowledge of illustration will be gained through real work assignments. Prerequisite: ARTS 1316. Lab required. 3 credit hours.



### **AGDT 1331 2D COMPUTER ILLUSTRATION**

An exploration of computer graphics with applications in design, illustration and other areas of graphic design. Current trends in computer graphics will be explored. Creative solutions will be stressed. Prerequisites: AGDT 1310 and AGDT 1330. Lab required. 3 credit hours.

### **AGDT 1332 INTRODUCTION TO 3D COMPUTER ILLUSTRATION**

A basic introduction to the terminology and concepts of 3D computer illustration. Prerequisites: AGDT 1310 and AGDT 1320. AGDT 1320 may be taken concurrently with AGDT 1332. 3 credit hours.

### **AGDT 1340 STORYBOARD AND SCRIPT DESIGN**

Introductory course in conceptualization, structure, visualization and design of storyboards and scripts for graphic designers. Emphasis on storyboarding techniques for various media. Lecture only. 3 credit hours.

### **AGDT 1348 INTERACTIVE DESIGN**

This course provides graphic design students with instructional design concepts. Students will be introduced to various learning theories and media utilization for presentations, video or interactive multimedia. This course will also provide a forum for artistic conceptualization through which students will be introduced to many different types of interfaces, physical and virtual. Through prototyping students will understand the use of metaphors, menus, navigation, and effective design of look and feel. Lecture only. 3 credit hours.

### **AGDT 1350 INTRODUCTION TO MULTIMEDIA AUTHORIZING**

Introduction to multimedia principles, theories, systems and applications. Exposure and experience in authoring software through the use of labs and projects. Prerequisites: AGDT 1310 and AGDT 1340 or AGDT 1348. Lab required. 3 credit hours.

### **AGDT 1351 INTERACTIVE MULTIMEDIA AUTHORIZING**

Further exploration of multimedia principles, with practical application through work on continuing projects. Emphasis on interface design, instructional design issues, storyboard and concept. Prerequisites: AGDT 1350. Lab required. 3 credit hours.

### **AGDT 1355 COLOR THEORY FOR DIGITAL MEDIA**

Introduction to color theory with emphasis on color as it relates to non-print display, calibration, pixel properties, light mixing, additive vs. Subtractive theory. Exploration of color use in different digital media; digital photography, pre-press, video and multimedia. Prerequisite: AGDT 1310. Lab required. 3 credit hours.

### **AGDT 2320 IMAGE PROCESSING**

Continuation of AGDT 1320. Use of photo manipulation software to create electronic images. Color correction, separation, scanning and output to high-end color and film printers. Prerequisite: AGDT 1320. Lab required. 3 credit hours.

### **AGDT 2325 ELECTRONIC PUBLISHING FOR GRAPHIC DESIGN**

Exploration of electronic publishing software on computer as a tool in graphic design page layout. Emphasis in the use of pre-press technology. Prerequisites: AGDT 1310 and AGDT 1325. Lab required. 3 credit hours.

### **AGDT 2326 GRAPHIC DESIGN AND PRODUCTION**

Investigation of various graphic design problems with consideration of technical requirements and presentation techniques for camera-ready art. Current trends will be explored. Creative solutions and client presentation will be stressed. Prerequisite: AGDT 1310, AGDT 1315, and AGDT 1325. Lab required. 3 credit hours.

### **AGDT 2330 ILLUSTRATION**

Problem-solving techniques for advertising illustration with consideration of technical requirements for camera-ready art. Current trends will be explored. Creative solutions and client presentation will be stressed. Prerequisite: AGDT 1330. Lab required. 3 credit hours.

### **AGDT 2331 ADVANCED 2D COMPUTER ILLUSTRATION**

More advanced work in computer illustration, including color. Prerequisites: AGDT 1331 and AGDT 2330. Lab required. 3 credit hours.

### **AGDT 2332 3D COMPUTER ILLUSTRATION**

3D illustration using the computer as the main tool. Concentrated exploration of computer modeling and rendering tools. Prerequisite: AGDT 1320. Lab required. 3 credit hours.

### **AGDT 2335 2D COMPUTER ANIMATION**

Various aspects of two-dimensional animation software. Students will develop concepts, storyboards and produce a two-dimensional animation with soundtrack. Prerequisites: AGDT 1310 and AGDT 1340. Lab required. 3 credit hours.

### **AGDT 2336 ADVANCED 2D COMPUTER ANIMATION**

Advanced work in two-dimensional computer animation continued from AGDT 2335. Further development of animated graphics and art for video, film, or interactive multimedia with emphasis on scripting. Prerequisite: AGDT 2335. Lab required. 3 credit hours.

### **AGDT 2340 3D COMPUTER ANIMATION**

Introduction to three-dimensional animation. Students will begin to produce a three-dimensional animation with emphasis on concept, storyboard and production. Prerequisite: AGDT 2332. Lab required. 3 credit hours.

### **AGDT 2341 ADVANCED 3D COMPUTER ANIMATION**

Advanced work in three-dimensional animation continuing from AGDT 2340. Further development of photo-realistic, three-dimensional animated images with soundtrack for artistic visualization, advertising, video, film, and interactive multimedia. Prerequisite: AGDT 2340. Lab required. 3 credit hours.

### **AGDT 2355 MULTIMEDIA STUDIO**

Multimedia Studio gives students the opportunity to work with real clients and develop completed client-directed and experimental personal projects. Students will explore various artistic options of multimedia software, display devices, video and sound. May be repeated for credit. Prerequisites: AGDT 1310, AGDT 1320 and consent of Coordinator. Lab required. 3 credit hours.

### **AGDT 2360 VIDEO FOR MULTIMEDIA**

This class will focus on video production techniques for independent video production. Students are taken through all phases of production and pre-production. Computer graphics included where necessary. Prerequisite: AGDT 1310 and AGDT 1340. Lab required. 3 credit hours.

### **AGDT 2361 DIGITAL POST-PRODUCTION FOR MULTIMEDIA**

This course will focus on video post-production techniques for independent video production. Students are taken through all phases of post production. Computer graphics will be used where necessary. Prerequisites: AGDT 1300, AGDT 1310, and AGDT 1340. AGDT 2360 is an additional prerequisite for those seeking the Digital Video Degree. Lab required. 3 credit hours.

### **AGDT 2365 AD AGENCY**

Advanced students from the areas of production art, illustration and computer graphics will work in teams to produce advertising and illustration solutions for clients both on and off campus. Prerequisite: Consent of Coordinator. Lab required. 3 credit hours.

### **AGDT 2370 PROFESSIONAL PRACTICES**

This course is an overview of professional practices required both in the work place and as a freelance artist. Networking, professional organizations, presentation skills, job-seeking techniques and portfolio development will be covered. Prerequisite: Consent of Coordinator. Exit course for program. 3 credit hours.

### **AGDT 2385 DIGITAL PHOTOGRAPHY II**

Advanced level electronic imaging. Increased hands-on experience using the digital camera, scanners, Photoshop and high-end image manipulation of large digital files. Prerequisite: ARTS 2371. Lab required. 3 credit hours.

### **AGDT 2390 SPECIAL TOPICS IN APPLIED GRAPHIC DESIGN TECHNOLOGY I**

Current developments in the rapidly changing field of Graphic Technology are studied. May be repeated when topics vary. Prerequisite: Will vary based on topics covered and will be annotated in each semester's class schedule. May be repeated for credit as topics change. Lab required. 3 credit hours.

#### **Multimedia for the Internet**

Create a home page for the Internet. Students learn how to "surf the net", the principles of hypermedia, layout organization, and HTML code construction. Develop cutting edge communication skills. Prerequisite: AGDT 1310 and AGDT 1320. 3 credit hours.

#### **Virtual Reality**

This course is an introduction to Virtual Reality utilizing QuickTime Virtual Reality movies. Students will create single and multiple node VR panoramas as well as create object movies. Prerequisites: AGDT 1310 and 1320, ARTS 2356 and coordinator approval.

### **AGDT 2391 SPECIAL TOPICS IN APPLIED GRAPHIC DESIGN TECHNOLOGY II**

Current developments in the rapidly changing field of Graphic Technology are studied. May be repeated when topics vary. Prerequisite: Will vary based on topics covered and will be annotated in each semester's class schedule. May be repeated for credit as topics change. Lab required. 3 credit hours.

#### **Advanced Multimedia for the Internet**

Further exploration of Internet and WWW technologies. Design and construction of complex Web sites. Students extend the basic knowledge gained in AGDT 2390 to include: Advanced HTML constructs, user interface development, CGI script design and development, and animation and image processing techniques for the web. The current state of the art web technology will be used. Prerequisites: AGDT 1310 and AGDT 2390. 3 credit hours.

### **AGDT 7300 COOPERATIVE EDUCATION I**

Under supervision of the college and the employer, students combine classroom learning with career-related work experience. Credit is earned for completion of specific learning objectives and seminar participation. Prerequisite: Consent of instructor. Contact the Cooperative Work Experience office. 3 credit hours.

### **AGDT 7305 COOPERATIVE EDUCATION II**

Continuation of supervised on-the-job experience and career-related activities. Requires advanced learning objectives, increased levels of responsibility and seminar participation. Prerequisite: AGDT 7300 and consent of instructor. Contact the Cooperative Work Experience office. 3 credit hours.

## ARTS

(Also see Photography)

### ARTS 1301 ART APPRECIATION

Introduction to the visual arts, emphasizing the understanding and appreciation of art. 3 credit hours.

### ARTS 1303 ART HISTORY I

Survey of art history from prehistoric times to the Renaissance. Special consideration is given to the form and content of a work of art, as well as the social and cultural context in which the work is created. 3 credit hours.

### ARTS 1304 ART HISTORY II

Survey of art history from the Renaissance period to the present. Special consideration is given to the form and content of a work of art, as well as the social and cultural context in which the work is created. 3 credit hours.

### ARTS 1311 DESIGN I (TRADITIONAL)

Introduction to two-dimensional visual organization dealing with basic elements and principles of design. Exploration of black and white, color and a variety of media. The experience in this class will prepare the student for composition in painting, drawing and other two-dimensional courses. Lab required. 3 credit hours.

### ARTS 1311 DESIGN I (COMPUTER)

Introduction to two-dimensional visual organization dealing with basic elements and principles of design. Same as course above, but taught on the computer. Lab required. 3 credit hours.

### ARTS 1312 DESIGN II

Introduction to three-dimensional design problems utilizing various sculpture materials. Lab required. 3 credit hours.

### ARTS 1316 DRAWING I

An introduction to drawing including space, form, line, contour, gesture, texture, value and composition. The student will learn observational skills in order to render the subjects of still life, figure, perspective and landscape more accurately. Emphasis will be placed on technique, imagination and use of a variety of materials. Lab required. 3 credit hours.

### ARTS 1317 DRAWING II

Continued study of space, form, line, contour, gesture, texture, value and composition in still life, figure, perspective and landscape. Use of color will be introduced in various media. Emphasis will be placed on imagination, technique, development of a personal drawing style and composition. Prerequisite: ARTS 1316. Lab required. 3 credit hours.

### ARTS 1325 ART FOR ELEMENTARY EDUCATORS

Art for elementary educators. Includes projects in drawing, painting, printing, crafts and sculpture. Lab required. 3 credit hours.

### ARTS 1370 PROBLEMS IN CONTEMPORARY ART-SELECTED TOPICS

#### Computer Art I

Introduction to creating art on the computer utilizing a simple draw and paint software program. Use of the computer as an artist tool for rapidly visualizing changes to shape, size and color relationships. Skills useful for fine art painting and design courses. No previous computer experience necessary. Lab required. 3 credit hours.

#### Printmaking/Screenprinting

Introduction to screenprinting techniques including cut-paper stencils, hand-painted screens and photographic stencil processes. Printing methods for paper and fabrics. Prerequisite: ARTS 1311 or permission of instructor. Lab required. 3 credit hours.

#### Computer Painting

Introduction to computer painting for beginning and advanced students. Emphasis is placed on the imaginative translation of traditional painting techniques onto the computer. Prerequisite: ARTS 1311 on computer or Computer Art I or permission of instructor. Lab required. 3 credit hours.

#### Mixed Media Painting

A special problems course that aids beginning and advanced students in discovering their innermost hopes, fears, values, and thought processes and guides them in developing their own personal art expression. Prerequisite: ARTS 1316 or permission of instructor. Lab required. 3 credit hours.

#### Women in the Arts

Women as artists and art! Women as collectors and patrons! Explore the influence of women on the visual arts through a brief historical survey and by examining the art and lives of contemporary women. 3 credit hours.

### ARTS 2311 INTRODUCTION TO COLOR/PAINTING

Practical application of current color theories used in both fine arts and commercial art. Emphasis is on color perception and color psychology with exercises in transparent and opaque pigments, printing inks and color photography. Prerequisites: ARTS 1311 and 1316. Lab required. 3 credit hours.

### ARTS 2316 PAINTING I

Introduction to painting including use of materials, techniques, color study and composition. Various painting styles will be practiced. Prerequisite: ARTS 1316. Lab required. 3 credit hours.



### **ARTS 2317 PAINTING II**

Intermediate-level course designed to increase the student's ability to use various techniques, color and composition using acrylics, oil and other media. Realistic and abstract approaches to painting will be explored. Emphasis will be placed on design, imagination, personal expression and painting style. Prerequisite: ARTS 2316. Lab required. 3 credit hours.

### **ARTS 2323 LIFE DRAWING I**

Drawing from the life model including instruction in anatomical and creative approaches to figure drawing. Emphasis is on personal expression and creativity. May be taken for up to six (6) hours credit. The second semester of work is more advanced than the previous semester. Prerequisite: ARTS 1316. Lab required. 3 credit hours.

### **ARTS 2324 LIFE DRAWING II**

A continuation of the study of the life model. Emphasis on personal expression and creativity. Prerequisite: ARTS 2323. Lab required. 3 credit hours.

### **ARTS 2326 SCULPTURE I**

A study of three-dimensional form, including basic methods of modeling, construction and simple casting procedures. Prerequisite: ARTS 1312. Lab required. 3 credit hours.

### **ARTS 2327 SCULPTURE II**

Application of the principles of three-dimensional form with an emphasis in creative expression. Prerequisite: ARTS 2326. Lab required. 3 credit hours.

### **ARTS 2333 PRINTMAKING I**

Introduction to the process of intaglio and relief printing. Prerequisite: ARTS 1316. Lab required. 3 credit hours.

### **ARTS 2334 PRINTMAKING II**

Continuation of Printmaking I with an emphasis on creative expression. Prerequisite: ARTS 2333. Lab required. 3 credit hours.

### **ARTS 2336 FIBERS I: PAPERMAKING**

Investigates the problems of two and three-dimensional design with emphasis on individual expression and creativity. Basic papermaking and elementary dyeing processes explored. Lab required. 3 credit hours.

### **ARTS 2346 CERAMICS I**

Introduction to ceramic design, including hand building, potter's wheel and glazing and firing techniques. Lab required. 3 credit hours.

### **ARTS 2347 CERAMICS II**

Continuation of Ceramics I with further study in clay and glaze composition and kiln operation with an emphasis on creative expression. Prerequisite: ARTS 2346. Lab required. 3 credit hours.

### **ARTS 2366 WATERCOLOR I**

Introduction to watercolor including instruction in the use of brushes, papers, materials and various painting techniques on wet and dry paper. The student will gain experience in mixing colors, color methods, problem solving in the use of technique and in skillful observation of composition and painting style. Prerequisite: ARTS 1316. Lab required. 3 credit hours.

### **ARTS 2367 WATERCOLOR II**

Intermediate-level course designed to increase the student's ability to master technique, to identify the different pigment properties of color and to determine their best use. Exploration of different tools, papers, materials and techniques will be practiced. Emphasis is on composition, imagination, personal expression and painting style. Prerequisite: ARTS 2366. Lab required. 3 credit hours.

### **ARTS 2371 PORTFOLIO**

Advanced study for the development of a portfolio of high quality. Prerequisite: Advanced class in a field of study. Lab required. 3 credit hours.

### **ARTS 2389 ACADEMIC CO-OP ARTS**

An instructional program designed to integrate on-campus study with practical hands-on work experience in art. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of art. Contact the CWE office. 3 credit hours.

## **BIOLOGY**

(Also see Nutrition)

### **ENVR 1470 WEST TEXAS NATURAL HISTORY**

For non-science majors or an elective for science majors. Survey of the ecosystems of central and west Texas, including their geology, plants and animals and the human impact on those systems. The course includes 28 hours of preparatory lecture/labs taught by geologists and biologists, followed by a 9-day camping field trip commencing after finals week. 4 credit hours.

### **BIOL 1322 GENERAL NUTRITION**

Study of nutrients and nutritional processes including functions, food sources, digestion, absorption and metabolism with application to normal and therapeutic human nutritional needs. This course is designed for biology and nutrition majors. 3 credit hours. (May not be used as a lab science.)

### **BIOL 1323 NUTRITION FOR TODAY**

This course is designed for anyone interested in nutrition and how it relates to overall health and wellness. It examines what role the nutrients serve in the body, their sources and how the body absorbs and utilizes them. Latest nutritional information is emphasized, especially implications

it has for recommended eating patterns. This course is not intended for allied health or nutrition majors. 3 credit hours. (May not be used as a lab science).

### **BIOL 1370 NUTRITION FOR FITNESS AND SPORT**

This course looks at nutrient intake for energy systems during exercise training, competition and improved performance. Nutrients, amounts needed, how they work in the body, and how they support and enhance physical activity will be addressed. Body weight and composition and weight gain or loss through exercise and diet are also discussed. Myths, misconceptions and quackery in the sport nutrition field will be discussed and sound information learned. 3 credit hours. (May not be used as a lab science).

### **BIOL 1406 GENERAL BIOLOGY I**

For science majors. Current knowledge in the fundamentals of biology. Will develop concepts in cellular structure and function from the molecular to the organism level. General topics covered include basic biochemistry, metabolism, energetics, molecular and cellular biology, DNA and genetics; viruses and bacteria; evolution and ecology. Laboratory correlates with lecture topics. Lab required. 4 credit hours.

### **BIOL 1407 GENERAL BIOLOGY II**

For science majors. Continuation of Biology 1406. The biology of the protists, fungi, plants and animals with emphasis on the study of biological systems including organ systems, immunity, reproduction, development, diversity, and behavior. Dissection included. Laboratory correlates with lecture topics. Prerequisite: BIOL 1406. Lab required. 4 credit hours.

### **BIOL 1408 INTRODUCTION TO BIOLOGY I**

For non-science majors. Survey of biology including molecular and cellular biology, genetics, DNA, microbiology, evolution and ecology. The cellular and molecular basis of life will be emphasized. Current topics in biology and medicine will be discussed. Students will meet three lecture hours per week and three lab hours per week. Lab required. 4 credit hours.

### **BIOL 1409 INTRODUCTION TO BIOLOGY II**

For non-science majors. Continuation of Biology 1408. The biology of protists, fungi, plants, animals (with emphasis on general human anatomy and physiology) and animal behavior. Current topics in biology and medicine will be discussed. Students will meet three lecture hours per week and three lab hours per week. Prerequisite: BIOL 1408. Lab required. 4 credit hours.

### **BIOL 1411 GENERAL BOTANY**

The study of structure and function of plant cells, tissues and organs. An evolutionary survey and life histories of these representative groups: algae, fungi, mosses, liverworts, ferns and seed-producing plants. Plants' reproductive and functional interactions with their environment and with man will be included. Selected laboratory exercises will complement the lecture topics. Lab required. 4 credit hours.

### **BIOL 1424 SYSTEMATIC BOTANY**

An introduction to plant nomenclature, identification, classification, and evolutionary relationships of vascular plants with emphasis on the flowering plants. The construction and use of taxonomic keys, the role of herbaria, and collection techniques will be covered in the lecture and lab. Includes field trips to study local, state and regional flora. Prerequisite: BIOL 1411. Lab required. 4 credit hours.

### **BIOL 1470 MARINE BIOLOGY**

Morphological, physiological and ecological adaptations of marine organisms to their environment. Prerequisite: BIOL 1406 or 1408, or consent of instructor. BIOL 1407 or 1409 is preferred. Lab required, including an international field trip. 4 credit hours.

### **BIOL 1471 HUMAN ANATOMY & PHYSIOLOGY BASICS**

A one-semester introductory course surveying the structure and function of the human body, including discussion and study of cells, tissues, organs, and systems. Not intended for allied health or science majors. Lab required. 4 credit hours.

### **BIOL 2370 SPECIAL PROBLEMS IN BIOLOGY**

A research techniques course designed to enhance student interest in biological problems by utilizing the scientific method. To enroll, student must apply and be accepted by a Biology Department faculty member. Course may be repeated for additional credit. Prerequisite: Consent of instructor. 3 credit hours.

### **BIOL 2371 SPECIAL TOPICS IN BIOLOGY**

In-depth study of various current topics in biology. Can be repeated for credit. Special topics include:

#### **Field Biology**

Introduction to the methods used in gathering and analyzing data collected in terrestrial and aquatic environments. Emphasizes the applied aspects of field research. Designed to enhance student interest in biological problems by utilizing the scientific method. Lab required with field trips. Prerequisite: BIOL 1406 or consent of instructor. 3 credit hours.

### **BIOL 2401 ANATOMY AND PHYSIOLOGY I**

A study of comparative structure and function of the mammalian system with emphasis on anatomy. Topics include cell structure and function, tissues, skin, skeletal, muscular and nervous systems. The molecular aspects of cells and organisms are stressed. Laboratory section includes dissection of a mammal, as well as study of models, slides and charts correlating with lecture topics. Prerequisite: either BIOL 1406 or two years of high school biology within the last five years, or permission of coordinator. Lab required. 4 credit hours.

### **BIOL 2402 ANATOMY AND PHYSIOLOGY II**

Continuation of the study of the structure and function of the mammalian system with emphasis on physiology. Topics include digestion, nutrition, metabolism, respiratory systems, blood and cardiovascular system, endocrine system, lymphatic and immune systems, urinary system, reproduction, heredity, and development. Laboratory includes correlated physiological experiments and continued mammalian dissection. Prerequisite: BIOL 2401 within the last five years. Lab required. 4 credit hours.

### **BIOL 2406 INTRODUCTORY ECOLOGY**

An introduction to contemporary ecological problems of plant and animal communities. An analysis of ecosystems at the species, population, and community levels of organization, with a discussion of the effects of human interaction. Prerequisite: BIOL 1406 or consent of instructor. Lab required, including field trips. 4 credit hours.

### **BIOL 2416 GENETICS**

A study of the principles of classical and molecular genetics, and the function and transmission of hereditary material. Course content will include population genetics and genetic engineering, with special attention paid to human genetics and current research in genetics. Includes field trips to genetic laboratories. Prerequisite: BIOL 1406. Lab required. 4 credit hours.

### **BIOL 2418 INVERTEBRATE ZOOLOGY**

Classification, anatomy, physiology, ecology and evolutionary relationships of the invertebrate animals. Laboratory will be correlated with animals studied in lecture and will include observation and dissection of invertebrates. Prerequisite: BIOL 1407. Lab required. 4 credit hours.

### **BIOL 2420 MICROBIOLOGY**

Principles of microbiology. Classification, cell structure, metabolism and historical concepts of microorganisms including bacteria, viruses, fungi, protozoa and rickettsia. Infectious diseases and immunology will be emphasized. Practical microbiology will include diagnostic microbiology of water, food, sewage, soil and industrial applications. Laboratory methods are stressed and experimentation with pure cultures of medical,

environmental and industrial importance are studied extensively. Prerequisite: BIOL 2401 within the last five years. Prerequisite or corequisite: BIOL 2402. Lab required. 4 credit hours.

### **BIOL 2428 COMPARATIVE VERTEBRATE ANATOMY**

A study of the comparative anatomy of representative vertebrates with emphasis on comparisons of organ systems, vertebrate adaptations and evolution. Dissections of representative vertebrates are included. Laboratory correlates with lecture topics. Prerequisite: BIOL 1407. Lab required. 4 credit hours.

### **BIOL 2470 HUMAN GENETICS**

A study of the principles of molecular and classical genetics and the function and transmission of hereditary material as applied to the human. Medical applications include genetic diseases, genetic counseling and genetics as involved in cancer and other acquired diseases. Includes field trips to genetic laboratories. Prerequisite: BIOL 1406. Credit toward a degree will not be given for both BIOL 2470 and BIOL 2416. Lab required. 4 credit hours.

### **BIOL 2389 ACADEMIC CO-OP BIOLOGY**

An instructional program designed to integrate on-campus study with practical hands-on work experience in biology. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of biology. Contact the CWE office. 3 credit hours.

## **BUSINESS ADMINISTRATION**

### **BUSI 1301 INTRODUCTION TO BUSINESS**

Survey of business operations in a capitalistic economy including ownership, management, marketing, finance, and legal and regulatory environment. The role of business in society is studied. 3 credit hours.

### **BUSI 1307 PERSONAL FINANCE**

Personal financial issues are covered. Topics include financial planning, insurance, budgeting, credit, home ownership, savings and tax problems. Lab required. 3 credit hours.

### **BUSI 1370 PRINCIPLES OF MANAGEMENT**

Process of management is examined. The functions of planning, organizing, leading and controlling are covered. Emphasis is on management philosophy, decision-making, policy formulation, communications and motivation. Lab required. 3 credit hours.

### **BUSI 1371 LEADERSHIP AND HUMAN RELATIONS**

A study of the principles of leadership, including: leadership and management, leadership and motivation, the major theories/models of leadership, using situational leadership in management, and communication for leadership. The course is based on thirty-three major leadership competencies. 3 credit hours.



### **BUSI 1372 SUPERVISORY MANAGEMENT**

Designed to instill a balanced quantitative/qualitative (high-touch) approach to management. The theories of Taylor, Fayol, Maslow, Mayo, Herzberg, Likert, etc., all are explored. The challenges and opportunities presented by accelerated technological change are discussed. Effective leadership skills (time management, stress management, negotiation, assertion, active listening, effective meeting leadership, effective business communications and technical writing, etc.) are demonstrated. The student is required to practice these leadership skills during labs. Lab required. 3 credit hours.

### **BUSI 1374 PERSONNEL MANAGEMENT**

Study of principles and procedures in the management of employees. Topics include selection, placement, compensation, working conditions, training, labor relations and government regulations. 3 credit hours.

### **BUSI 1376 INTERNATIONAL BUSINESS**

Introduction to international trade. Overview of managerial, financial and marketing issues for the operation of small or large firms in or entering world trade. Problems of adaptation to different sociological, legal, political and economic characteristics are emphasized. 3 credit hours.

### **BUSI 1378 HIGH PERFORMANCE WORK TEAMS**

A study of the basic principles of implementing team building in business/industry. The course provides an overview of high-performance work teams and the techniques which should be followed in implementing work teams. Competencies emphasized in the course include skills needed in the forming, storming, performing stages of team development.

### **BUSI 2301 BUSINESS LAW**

General principles of the law of contracts, property and torts. The historical and ethical background of the law and current legal principles are covered. 3 credit hours.

### **BUSI 2370 QUALITY AND LEADERSHIP**

Examines the theoretical and conceptual foundation of total quality management while establishing a basis for managing cultural diversity. Complete analysis will include creating the means for organizational change that will allow for a more effective work force and a greater quality of work life. 3 credit hours.

### **BUSI 2371 QUALITY MANAGEMENT TECHNIQUES**

Students examine the technical processes of quality management programs and learn effective procedures for developing comprehensive productivity improvement systems. Topics for this course include needs analysis, benchmarking, delivery systems, and process simplification. 3 credit hours.

### **BUSI 2372 ORGANIZATIONAL BEHAVIOR**

Human problems of administration in modern organizations are examined. The theory and methods of behavioral science as they relate to organizations are included. Lab required. 3 credit hours.

### **BUSI 2373 MANAGEMENT OF CHANGE**

This course will expose the student to the knowledge, skills, and tools that enable a leader/organization to facilitate change in a pro-active participative style, leading to accomplishments consistent with the strategic goals of the organization.

### **BUSI 2374 LABOR MANAGEMENT RELATIONS**

Organized labor and management organizations are examined. Topics include labor union development, legislative acts, legal considerations, labor-management relationships and collective bargaining. Lab required. 3 credit hours.

### **BUSI 2376 STRATEGIC MANAGEMENT**

Functions of management are examined and expanded in the formation of strategic goals, objectives and policies to enhance organizational effectiveness. Emphasis will be on organizational design and redesign, socio-technical and systems integration, forecasting techniques and leadership. 3 credit hours.

### **BUSI 2378 SELECTED TOPICS IN PERSONNEL MANAGEMENT**

An in-depth study of selected topics on current issues in personnel management. Course may be repeated for credit as topics vary. 3 credit hours.

### **BUSI 2379 SELECTED TOPICS IN BUSINESS PRINCIPLES**

Provides an overall picture of business operations, develops a business vocabulary and directs the thinking of each student to the field of business best suited to his/her interest and talent. Subject matter includes an analysis of the specialized fields within the business organization and of the role of business in modern society. Topics may vary from semester to semester. Course may be repeated for credit as topics change. 3 credit hours.

### **BUSI 7300 COOPERATIVE EDUCATION I**

Under supervision of the college and the employer, students combine classroom learning with career related work experience. Credit is earned for completion of specific learning objectives and seminar participation. Prerequisite: Contact the CWE office. 3 credit hours.

### **BUSI 7305 COOPERATIVE EDUCATION II**

Continuation of supervised on-the-job experience and career related activities. Requires new learning objectives and seminar participation. Prerequisite: BUSI 7300. Contact the CWE office. 3 credit hours.

## BUSINESS MULTIMEDIA

(See Computer Information Systems)

## CHEMISTRY

### CHEM 1170 BIOCHEMISTRY

Biochemistry is a seminar course for science majors exploring topics of catabolism and anabolism with excursion into areas of current biochemical investigations. Prerequisites: BIOL 1406 and CHEM 1411 within the last 5 years. Lab required. 1 credit hour.

### CHEM 1405 INTRODUCTION TO CHEMISTRY I

Survey of chemistry for non-science majors including scientific calculations, chemical equations, theory of atoms and bonding, states of matter, nuclear chemistry, elementary thermodynamics and acid-base chemistry. Prerequisite: high school algebra or equivalent within the last 5 years. Lab and recitation required. 4 credit hours.

### CHEM 1407 INTRODUCTION TO CHEMISTRY II

Continuation of CHEM 1405 including organic chemistry, biochemistry, nutritional and consumer chemistry. Prerequisite: CHEM 1405 within the last 5 years. Lab and recitation required. 4 credit hours.

### CHEM 1411 GENERAL CHEMISTRY I

A classical chemistry course designed for science majors, pre-medical, dental or engineering students. Topics include stoichiometry, ideal gas behavior, atomic theory, periodic trends, VSEPR theory, thermochemistry and bonding theory. Laboratory exercises demonstrate concepts presented in class and develop basic lab skills. Prerequisites: 1 year of high school chemistry or CHEM 1405; MATH 1314, within the last 5 years with a grade of C or better. Lab and recitation required. 4 credit hours.

### CHEM 1412 GENERAL CHEMISTRY II

A continuation of CHEM 1411 that addresses topics in chemical equilibria, acid-base theory, solubility, electrochemistry, nuclear chemistry, organic chemistry, biochemistry and states of matter. Laboratory exercises demonstrate concepts presented in lecture and develop more advanced lab methods. Prerequisite: CHEM 1411 within the last 5 years with a grade of C or better. Lab and recitation required. 4 credit hours.

### CHEM 2401 ANALYTICAL CHEMISTRY

A laboratory intensive course focusing on the principles and problems associated with quantitative chemical analysis. The course will explore the techniques and precautions required to quantitatively measure a variety of chemical species utilizing volumetric, gravimetric and spectroscopic methods. It will also serve as an introduction to experimental design discussing the statistical aspects of data treatment. Prerequisite: CHEM 1412 within the last 5 years with a grade of C or better. Lab required. 4 credit hours.

### CHEM 2423 ORGANIC CHEMISTRY I

Study of carbon chemistry that considers covalent bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups and introductory synthesis. Laboratory experiments develop organic techniques and reinforce lecture material. Prerequisite: CHEM 1412 within the last five years with a grade of C or better. Lab and recitation required. 4 credit hours.

### CHEM 2425 ORGANIC CHEMISTRY II

A continuation of CHEM 2423 that includes methods of structural analysis, advanced synthesis and reactions, biochemistry and organometallic topics. Laboratory experiments emphasize techniques in synthesis, purification, and analysis, and reinforce lecture material. Prerequisite: CHEM 2423 within the last 5 years with a grade of C or better. Lab and recitation required. 4 credit hours.

### CHEM 2389 ACADEMIC CO-OP CHEMISTRY

An instructional program designed to integrate on-campus study with practical hands-on work experience in chemistry. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of chemistry. Contact the CWE office. 3 credit hours.

## CHILD DEVELOPMENT

### CHDV 1300 EARLY CHILDHOOD DEVELOPMENT (0-3 YRS.)

Comprehensive study of growth and development from conception through three years of age. Emphasis on cognitive, language, emotional and social development. Lab required. 3 credit hours.

### CHDV 1301 EARLY CHILDHOOD DEVELOPMENT (3-5 YRS.)

Comprehensive study of growth and development from three years through five years of age. Emphasis on cognitive, physical, emotional and social development. Lab required. 3 credit hours.

### CHDV 1302 CHILD DEVELOPMENT (5-12 YRS.)

Comprehensive study of growth and development from five through twelve years of age. Emphasis on cognitive, language, emotional and social development. Lab required. 3 credit hours.

### CHDV 1305 EARLY CHILDHOOD FUNDAMENTALS

Introduction to early childhood education, with an emphasis on the development of observation skills. Content includes methods for observation and recording of data, interpreting information and planning for children based on observations. The importance of children's play is emphasized. Lab required. 3 credit hours.

### CHDV 1310 NUTRITION, HEALTH AND SAFETY

Practical experience and information on the nutritional, health and safety needs of the young child. Students earn CPR certificates during this course. Lab required. 3 credit hours.

### **CHDV 1315 CHILD GUIDANCE**

Study of effective methods of guiding young children with emphasis on developing a positive self-concept, recognizing individual differences, varied family situations and various crisis situations. Includes observations and interpretations of case studies of young children. Lab required. Prerequisite: CHDV 1300, 1301, 1305 or permission of instructor. 3 credit hours.

### **CHDV 1320 CHILD ABUSE PREVENTION**

Focuses on the causes and symptoms of abusive behavior. Emphasis on developing skills and competencies for working with the abused child and families to help alleviate abusive experiences. Lab required. 3 credit hours.

### **CHDV 1325 EARLY CHILDHOOD PROGRAMS & SERVICES**

Study of appropriate learning experiences for young children in a variety of child care environments. Emphasis on quality environments, learning activities and effective teaching techniques. Lab required. 3 credit hours.

### **CHDV 2100 SELECTED TOPICS IN CHILD DEVELOPMENT**

Current topics in the field of Child Development will be studied. May be repeated for credit as topics vary. Lab required. 1 credit hour.

### **CHDV 2300 INFANT AND TODDLER MATERIALS AND ACTIVITIES DEVELOPMENT**

Appropriate experiences for infants and toddlers including learning activities, materials and teaching techniques. Prerequisite: CHDV 1300. Lab required. 3 credit hours.

### **CHDV 2305 PARENTS AND THE CAREGIVER**

Explores relationships between care givers and parents of young children. Focuses on parental involvement, effective relationship building techniques and communication skills. Prerequisite: CHDV 1300 or CHDV 1301 and 1315 or permission of instructor. Lab required. 3 credit hours.

### **CHDV 2310 PRACTICUM A**

Application of learning experiences through participation as an assistant teacher or assistant administrator in the Child Development Laboratory School. Prerequisite or co-requisite: CHDV 2400 or 2401 for Early Childhood Educator majors; CHDV 2315 or 2316 for Early Childhood Administration majors. Permission of instructor required. Lab required. 3 credit hours.

### **CHDV 2311 PRACTICUM B**

Advanced application of learning experiences involving increased responsibility for teaching or administration in the Child Development Laboratory School or in an approved early childhood facility such as a registered family day home, a licensed child care center or an accredited school. Prerequisite: CHDV 2310. Permission of instructor required. Lab required. 3 credit hours.

### **CHDV 2315 ADMINISTRATION OF EARLY CHILDHOOD PROGRAMS**

Business administration procedures for early childhood programs are studied. Topics include food, health, personnel practices, budgeting, record keeping, legal procedures and use of the computer. Lab required. 3 credit hours.

### **CHDV 2316 ORGANIZATION AND MANAGEMENT OF EARLY CHILDHOOD PROGRAMS**

Organization and management procedures are studied. Topics include philosophy of early childhood education, organizational goals, staffing policies and training plans, facility planning and design, program management and evaluation. Lab required. 3 credit hours.

### **CHDV 2398 INTERNSHIP**

Supervised teaching or administrative experience in an approved program or service agency for young children and their families. Prerequisite: permission of instructor. Lab required. 3 credit hours.

### **CHDV 2400 MATERIAL & ACTIVITIES DEVELOPMENT I**

Language Arts, Pre-reading, Computers and Math: Techniques and materials for the progress of each child in language arts, reading and math concepts for appropriate stages of their cognitive development. Lab required. 4 credit hours.

### **CHDV 2401 MATERIAL & ACTIVITIES DEVELOPMENT II**

Nature, World of People and the Arts: The interrelationships among science, social science and creativity in the arts is studied as it applies to the total development of the young child. Activities, content, methods and materials are explored. Lab required. 4 credit hours.

### **CHDV 7300 COOPERATIVE EDUCATION I**

Under supervision of the college and the employer, students combine classroom learning with career related work experience. Credit is earned for completion of specific learning objectives and seminar participation. Prerequisite: Consent of instructor. Contact the CWE Office. 3 credit hours.

## **CHINESE**

### **CHIN 1411 BEGINNING CHINESE I**

An introduction to the basic skills of speaking, reading, writing and listening, designed for students with little or no previous language training. Also includes an introduction to selected aspects of Chinese civilization. Instruction is enhanced by the use of tapes, slides and video cassettes. Lab required. 4 credit hours.

### **CHIN 1412 BEGINNING CHINESE II**

A continuation of CHIN 1411. Prerequisite: CHIN 1411. Lab required. 4 credit hours.



### **CHIN 2311 INTERMEDIATE CHINESE**

Review and application of skills in listening comprehension, speaking, reading and writing. Emphasizes conversation, vocabulary acquisition, reading, composition and culture. Prerequisite: CHIN 1411. 3 credit hours.

### **CHIN 2312 INTERMEDIATE CHINESE II**

Continuing development of speaking, reading, writing and listening, emphasizing conversational and reading skills. Designed for students who have completed CHIN 2311. Also includes attention to selected aspects of Chinese culture. Prerequisite: CHIN 2311. 3 credit hours.

## **COMMUNICATION**

### **COMM 1307 INTRODUCTION TO MASS COMMUNICATION**

A study of the mass media in the United States with emphasis on newspapers, magazines, radio and television; history of the mass media; and the role and responsibility of the mass media in modern society. 3 credit hours.

### **COMM 1336 TELEVISION PRODUCTION**

Provides a basic orientation to the television studio, with utilization of cameras, lights, microphones, switching consoles, editing suites, character generators and telecine. Lab required. 3 credit hours.

### **COMM 2311 NEWS GATHERING AND WRITING I**

Extensive practice in writing various stories in the areas of international, national and local news, sports, business, life-styles, etc. Prerequisite: ENGL 1302 or consent of instructor. Lab required. 3 credit hours.

### **COMM 2315 NEWS GATHERING AND WRITING II**

Continuation of COMM 2311 with emphasis on more advanced reporting techniques such as complex stories, follow-up stories, features and profiles. Prerequisite: COMM 2311. Lab required. 3 credit hours.

### **COMM 2331 RADIO AND TV ANNOUNCING**

A course in the principles of, and practice in, radio and TV announcing including the study of voice (diction, pronunciation and delivery) as it relates to mediated contexts, and experience in news announcing, interviewing and commercial acting. 3 credit hours.

### **COMM 2332 RADIO/TELEVISION NEWS**

The preparation and analysis of news styles for the electronic media. 3 credit hours.

### **COMM 2389 ACADEMIC CO-OP COMMUNICATION**

An instructional program designed to integrate on-campus study with practical hands-on work experience in communication. In conjunction

with class seminars, the individual student will set specific goals and objectives in the study of communication. Prerequisite: Radio, TV, Film students only. Consent of instructor. Contact the CWE office. 3 credit hours.

## **COMPUTER AIDED DRAFTING & DESIGN**

### **CADD 1301 COMPUTER GRAPHICS SYSTEMS**

Basic computer systems used in drafting and design applications. Hardware and software operations including booting, displays, files, commands, defaults, input-output, disks, printers, plotters, precision, utilities and data bases. Lab Required. 3 credit hours.

### **CADD 1302 TECHNICAL GRAPHICS I**

Use of instruments, applied geometry, engineering lettering, orthographic projections, dimensioning, pictorial drawing and sketching, sectional views and working drawings. Lab required. Prerequisite: CADD 1301. 3 credit hours.

### **CADD 1303 TECHNICAL GRAPHICS II**

A continuation of Technical Graphics I. This course covers working detail drawings with proper dimensioning and tolerances. Standard symbols, stock shapes and descriptions are covered and applied to fabrication and forming drawings. Prerequisite: CADD 1302. Lab required. 3 credit hours.

### **CADD 1304 COMPUTER AIDED DRAFTING**

Capabilities and limitations of the electronic computer as an aid to the designer are studied. Drafting procedures using an interactive system with computer graphics are practiced. Forms and uses of computer aided products are viewed in perspective with the overall design and documentation process. Prerequisite: CADD 1301. Lab required. 3 credit hours.

### **CADD 2301 TECHNICAL ILLUSTRATION**

Applications of computer graphics in the field of technical illustrations. Students will learn how to produce axonometric and perspective drawings on a CAD system, which will be suitable for use in such areas as desktop publishing, commercial advertising and technical publications. Concepts in animation, rendering and 3-D modeling will be introduced. Prerequisite: CADD 1301 or 1304. Lab required. 3 credit hours.

### **CADD 2302 COMPUTER AIDED DESIGN**

An advanced course in design applications. Students will complete actual design projects in the architectural, mechanical, civil, electronics, graphics or manufacturing fields of study. May be repeated for credit. Prerequisite: CADD 1304. Lab required. 3 credit hours.

### **CADD 2303 ADVANCED COMPUTER AIDED DRAFTING**

Advanced uses of the electronic computer as an aid to the designer are studied. Special emphasis is given to three-dimension design, specifically

mechanical. Menu and library construction will be practiced while using the interactive graphic system. Prerequisite: **CADD 1304**. Lab required. 3 credit hours.

### **CADD 2305 ELECTRONIC PCB DRAFTING**

Focuses on drawings used in the electronics industry. Topics include block and logic diagrams, schematic diagrams, interconnecting wire diagrams, taping printed circuit boards, integrated circuits, component packaging and current practices. Lab required. Prerequisite: **CADD 1301**. 3 credit hours.

### **CADD 2306 DESCRIPTIVE GEOMETRY**

study of points, lines and planes in space with application of various technologies. Prerequisite: **CADD 1303**. Lab required. 3 credit hours.

### **CADD 2307 MANUFACTURING PROCESSES**

Study of the characteristics of industrial materials and the processes employed in their conversion. The areas covered are sheet metal, machined parts and castings. Prerequisite: **CADD 1302**. Lab required. 3 credit hours.

### **CADD 2308 NC PROGRAMMING**

NC Programming will provide students with basic conceptual knowledge about the fundamentals of NC Programming and basic understanding of various NC Programming languages. Prerequisite: **CADD 2307**. Lab required. 3 credit hours.

### **CADD 2309 COMPUTER INTEGRATED MANUFACTURING**

Systematic introduction of the aspects of Computer Integrated Manufacturing technology. This course includes software examples, practical case studies and simulation techniques. Prerequisite: **CADD 2307**. Lab required. 3 credit hours.

### **CADD 2310 PRINTED CIRCUIT BOARD DESIGN**

This course develops skills in the design of double-sided and multi-layer printed circuit boards. Students design boards from schematics, parts lists and manufacturing specifications. Some boards are designed for manual parts insertion and taped artworks. Others are designed for automatic parts insertion and digitized inputs for artworks. Prerequisite: **CADD 2305**. Lab required. 3 credit hours.

### **CADD 2311 ADVANCED PRINTED CIRCUIT BOARD DESIGN**

Students will be designing power supply boards, shielding and denser PCB designs. Multi-layer board design concepts will be introduced. Prerequisite: **CADD 2310** or **1304**. Lab required. 3 credit hours.

### **CADD 2315 APPLICATIONS IN PCB DESIGN**

Advanced topics in PCB technology to include surface mount and microwave circuit design together with new advancements in technology. Prerequisite: **CADD 2311**. Lab required. 3 credit hours.

### **CADD 7300 COOPERATIVE EDUCATION I**

Under supervision of the college and the employer, students combine classroom learning with career related work experience. Credit is earned for completion of specific learning objectives and seminar participation. Contact the **CWE** office. 3 credit hours.

### **CADD 7305 COOPERATIVE EDUCATION II**

Continuation of supervised on-the-job experience and career related activities. Requires new learning objectives and seminar participation. Prerequisite: **CADD 7300**. Contact the **CWE** office. 3 credit hours.

### **CADD 7310 COOPERATIVE EDUCATION III**

Continuation of supervised on-the-job experience and career related activities. Requires new learning objectives and seminar participation. Prerequisite: **CADD 7305**. Contact the **CWE** office. 3 credit hours.

## **COMPUTER INFORMATION SYSTEMS**

### **CSCI 1305 MICROCOMPUTER CONCEPTS**

This course examines PC operating systems concepts (**DOS**, **Windows 3.x** and **WIN 95**), including memory management, file management, use of batch files, path techniques, back-up techniques, operating system commands and enhancement programs, and utilities. Lab required. 3 credit hours.

### **CSCI 1310 INTRODUCTION TO GRAPHICS**

Study of basic concepts of computer graphics. Design and use the graphic software package Corel Draw for Windows. Lab required. 3 credit hours.

### **CSCI 1320 BASIC PROGRAMMING**

Study of fundamental programming logic using **QBASIC** or visual **BASIC** for Windows. Prerequisite: **COSC 1306** or **CSCI 1305** or consent of instructor. Lab required. 3 credit hours.

### **CSCI 1325 INTRODUCTION TO MULTIMEDIA**

This course provides an introduction to multimedia and its use in business. The student will be required to produce multimedia presentations using Microsoft Power Point. Prerequisite: **COX 1306** or **CSCI 1305** or consent of instructor. Lab required. 3 credit hours.

### **CSCI 1330 INSTRUCTIONAL DESIGN FOR BUSINESS AND EDUCATION**

Gain knowledge of the basic principles of instruction, educational psychology, instructional strategies, and student learning styles. Lab required. 3 credit hours.

**CSCI 2305 INTEGRATED SPREADSHEET APPLICATIONS**

Study of electronic spreadsheet with graphics and database features using LOTUS for Windows or Excel for Windows. Prerequisite: CSCI 1305 or COSC 1306, or consent of instructor. Lab required. 3 credit hours.

**CSCI 2310 DATABASE APPLICATIONS**

Concepts and techniques for solving business problems using MS ACCESS. Emphasis is on database design, custom reports, file management and application creation. Prerequisite: CSCI 1305 or COSC 1306 or consent of instructor. Lab required. 3 credit hours.

**CSCI 2315 DESKTOP PUBLISHING**

Use of the computer to produce printed communications using Ventura Publishing. To demonstrate proficiency, the student will be required to produce several projects. Prerequisite: CSCI 1305 and OFAD 1331. Lab required. 3 credit hours.

**CSCI 2325 INTERMEDIATE MULTIMEDIA APPLICATIONS**

Using Authorware for Windows, create interactive multimedia training programs for business and education. Prerequisite: CSCI 1325 and CSCI 1330 or consent of instructor. Lab required. 3 credit hours.

**CSCI 2330 COBOL I**

Study of structured program design, development, testing, implementation and documentation of common business applications using COBOL. Prerequisite: COSC 1306 or consent of instructor. Lab required. 3 credit hours.

**CSCI 2331 COBOL II**

Emphasis on advanced techniques, disk accessing and storage, direct and sequential access, and console input and output. Prerequisite: CSCI 2330. Lab required. 3 credit hours.

**CSCI 2335 DATA STRUCTURES FOR BUSINESS**

This course emphasizes the file structure to solve computer problems. The student will use a language to develop methods of searching and sorting sequential and direct access file systems. Concepts of stacks, queues, the linked list, and data collision and resolution techniques will be applied to data files. Prerequisite: One programming language. Lab required. 3 credit hours.

**CSCI 2340 PROJECT DEVELOPMENT AND DELIVERY**

Introduction to project development which will prepare the student to plan, budget, and manage a multimedia/computer-based instruction project. It also focuses on the delivery of the information to meet the needs of the audience in an effective manner. Lab required. 3 credit hours.

**CSCI 2350 COMPUTER OPERATING SYSTEMS**

An introduction to operating systems theory and concepts. Topics include computer hardware, software and their interaction, single-user vs. multiple-user systems, MS-DOS, UNIX and JCL. Prerequisite: One programming language, COSC 1306 or CSCI 1305. Lab required. 3 credit hours.

**CSCI 2353 INTRODUCTION TO INTERNET POWER TOOLS**

Study of the utilization of computer mediated communication as a source of retrieving and processing information. Primary focus on using existing methodologies to access, manage, obtain and utilize information from a variety of sources, employing the Internet as the transmission mode. Prerequisite: CSCI 1305 or COSC 1306 or consent of instructor. 3 credit hours.

**CSCI 2355 NETWORKING & TELECOMMUNICATIONS**

The development of concepts regarding the movement of voice, data, image and facsimile from one point to another via analog and digital networks. Attention given to telephone and data networks and the Internet. Prerequisite: CSCI 1305 or COSC 1306. Lab required. 3 credit hours.

**CSCI 2365 ADVANCED MULTIMEDIA APPLICATIONS**

This course allows students to further advance their skills using multimedia for interactive training and to meet industry and educators' demands for Windows programs which enable users to store, access, and retrieve information from the numerous external databases which are becoming more and more available. Prerequisite: CSCI 2325. Lab required. 3 credit hours.

**CSCI 2390 SPECIAL TOPICS IN COMPUTER INFORMATION SYSTEMS I**

Current developments in the rapidly changing field of computer information systems are studied. May be repeated when topics vary. Prerequisite: Will vary based on topics covered and will be annotated in each semester's class schedule. Lab required. 3 credit hours.

**CSCI 2395 SPECIAL TOPICS IN COMPUTER INFORMATION SYSTEMS II**

Current developments in the rapidly changing field of computer information systems are studied. May be repeated when topics vary. Prerequisite: Will vary based on topics covered and will be annotated in each semester's class schedule. Lab required. 3 credit hours.

**CSCI 7300 COOPERATIVE EDUCATION I**

Under supervision of the college and the employer, students combine classroom learning with career related work experience. Credit is earned for completion of specific learning objectives and seminar participation. Prerequisite: Contact the CWE office. 3 credit hours.



## **CSCI 7305 COOPERATIVE EDUCATION II**

Continuation of supervised on-the-job experience and career related activities. Requires new learning objectives and seminar participation. Prerequisite: CSCI 7300. Contact the CWE office. 3 credit hours.

## **COMPUTER NETWORK TECHNOLOGY**

### **CNWT 1351 INTRODUCTION TO COMPUTER NETWORKS**

Beginning course for computer networks with focus on networking fundamentals, hardware, software and network architecture for a variety of networking operating systems (Novell, Microsoft, IBM, Sun, etc.). Hands-on experience with network administration. Prerequisite: CSCI 1305 or consent of instructor. Lab required. 3 credit hours.

### **CNWT 1352 INTRODUCTION TO TELECOMMUNICATIONS**

The development of concepts regarding the movement of voice, data, image and facsimile from one point to another via analog and digital networks. Attention given to telephone and data networks and the Internet. Prerequisite: CSCI 1305 or COSC 1306 or consent of instructor. Lab required. 3 credit hours.

### **CNWT 1354 MANAGING LOCAL AREA NETWORKS**

The focus of this course is on management issues associated with evaluating, installing and administering Local Area Networks (LANs). LAN interconnection technologies, wide area networks and other components of the enterprise-wide network will be addressed along with Basic and Advanced LAN analysis for Ethernet, token ring, ARM and the network monitoring protocol SNMP. Client/server computing and client/server networks with regard to middleware, downsizing and Internet working are discussed. Prerequisite: CNWT 1351 or consent of instructor. Lab required. 3 credit hours.

### **CNWT 1453 WIDE AREA DATA NETWORKING**

Students completing this course will be able to discuss, develop, configure and support communications plans for Internet working options comprised of Frame Relay, SMD, ATM, Commercial Internet services, public/public-network CDDI/FDDI and private line solutions. TCP/IP and e-mail will be examined in detail. Students will gain the knowledge necessary to objectively compare and contrast technology options to provide a "best match" solution for networking issues. Prerequisite: CNWT 1351 and CNWT 1352 or consent of instructor. Lab required. 4 credit hours.

### **CNWT 2190 SELECTED TOPICS I**

Prerequisite will vary based on topics covered and will be annotated in each semester class schedule. Course may be repeated for credit. Lab required. 1 credit hour.

## **CNWT 2431 NETWORK HARDWARE**

Emphasis on building LAN and WAN topologies with fiber optic cable and twisted pair. Configure the topologies: ring, bus, star and token by constructing them in a lab setting, also distinguishing between software and hardware conflicts in these topologies. New technology information will be gleaned from current publications in this area. Prerequisite: ELET 2430. Lab required. 4 credit hours.

### **CNWT 2432 COMPUTER COMMUNICATION HARDWARE**

Emphasis placed on the four areas of audio, visual, digital and wireless communication used in network topologies. Incorporate LAN and WAN configurations to better understand how they can be used in future topologies. New technology information will be gleaned from current publications in these areas. Prerequisite: CNWT 2431. Lab required. 4 credit hours.

### **CNWT 2461 MICROSOFT NETWORK INSTALLATION AND TROUBLE SHOOTING**

The material in this class is intended to provide the insights necessary to understand and work confidently with the myriad of components in a high-end Windows NT network. Network operating system-setup, security implementation, management and troubleshooting is designed to appeal to Windows NT Service technicians and support providers. There will be a hands-on computer lab for students to install Windows NT server as well as workstation software installation. Prerequisite: COSC 1306 and CNWT 1351. Lab required. 4 credit hours.

### **CNWT 2462 MANAGING MICROSOFT WINDOWS NT**

The material in this class is intended to provide skills necessary for supervisors and managers who manage Microsoft NT Networks. Concentration will be in building skill sets consisting of management techniques to appropriately address people, security, applications and the overall network infrastructure. A large portion of the course is devoted to how to manage the server applications. The last area to be examined is the integration of Microsoft and Novell networks. Prerequisite: CNWT 2461. Lab required. 4 credit hours.

### **CNWT 2471 NOVELL NETWORK INSTALLATION AND TROUBLE SHOOTING**

The material covered in this class is intended to provide the insights necessary to understand and work confidently with the myriad of components in a high-end NetWare network. Network operating systems-setup, security implementation, management and trouble shooting is designed to appeal to NetWare designer, consultants, installers NetWare supervisors, MIS staff member, NetWare service technicians and support providers. There will be a hands-on computer lab for students to install the latest version of Novell NetWare Operating system as well as workstation software installation. Prerequisite: COSC 1306 and CNWT 1351. Lab required. 4 credit hours.

### **CNWT 2472 MANAGING NOVELL NETWORK**

The material covered in this class is designed to provide skills necessary for supervisors and managers to manage the Novell NetWare operating system. Concentration will be in building skill sets consisting of management techniques to appropriately address people, security, applications and the overall network infrastructure. A large portion of the course is devoted to how to manage the performance, installation and configuration of applications on the network with regard to the client server environment. The last area examined is the integration of the Novell network with the Microsoft NT network. Prerequisite: CNWT 2471. Lab required. 4 credit hours.

### **CNWT 2490 SELECTED TOPICS II**

Prerequisite will vary based on topics covered and will be annotated in each semester class schedule. Course may be repeated for credit. Lab required. 4 credit hours

## **COMPUTER SCIENCE**

### **COSC 1306 COMPUTER ESSENTIALS**

Study of basic hardware, software, operating systems and current applications and issues. Required labs introduce students to Windows, the Internet, word processing, spreadsheets, databases and programming concepts. This course may be substituted with any other COSC or CSCI course upon successful completion of an assessment test of COSC 1306 course objectives. See page 25 for more information. Lab required. 3 credit hours.

### **COSC 1317 SCIENTIFIC PROGRAMMING**

Introduction to numerical techniques with applications in science and engineering using FORTRAN. Emphasis on program design and documentation. Topics include subscripting, file processing and subroutines. Prerequisite: MATH 2312. Lab required. 3 credit hours.

### **COSC 1318 PROGRAMMING CONCEPTS USING PASCAL**

Study of logical operation and organization of a computer, number systems, Boolean algebra, problem solving techniques, algorithmic processes and top-down design using the Pascal language. Prerequisite: MATH 1314 and COSC 1306; or consent of instructor. Lab required. 3 credit hours.

### **COSC 1320 STRUCTURED PROGRAMMING IN C++**

An introduction to fundamental high-level programming using the C/C++ programming language. Not for beginning programmers. Prerequisite: One year of structured programming. Lab required. 3 credit hours.

### **COSC 1370 INTRODUCTION TO VISUAL BASIC PROGRAMMING**

Visual programming using Microsoft Visual Basic for Windows or other visual programming tools. Prerequisite: CSCI 1305. Lab required. 3 credit hours.

### **COSC 2315 DATA STRUCTURES WITH OBJECT ORIENTED C++**

Using C++ language, an in-depth look at records, linked lists, stacks, queues, binary trees, recursion, file processing, searching and sorting techniques, and graphics. May be taken with one year of C++ experience and consent of the instructor. Prerequisite: COSC 2320. Lab required. 3 credit hours.

### **COSC 2318 DATA STRUCTURES USING PASCAL**

Study of structured programming, design, file processing, recursion, linked lists, stacks, queues, and binary search trees. Emphasis on creating and modifying larger programs. Prerequisite: COSC 1318. Lab required. 3 credit hours.

### **COSC 2320 OBJECT-ORIENTED PROGRAMMING USING C++**

An Introduction to object-oriented programming techniques using the C++ programming language. Topics covered will include classes (with private, protected and public members), both single and multiple inheritance, templates and polymorphism. Prerequisite: COSC 1320 or proficiency in C programming. 3 credit hours.

### **COSC 2325 ASSEMBLY LANGUAGE**

Study of the architecture of the computer through the use of assembly language programming. Includes study of registers, instruction sets, addressing techniques, machine execution traces, table searching/sorting, file I/O, program linking and macros. Prerequisite: COSC 1320 or COSC 2318. Lab required. 3 credit hours.

### **COSC 2333 PL/1 PROGRAMMING**

Introduction to PL/1 programming with emphasis on the structured approach to program design using both mathematical and business applications. Prerequisite: COSC 2318. Co-requisite: MATH 1314; COSC 1306; or consent of instructor. Lab required. 3 credit hours.

### **COSC 2370 ADVANCED VISUAL BASIC PROGRAMMING**

Design and create innovative and useful Windows programs for business applications using Microsoft Visual Basic for Windows programs for business application. Prior programming experience and Windows required. Prerequisite: COSC 1370. Lab required. 3 credit hours.

### **COSC 2371 WEB AUTHORING**

Using current software packages, students will create multimedia pages for publication on the World Wide Web. Prerequisite: 1325. Lab required. 3 credit hours.

### **COSC 2372 OBJECT-ORIENTED DESIGN**

A study of the principles underlying various object oriented programming design methodologies. Prerequisite: COSC 2320 or consent of instructor. Lab required. 3 credit hours.

### **COSC 2373 PROGRAMMING USING JAVA**

This course will emphasize the utilization of computer mediated communication as a source of retrieving and processing information. The primary focus is in using existing methodologies to access, manage, obtain and utilize information from a variety of sources, employing the Internet as a transmission vehicle. Prerequisite: COSC 2320. 3 credit hours.

### **COSC 2375 ADVANCED ASSEMBLY LANGUAGE PROGRAMMING**

Program design and practice with assembly languages, macro definitions, conditioned assembly, advanced I/O, floating point operations. Prerequisite: COSC 2325. Lab required. 3 credit hours.

### **COSC 2376 LISP PROGRAMMING**

Syntax and semantics of LISP programming language, style and recursion, tail recursion, algorithm development, list processing techniques. Prerequisite: COSC 2325. Lab required. 3 credit hours.

### **COSC 2378 ADA PROGRAMMING**

Syntax and semantics of ADA language, packages, I/O, encapsulation, tasking, blocks, exceptions, private and generic types. Prerequisite: COSC 2318. Lab required. 3 credit hour.

### **COSC 2379 WINDOWS PROGRAMMING WITH VISUAL C++**

Programming in a Windows integrated development environment using Visual C++. Prerequisite: COSC 2320. Lab required. 3 credit hours.

### **COSC 2380 SOFTWARE ENGINEERING**

Study of software design, implementation, and validation techniques through team projects. Prerequisite: COSC 1320 or 2318 or consent of instructor. Lab required. 3 credit hours.

### **COSC 2382 SOFTWARE TECHNIQUES**

Introduction to software testing methodologies. Emphasis on program development techniques which aid testing. Introduction to proof of correctness. Laboratory exercises assigned to reinforce principles of program development. Prerequisite: COSC 2380. Lab required. 3 credit hours.

### **COSC 2383 COMPUTER NETWORKS**

Beginning course for computer networks with focus on networking fundamentals, hardware, software and network architecture for a variety of networking operating systems (Novell, Microsoft, IBM, Sun, etc.). Hands on experience with network administration. Prerequisite: CSCI 1305 or consent of instructor. Lab required. 3 credit hours.

### **COSC 2384 LARGE SCALE OPERATING SYSTEMS**

Study of UNIX operating systems concepts with hands-on laboratory exercises. Topics include I/O techniques, buffering, spooling, device drivers, resource allocation, memory, file management, deadlock avoidance and job scheduling. Prerequisite: In-depth knowledge of one programming language. 3 credit hours.

### **COSC 2386 SYSTEMS PROGRAMMING**

Introduction to systems level operations booting compilers, translators, linkers, loaders, system control and run time software. Laboratory examples assigned to reinforce principles. Prerequisite: COSC 2325. 3 credit hours.

### **COSC 2387 INTRODUCTION TO ARTIFICIAL INTELLIGENCE**

Introduction to concepts and ideas in artificial intelligence. Topics will include search techniques, knowledge representation, control strategies and advanced problem-solving architecture. Prerequisite: COSC 2376. Lab required. 3 credit hours.

### **COSC 2390 ADVANCED TOPICS IN COMPUTER SCIENCE**

Selected topics in computer science and software development to address current issues. Topics may vary each semester. Course may be repeated for credit as topics vary. 3 credit hours.

### **COSC 2395 SPECIAL TOPICS I**

Selected topics in computer science and software development to address current issues. Topics may vary each semester. Course may be repeated for credit. 1 credit hour.

### **COSC 7300 COOPERATIVE EDUCATION I**

Under supervision of the college and the employer, students combine classroom learning with career related work experience. Credit is earned for completion of specific learning objectives and seminar participation. Contact the CWE office. 3 credit hours.



## **CRIMINAL JUSTICE**

### **CRIJ 1301 INTRODUCTION TO CRIMINAL JUSTICE**

A multidisciplinary overview and analysis of the major agencies, personnel and decision-making points which comprise the criminal justice system. Included are problems and issues confronting legislatures, police, courts, corrections and the community as they respond to crime in a free society. Legal precedents guiding the decisions of criminal justice agents are also discussed. 3 credit hours.

### **CRIJ 1306 THE COURTS AND CRIMINAL PROCEDURE**

Study of procedural regulations which guide the processing of criminal cases through the criminal justice system with emphasis on the Texas Code of Criminal Procedure and rules of evidence. Included is a discussion of due process rights of the criminal defendant from arrest through confinement as well as issues related to the administration of capital punishment. 3 credit hours.

### **CRIJ 1307 CRIME IN AMERICA**

A survey of the nature, location and impact of crime in America. Includes historical foundations of crime, theoretical explanations of criminality and delinquency, the recording and measurement of crime, descriptions of criminal careers and an analysis of public policies concerning crime control. 3 credit hours.

### **CRIJ 1310 FUNDAMENTALS OF CRIMINAL LAW**

Study of the nature of criminal law; historical and philosophical development of law in society; major definitions and concepts; classifications of crime; elements of crimes and penalties using the Texas statutes as illustrations; criminal responsibility. 3 credit hours.

### **CRIJ 1313 JUVENILE JUSTICE SYSTEM**

The juvenile justice system; history, philosophy, and evaluation of the juvenile court, juvenile court practices and procedures; neglect, dependency and delinquency, jurisdiction of the court, the role of the police officer, the correctional officer, and the social welfare worker in the juvenile justice system. 3 credit hours.

### **CRIJ 2301 COMMUNITY RESOURCES IN CORRECTIONS**

An introductory study of the role of the community in corrections; community programs for adults and juveniles; administration of community program; legal issues; future trends in community treatment. 3 credit hours.

### **CRIJ 2305 LEGAL ASPECTS OF CORRECTIONS**

Legal problems from conviction to release; pre-sentence investigations, sentencing, probation and parole, incarceration; loss and restoration of civil rights. Emphasis on practical legal problems confronting the probation and parole officer and the correctional administrator. 3 credit hours.

### **CRIJ 2313 CORRECTIONAL SYSTEMS AND PRACTICES**

Corrections in the criminal justice system; correctional role; institutional operations; alternatives to institutionalization; treatment and rehabilitation; current and future issues. 3 credit hours.

### **CRIJ 2314 CRIMINAL INVESTIGATION**

Investigative theory; collection and preservation of evidence; sources of information; interview and interrogation; uses of forensic sciences; case and trial preparation. 3 credit hours.

### **CRIJ 2315 SPECIAL TOPICS IN CRIMINAL JUSTICE**

Presentation and discussion of current and significant subjects in criminal justice. Subjects selected for study vary each semester the seminar is offered. 3 credit hours.

### **CRIJ 2323 LEGAL ASPECTS OF LAW ENFORCEMENT**

Police authority; responsibilities; constitutional restraints; laws of arrest, search and seizure; police liability. 3 credit hours.

### **CRIJ 2328 POLICE SYSTEMS AND PRACTICES**

The police profession; organization of law enforcement systems; the police role; police discretion; ethics; police-community interaction; current and future issues. 3 credit hours.

### **CRIJ 7300 COOPERATIVE EDUCATION I**

Under supervision of the college and the employer, students combine classroom learning with career related work experience. Credit is earned for completion of specific learning objectives and seminar participation. Prerequisite or corequisite: CRIJ 1301 or CRIJ 1307 and consent of instructor. Contact the CWE Office. 3 credit hours.

## **DANCE**

### **DANC 1110 BEGINNING TAP**

Performance of basic rhythms and techniques fundamental to beginning tap dance. 1 credit hour.

### **DANC 1122 FOLK DANCE**

Analysis of cultural backgrounds, costumes and dance techniques leads to participation in a variety of folk dances. 1 credit hour.

### **DANC 1131 POPULAR SOCIAL DANCE**

Practice in contemporary social dances including pop/rock and country western forms. 1 credit hour.

### **DANC 1141 BEGINNING BALLET**

Student develops elementary ballet technique and knowledge of terminology through participation in barre, center work and beginning movement combinations; emphasis on alignment. 1 credit hour.



**DANC 1142 INTERMEDIATE BALLET**

Further practice in ballet technique through participation in barre, center work and basic enchainments. Prerequisite: PHED 1141 or consent of instructor. 1 credit hour.

**DANC 1145 BEGINNING MODERN DANCE**

An introduction to the art and discipline of modern dance through analysis of dance techniques, exploration and composition development. 1 credit hour.

**DANC 1146 INTERMEDIATE MODERN DANCE**

Further study in the art and discipline of modern dance through analysis of techniques and movement of moderate difficulty. Prerequisite: DANC 1145. 1 credit hour.

**DANC 1147 BEGINNING JAZZ DANCE**

A practice in basic jazz movements including isolations, elementary jumps and turns. Participation in choreographed combinations using different rhythmic structures is also included. 1 credit hour.

**DANC 1148 INTERMEDIATE JAZZ DANCE**

Further practice in jazz movements including intermediate isolations, jumps and turns. Participation in choreographed combinations using moderately complex rhythmic structures. Prerequisite DANC 1147. 1 credit hour.

**DANC 1151 DANCE PERFORMANCE**

Experience in rehearsal, production and performance. Permission of the instructor is required. 1 credit hour.

**DANC 1171 BEGINNING AEROBIC DANCE AND STEP TRAINING**

Aerobic exercise and step training incorporating light weights. Also included is interval training which adds a new variation to aerobic endurance and flexibility. 1 credit hour.

**DANC 1172 INTERMEDIATE AEROBIC DANCE**

Further toning and trimming of the body is obtained through vigorous exercise routines, stretching, muscular strengthening and other aerobic activities. Heart rate, weight and nutritional status are monitored. Prerequisite: DANC 1171 or consent of instructor. 1 credit hour.

**DANC 1173 ADVANCED AEROBIC DANCE**

An accelerated aerobic conditioning program for advanced fitness students. Advanced exercise routines with weights are choreographed to music to maintain or increase cardiovascular endurance, flexibility and strength. Prerequisite: DANC 1172 or consent of instructor. 1 credit hour.

**DANC 1201 IMPROVISATION**

An exploration of movement in dance and design through problem solving activities leading to choreographic studies. 2 credit hours.

**DANC 2147 ADVANCED JAZZ DANCE**

Further practice in jazz movements through advanced level jumps, turns, leaps, kicks, as well as the combination of these elements. Participation in choreographed routines utilizing complex rhythmic structures and movements in a variety of styles. Prerequisite: DANC 1148. 1 credit hour.

**DANC 2303 DANCE APPRECIATION**

Survey of primitive, classical, and contemporary dance and its interrelationship with cultural developments and other art forms.

**DENTAL HYGIENE****DENH 1201 PRINCIPLES OF NUTRITION**

This course will provide scientifically sound and relevant nutritional information, including behavior modifications. The preventive aspect of diet, nutrition, dental and general health will be emphasized through the simultaneous application of this knowledge to clinical experiences. 2 credit hours.

**DENH 1301 CLINICAL PRACTICE I**

This course will introduce the student to the fundamentals of dental hygiene practice, specifically the basic didactic, psychomotor and cognitive skills necessary to effectively provide care for patients in a dental hygiene treatment setting. 3 credit hours.

**DENH 1311 ORAL RADIOLOGY**

This course will assure the safe and effective use of ionizing radiation as a diagnostic tool and to minimize, as much as possible, any potential risk to patients and operators. 3 credit hours.

**DENH 1402 CLINICAL PRACTICE II**

This course will provide students with the opportunity to expand the basic skills gained in DENH 1301 to include interacting in an environment that encourages personal and professional growth. 4 credit hours.

**DENH 1413 ORAL ANATOMY, EMBRYOLOGY, HISTOLOGY**

This course will give the dental hygiene student an extensive background in oral anatomy, head and neck anatomy, embryology and histology. This course allows the student to utilize this knowledge and understanding to enhance every aspect of dental hygiene care. 4 credit hours.

### **DENH 2210 PHARMACOLOGY**

The student will be able to demonstrate knowledge of the basic pharmacology of drugs used by the dental profession and evaluate the significance of the patient's drug therapy to take necessary actions/precautions. 2 credit hours

### **DENH 2310 ORAL PATHOLOGY**

A survey of general pathology pertinent to dental hygiene; presentation of oral abnormalities and diseases to assist in ability to recognize and accurately describe pathology; overview of disease process and oral manifestations. 3 credit hours.

### **DENH 2311 PERIODONTICS**

This course is designed to give second year dental hygiene students a basic knowledge of clinical periodontology including concepts of clinical examination, treatment planning, and various treatment modalities. 3 credit hours

### **DENH 2312 ORAL MEDICINE**

This course will provide the dental hygiene student with an understanding of oral manifestations of systemic disease. Emphasis will be placed on assessment and evaluation of a complete medical/dental history and the interrelationship of oral health with patient well being. 3 credit hours.

### **DENH 2315 DENTAL MATERIALS**

To provide dental hygiene students with the opportunity to gain an understanding of the materials/procedures utilized to deliver dental treatment to patients and increase skills in the following areas: manipulation of various dental materials, evaluation of restorations and prostheses, and designing of treatment plans to meet the need of individual patients. 3 credit hours

### **DENH 2403 COMMUNITY DENTAL HEALTH**

This course is designed for the dental hygiene student to develop public health skills relating to the promotion of total health and prevention of disease in the community. The student will implement practical and effective dental public health programs during the geriatric and community service outreach portion of the course. 4 credit hours.

### **DENH 2501 CLINICAL PRACTICE III**

To provide students the opportunity to expand on the basic skills learned in the first and second year clinics. The student will learn advanced instrumentation techniques to provide total dental care to patients with a variety of special needs. 5 credit hours.

### **DENH 2502 CLINICAL PRACTICE IV**

This course will introduce the student to a study of professional commitments, legal terminology, professional organizational practice acts, practical considerations of methods and problems associated with the ethics and professional responsibilities of the dental health care provider and employment considerations. This course will assist the student in refining clinical skills. 5 credit hours.

## **DIETARY MANAGER**

(Also see BIOL for nutrition courses.)

(Special admission requirement.)

### **DTMG 1600 DIETARY MANAGER I**

Designed to prepare students to assume health care food service supervisory positions. Topics include dietary department organization and operations, nutrition, food service management, food safety, food disease, nutrition care applications, menu planning, food production management and purchasing. Lab required. 6 credit hours.

### **DTMG 1601 DIETARY MANAGER II**

Designed to prepare students to assume health care food service supervisory positions. Topics include sanitation and safety, quantity food preparation equipment, food delivery systems, quality assurance, production management, personnel management techniques, leadership skills and budgeting. Lab required. 6 credit hours.

## **DRAMA/THEATRE**

### **BUSI 2379 BUSINESS OF THEATRE**

Examines the business and marketing aspects of theatre, including processes of self-promotion for actors, designers and directors; and the processes of marketing and promotion of a theatre season or production. May transfer as a business elective to most institutions. 3 credit hours.

### **DRAM 1171 THEATRE PRACTICUM**

A practicum in theatre with emphasis on performance procedures, including a major performance role in a college play production. May be combined with DRAM 1172, or repeated for maximum of 6 credit hours. Flexible enrollment. Instructor's permission required. 1 credit hour.

### **DRAM 1172 THEATRE PRACTICUM: TECHNICAL**

A practicum in theatre with emphasis on theatre techniques and procedures. Students gain theatrical experience by assuming major technical responsibilities in the production of a college play. May be combined with DRAM 1171 or repeated for a maximum total of 6 credit hours. Flexible enrollment. Instructor's permission required. 1 credit hour.

### **DRAM 1310 INTRODUCTION TO THE THEATRE**

Various aspects of theatre are surveyed. Emphasis is on types of plays, directing, acting and technical production. Lab required. 3 credit hours.

### **DRAM 1330 STAGECRAFT I**

The study and application of the visual aesthetics of design which may include the physical theatre, scenery construction and painting, properties and lighting, costumes, make-up and backstage organizations. Lab required. 3 credit hours.

### **DRAM 1341 THEATRICAL MAKEUP**

Introductory study and application of visual aesthetics in theatrical makeup. Students will study fundamentals of stage makeup, character makeup, corrective techniques, beards, mustaches and three-dimensional makeup. Lab required. 3 credit hours.

### **DRAM 1351 ACTING I**

Introduction to the art of acting. Body control, voice, pantomime, interpretation, characterization and stage movement are included. Lab required. 3 credit hours.

### **DRAM 1352 ACTING II**

A continuation of DRAM 1351. Emphasis is on complex characterization, ensemble acting, stylized acting and acting in period plays. Prerequisite: DRAM 1351. Lab required. 3 credit hours.

### **DRAM 1376 INTRODUCTION TO COSTUMING**

A survey of costuming which introduces students to the task of constructing costumes for theatrical productions. Students will gain an appreciation of the art of costuming, a sense of fashion history and changes, and will understand how the costume fits into the total concept and production of the play. Lab required. 3 credit hours.

### **DRAM 2331 STAGECRAFT II**

Advanced study and application of visual aesthetics in scene design and stage painting. Prerequisite: DRAM 1330. Lab required. 3 credit hours.

### **DRAM 2336 VOICE AND DICTION**

Intensive work is provided in the improvement of voice through exercises to develop resonance, range, flexibility, intensity, control of voice. 3 credit hours.

### **DRAM 2351 ACTING III**

Development of advanced specialty skills and techniques of acting including advanced character analysis. Emphasis on mechanics of the body as a tool for the actor. Special focus on advanced physical work in stage fighting, circus skills and stage stunt work. Prerequisite: DRAM 1352. Lab required. 3 credit hours.

### **DRAM 2361 HISTORY OF THEATRE I**

A historical investigation of the theatre and dramatic literature from ancient Greece through the English restoration. Lab required. 3 credit hours.

### **DRAM 2362 HISTORY OF THEATRE II**

A historical investigation of the theatre and dramatic literature from 18th century to the present. Lab required. 3 credit hours.

### **DRAM 2366 HISTORY OF FILM MAKING I**

An examination of the history of motion pictures and its effect on our society as well as its contributions to our culture. The period covered includes 1890-1949. Emphasis will be placed on the cinema as an art form. Lab required. 3 credit hours.

### **DRAM 2367 HISTORY OF FILM MAKING II**

A continuation of DRAM 2366. The period covered includes 1950-present. Emphasis will be placed on the cinema as an art form. Lab required. 3 credit hours.

### **DRAM 2371 SPECIAL TOPICS IN DRAMA**

#### **Introduction to Directing**

Examines the art of directing for the stage, including the composition, picturization, style, form and structure of staging a play. Emphasis will be placed on directing as an art form. Students will direct scenes and one act plays. Lab required. 3 credit hours.

#### **Theatre Outreach**

An in-depth study of the concepts of dramatic playwriting, production and performance, combined with an intensive study of current issues in sociology. Students will research, write and produce plays which highlight and depict the social concerns of contemporary youth. Prerequisite: Consent of instructor required. 3 credit hours.

#### **New York Theatre Field Studies**

The purpose of this course is to introduce students first-hand to the performance, practice and theory of the New York professional theatre. The diverse methodology of this course includes lecture/discussions with working theatre professionals in New York (i.e. actors, directors, designers, theatre managers and company managers); attendance at Broadway and Off-Broadway plays and musicals; observation/discussion of a Broadway play in rehearsal; and field trip visits to the professional training programs of the American Academy of Dramatic Arts, New York University and the Juilliard School. Lab required. 3 credit hours. Students must also enroll in the New York Field Studies program. For information, contact Prof. Brad Baker at 881-5679.



### **Introduction to Musical Theatre**

A study of the forms and structures of the American musical theatre from its earliest forms through the present day. This uniquely American theatre form is traced from "The Black Crook" and early operetta through the turn-of-the-century poets of Tin Pan Alley to the current scene on Broadway. Representative musical scores and books are reviewed and performed in a lab setting. Lab required. 3 credit hours.

### **Stage Lighting**

The mechanics and art of lighting for the stage; studies include the nature of light and optics, color, instrumentation, dimmers, and elementary lighting design; practical application with CCCC Theatre productions. Prerequisite: DRAM 1330. Lab required. 3 credit hours.

### **Stage Management**

Examines the art of stage managing a play production, including rehearsal preparations, performance responsibilities and production process documentation. Includes intensive examination of the fundamental duty of a successful stage manager; coordinating and facilitating each of the collaborators in the theatrical process, to include performers, director, designers and technicians. Lab required. 3 credit hours.

### **Acting for Film and Television**

Intensive examination of skills and techniques necessary for successful performances in film and television. Practical application through in-class exercises and assigned projects. Prerequisites: DRAM 1351 and 1352. Lab required. 3 credit hours.

### **Advanced Stage Combat**

A continuation of DRAM 2351. Emphasis is on complex stage combat techniques and choreography. Includes an instructional component, where the student will teach and/or direct staged fight scenes. Lab required. Prerequisite: Consent of instructor. 3 credit hours.

### **DRAM 2389 ACADEMIC CO-OP DRAMA**

An instructional program designed to integrate on-campus study with practical hands-on work experience in drama. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of drama. Contact the CWE office. 3 credit hours.

## **ECONOMICS**

### **ECON 1301 INTRODUCTION TO ECONOMICS**

An introduction to the principles of economics. A study of the economic behavior of consumers, businesses, and government agencies. Economic decision making as used in daily life. 3 credit hours.

### **ECON 2301 PRINCIPLES OF MACROECONOMICS**

Decision-making in the public sector; economic analysis of inflation, unemployment, economic growth; national income measurements; money and banking; monetary and fiscal policy; competing economic theories; international economics. Prerequisite: MATH 0310 and ENGL 0305 (or equivalent) or consent of instructor. 3 credit hours.

### **ECON 2302 PRINCIPLES OF MICROECONOMICS**

Decision-making in the private sector; markets and prices, demand and supply; consumer economics; production, costs and industrial organization; international economics; current topics. Prerequisite: MATH 0310 and ENGL 0305 (or equivalent) or consent of instructor. 3 credit hours.

### **ECON 2389 ACADEMIC CO-OP ECONOMICS**

An instructional program designed to integrate on-campus study with practical hands-on work experience in economics. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of economics. Contact the CWE office. 3 credit hours.

## **ELECTRONIC TECHNOLOGY**

### **ELAT 1315 BASIC DIGITAL**

This course provides a practical study of digital electronic circuits and their applications. The course will progress from basic digital theory to the analysis and design of common circuit applications. Devices covered include logic gates, flip flops, counters, registers and memory functions. Numbering systems and Boolean algebra will be covered and applied to logic circuits. The knowledge gained will be demonstrated in a laboratory environment utilizing digital circuits in laboratory experiments. Lab required. 3 credit hours.

### **ELAT 1370 ELECTRONIC FUNDAMENTALS**

Introductory course recommended for non-electronics majors in areas such as manufacturing, marketing and sales. The course provides the student with a knowledge of vocabulary, definitions, component identification and applications for electrical/electronics systems. Lab required. 3 credit hours.

### **ELAT 1400 BASIC ELECTRONICS I**

This course is the first in a series of courses leading to an Associate of Applied Science degree with a major in electronic technology. No previous knowledge of electronics is required for this course. The topics covered in this course include the following: terminology, concepts, basic laws and theories as applied to direct current electronic circuits. Students will be required to perform various laboratory experiments using electronic components and record results in a technician's log. Lab required. 4 credit hours.



### **ELAT 1401 BASIC ELECTRONICS II**

This course is a continuation of ELAT 1400. The topics covered in this course include the following: terminology, concepts, basic laws and theorems as applied to alternating current electronic circuits. Students will be required to perform various laboratory experiments using electronic components and record results in a technician's log. Lab required. 4 credit hours.

### **ELAT 1405 ELECTRONIC FABRICATION I**

A basic course in electronic assembly. Topics include component identification, schematic diagrams, soldering principles, wire preparation and harness assembly, terminal connections, inspection and quality control. Lab required. 4 credit hours.

### **ELAT 1410 SOLID STATE DEVICES**

This course provides a practical study of solid state devices and their applications. The course will progress from basic semiconductor theory to the analysis and design of common circuit applications. Devices covered include diodes, bipolar transistors (BJTs), field effect transistors (FETs), integrated circuits (ICs) and special purpose devices. Circuit applications include basic power supplies, filters, regulators and amplifiers. Specifications and limits of voltage, current and heat dissipation are included. Lab required. 4 credit hours.

### **ELAT 2330 INSTRUMENTATION AND TELEMTRY**

Operation and use of meters, counters, oscilloscopes, signal generators and test sets which are utilized in electronic circuit fault isolation and measurement. Lab required. Prerequisite: ELAT 1401 or consent of instructor. 3 credit hours.

### **ELAT 2335 DIGITAL CONTROL APPLICATIONS**

Digital principles as applied to microcomputer systems. Logic design, computer structure and organization, number systems conversion, busing and interfacing. Co-requisite: ELAT 1315 or consent of instructor. Lab required. 3 credit hours.

### **ELAT 2336 PROGRAMMABLE LOGIC CONTROLLERS**

This course provides the student with the skills to install, program, maintain, troubleshoot and repair programmable logic controllers (PLCs). The student will complete a vast array of hands-on experiments that will include application problems and problem solving solutions. Lab required. 3 credit hours.

### **ELAT 2340 POWER SUPPLY SYSTEMS**

Theory and operation of linear and switching power supplies. Topics covered will be: waveform analysis to include pulse characteristics and pulse train measurements, full-wave rectification, filtering and regulation. Prerequisite: ELAT 2425 or consent of instructor. Lab required. 3 credit hours.

### **ELAT 2360 MICROCOMPUTER SYSTEMS**

Microcomputer interfacing and the use of programmable peripheral devices. Selected programmable interface devices will be studied and the software and hardware interfaces developed. Experience in testing and troubleshooting interface circuits will be provided in a laboratory setting. Specialized logic analyzer and emulation systems will be utilized. Lab required. 3 credit hours.

### **ELAT 2420 FUNDAMENTALS OF ELECTRONIC COMMUNICATIONS**

The course will provide the advanced student with a review of basic electronic concepts and a comprehensive course in electronic communications. It also will provide information that will be found on the various license and certification tests for electronic technician. The text and lab book will be keyed to the FCC General Radiotelephone License, all classes of the FCC Amateur Radio License, the FCC Marine Operator License and the ISCT Certified Technician's Exam. Topics covered will pertain to all areas of electronic communications. Lab required. 4 credit hours.

### **ELAT 2425 ACTIVE DEVICES**

This course provides a practical study of active devices (semiconductors) and their applications. The course includes composition, parameters and linear and non-linear characteristics in common circuit applications. Devices covered include diodes, bipolar transistors (BJTs), field effect transistors (FETs), integrated circuits (ICs) and special purpose devices. Circuit applications include basic power supplies, regulators, amplifiers, oscillators, filters, timers and electronic switching. Prerequisite: ELAT 1410 or consent of instructor. Lab required. 4 credit hours.

### **ELAT 2437 INDUSTRIAL AUTOMATION CONTROLLERS**

This course provides a practical study of components and electronic systems used in industrial automation applications. The student will receive comprehensive up-to-date instruction on generalized industrial process control systems. The practical state-of-the-art applications will be conducted by the student in the electronic laboratory. Topics included: linear IC circuits, DC and AC motors, generators, control circuits, transducers, optoelectronics, telemetry, data communications, programmable controllers and introduction to robotics. Lab required. 4 credit hours.

### **ELAT 2445 APPLIED ELECTRONIC CIRCUITS**

Electronic circuit applications with considerations in areas of high speed EMI; high speed switching, coupling and decoupling circuits, transmission modes, noise source and types, trans-conductive, measurement techniques. Prerequisite: ELAT 1410 or consent of instructor. Lab required. 4 credit hours.

### **ELAT 2450 COMPUTER ARCHITECTURE**

This course encompasses architecture, programming and interfacing. Includes a presentation of the more common programmable I/O devices, including 80186/80188 controllers, the 80286, 80386 and the 80486. Detailed coverage of the interface and programming of the 80087 family of arithmetic co-processor. Manufacturers data sheets are used throughout the course to give students experience with industry standards and specifications. Prerequisite: ELAT 1315 or consent of instructor. Lab required. 4 credit hours.

### **ELAT 2455 APPLIED COMPUTER PROGRAMMING**

Computer programming techniques using Spice and BASIC to solve problems and demonstrate system operation. The language syntax, flowcharting and coding with applications to technical projects is emphasized. Lab required. 4 credit hours.

### **ELAT 2465 OPTOELECTRONICS**

A comprehensive course on the theory and application of optical electronic devices, circuits and fiber optics as they apply to industrial controls, data transmission and telecommunications. Prerequisite: ELAT 1401 or consent of instructor. Lab required. 4 credit hours.

### **ELAT 7300 COOPERATIVE EDUCATION I**

Under supervision of the college and the employer, students combine classroom learning with career related work experience. Credit is earned for completion of specific learning objectives and seminar participation. Contact the CWE office. 3 credit hours.

### **ELAT 7305 COOPERATIVE EDUCATION II**

Continuation of supervised on-the-job experience and career related activities. Requires new learning objectives and seminar participation. Prerequisite: ELAT 7300. Contact the CWE office. 3 credit hours.

## **ELECTRONIC ENGINEERING TECHNOLOGY**

### **ELET 1300 CALCULATOR APPLICATIONS FOR ELECTRONICS**

This course will provide the student with a hands-on study of the operation and programming of the TI-85 calculator. The course also includes overviews of related math and science subject areas and in depth coverage of related electronics applications. Lab required. 3 credit hours.

### **ELET 1400 CIRCUIT ANALYSIS I**

Introduction to design principles of electrical/electronic direct current circuits. The course will cover division principles and various analysis techniques for analyzing different circuits. Node analysis, Superposition, KVL, KCL, Thevenin equivalent, Norton equivalent and the Millman equivalent theorems are utilized. This course is an applied mathematics course and includes Cramer's rule. Prerequisite: MATH 1314 or consent of instructor. Lab required. 4 credit hours.

### **ELET 1401 CIRCUIT ANALYSIS II**

Continuation of Circuit Analysis I. The information from the first semester course will be applied to alternating current circuits. Additional topics covered for AC circuits are: the effects of frequency and impedance; resonant circuit characteristics and filter networks; troubleshooting techniques; coupling networks, transformers. Utilization of standard phaser notation and application of fundamental laws and theorems for network analysis is covered. Prerequisite: ELET 1400, MATH 2312 or concurrent enrollment in MATH 2312 or consent of instructor. Lab required. 4 credit hours.

### **ELET 1405 DIGITAL IC ANALYSIS**

In-depth course in digital circuit analysis, theory, design and troubleshooting. Topics include: numbering systems and codes, logic elements, synchronous sequential logic, IC architecture, chip survey applications, design of memory systems, A/D and D/A converters and survey of peripherals. Lab required. 4 credit hours.

### **ELET 1410 FUNDAMENTALS OF COMPUTERS**

Study of microcomputers; how they operate, how they are used, how they are programmed and how they relate to their equipment. Topics include: memories, microprocessor architecture, input/output operations, bus operations, control, execution cycles and bootstrap procedures. Prerequisite: ELET 1405 or consent of instructor. Lab required. 4 credit hours.

### **ELET 1415 CIRCUIT ANALYSIS III**

The analysis and design of linear devices are studied, while emphasizing their circuit applications. Specifications and limits of voltage, current and heat-dissipation are included. Circuits covered include amplifiers, regulators, oscillators, filters, timers and signal processors. Prerequisite: ELET 1401 or consent of instructor. Lab required. 4 credit hours.

### **ELET 1440 AC/DC FUNDAMENTALS**

This introductory course is suitable for both electronic and non-electronic majors who require a solid background in electrical and electronic circuits, components and applications. Students in this course will understand and make use of electronic devices, circuits and systems. This course will be of great value to students who are planning a career in robotics, automotive electronics, manufacturing technology, computer integrated manufacturing technology, automated systems technology, electronic communications and biomedical technology. Lab required. 4 credit hours.

### **ELET 2325 COMPUTER INTERFACING**

Microcomputer interfacing and the use of programmable peripheral devices. Selected programmable interface devices will be studied and the software and hardware interfaces developed. Experience in testing and

troubleshooting interface circuits and use of specialized logic analyzer and emulation systems will be provided in a laboratory setting. Prerequisite: ELET 1410 or consent of instructor. Lab required. 3 credit hours.

### **ELET 2380 SELECTED TOPICS**

An in-depth study of selected topics on current engineering technology practices and procedures. 3 credit hours.

### **ELET 2385 INDEPENDENT STUDY**

Prerequisite will vary based on topics covered and will be annotated in each semester's class schedule. May be repeated for credit when topics vary. Lab required. 3 credit hours.

### **ELET 2420 TELECOMMUNICATIONS**

This course will provide the advanced student with a review of basic electronic concepts and a comprehensive course in electronic telecommunications. This course will provide the student with information that will be required to pass the various license and certification tests for electronic technician. The text and lab book will be keyed to the FCC General Radiotelephone License, all classes of the FCC Amateur Radio License, the FCC Marine Operator License and the ISCT Certified Technician's Exam. Topics covered will pertain to all areas of electronic telecommunications. Lab required. 4 credit hours.

### **ELET 2430 COMPUTER MAINTENANCE**

Emphasis on the distinction between hardware and software failures in a computing system. This determination will be made in a lab setting using equipment with simulated or actual failures. Concentration is on the use of factory supplied and technician written diagnostic programs to identify and isolate a faulty device or subsystem. Lab required. 4 credit hours.

### **ELET 2435 MICROWAVE/RF DESIGN**

Introduction to microwave theory and applications, transmitter and receiver. Prerequisite: ELET 1415 or consent of instructor. Lab required. 4 credit hours.

### **ELET 7300 COOPERATIVE EDUCATION I**

Under supervision of the college and the employer, students combine classroom learning with career related work experience. Credit is earned for completion of specific learning objectives and seminar participation. Prerequisite: consent of instructor. Contact the CWE office. 3 credit hours.

### **ELET 7305 COOPERATIVE EDUCATION II**

Continuation of supervised on-the-job experience and career related activities. Requires new learning objectives and seminar participation. Prerequisite: ELET 7300 or consent of instructor. Contact the CWE office. 3 credit hours.

## **EMERGENCY MEDICAL TECHNOLOGY**

(Special admission requirement)

### **EMTP 1100 ADVANCED CARDIAC LIFE SUPPORT**

Provides the student with an opportunity to apply all critical care skills in a simulated ICU environment. Fee for course materials. Prior knowledge of ECG's is essential. 1 credit hour.

### **EMTP 1300 EMERGENCY CARE ATTENDANT /FIRST RESPONDER**

This course is designed to provide the student with a working knowledge of first aid procedures. Through didactic and skills instruction, students learn the signs, symptoms, and treatment of various diseases and traumatic conditions. Students completing this course are eligible to take the Emergency Care Attendant certification exam given by the Texas Department of Health. Lab required. 3 credit hours.

### **EMTP 1500 EMERGENCY MEDICAL PROCEDURES**

Successful completion of this course qualifies a student to take the State Examination for Emergency Medical Technician (EMT) certification. Includes classroom, clinical and ambulance training. Topics include anatomy and physiology, extrication and management of injured patients, cardiopulmonary resuscitation (CPR), bleeding control and automated external defibrillation. Lab and clinical required. 5 credit hours.

### **EMTP 1800 PARAMEDIC PROCEDURES I**

The First of two courses designed to prepare the student for state certification as an Emergency Medical Technician - Paramedic. Subjects taught in this course include: general anatomy and physiology, pharmacology, fluids and electrolytes, and acid-base balance. Emphasis is placed on disorders of the heart and advanced cardiac life support. Skills developed include: ECG recognition, defibrillation and cardioversion, endotracheal intubation, drug administration, and intravenous fluid administration. Prerequisite: EMT-Basic certification. Extensive clinicals required in addition to classroom time. Lab required. 8 credit hours.

### **EMTP 2700 PARAMEDIC PROCEDURES II**

The second course of two designed to prepare the student for state certification as an Emergency Medical Technician - Paramedic. Subjects taught include: medical emergencies, shock trauma management, pediatric emergencies, musculoskeletal and soft tissue injuries, obstetrical emergencies, and psychiatric emergencies. Skills developed include: PASG (pneumatic anti-shock garment), pediatric resuscitation, intraosseous infusion, chest decompression via needle thorocotomy, and advanced airway management. Prerequisite: EMT-Basic certification and EMTP 1800. Extensive clinicals required in addition to classroom time. Lab required. 7 credit hours.

## ENGINEERING

### ENGR 1304 ENGINEERING GRAPHICS

Use of computer-aided drafting, applied geometry, engineering lettering, orthographic projections, dimensioning, pictorial drawing and sketching, sectional views and working drawings. Lab required. 3 credit hours.

### ENGR 2301 ENGINEERING MECHANICS I

Vectors, tensors, foundations of mechanics. Motion of particles including momenta, energy, work concepts. Statics including concept of free-body diagrams, friction forces, virtual work. Prerequisite: MATH 2413. 3 credit hours.

### ENGR 2302 ENGINEERING MECHANICS II

Dynamics of particles including harmonic motion, motion of a particle in a central force field, momentum and energy methods. Relative motion in rigid bodies. Prerequisite: ENGR 2301. 3 credit hours.

### ENGR 2332 MATERIALS AND PROCESSES

Simple structural elements are studied. Emphasis on forces, deformation and material properties. The concepts of stress, strain and elastic properties are presented. Behavior phenomena such as fracture, fatigue and creep are introduced. Prerequisite: ENGR 2301. 3 credit hours.

### ENGR 2405 ELECTRICAL CIRCUIT ANALYSIS

Basic principles of R, L and C circuits. Steady state DC and AC signals. Simple transient response. Kirchhoff's laws, Ohm's law, Thevenin-Norton equivalence, impedance, nodal, mesh, and loop analysis, and phasors. Laboratory experiments demonstrate basic circuit and network laws and acquaint students with electrical instruments. Lab required. Prerequisite: MATH 2414. 4 credit hours.

## ENGLISH

### ENGL 0300 DEVELOPMENTAL WRITING I

A skills improvement course designed to help the student improve basic writing skills necessary for ENGL 1301. Focus is on paragraph and short essay writing. Basic grammar, punctuation and sentence construction studied as needed. Assessment required. This course may not be used to satisfy the requirements of an associate degree. Lab required. 3 credit hours.

### ENGL 0305 DEVELOPMENTAL WRITING II

A skills improvement course designed to help students reach competencies necessary for ENGL 1301. Focus is on advanced paragraph development and medium length essay writing. Critical reading skills, analytical writing and vocabulary building are emphasized. Punctuation and sentence construction studied as needed. Completion of ENGL 0300 or

assessment is required. Assessment required. This course may not be used to satisfy the requirements of an associate degree. Lab required. 3 credit hours.

### ENGL 0310 DEVELOPMENTAL GRAMMAR I

A skills improvement course designed to help the student strengthen the sentence for clearer, more emphatic, more concise expression of thought. Focus is on all facets of standard written English; correct grammar, punctuation and usage. This course will teach the student to recognize and correct common errors in sentence structure and may be taken concurrently with any English course. This course may not be used to satisfy the requirements for an associate degree. Lab required. 3 credit hours.

### ENGL 0315 READING, WRITING AND REASONING

A skills improvement course designed to help students reach competencies necessary for ENGL 1301. Focus is on reading and writing medium length expository essays. Reading and writing assignments are complementary with special emphasis given to writing on issues arising from class readings. Students will learn to write effective, logical essays, to develop reading comprehension strategies, and to analyze, synthesize and make value judgments using critical thinking. Completion of ENGL 0305 or assessment is a prerequisite. This course may not be used to satisfy the requirements of an associate degree. Lab required. 3 credit hours.

### ENGL 1301 COMPOSITION/RHETORIC I

A beginning freshman course in writing. Development of paragraphs and the whole composition, study of model essays, extensive theme writing, individual conferences and departmental final exam. Assessment prior to enrollment required. Lab required. 3 credit hours.

### ENGL 1302 COMPOSITION/RHETORIC II

Continued development of skills acquired in English 1301 and development of skills in argumentation. Analysis and interpretation of various types of argumentation and identification of fallacies. Extensive reading, outlining and summarizing of essays. Extensive writing, study of research methods and materials, preparation of research paper and individual conferences. Prerequisite: ENGL 1301. Lab required. 3 credit hours.

### ENGL 2307 CREATIVE WRITING

Practical experience in the techniques of imaginative writing. May include fiction, non-fiction, poetry or drama. This course does not satisfy CCCC requirements for a sophomore literature course. Prerequisite: ENGL 1302. 3 credit hours.



### **ENGL 2311 TECHNICAL WRITING**

Introduction to technical writing and communication including preparation of reports, proposals, technical papers, abstracts and summaries of specific technical interest to the student. MLA documentation included. Prerequisite: ENGL 1301. Note: This course does not satisfy CCCC requirements for a sophomore literature course, nor does it substitute for ENGL 1302 in some degree plans. 3 credit hours.

### **ENGL 2322 BRITISH LITERATURE I**

A general survey of major works in British literature from its origin to the beginning of the Romantic movement. Analysis of these works in their historical, cultural and social contexts. Prerequisite: ENGL 1302 or 2311. 3 credit hours.

### **ENGL 2323 BRITISH LITERATURE II**

A general survey of major works in British literature from the Romantic period to the present. Analysis of these works in their historical, cultural and social contexts. Prerequisite: ENGL 1302 or 2311. 3 credit hours.

### **ENGL 2327 AMERICAN LITERATURE I**

The study of major writers from the Colonial period to the beginning of the Civil War. The analysis and evaluation of these works in their historical, cultural and social contexts. Prerequisite: ENGL 1302 or 2311. 3 credit hours.

### **ENGL 2328 AMERICAN LITERATURE II**

The study of major writers from the Realistic movement to the present. Evaluation and analysis of these works in their historical, cultural and social contexts. Prerequisite: ENGL 1302 or 2311. 3 credit hours.

### **ENGL 2332 WORLD LITERATURE I**

Introduces the student to a variety of literatures beginning with the classical Greek period through the 16th century. Prerequisite: ENGL 1302 or 2311. 3 credit hours.

### **ENGL 2333 WORLD LITERATURE II**

Introduces the student to a variety of literatures beginning with the 17th century through the 20th century. Prerequisite: ENGL 1302 or 2311. 3 credit hours.

### **ENGL 2371 FORMS OF LITERATURE I - SHORT STORY AND NOVEL**

A study of short stories, novels and non-fiction. Analysis and evaluation of major writers in these genres, their techniques and their contributions to our literary heritage. Prerequisite: ENGL 1302 or 2311. 3 credit hours.

### **ENGL 2372 FORMS OF LITERATURE II - POETRY AND DRAMA**

A study of poetry and drama, and a study of mythology as it relates to these genres. Analysis of our classical heritage, the origins of drama, the development of contemporary drama and film and the elements and types of poetry. Prerequisite: ENGL 1302 or 2311. 3 credit hours.

### **ENGL 2389 ACADEMIC CO-OP ENGLISH**

An instructional program designed to integrate on-campus study with practical hands-on work experience in English. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of English. Contact the CWE office. 3 credit hours.

## **ENGLISH AS A SECOND LANGUAGE**

### **ESLC 0300 ESL LISTENING-CONVERSATION I**

This course is designed to develop the non-native speaker's competencies in English. The purpose of the course is to prepare students to function in an English speaking society. This course may not be used to satisfy the requirements for an associate degree. Prerequisite: Placement through the ESL assessment. Lab required. 3 credit hours.

### **ESLC 0305 ESL LISTENING-CONVERSATION II**

This course is a continuation of ESLC 0300 and is designed to develop the non-native speaker's competencies in English. Its purpose is to prepare students to function in an English speaking society. This course may not be used to satisfy the requirements for an associate degree. Prerequisite: Placement through the ESL assessment. Lab required. 3 credit hours.

### **ESLC 0310 ESL LISTENING-CONVERSATION III**

This course is a continuation of ESLC 0305 and is designed to develop the non-native speaker's competencies in English. Its purpose is to prepare students to function in an English speaking society. This course may not be used to satisfy the requirements for an associate degree. Prerequisite: Placement through the ESL assessment. Lab required. 3 credit hours.

### **ESLG 0300 ESL GRAMMAR I**

This course is designed to teach basic English grammar to speakers of other languages. This course may not be used to satisfy the requirements for an associate degree. Prerequisite: Placement through the ESL assessment. Lab required. 3 credit hours.

### **ESLG 0305 ESL GRAMMAR II**

This course is a continuation of ESLG 0300. It is designed to teach intermediate-advanced English grammar to speakers of other languages. This course may not be used to satisfy the requirements for an associate degree. Prerequisite: Placement through the ESL assessment. Lab required. 3 credit hours.

### ESLG 0310 ESL GRAMMAR III

This is a continuation of ESLG 0305. It is designed to teach advanced English grammar to speakers of other languages. This course may not be used to satisfy the requirements for an associate degree. Prerequisite: Placement through the ESL assessment. Lab required. 3 credit hours.

### ESLR 0300 ESL READING I

This course is designed to develop fundamental reading skills for non-native speakers. The purpose of the course is to prepare students to read and comprehend the English language. This course may not be used to satisfy the requirements for an associate degree. Prerequisite: Placement through the ESL assessment. Lab required. 3 credit hours.

### ESLR 0305 ESL READING II

This course is a continuation of ESLR 0300 and is designed to develop reading competencies for the non-native speaker. This course may not be used to satisfy the requirements for an associate degree. Prerequisite: Placement through the ESL assessment. Lab required. 3 credit hours.

### ESLR 0310 ESL READING III

This course is a continuation of ESLR 0305 and is designed to develop reading competencies for the non-native speaker. This course may not be used to satisfy the requirements for an associate degree. Prerequisite: Placement through the ESL assessment. Lab required. 3 credit hours.

### ESLW 0300 ESL WRITING I

This course is designed to develop the non-native speaker's competencies in writing in the English language. The purpose of this course is to prepare students to communicate through written words. This course may not be used to satisfy the requirements for an associate degree. Prerequisite: Placement through the ESL assessment. Lab required. 3 credit hours.

### ESLW 0305 ESL WRITING II

This course is a continuation of ESLW 0300 and is designed to develop competencies in writing in the English language. Its purpose is to prepare students to communicate through written words. This course may not be used to satisfy the requirements for an associate degree. Prerequisite: Placement through the ESL assessment. Lab required. 3 credit hours.

### ESLW 0310 ESL WRITING III

This course is a continuation of ESLW 0305 and is designed to develop competencies in writing in the English language. This course may not be used to satisfy the requirements for an associate degree. Prerequisite: Placement through the ESL assessment. Lab required. 3 credit hours.

## ENVIRONMENTAL SCIENCE

(Also see Biology and Geology)

### ENVR 1470 WEST TEXAS NATURAL HISTORY

For non-science majors or an elective for science majors. Survey of the ecosystems of central and west Texas, including their geology, plants and animals, and the human impact on those systems. The course includes 28 hours of preparatory lecture/labs taught by geologists and biologists, followed by a 9-day camping field trip commencing after finals week. 4 credit hours.

## FIRE SCIENCE

(Special admission requirement for the Basic Firefighter Certificate)

### FISC 1011 FIREFIGHTER CERTIFICATION I

First in a series of courses preparing the student for certification as a Basic Firefighter by the Texas Commission on Fire Protection. An introduction to fire department organization, fire apparatus, fire science, firefighter safety, fire alarm and communications, report writing and emergency driving. Prerequisite: Admittance to the program. Lab required. 3 credit hours.

### FISC 1012 FIREFIGHTER CERTIFICATION II

Second in a series of courses preparing the student for certification as a Basic Firefighter by the Texas Commission on Fire Protection. A study of fire service hydraulics, water supplies, fire stream practices and fire hose. Prerequisite: FISC 1011. Lab required. 2 credit hours.

### FISC 1013 FIREFIGHTER CERTIFICATION III

Third in a series of courses preparing the student for certification as a Basic Firefighter by the Texas Commission on Fire Protection. A study of forcible entry techniques, rope practices, fire extinguisher applications, ventilation practices, ladder practices, self-contained breathing apparatus and the role of the fire service during civil disorders. Prerequisite: FISC 1012. Lab required. 2 credit hours.

### FISC 1014 FIREFIGHTER CERTIFICATION IV

Fourth in a series of courses preparing the student for certification as a Basic Firefighter by the Texas Commission on Fire Protection. A study of rescue practices, aircraft fire protection and rescue procedures, structure fire salvage and overhaul techniques and the operations of automatic sprinklers. Prerequisite: FISC 1013. Lab required. 2 credit hours.

### FISC 1015 FIREFIGHTER CERTIFICATION V

Fifth in a series of courses preparing the student for certification as a Basic Firefighter by the Texas Commission on Fire Protection. A study of inspection practices, hazardous materials, fire and arson investigation, pre-fire planning, bomb search investigations, emergency management operations and community relations. Prerequisite: FISC 1014. Lab required. 3 credit hours.

### **FISC 1016 FIREFIGHTER CERTIFICATION VI**

Sixth in a series of courses preparing the student for certification as a Basic Firefighter by the Texas Commission on Fire Protection. An in-depth study of simulated emergency options and hands-on live fire training exercises applying basic fire suppression principles and techniques. Prerequisite: **FISC 1015** or approval from fire science discipline coordinator. Lab required. 1 credit hour.

### **FISC 1305 FUNDAMENTALS OF FIRE PROTECTION**

History and philosophy of fire protection; review of statistics of loss of life and property by fire; introduction to agencies involved in fire protection; current legislative developments and career orientation; recruitment and training for fire departments; position classification and pay plans; employee organization; a discussion of current related problems and review of expanding future fire protection problems. 3 credit hours.

### **FISC 1310 FIRE PREVENTION**

The objectives and view of inspections, fundamental principles, methods, techniques and procedures of fire prevention administration. Fire prevention organization; public cooperation and image; recognition of fire hazards; insurance problems and legal aspects; development and implementation of a systematic and deliberate inspection program. Survey of local, state and national codes pertaining to fire prevention and related technology; relationship between building inspection agencies and fire prevention organizations. Engineering as a solution to fire hazards. Prerequisite: **FISC 1305** or permission of Fire Science Program director. 3 credit hours.

### **FISC 1315 FIRE SAFETY EDUCATION**

The study of the design, development and delivery of public fire and burn safety information and education programs including: methods of identification of fire and burn problems; the selection of target problems and strategies to affect reduction; methods of designing and implementing information and education programs; and methods of evaluating program impact. Study Includes theoretical and practical skills training in individual, group and mass media communications, instructional skills, planning priorities and evaluation techniques. 3 credit hours.

### **FISC 1320 FIRE ADMINISTRATION I**

In-depth study of the organization and management as related to a fire department including budgeting, maintenance of records and reports, and management of fire department officers. Personnel administration and distribution of equipment and personnel and other related topics, including relation of various government agencies to fire protection areas. Fire service leadership as viewed from the company officer's position. Prerequisite: **FISC 1305** or permission of Fire Science Program director. 3 credit hours.

### **FISC 1325 INDUSTRIAL FIRE PROTECTION I**

Specific concerns and safeguards related to business and industrial organizations. A study of industrial fire brigade organization and development, plant layout, fire prevention programs, extinguishing factors and techniques, hazardous situations and prevention methods. Gaining cooperation between the public and private fire department organizations. study of elementary industrial fire hazards in manufacturing plants. 3 credit hours.

### **FISC 1330 FIRE PROTECTION SYSTEMS**

A study of basic built-in fire detection, alarm and extinguishing systems. An examination of the devices and systems installed in buildings used to protect life and property from fire and support the role of the fire department through early detection of fire and extinguishment. 3 credit hours.

### **FISC 1335 BUILDING CODES AND CONSTRUCTION**

Fundamental consideration and exploration of building construction and design with emphasis on fire resistance of building materials and assemblies, exposures and related data focused on fire protection concerns; review of related statutory and suggested guidelines, both local and national scope. Review of Model Building codes and Life Safety Codes. 3 credit hours.

### **FISC 1340 FIRE CAUSE AND ORIGIN DETERMINATION**

A study of the detection of arson, investigation techniques, case histories, gathering and preserving of evidence; preparing for a court case; selected discussion of laws, decision and opinions; kinds of arsonists, interrogation procedures, cooperation and coordination between fire fighters and arson investigators and other related topics. Prerequisite: **FISC 1305** or permission of Fire Science Program director. 3 credit hours.

### **FISC 1450 FIREFIGHTING TACTICS AND STRATEGY**

Essential elements in analyzing the nature of fire and determining the requirements. Efficient and effective utilization of manpower, equipment and apparatus. Emphasis on pre-planning, study of conflagration problems, fire ground organization problem solving related to fire ground decision-making and attack tactics and strategy Use of mutual aid and large-scale command problems. Lab required. 4 credit hours.

### **FISC 2100 SEMINAR**

Designed to keep students informed on a variety of fire ground techniques developed to address problems encountered during fire suppression operations. May be repeated for credit. 1 credit hour.



### **FISC 2305 CHEMISTRY OF HAZARDOUS MATERIALS I**

Study of chemical characteristics and behavior of various materials that burn or react violently related to storage, transportation, handling hazardous materials, i.e., flammable liquids, combustible solids and gases. Emphasis on emergency situations and the most favorable methods of handling fire fighting and control. Prerequisite: FISC 1305 or permission of Fire Science Program director. 3 credit hours.

### **FISC 2310 CHEMISTRY OF HAZARDOUS MATERIALS II**

Hazardous materials covering storage, handling, laws, standards and fire fighting techniques associated with chemicals, gases, flammable liquids, corrosives, poisons, explosives, rocket propellants and exotic fuels, and radioactive materials. The formation of toxic fumes and health hazards is also stressed. Ignition and combustion characteristics of gases, liquids and solids related to free-burning fire and explosion phenomena. Familiarization with radiological instruments, human exposure to radiation, decontamination procedures, common uses of radioactive materials and operational procedures. Prerequisite: FISC 2305. 3 credit hours.

### **FISC 2315 HAZARDOUS MATERIALS III**

An in-depth study of the tactics used to correct problems encountered at hazardous materials incidents including: diking, drum/cylinder plugging and/or repair, evacuation procedures and use of monitoring equipment. Review of legislative mandates applicable to hazardous material incident responders. Students will have extensive hands-on experience throughout the course of instruction. Prerequisite: FISC 2310. 3 credit hours.

### **FISC 2320 FIRE ADMINISTRATION II**

Study to include insurance rates and ratings; preparation of budgets, administration and organization of training in the fire department, city water requirements, fire alarm and communication systems; importance of public relations, report writing and record keeping; measurements of results, use of records to improve procedures and other related topics; legal aspects relating to fire prevention and fire protection with stress on municipal and state agencies; design and construction of fire department buildings. 3 credit hours.

### **FISC 2330 INTRODUCTION TO CAMEO**

(Computer-Aided Management of Emergency Operations)

An in-depth study of the CAMEO computer program and its usage for hazardous material incident response. Data manipulation within the CAMEO system for pre-incident planning, chemical listing, mapping and risk assessments are explored. Students will have extensive hands-on experience throughout the course of instruction. Prerequisite: FISC 2305. Lab required. 3 credit hours.

### **FISC 2335 METHODS OF FIRE SERVICE INSTRUCTION**

Principles of learning and teaching including instructor responsibilities, lesson plan design and development, motivation for learning, methods of teaching, effective use of instructional aids, safety considerations, evaluation techniques, record keeping and practice teaching. 3 credit hours.

## **FRENCH**

### **FREN 1100 FRENCH CONVERSATION I**

Intensive practice in conversational French. Prerequisite: FREN 1412 or consent of discipline coordinator. Co-requisite: FREN 2311. 1 credit hour.

### **FREN 1110 FRENCH CONVERSATION II**

A continuation of French 1100. Prerequisite: FREN 1100. Co-requisite: FREN 2312. 1 credit hour.

### **FREN 1411 BEGINNING FRENCH I**

An introduction to the four basic skills of speaking, reading, writing and listening, designed for students with little or no previous language training. Also includes an introduction to selected aspects of French civilization. Instruction is enhanced by the use of tapes, slides, computer software, and video cassettes. Lab required. 4 credit hours.

### **FREN 1412 BEGINNING FRENCH II**

A continuation of French 1411. Prerequisite: French 1411. Lab required. 4 credit hours.

### **FREN 2303 FRENCH LITERATURE I**

A survey of French literature in its historical context from the sixteenth through the eighteenth century. Continued practice in the basic language skills. Reading of selected writers such as Ronsard, Molière, Voltaire. Prerequisite: FREN 2312. 3 credit hours.

### **FREN 2304 FRENCH LITERATURE II**

A continuation of French 2303. A survey of French literature in the nineteenth and twentieth centuries with reading from representative writers such as Hugo, Baudelaire, and Camus. Prerequisite: FREN 2312. 3 credit hours.

### **FREN 2311 INTERMEDIATE FRENCH I**

Review and continued development of the four basic language skills with increased attention to reading and writing. Instruction enhanced by slides, tapes, and other audio-visual aids. Prerequisite: FREN 1412 or consent of discipline coordinator. Co-requisite: FREN 1100. 3 credit hours.

### **FREN 2312 INTERMEDIATE FRENCH II**

A continuation of French 2311. Prerequisite: FREN 2311. Co-requisite: FREN 1110. 3 credit hours.



## **GEOGRAPHY**

### **GEOG 1301 PHYSICAL GEOGRAPHY**

Introduction to the study of the physical environment. Emphasis on climates, landforms, vegetation and spatial relationships of selected geographical regions of the world. Lab required. 3 credit hours.

### **GEOG 1302 CULTURAL GEOGRAPHY**

Introduction to the study of the cultural and economic environment. Emphasis on origins, diffusion and distribution of races, religions and languages. Lab required. 3 credit hours.

### **GEOG 1303 WORLD REGIONAL GEOGRAPHY**

A study of major developed and developing regions with emphasis on the awareness of prevailing world conditions and developments, including emerging conditions and trends and the awareness of diversity of ideas and practices to be found in those regions. Lab required. 3 credit hours.

## **GEOLOGY**

### **ENVR 1470 WEST TEXAS NATURAL HISTORY**

For non-science majors or an elective for science majors. Survey of the ecosystems of central and west Texas, including their geology, plants and animals, and the human impact on those systems. The course includes 28 hours of preparatory lecture/labs taught by geologists and biologists, followed by a 9-day camping field trip commencing after finals week. Lab required. 4 credit hours.

### **GEOL 1401 EARTH SCIENCE**

Concepts of earth processes and relation to man including basic principles from physical and historical geology, oceanography and meteorology for the non-science major. Lab required. 4 credit hours.

### **GEOL 1402 DINOSAURS!**

A study of the evolution, ecology, and extinction of the dinosaurs from a physical and historical geology perspective. Dinosaur controversies will be examined in light of recent evidence. Field trips and class projects will focus on dinosaur families and current topics. Lab required. 4 credit hours.

### **GEOL 1403 PHYSICAL GEOLOGY**

Structure of the earth and its composition including topographic maps, rocks and minerals, and geologic processes. These processes are related to weathering, abrasion by wind and running water, ground water, glaciers, oceans and volcanism. Lab required. 4 credit hours.

### **GEOL 1404 HISTORICAL GEOLOGY**

The earth and its inhabitants as revealed in rocks and fossils. Brief survey of the plant and animal kingdoms, elementary principles of stratigraphy and a systematic study of the development of the earth from its origin as a planet to the present. Lab required. Prerequisite: GEOL 1403 or consent of instructor. 4 credit hours.

### **GEOL 1405 ENVIRONMENTAL GEOLOGY**

A study of geologic constraints upon human activities and the environmental consequences of such activities. Among the topics included are mass movements, flooding, earthquakes and volcanic hazards. Emphasis placed on the environmental aspects of the development of water, energy and mineral resources. Prerequisite: BIOL 1403. Lab required. 4 credit hours.

### **GEOL 2409 ROCKS AND MINERALS IDENTIFICATION**

The chemistry, classification, crystallography, identification and occurrence of minerals. The formation, classification and identification of igneous, sedimentary and metamorphic rocks will also be covered. This course is intended primarily for geology majors. Prerequisite: GEOL 1403. Lab required. 4 credit hours.

### **GEOL 2389 ACADEMIC CO-OP GEOLOGY**

An instructional program designed to integrate on-campus study with practical hands-on work experience in geology. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of geology. Contact the CWE office. 3 credit hours.

## **GERMAN**

### **GERM 1100 CONVERSATIONAL GERMAN I**

Intensive practice in conversational German. Prerequisite: GERM 1412 or consent of discipline coordinator. Co-requisite: GERM 2311. 1 credit hour.

### **GERM 1110 CONVERSATIONAL GERMAN II**

Continuation of German 1100, intensive practice in conversational German. Prerequisite: GERM 1100. Co-requisite: GERM 2312. 1 credit hour.

### **GERM 1411 BEGINNING GERMAN I**

Introduction to the four basic skills of speaking, reading, writing and listening. Designed for students with little or no previous language training. Also includes an introduction to German civilization. Instruction enhanced by the use of tapes, slides, computer software, and video cassettes. Lab required. 4 credit hours.

### **GERM 1412 BEGINNING GERMAN II**

Continuation of GERM 1411 with an emphasis on the reading of elementary texts. Prerequisite: GERM 1411 or equivalent. Lab required. 4 credit hours.

### **GERM 2303 GERMAN LITERATURE I**

Building on the language skills and vocabulary acquired in Intermediate and Conversational German, this course introduces students to German literary texts selected to increase reading and translating fluency. Students will read and discuss the texts in German, though the translation of difficult passages and idioms into English will be part of the exercise. Prerequisite: GERM 1412 and consent of instructor. 3 credit hours.

### **GERM 2304 GERMAN LITERATURE II**

The continuation of GERM 2303 will introduce students to German literary texts selected to enhance their reading and translation ability while familiarizing them with some aspects of German literature and culture in the eighteenth, nineteenth and twentieth centuries. Students will read and discuss the texts in German, though the translation of difficult passages and idioms into English will be part of the exercise. Prerequisite: GERM 2303 and consent of instructor. 3 credit hours.

### **GERM 2311 INTERMEDIATE GERMAN I**

Review and continued development of the four basic language skills with increased attention to reading and writing. Instruction enhanced by the use of tapes, slides and other audio-visual aids. Prerequisite: GERM 1412 or consent of discipline coordinator. Co-requisite: GERM 1100. 3 credit hours.

### **GERM 2312 INTERMEDIATE GERMAN II**

Continuation of German 2311. Prerequisite: GERM 2311. Co-requisite: GERM 1110. 3 credit hours.

## **GOVERNMENT**

### **GOVT 2301 AMERICAN GOVERNMENT I**

Introduction to the study of politics and government in the United States. Topics include the origin and development of constitutional democracy in the United States, emphasizing the constitutions of the United States and the state of Texas, federalism and intergovernmental relations, local government and the political process. (This course may not be taken if the student has received credit for Government 252 or Political Science 261.) Lab required. 3 credit hours.

### **GOVT 2302 AMERICAN GOVERNMENT II**

Examines the institutional structures of government at both national and state levels, including the legislative process, the executive and bureaucratic structures and the judicial process. Additional topics include civil rights and civil liberties, domestic policy, foreign relations and

national defense. (This course may not be taken if the student has received credit for Government 251 or Political Science 262.) Lab required. 3 credit hours.

### **GOVT 2304 INTRODUCTION TO POLITICAL SCIENCE**

Introduction to the history and methods of political science. Includes an examination of the basic concepts of politics and political behavior, an overview of the history of the discipline, the scope and methods of political inquiry and an exploration of the basic models of politics that operate in the modern world. This course does not apply toward the Texas legislative requirement of 6 credit hours of American government for a bachelor degree. Lab required. 3 credit hours.

### **GOVT 2389 ACADEMIC CO-OP GOVERNMENT**

An instructional program designed to integrate on-campus study with practical hands-on work experience in government. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of government. Contact the CWE office. 3 credit hours.

## **HEALTH SCIENCE**

(Also see Phlebotomy)

### **HLSC 1200 PHLEBOTOMY PRACTICUM**

Consists of a minimum of 100 hours in an affiliated laboratory performing phlebotomy duties under the supervision of a Certified Phlebotomist of Clinical Laboratory Generalist. Fulfills requirements for Certificate of Technology in Phlebotomy and eligibility for certification as Phlebotomy Technician. 2 credit hours.

### **HLSC 1300 MEDICAL TERMINOLOGY**

Study of the basic structure of medical words. Included are prefixes, suffixes, roots, combining forms and plurals. Emphasis on pronunciation, spelling and definition. Basic understanding of human anatomy and physiology and the terms relating to these and their medical applications are emphasized. 3 credit hours.

### **HLSC 1305 ADVANCED MEDICAL TERMINOLOGY**

The study of advanced medical terminology related to clinical medicine, surgery, laboratory medicine, pharmacology, radiology and pathology. The use of medical references and other resources for research and practice. Prerequisite: HLSC 1300. 3 credit hours

### **HLSC 1310 HUMAN DISEASES**

A comprehensive study of disease processes (causes, symptoms and treatments), organized by body systems. 3 credit hours.

### HLSC 1500 PHLEBOTOMY

Includes fundamentals of Phlebotomy. Emphasizes theories and principles of biological specimen collection. Includes laboratory organization, anticoagulant action, specimen requirements acquisition procedures, interpersonal relationships, professional ethics and procedures to safeguard against the acquisition or spread of pathogenic agents. Completion of **course** partially fulfills requirements for Certificate of Technology in Phlebotomy and eligibility for certification as a Phlebotomy Technician. Prerequisite: Admission to phlebotomy program and consent of department director. Co-requisite: HLSC 1200. Lab required. 5 credit hours.

### HLSC 2300 MEDICAL PROCEDURES

The study of laboratory tests and procedures and of surgical procedures, including techniques and instruments. 3 credit hours.

### HLSC 2305 PHARMACOLOGY

An introduction to the principles of pharmacology, and a comprehensive study of drug action, routes of administration, classes of drugs by body system, as well as antibiotics, antiviral drugs, IV fluids, blood products, anesthetics, emergency drugs, vaccines and immunizations and chemotherapy agents. 3 credit hours.

### HLSC 2310 PROFESSIONALISM AND MEDICOLEGAL ISSUES

Professional standards of conduct, confidentiality of medical records, medicolegal responsibilities, production standards, resume preparation, job opportunities, work settings, compensation range and employee benefits, interview skills, professional association membership, voluntary certification, continuing education, professional image, stress management, handicapped transcriptionists, members of the healthcare team and trends in equipment will be discussed. 3 credit hours.

### HLSC 2389 ACADEMIC CO-OP HEALTH SCIENCES

Under supervision of the college and the employer, students combine classroom learning with career-related work experience. Credit is earned for completion of specific learning objectives and seminar participation. Contact the CWE office. 3 credit hours.

### HIST 1301 U.S. HISTORY I

History of the United States is presented focusing on the development of American characteristics and institutions; the forging of a new society from European, African and American cultures. Emphasis on the colonial and early national periods through the Civil War and Reconstruction. HIST 1301 and HIST 1302 fulfill the Texas legislative requirement for 6 credit hours of history for baccalaureate degrees. Lab required. 3 credit hours.

### HIST 1302 U.S. HISTORY II

History of the United States from 1877 to the present day. Focus is on the development of American society in the twentieth century; response to the urban-industrial environment, the United States as a world power and post-World War II society. This course and HIST 1301 fulfill the Texas legislative requirement for 6 hours of history for baccalaureate degrees. Lab required. 3 credit hours.

### HIST 2301 HISTORY OF TEXAS

History of Texas from the Spanish period to the present. Emphasis on the period of Anglo-American settlement, revolution, Republic and the development of the modern state. Lab required. 3 credit hours.

### HIST 2311 WESTERN CIVILIZATION I

A survey of European civilization from ancient times to the Renaissance. Topics include Greece and Rome, the Church, feudalism, the commercial revolution, the Reformation and early colonial movement. Lab required. 3 credit hours.

### HIST 2312 WESTERN CIVILIZATION II

Continuation of History 2311. Western Europe is surveyed from the Renaissance to the present. Topics include the Age of Revolution, the beginning of industrialism, the growth of nationalism and democracy in the 19th century, causes and consequences of the two world wars and modern Europe. Lab required. 3 credit hours.

### HIST 2370 STUDIES IN U.S. HISTORY

A treatment of selected topics in the history of the United States. This course may be repeated for credit only when the course focuses on new topics. Prerequisite: 6 semester hours of history. Selected topics include:

#### The Sixties

Focuses on the development of American characteristics and institutions during the decade of the 1960s. Emphasis on the political and social events and attitudes of the decade and their influence upon contemporary society. Prerequisite: HIST 1302. Lab required. 3 credit hours.

### HIST 2371 ADVANCED STUDIES IN U.S. HISTORY

In-depth study of selected topics in minority, local, regional, national or international topics. This course may be repeated for credit only when the course focuses on new topics. Prerequisite: 6 semester hours of history. Selected topics include:

#### The Civil War and Reconstruction

Studies American characteristics and institutions from 1850-1877. Emphasis on social, political, economic and military conflicts of the period. Prerequisite: HIST 1301 or permission of instructor. Lab required. 3 credit hours.

### **History of Religion in the United States**

General survey of the history of religion in the U. S. from the time of the Spanish conquest to the present. Focus upon how religion has shaped the historical development of the U. S. Prerequisite: HIST 1301 or 1302 or permission of instructor. Lab required. 3 credit hours.

### **HIST 2389 ACADEMIC CO-OP HISTORY**

An instructional program designed to integrate on-campus study with practical hands-on work experience in history. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of history. Contact the CWE office. 3 credit hours.

## **HORTICULTURE/LANDSCAPE TECHNOLOGY**

### **AGRI 1407 AGRONOMY**

An introduction to the economic importance of plants to man and society. Includes a study of cropping systems, nutrition, crop hazards, fertilizers, weeds, crop improvement, plant classification, structure and growth. Lab required. 4 credit hours.

### **HORT 1200 THE LANDSCAPE INDUSTRY**

The study of the landscape industry as a whole, including the introduction to landscape design, construction and management and general plant care. Special attention is focused on preparing students to take the Certified Landscape Professional Exam, administered by the Texas Association of Landscape Contractors. (Please note that other requirements may apply to the sitting of an individual). 2 credit hours.

### **HORT 1225 IRRIGATION SYSTEMS**

A comprehensive study of irrigation systems including equipment, design, performance and maintenance. Includes residential and commercial applications. Lab required. 2 credit hours.

### **HORT 1300 BASIC HORTICULTURE**

An introduction to the culture of plants, including their distribution, factors which affect growth, plant structures, propagation, plant care and the impact of plants on the environment and the economy. Lab required. 3 credit hours.

### **HORT 1305 SOILS AND PLANT NUTRITION**

The study of different soil types and how they affect the availability of nutrients. Emphasis on making and keeping the soil healthy, proper drainage, organic and inorganic fertilizers, soil additives, organic matter, proper horticultural practices and the role of micro and macro-organisms in the soil. Lab required. 3 credit hours.

### **HORT 1310 PLANT PESTS AND CONTROLS**

A comprehensive course in the pests that inhibit plant growth and production and the methods used to control them. Includes biological, chemical and integrated pest management (IPM) programs. Prerequisite/Corequisite: HORT 1300. Lab required. 3 credit hours.

### **HORT 1315 INTERIOR PLANTS**

Students are introduced to plants which are utilized in interior landscapes and the special maintenance required. Particular attention is given to light and water requirements, temperature control, planting media and design of interior plantings. Lab required. 3 credit hours.

### **HORT 1320 TURFGRASS SCIENCE AND MANAGEMENT**

Introduction to turfgrass science and management and the identification and control of diseases and insects that affect turfgrasses. Characteristics of turfgrasses, identification and culture are studied. Modern management practices are explained, including installation, renovation and maintenance. Lab required. 3 credit hours.

### **HORT 1330 NATIVE PLANTS OF TEXAS**

A non-majors course devoted to the study of those plants which are indigenous to the state of Texas. Includes identification and landscape use of native plants. Lab required. 3 credit hours.

### **HORT 1335 PLANTS OF NORTH TEXAS**

A study devoted to those plants used in the north Texas area, including trees, shrubs, ground covers, vines and flowers. Includes identification, landscape use and maintenance of plants. Required of all students pursuing the turfgrass specialty. Lab required. 3 credit hours.

### **HORT 1400 WOODY PLANT MATERIALS**

The study of the woody plants collected or grown for use in the landscape industry, with an emphasis on the southwest. Includes trees, shrubs, woody vines and ground covers. Prerequisite/Corequisite: HORT 1300. 4 credit hours.

### **HORT 1401 HERBACEOUS PLANT MATERIALS**

The study of the non-woody ground covers, vines, herbs and annual and perennial flowers cultivated or collected for use in the landscape industry. Prerequisite/Corequisite: HORT 1300. Lab required. 4 credit hours

### **HORT 2210 EQUIPMENT MANAGEMENT**

A practical study of the types of equipment used in professional turfgrass management and their maintenance requirements. Hands-on learning about preventative maintenance and small engine repair. Lab required. 2 credit hours



**HORT 2290 SELECTED TOPICS IN HORTICULTURE**

(Formerly HORT 1100)

An in-depth study of selected topics on current issues in horticulture. May be repeated for elective credit as the topics vary. 2 credit hours.

**HORT 2300 INTRODUCTION TO LANDSCAPE DESIGN**

An introductory course covering the principles and elements of design, spatial arrangement and development, and basic drawing skills. Lab required. 3 credit hours

**HORT 2309 LANDSCAPE TECHNOLOGY I**

(Formerly HORT 2405)

Construction materials and their uses in the landscape industry, including soil preparation, wood, concrete and masonry construction, landscape lighting, pools and spas and general construction details. Lab required. 3 credit hours.

**HORT 2310 LANDSCAPE TECHNOLOGY II**

(Formerly HORT 2410)

Detailed study of the structure of the landscape business including cost estimating, organization, equipment needs, interpretation of financial reports, marketing and labor and equipment management. Emphasis on the different types of landscape operations, marketing, sales presentations, legal forms and contracts, construction law and safety. Prerequisite: HORT 2309. Lab required. 3 credit hours.

**HORT 2315 LANDSCAPE MANAGEMENT**

An introduction to landscape maintenance practices, including the proper care of trees, shrubs and turf. Includes organic and inorganic fertilization and pest control. Emphasis also placed on cost analysis, estimating and safety. Lab required. 3 credit hours

**HORT 2320 FLORICULTURE**

(Formerly HORT 2305)

Production of greenhouse crops, including flowering plants, herbs, and interior plants. Emphasis on historical development, growing requirements, and the marketing of greenhouse produced plants. Prerequisite: HORT 1300. Lab required. 3 credit hours.

**HORT 2325 PLANT PROPAGATION TECHNIQUES**

(Formerly HORT 2425)

The principles and practices of sexual and asexual plant propagation, including grafting, budding, layering, cuttings and seed germination. Soil mixes, plant structures and the equipment and facilities for proper plant propagation discussed. Prerequisite/Corequisite: HORT 1300. Lab required. 3 credit hours.

**HORT 2330 NURSERY MANAGEMENT**

(Formerly HORT 2430)

The study of nursery crop production and the management of wholesale and retail nurseries. Includes equipment, materials, structures, management, financial considerations and marketing related to the nursery business. Prerequisite/Corequisite: HORT 1300. Lab required. 3 credit hours.

**HORT 2335 PROFESSIONAL TURFGRASS MANAGEMENT**

A study of the cultural and nutritional requirements of turfgrasses which are under intense use. A focus on fertilization, pest control, mowing practices and other special needs required of golf courses and athletic fields. Prerequisite: HORT 1320. Lab required. 3 credit hours.

**HORT 2336 GOLF COURSE AND PARK MANAGEMENT**

A course in the management of golf courses and municipal park departments. Emphasis on record-keeping, budgeting, labor management, maintenance programs, financial reports and related business functions. Prerequisite: HORT 1320. 3 credit hours.

**HORT 2337 SPECIALIZED TURFGRASS MANAGEMENT**

A study of the construction and management of specialized turfgrass areas including golf greens and similar types of specialized turf. The cultural and nutritional requirements, as well as the machinery used in the maintenance of specialized turf structures will be covered. Prerequisite: HORT 2335. Lab required. 3 credit hours.

**HORT 2340 ARBORICULTURAL TECHNIQUES**

(Formerly HORT 2415)

Proper care of trees including pruning, spraying, fertilizing and protection during construction and removal of dead or diseased trees. Continued study of pests which attack trees, and the tools and equipment utilized by arborists included. Lab required. 3 credit hours.

**HORT 2350 PRACTICUM**

(Formerly HORT 2320 & 2500)

On-the-job experience in a work assignment related to the student's field of study. Credit is earned for completion of specific course competencies, the completion of 320 hours of employment during a Fall, Spring or Summer III semester, and the submittal of completed journal at the end of the semester. Course is graded as pass or fail. Capstone course for program completion. 3 credit hours.

**HORT 2400 SITE ANALYSIS AND SURVEYING**

A course in basic surveying techniques and site analysis. Emphasis on grades, measurement, volume and area calculations, and the mapping of existing conditions such as structures, plants, grades, and potential problems. Includes correct record keeping. Lab required. 4 credit hours.

## HUMANITIES

### **HUMA 1301 INTRODUCTION TO THE HUMANITIES**

Designed to help students achieve a clearer understanding of the nature of humankind and the need to create. Explores the relationship between values, attitudes, ideas and cultural achievements. 3 credit hours.

### **HUMA 1302 CULTURAL DIVERSITY**

An evaluation of the cultural contributions of selected non-western or minority cultures. 3 credit hours.

### **HUMA 2389 ACADEMIC CO-OP HUMANITIES**

An instructional program designed to integrate on-campus study with practical hands-on work experience in humanities. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of humanities. Contact the CWE office. 3 credit hours.

## INTERIOR DESIGN, COMMERCIAL

(This specialty is under AAS Computer Aided Drafting and Design)

### **INTD 1301 APPLIED INTERIOR DESIGN I**

Provides information in planning interior floor plans and elevations with consideration to circulation and room functions. Included is coordination and selection of furniture, finishes and colors. Prerequisite: ARTS 1311 - (Traditional). 3 credit hours.

### **INTD 2302 APPLIED INTERIOR DESIGN II**

Will apply knowledge and skills from INTD 1301 to advanced solutions of special problems in commercial interiors, including working drawings, specifications and client-designer communications. Prerequisite: ARTS 1311 - (Traditional.) 3 credit hours.

### **INTD 2303 APPLIED INTERIOR DESIGN III**

Designed to help the interior design student who is in the final semester prepare a portfolio of professional quality. CADD skills and interior design skills will be combined in the solution and presentation of problems. Prerequisite: INTD 1301 and 2302 and CADD 1304. Lab required. 3 credit hours.

## INTERPRETER PREPARATION PROGRAM/DEAF

(Also see Sign Language)

(Special admission requirement)

### **IPPD 1104 EXPRESSIVE & RECEPTIVE FINGERSPELLING AND NUMBERS**

A practical focus on the manual alphabet, numbers, and Fingerspelled Loan Signs. Students will also learn to recognize cardinal numbers, ordinal numbers, transitional handshapes, mathematical functions, monetary designations and the special significance of formation, placement, positioning, rhythm and of fingerspelling-related theories and methodologies. Prerequisite: SGNL 1401 or equivalent credit by exam. Lab required. 1 credit hour.

### **IPPD 1303 DEAF CULTURE**

An overview of American Deaf Culture and of the Deaf Community including their history, values, traditions and dynamics. Different views, theories and definitions will be introduced and developmental issues will be examined through psychological and socio-cultural perspectives. 3 credit hours.

### **IPPD 1305 MULTI-CULTURAL ASPECTS OF THE DEAF COMMUNITY**

This course focuses on the experiences of subculture communities within the larger Deaf community. Lab required. 3 credit hours.

### **SGNL 1401 AMERICAN SIGN LANGUAGE I**

Introduction to American Sign Language, Deaf Culture, and a brief history of sign. Includes the development of expressive and receptive sign skills, numbers, sign vocabulary and the manual alphabet. This class is conducted primarily without voice. Lab required. 4 credit hours.

### **SGNL 1402 AMERICAN SIGN LANGUAGE II**

Includes a study of sign vocabulary, numbers, fingerspelling and Deaf Culture. Also emphasizes further development of receptive skills, expressive skills, application of rudimentary syntactical and grammatical structures an understanding of Deaf and Hearing Cultures. This class is conducted primarily without voice. Prerequisite: SGNL 1401 or challenge equivalent. Lab required. 4 credit hours.

### **IPPD 2201 INTERPRETING PRACTICUM I**

Supervised interpreting opportunities in various community settings. Includes one lecture hour per week for discussions on job preparation, business practices, current issues and applications of ethics; also includes practicum experience with a mentor and observations of certified interpreters. Prerequisite: IPPD 2304. Lab required. 2 credit hours.

## IPPD 2202 INTERPRETING PRACTICUM II

Continued mentoring in **various** settings, **allowing** students to **select** an **area** of specialization such as **education**, medicine, **law**, business and community service. Includes one lecture hour **per** week for discussion of job preparation, business practices, current **issues** and applications of ethics. Also includes observations of certified interpreters. Prerequisite: **IPPD 2201** and **2305**. Lab required. 2 credit hours.

## IPPD 2304 INTRODUCTION TO INTERPRETING

This course is an introduction to theories and principles, special requirements of interpreting, the **Registry** of Interpreters for the Deaf (RID) Code of Ethics and general business practices. Includes methods and techniques of interpreting for deaf individuals who **use** ASL, **as well as** deaf individuals who may not **use** ASL. Also includes a brief history of the RID, an introduction to the differences between interpreting and transliterating, and a consideration of various special settings. This **class** is conducted primarily without voice; however, there **will** be designated times for voice and sign interpreting. Prerequisite: **IPPD 2401**. Lab required. 3 credit hours.

## IPPD 2305 INTERPRETING I

This course focuses on skill-building and developing fluency in interpreting, and continues to expand on **IPPD 2304**. Subjects treated include the physical and mental requirements of interpreting, the RID Code of **ethics** and general business practices. Includes a practical application of the methods and techniques of interpreting by using role plays. Continued focus on the differences between interpreting and transliterating, and on **various** special settings. This **class** is conducted primarily without voice; however, there will be designated times for voice and sign interpreting. Prerequisite: **IPPD 2304**. Lab required. 3 credit hours.

## IPPD 2307 SIGN-TO-VOICE INTERPRETING

This course focuses on register, word selection, receptive **skills**, **team** interpreting, physical location of interpreters, on the use of a Certified Deaf Intermediary Interpreter (CDI) and on matching the tone, intent and emotion of the signer with the appropriate vocal intonation. The course **also gives** attention to the special requirements of voicing for deaf individuals who use ASL, **as well as** deaf individuals who may not use ASL. Prerequisite: **IPPD 2305**. Lab required. 3 credit hours.

## IPPD 2308 INTERPRETING II

This course **focuses** on special settings: educational, medical, legal and artistic. Continued **focus** on skill-building, on the physical and mental **requirements** of interpreting, the RID Code of **ethics**, methods and techniques of interpreting through practical application, voice interpreting, the **use** of role play, and on the differences between interpreting and transliterating in **various** theoretical models. This class is conducted primarily without voice; **however**, there **will** be designated times for voice and sign interpreting. Prerequisite: **IPPD 2305**. Lab required. 3 credit hours.

## IPPD 2401/SGNL 2401 AMERICAN SIGN LANGUAGE III

Includes the integration of ASL expressive and receptive skills using bilingual techniques. Also includes a **study** of **vocabulary**, idioms, culture, ASL linguistics, manual and non-manual **aspects** of ASL, and cross-cultural communication techniques. This course **will** be **highly** interactive, centering on lab exercises, peer critiques, guest lectures and on the application of basic ethical behavior. Students **will** be afforded the opportunity to interpret for guest speakers. This class will be conducted primarily without voice. Prerequisite: **SGNL 1402** or equivalent **credit** by exam. Lab required. 4 credit hours.

*Note: SGNL 2401 and IPPD 2401 are identical. A student may register for either SGNL 2401 or IPPD 2401, but not for both. Registration in IPPD 2401 requires approval of program coordinator and the IPPD Language Assessment Committee.*

## IPPD 2402/SGNL 2402 AMERICAN SIGN LANGUAGE IV

Continued integration of ASL expressive and receptive **skills** using **bilingual** techniques; continued **study** of vocabulary, idioms, ASL linguistics, manual and non-manual aspects of ASL, cross-cultural communication techniques and culture and continued application of introductory **level** interpreting and transliterating **skills** with appropriate RID guidelines governing **ethical** behavior. Students will be afforded opportunities to continue interpreting for guest speakers. This course **will** be primarily conducted without voice. Prerequisite: **IPPD 2401** or **SGNL 2401** or **equivalent** credit by exam. Lab required. 4 credit hours.

*Note: SGNL 2402 and IPPD 2402 are identical. A student may register for either SGNL 2402 or IPPD 2402, but not for both. Registration in IPPD 2402 requires approval of program coordinator and the IPPD Language Assessment Committee.*

## JAPANESE

### JAPN 1411 BEGINNING JAPANESE I

An introduction to the basic skills of speaking, **reading**, writing and listening with attention to selected aspects of Japanese culture. Lab required. 4 credit hours.

### JAPN 1412 BEGINNING JAPANESE II

A continuation of JAPN 1411. Prerequisite: JAPN 1411. Lab required. 4 credit hours.

### JAPN 2311 INTERMEDIATE JAPANESE I

Continuing development of the four basic skills of **speaking**, **reading**, writing and listening, emphasizing conversational and reading **skills**. Designed for **students** who have completed **Beginning** Japanese II. Additional Kanji structures are introduced. Also includes attention to selected aspects of Japanese culture. Prerequisite: **JAPN 1412**. Lab required. 3 credit hours.

## **JAPN 2312 INTERMEDIATE JAPANESE II**

Continuing development of speaking, reading, writing and listening, emphasizing conversation and reading skills. Designed for students who have completed Intermediate Japanese I. Additional Kanji and grammar structures are introduced. Also includes attention to selected aspects of Japanese culture. Prerequisite: JAPN 2311. Lab required. 3 credit hours.

## **LEGAL ASSISTANT/PARALEGAL**

### **LEGL 1301 LAW AND JUDICIAL SYSTEMS**

An introduction to the history of American law, law of evidence, civil and criminal procedure, and to various areas of both civil and criminal substantive law. Study of various personnel in the legal field, the unauthorized practice of law and legal ethics. Lab required. 3 credit hours.

### **LEGL 1302 LEGAL RESEARCH**

Fundamentals of legal bibliography and legal research. Practical research problems utilizing legal books and sets of books. Techniques of legal analysis. Samples of various legal writings will be prepared by students. Lab required. 3 credit hours.

### **LEGL 1305 LAW OFFICE MANAGEMENT**

Ethical considerations, office organization, specialized bookkeeping and accounting for attorneys, fees and billing procedures, scheduling and calendaring, management of personnel, proofreading, management of investigations and file preparation, legal drafting, management and organization procedures for specialized areas of law, special considerations with respect to attorney's trust account, preparation of law office forms, checklists and files and disbursement on behalf of clients. 3 credit hours.

### **LEGL 2301 CIVIL PROCEDURE**

Overview of civil litigation in both state and federal courts with particular emphasis on the areas in which a legal assistant can assist the trial attorney. Particular attention is paid to preparation for litigation, discovery procedures (interrogatories, requests for admissions, depositions and documents production), pre-trial proceedings and trial. Preparation of various legal documents will be required. Lab required. 3 credit hours.

### **LEGL 2303 FAMILY LAW**

A study of domestic relations, issues and procedures with emphasis on Texas Family Code. Topics include family torts, prenuptial agreements, contractual cohabitation, common law and ceremonial marriages, divorce, child custody, termination of parental rights, adoption, illegitimacy, paternity, legal rights of children and of women. 3 credit hours.

## **LEGL 2304 WILLS, TRUSTS AND PROBATE**

Fundamental principles of wills and trusts. The organization and jurisdiction of the Texas Probate Court, analysis of the administration of estates in Texas Probate, guardianships and independent administration of decedents' estates, and a review of estate and inheritance taxes. 3 credit hours.

### **LEGL 2306 BUSINESS ORGANIZATIONS**

The legal structure of business organizations: corporations, joint stock companies, common law contracts, professional associations, proprietorships, limited partnerships and partnerships. 3 credit hours.

### **LEGL 2307 TORT AND INSURANCE LAW**

Fundamental principles of the law of tort and insurance. Includes a study of the research and investigation techniques necessary for tort and insurance negotiation, settlement and litigation. 3 credit hours.

### **LEGL 2308 BUSINESS LEGAL ENVIRONMENT**

Role of law in business and society, legal reasoning, sources of law, social policy and legal institutions, antitrust, security regulations, consumer protection, environmental law, worker health and safety and employment discrimination. 3 credit hours.

### **LEGL 7300 COOPERATIVE EDUCATION I**

Under supervision of the college and the employer, students combine classroom learning with career related work experience. Credit is earned for completion of specific learning objectives and seminar participation. Prerequisite: Consent of instructor. Contact the CWE office. 3 credit hours.

## **MARKETING**

### **MRKT 1300 FASHION MARKETING**

Introduction into the field of fashion through the examination of modern merchandising techniques. Current trends and developments are covered, as well as the history of fashion merchandising. 3 credit hours.

### **MRKT 1305 PRINCIPLES OF MARKETING**

The scope and structure of marketing are examined. Marketing functions, consumer behavior, market research, sales forecasting, and relevant state and federal laws are analyzed. 3 credit hours.

### **MRKT 1310 PRINCIPLES OF ADVERTISING**

Introduction to the principles, practices and media of persuasive communication. Topics include buyer behavior, use of media and ad agency operations. 3 credit hours.



**MRKT 1315 PRINCIPLES OF SELLING**

Students learn and practice selling techniques including outside and inside sales, telemarketing, presentations, reaching decision makers, closing sales, after-sale evaluations, and understanding buyers and consumers. 3 credit hours.

**MRKT 1316 SALES MANAGEMENT**

Leadership skills are studied, as they apply to understanding and managing sales personnel. Labs allow practice in selling, giving presentations, solving problems particular to sales settings and sales personalities, and internal reward systems. 3 credit hours.

**MRKT 1320 FASHION DESIGN**

A basic course providing a background of knowledge specific to the fashion designer's job and responsibilities, its history and the relationship of apparel design to human needs from an industrial point of view. Custom design, design for mass, line production, coordination, selection, color and texture are covered. There is no sewing involved in this course. 3 credit hours.

**MRKT 1325 FASHION BUYING**

Covers the responsibilities of a buyer. Sources of buying information, selection of fashion merchandise, methods of inventory, elements of profit, pricing, markup and markdown are studied. Economic issues relating to domestic versus offshore apparel goods are researched. 3 credit hours.

**MRKT 2300 FASHION SHOW PRODUCTION**

Production of an actual fashion show, including lighting, community involvement, marketing, modeling, apparel selection, set design, crew organizations election of primary target market. Offered only in spring semesters. Prerequisites: MRKT 1300, MRKT 1320, and MRKT 1325 or consent of instructor. 3 credit hours.

**MRKT 2305 MARKET RESEARCH**

Research techniques applied to problems of measuring market and sales potential, allocation of territories, demand for goods, consumer purchasing power, sales forecasts. Students learn use of library and other secondary sources, survey research and design of questionnaires, fundamentals of sampling and data analysis. 3 credit hours.

**MRKT 2310 PROMOTION TECHNIQUES**

Methods in how to manage promotion budgets, motivate and reward sales personnel, as well as construct and manage complete promotion programs. Emphasizes the interaction and coordination of promotional planning, implementation and evaluation with an organization's overall marketing strategy. Prerequisite: MRKT 1305, 1310 or consent of instructor. 3 credit hours.

**MRKT 2315 BUSINESS ETHICS**

Ethical implications of current issues. Ethical and financial problems in operating businesses (locally, nationally, internationally) are addressed. The course emphasizes social responsibility of business as well as ethical dilemmas of both buyers and sellers. 3 credit hours.

**MRKT 2320 INTERNATIONAL MARKETING**

Introduction to marketing in an international, multicultural environment. Emphasis on cultural, corporate, and political differences and interactions in business milieu internationally. Prerequisite: MRKT 1305. 3 credit hours.

**MRKT 2330 MARKETING SPECIAL TOPICS**

In-depth study of selected topics on current issues in marketing and marketing options. Course may be repeated for credit as topics vary. Instructor permission required. 3 credit hours.

**MRKT 7300 COOPERATIVE EDUCATION I**

Under supervision of the college and the employer, students combine classroom learning with career related work experience. Credit is earned for completion of specific learning objectives and seminar participation. Contact the CWE office. 3 credit hours.

**MRKT 7305 COOPERATIVE EDUCATION II**

Continuation of supervised on-the-job experience and career related activities. Requires new learning objectives and seminar participation. Prerequisite: MRKT 7300. Contact the CWE office. 3 credit hours.

**MATHEMATICS****MATH 0115 INTRODUCTORY GEOMETRY**

The study of plane and solid geometry recommended for students who have not passed the TASP geometry mathematics requirement and required for students planning to take MATH 1314, MATH 1316, or MATH 2312 who have not passed high school geometry. Prerequisite MATH 0305 or equivalent. Lab required. 1 credit hour.

**MATH 0300 BASIC MATHEMATICS**

The study of arithmetic operations with whole numbers, fractions, decimals, percents, basic geometry and an introduction to algebra including signed numbers, expressions and equations. This course may not be used to satisfy the requirements of an associate's degree. Lab required. 3 credit hours.

### **MATH 0302 PRE-ALGEBRA**

The study of mathematical skills required for beginning algebra, including operations with signed numbers, simple algebraic expressions, and polynomials; solving linear equations; and geometric applications. This course may not be used to satisfy the requirements of an associate's degree. Prerequisite: MATH 0300 or equivalent. Lab required. 3 credit hours.

### **MATH 0305 BEGINNING ALGEBRA**

The study of rational numbers, expressions, linear equations and inequalities, polynomials, radicals, rational expressions, exponents, quadratic equations and graphing. This course may not be used to satisfy the requirements of an associate's degree. Prerequisites: MATH 0302 or equivalent. Lab required. 3 credit hours.

### **MATH 0310 INTERMEDIATE ALGEBRA**

The study of polynomials, rational expressions, radicals, exponents, quadratic equations and inequalities, systems of equations, functions, graphing, parabolas and circles. This course may not be used to satisfy the requirements of an associate's degree. Prerequisite: MATH 0305 or equivalent. Lab required. 3 credit hours.

### **MATH 0320 MATH STUDY SKILLS**

(Formerly HDEV 0320)

The study of techniques to reduce anxiety through increased skill development in the areas of mathematics, study strategies, test-taking strategies, anxiety awareness, learning-style awareness, relaxation and wellness. This course is for enrichment and is not required in the developmental math course sequence. This course may not be used to satisfy the requirements of an associate degree. 3 credit hours.

### **MATH 1314 COLLEGE ALGEBRA**

Study of relations and functions, including linear, polynomial, rational, exponential and logarithmic, inverse functions, composition of functions, absolute value, theory of equations, complex numbers, systems of equations, matrices, sequences and the binomial theorem. Graphing calculator required. Prerequisite: Two years high school algebra or MATH 0310 within the last three years and one year of high school geometry or Math 0115. Lab required. 3 credit hours.

### **MATH 1316 TRIGONOMETRY**

Study of angular measure, functions of angles, identities, solution of triangles, equations, inverse trigonometric functions, complex numbers and polar coordinates. Prerequisite: Two years of high school algebra and one year of high school geometry within the last three years. 3 credit hours.

### **MATH 1324 PRE-CALCULUS FOR BUSINESS AND ECONOMICS**

Designed for non-math majors which includes a study of equations, inequalities, functions, matrices, linear programming including the simplex method, probability and statistics. Prerequisite: Two years high school algebra or equivalent within the last three years. Lab required. 3 credit hours.

### **MATH 1325 CALCULUS FOR BUSINESS & ECONOMICS**

A continuation of MATH 1324; a study of differential calculus and integral calculus, including exponential and logarithmic functions, functions of several variables and basic differential equations. Prerequisite: MATH 1324 within the last three years. Lab required. 3 credit hours.

### **MATH 1332 CONTEMPORARY MATHEMATICS**

Intended for general liberal arts or non-engineering technical students. Topics include solving equations, graphs and functions, scheduling, circuits and other math topics in management science, counting methods, probability and consumer mathematics. Prerequisite: One year of high school algebra or MATH 0305 within the last three years. 3 credit hours.

### **MATH 1342 STATISTICS**

Study of data collection and tabulation, measures of central tendency, correlation, linear regression, statistical distributions, probability and hypothesis testing with applications in various fields. Prerequisite: Two years of high school algebra or equivalent within the last three years. Lab required. 3 credit hours.

### **MATH 2312 PRE-CALCULUS FOR MATHEMATICS AND SCIENCE**

Study of functions and analytic geometry. Includes polynomial, rational, exponential, logarithmic and trigonometric functions, complex numbers, vectors, conics, transformation of coordinates, polar coordinates and parametric equations. The emphasis will be on mathematical reasoning in preparation for calculus. Some knowledge of trigonometry is needed. Prerequisite: MATH 1314 or equivalent within the last three years. Lab required. 3 credit hours.

### **MATH 2318 LINEAR ALGEBRA**

Study of linear equations, matrices, real vector spaces, linear transformations and eigenvectors. Prerequisite: MATH 2414 within the last three years. 3 credit hours.

### **MATH 2320 DIFFERENTIAL EQUATIONS**

Study of ordinary differential equations including systems of equations, linear equations, separation of variables, series solutions, uniqueness of solutions, initial value problems, transform methods and singular points. Prerequisite: MATH 2414 within the last three years. 3 credit hours.

### **MATH 2413 CALCULUS I**

Study of limits, continuity, the derivative, applications of the derivative, the indefinite and definite integral, and derivatives and integrals of trigonometric, logarithmic and exponential functions. Prerequisite: MATH 2312 or equivalent (high school analysis or pre-calculus) within the last three years. Lab required. 4 credit hours.

### **MATH 2414 CALCULUS II**

Study of calculus of inverse functions, applications of integration, techniques of integration, infinite series, differential equations and polar functions. Prerequisite: MATH 2413 within the last three years. Lab required. 4 credit hours.

### **MATH 2415 CALCULUS III**

Study of vectors in two and three dimensions, vector-valued functions, functions of several variables, multiple integration and the calculus of vector fields. Prerequisite: MATH 2414 within the last three years. Lab required. 4 credit hours.

### **MATH 2389 ACADEMIC CO-OP MATHEMATICS**

Under supervision of the college and the employer, students combine classroom learning with career related work experience. Credit is earned for completion of specific learning objectives and seminar participation. Contact the CWE office. 3 credit hours.

## **MUSIC**

### **BUSI 2379 BUSINESS OF MUSIC I**

The world of the music industry is presented. Careers, publishing, promotion, copyrights, agents, showmanship and management for large and small ensembles are discussed. 3 credit hours.

### **BUSI 2378 BUSINESS OF MUSIC II**

A further study of theory and practice of music business management with hands-on experience planning and managing performers' careers. 3 credit hours.

### **MUSI 1116 AURAL SKILLS I**

Skills developed include sight-singing, solmization, melodic and harmonic dictation. Corequisite: MUSI 1311. 1 credit hour.

### **MUSI 1117 AURAL SKILLS II**

A continuation of MUSI 1116 with further emphasis on diatonic sight-singing and dictation. Corequisite: MUSI 1312. 1 credit hour.

### **MUSI 1131 SMALL ENSEMBLE**

Small instrumental ensembles including Percussion Ensemble, New Music Ensemble, Guitar Ensemble, Flue Choir, Keyboard Ensemble and String Ensemble. (While some groups offer open enrollment, others require audition by the appropriate director.) This course may be repeated for credit. 1 credit hour.

### **MUSI 1159 VOCAL ENSEMBLE**

The Collin County Vocal Ensemble (known as "Expressions") is an ensemble of approximately 12-16 mixed voices. Repertoire includes literature appropriate for the smaller ensemble of all styles. A number of performances are given each semester. Prerequisite: Audition. Corequisite: MUSI 2143 Collin County Chorale. This course may be repeated for credit. 1 credit hour.

### **MUSI 1162 VOCAL DICTION I**

Principles of basic pronunciation and enunciation in English and Italian. Phonetic study with practical application to vocal literature. 1 credit hour.

### **MUSI 1165 VOCAL DICTION II**

Principles of basic pronunciation and enunciation in German and French. Phonetic study with practical application to vocal literature. 1 credit hour.

### **MUSI 1171 LEISURE PIANO I**

Introduction to fundamentals of keyboard technique for the non-music major. May be repeated for credit. 1 credit hour.

### **MUSI 1172 LEISURE PIANO II**

Continuation of Leisure Piano I with emphasis on development of sight reading skills, repertoire and keyboard technique. May be repeated for credit. 1 credit hour.

### **MUSI 1173 SECONDARY APPLIED MUSIC**

Private instruction in the area of the student's concentration, consisting of one 25 minute lesson per week. Audition required. Fee required. 1 credit hour. May be repeated for credit.

### **MUSI 1181 BEGINNING PIANO I**

Introduction to fundamentals of keyboard as required of music majors, but open to all students. Five finger major and minor positions, two octave major scales, arpeggios, sight reading, elementary chord progressions, elementary piano repertoire. May be repeated for credit. Lab required. 1 credit hour.

### **MUSI 1182 BEGINNING PIANO II**

A continuation of MUSI 1181 with further development on two octave minor scales, arpeggios, diatonic chord progressions and piano repertoire. May be repeated for credit. Prerequisite: MUSI 1181 or 1172. Lab required. 1 credit hour.

**MUSI 1183 CLASS VOICE**

Class instruction in the fundamentals of singing including breath support, correct vocal production and diction. For the non-vocal major. This course may be repeated for credit. 1 credit hour.

**MUSI 1192 CLASS GUITAR I**

Class instruction in the fundamentals of beginning guitar. For the non-guitar major. This course may be repeated for credit. 1 credit hour.

**MUSI 1193 CLASS GUITAR II**

Continuation of Class Guitar I employing advanced reading skills, chord structures and techniques. This course may be repeated for credit. Prerequisite: MUSI 1192. 1 credit hour.

**MUSI 1263 IMPROVISATION**

The study and performance of techniques used in the spontaneous creation of melodic and harmonic ideas common in jazz and popular music. Through the use of scales, modes and other devices, the instrumentalist or vocalist becomes proficient in what is required to create a jazz style solo. Prerequisites: MUSI 1311 and 1116 or demonstrated competence. Lab required. 2 credit hours.

**MUSI 1271 INTRODUCTION TO SYNTHESIS AND MIDI**

Introduces the elements of sound synthesis and electronic music. Lecture and demonstration topics include basic waveform creation, basic sequencing and drum machines, MIDI and SMPTE and associated synthesizer technology. Co-requisite AGDT 1310. Lab required. 2 credit hours.

**MUSI 1272 ADVANCED SYNTHESIS AND MIDI**

Further study of the elements of sound synthesis, electronic music and computer control. Lecture and demonstration topics include timbre design and computer synthesis control. Prerequisite: MUSI 1271. Lab required. 2 credit hours.

**MUSI 1273 PRINCIPAL APPLIED MUSIC**

Private instruction in the area of the student's concentration, consisting of one 50 minute lesson per week. Audition required. For the music major only. Fee required. 2 credit hours. May be repeated for credit.

**MUSI 1286 INTRODUCTION TO SONGWRITING**

An entry level course in the fundamentals of songwriting with emphasis on the skills needed to write good melodies, lyrics, and accompaniments. Corequisite MUSI 1311. 2 credit hours.

**MUSI 1287 INTRODUCTION TO COMPOSITION**

An entry level course in the fundamentals of music composition. Topics to be discussed include structural and formal composition techniques, computer-based musical notation, and basic MIDI sequencing. Corequisite: MUSI 1311. 2 credit hours.

**MUSI 1301 MUSIC FUNDAMENTALS**

An introduction to the elements of music theory: scales, intervals, keys, triads, elementary ear training, keyboard harmony, notation, meter and rhythm. 3 credit hours.

**MUSI 1306 MUSIC APPRECIATION**

Understanding music through the study of cultural periods, major composers and musical elements. 3 credit hours.

**MUSI 1310 MUSIC IN AMERICA**

In-depth study of various types of music in America. Specialized topics include:

**History of Jazz**

The study of the development of jazz music in the 20th century through text, audio and video recordings. Covers the personalities and elements that shaped jazz and the social issues of the times as displayed by the music of each decade. 3 credit hours.

**History of Rock and Roll**

An in-depth study of the history of popular music in America. An investigation that focuses on rock'n'roll, its commercialization, social impact, the development of various styles of rock'n'roll, artists within each style, their influences, and the role of technology in the music industry. 3 credit hours.

**MUSI 1311 MUSIC THEORY I**

Further emphasis on modes, transposition, non-harmonic tones, phrase structure, musical textures, four-part voice leading, and keyboard harmony. Prerequisite: MUSI 1301. Corequisite: MUSI 1116 (suggested corequisite: MUSI 1118). 3 credit hours.

**MUSI 1312 MUSIC THEORY II**

Development of melody harmonization through the understanding of harmonic progression, usage of seventh chords, elementary modulation, secondary harmonies, and large formal divisions. Prerequisite: MUSI 1311. Corequisite: MUSI 1117 (suggested corequisite: MUSI 1182). 3 credit hours.

**MUSI 1371 AUDIO ENGINEERING I**

Introduction to the concepts and techniques of audio recording including operation of recording equipment, session procedures, simultaneous recording and multitrack recording. Lab required. 3 credit hours.

**MUSI 1372 AUDIO ENGINEERING II**

Continuation of MUSI 1371, studying advanced recording studio techniques and practical application of basic skills. Prerequisite: MUSI 1371. Co-requisite: AGDT 1310. Lab required. 3 credit hours.



### **MUSI 1386 ARRANGING**

Class instruction in arranging for jazz and popular music. Also includes orchestration and transposition for popular instruments, common notational practices, lead sheet writing and the study of popular comenclature. Prerequisites: MUSI 1311 and 1116 or demonstrated competence. Lab required. 3 credit hours.

### **MUSI 2116 AURAL SKILLS III**

Aural study of superimposition, singing modulations to closely related keys, melodic and harmonic modulations, compound intervals. Prerequisite: MUS 1117. Corequisite: MUSI 2311. 1 credit hour.

### **MUSI 2118 AURAL SKILLS IV**

Singing remote modulations and difficult melodies. Aural study of unusual and mixed meters; altered chords; 9th, 11th and 13th chords. Prerequisite: MUS 2116 Corequisite: MUSI 2312. 1 credit hour.

### **MUSI 2124 BAND**

The band studies and performs a wide variety of music in all areas of band literature. Ensembles include: Plano Community Band and TI Jazz Band. Additional bands are listed below. This course may be repeated for credit. Other bands include:

#### **Jazz Combos**

Ensembles consisting of 4-8 members. Repertoire includes both instrumental and vocal music typical of small jazz groups. A number of performances both on and off campus are given each semester (including some travel). Audition may be required. May be repeated for credit. 1 credit hour.

#### **CCCC Jazz Lab Band**

The CCCC Jazz Lab Band consists of 16-21 instrumentalists and 1 vocalist. Repertoire includes both traditional and contemporary jazz band literature. A number of performances both on and off campus are given each semester (including some travel). Audition may be required. May be repeated for credit. 1 credit hour.

### **MUSI 2143 CHORUS**

A wide variety of music representing the choral literature is studied and performed. This course may be repeated for credit. 1 credit hour.

### **MUSI 2181 BEGINNING PIANO III**

A continuation of MUSI 1182. Development of three octave scales and arpeggios, accompaniment patterns, intermediate and 20th century piano repertoire, advanced sight reading skills. Prerequisite: MUSI 1182. May be repeated for credit. Lab required. 1 credit hour.

### **MUSI 2182 BEGINNING PIANO IV**

Final semester in the beginning piano sequence and designed to prepare music majors for piano barrier exams. Culmination of skills including scales and arpeggios four octaves hands together, advanced chord progressions, more difficult piano repertoire and competency at sight reading. Prerequisite: MUSI 2181. May be repeated for credit. Lab required. 1 credit hour.

### **MUSI 2308 INTRODUCTION TO MUSIC LITERATURE**

Study of selected works in music literature from major periods of music history. Topics include musical styles, forms, and composers from the Medieval period to the present. Guided listening experiences are an important part of the course. Required of all music majors. Sophomore standing is encouraged. 3 credit hours.

### **MUSI 2311 MUSIC THEORY III**

A continuation of music theory through chromatic harmony, modulation, larger forms and thematic development. Prerequisite: MUSI 1312. Corequisite: MUSI 2116 (suggested corequisite: MUSI 2181). 3 credit hours.

### **MUSI 2312 MUSIC THEORY IV**

A continuation of MUS 2311 including melody, harmony, tonality and the formal processes of 20th century music. Prerequisite: MUSI 2311. Corequisite: MUSI 2118 (suggested corequisite: MUSI 2182). 3 credit hours.

### **MUSI 2350 AUDIO FOR MULTIMEDIA I**

An exploration of the physical properties of sound and how it is recorded, edited, and manipulated in existing digital audio mediums. Designed for use in multimedia applications such as theatre, video and computer programs. Students are shown how to interact with sound designers and researchers and how to develop soundscapes that communicate in a multimedia experience with graphics, video, and text. Students will also research resources for copyright free soundclips. Prerequisite: AGDT 1310. Lab required. 3 credit hours.

### **MUSI 2351 AUDIO FOR MULTIMEDIA II**

An exploration of techniques used to process, store, synchronize, and transmit audio signals and MIDI data. Discuss different formats used for various animation and multimedia software. Study the difference in sound quality of CD-ROM, television, and video. Prerequisites: MUSI 2350. Lab required. 3 credit hours.

### **MUSI 2371 AUDIO ENGINEERING III**

Continuation of MUSI 1372, studying advanced recording studio techniques and practical application of basic skills. A comprehensive study of the theory of studio, microphone and digital audio multi-track mix-down equipment and techniques, to include repair, maintenance, and troubleshooting. Prerequisite: MUSI 1372 or demonstrated competence approved by instructor. 3 credit hours.

### **MUSI 2372 AUDIO ENGINEERING IV**

This course reinforces by application and demonstration the theory and skills obtained in Audio Engineering III with emphasis on audio production, management of the recording studio and audio post production for video. Prerequisite: MUSI 2371 or demonstrated competence approved by instructor. 3 credit hours.

### **MUSI 2389 ACADEMIC CO-OP MUSIC**

An instructional program designed to integrate on-campus study with practical hands-on work experience in music. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of music. Contact the CWE office. 3 credit hours.

## **NURSING**

(Special admission requirement)

### **NURS 1800 NURSING I**

Basic course in nursing on which all other courses build and expand. Introduction to the nursing process as a problem-solving method to develop the communicative and technical skills necessary to meet basic human needs. Concepts of illness, stress adaptation, culture, and death and dying are introduced. Through content and selected clinical experiences, students develop the ability to plan and implement nursing care for all age groups and develop skills common to all patients. Fundamental nursing skills are developed to care for clients in all age groups. Prerequisites: BIOL 2401, BIOL 2402, BIOL 2420, and MATH 1324, MATH 1342 or MATH 1314. A grade of C or better is required to progress to NURS 1805. Lab required. 8 credit hours.

### **NURS 1805 NURSING II**

Advanced assessment skills. Application of family-centered nursing care v lth. Concepts of illness in a mobility (musculo-skeletal system) and problems of the reproductive body systems. Principles of nutrition, pharmacology and medication administration are included. A unit on the surgically induced client is also introduced. Prerequisites: NURS 1800. A grade of C or better is required to progress to NURS 2400. Lab required. 8 credit hours.

### **NURS 2400 NURSING III**

Theoretical content begins with disturbances in feelings, thoughts and behaviors and introduces interferences with basic human needs related to problems of the upper and lower and gastrointestinal body systems. Clinical experience in a mental health facility is included as a follow-up theory in mental health. Prerequisites: NURS 1805, PSYC 2314. A grade of C or better is required to progress to NURS 2900. Lab required. 4 credit hours.

### **NURS 2900 NURSING IV**

Theoretical content includes major health problems of all age groups. Theory focuses on the problems of clients wit and biliary, respiratory, renal and cardiovascul approaches to the nursing process encourage students to assimilate and synthesize nursing care planning. Intravenous therapy concepts, skills, maintenance and care are introduced. Prerequisites: NURS 2400. A grade of C is required to progress to NURS 2905. Lab required. 9 credit hours.

### **NURS 2905 NURSING V**

A continuation of Nursing IV. Focuses on the problems of clients with disturbances of the nervous, endocrine, integumentary body systems, communicable diseases and the complex problems of burns. Complex approaches to the nursing process, managing client care and team nursing encourage students to assimilate and synthesize nursing care planning and implementation and evaluation. Facilities used for laboratory practice include various community health agencies. Semina students to review professional, ethical and lega responsibilities of the registered nurse. To prepare the student for the graduate role, a preceptorship of clinical prac setting. Each student assumes the responsibil under the supervision of a registered nurse. Prerequisites: NURS 2900. A grade of C is required in order to graduate. Lab required. 9 credit hours.

## **NUTRITION**

(Also see Biology)

### **BIOL 1322 GENERAL NUTRITION**

Study of nutrients and nutritional processes including functions, food sources, digestion, absorption and metabolism with application to normal and therapeutic human nutritional needs. This course is designed for biology and nutrition majors. 3 credit hours. (May not be used as a lab science.)

### **BIOL 1323 NUTRITION FOR TODAY**

This course is designed for anyone interested in nutrition and how it relates to overall health and wellness. It examines what role the nutrients serve in the body, their sources and how the body **absorbs** and utilizes them. Latest nutritional information is emphasized, especially implications it has for recommended eating patterns. This course is not intended for allied health or nutrition majors. **3 credit hours.** (May not be used as a lab science).

### **BIOL 1370 NUTRITION FOR FITNESS AND SPORT**

This course **looks** at nutrient intake for energy systems during **exercise training**, competition and improved performance. Nutrients, **amounts** needed, how they work in the body, and how they support and enhance physical **activity** will be **addressed**. Body weight and composition and weight gain or loss through exercise and diet **are** also discussed. **Myths**, misconceptions and **quackery** in the sport nutrition field **will** be discussed and sound information learned. **3 credit hours.** (May not be used as a lab science).

## **OFFICE ADMINISTRATION**

### **OFAD 1200 COMPUTER KEYBOARDING**

Designed to learn the computer **keyboard** by touch using computer-assisted instruction. Lab required. **2 credit hours.**

### **OFAD 1201 SPEEDBUILDING**

Designed to review, correct, improve, and/or perfect touch **keyboarding techniques** and habits for the purpose of increasing speed and improving accuracy. Course may be repeated for credit **until** desired proficiency is **achieved**. Prerequisite: OFAD 1200 or OFAD 1301 or high school typing/keyboarding. Lab required. **2 credit hours.**

### **OFAD 1210 RECORDS MANAGEMENT**

Classifying documents using basic filing systems; selecting equipment and supplies; analysis and revision of files; survey of **systems** using electronics and micrographics. Lab required. **2 credit hours.**

### **OFAD 1211 PROOFREADING/EDITING**

Designed to learn proofreading and editing **skills** necessary to **assure** accuracy in written documents and business correspondence. Lab required. **2 credit hours.**

### **OFAD 1301 BEGINNING KEYBOARDING**

Beginning instruction for students with no previous typing instruction. Touch **keyboarding** techniques are developed skills in centering, tabulating, formatting correspondence and formatting manuscripts are introduced. Lab required. **3 credit hours.**

### **OFAD 1302 INTERMEDIATE KEYBOARDING**

Designed to increase speed and accuracy and improve typing production rates of business correspondence, tables, forms and reports. Prerequisite: OFAD 1301 or one year of high school typing. Lab required. **3 credit hours.**

### **OFAD 1310 MEDICAL INSURANCE CODING**

Designed to acquire skill and knowledge of medical **claims** coding in order to process claims for payments or benefits to meet insurance company standards (ICD-9, CPT, and others). Prerequisite: HLSC 1300. Lab Required. **3 credit hours.**

### **OFAD 1315 ELECTRONIC CALCULATOR**

Principles, procedures and **techniques** of operating the electronic printing calculator: emphasis on speed, accuracy, memory functions and common business math applications. Lab required. **3 credit hours.**

### **OFAD 1320 BUSINESS CORRESPONDENCE**

Compose and evaluate effective business documents including letters, memos, reports, **minutes** and other correspondence. Prerequisite: ENGL 1301, OFAD 1302 or 1331. **3 credit hours.**

### **OFAD 1325 OFFICE SUPPORT SOFTWARE**

Designed to teach office applications using **administrative** support **software** programs determined by local **area** business **needs**. (See appropriate class schedule for software offered.) Course may be repeated for credit as **software** changes. Prerequisite: OFAD 1301 or one year high school typing. Lab required. **3 credit hours.**

### **OFAD 1331 BEGINNING WORD PROCESSING**

Designed to develop basic word processing **skills** for employment purposes or **personal** use. Emphasis on creating and **revising** documents using beginning level applications. **Software** is state-of-the-art and subject to change reflecting business demands. See class schedule for **software** offered. Course may be repeated for **credit** as software changes. Prerequisite: OFAD 1301 or one year of high school typing and **35 WPM**. Lab required. **3 credit hours.**

### **OFAD 1332 INTERMEDIATE WORD PROCESSING**

Designed to learn the advanced **features** of a comprehensive word processing program using intermediate level output applications including multi-page **text**, document assembly (**macros**), merges, file/sort and forms. Software is state-of-the-art and subject to change reflecting business demands. See class schedule for **software offered**. prerequisite: OFAD 1302, 1331 and **50 WPM**. Lab required. **3 credit hours.**

### **OFAD 2303 ADVANCED KEYBOARDING**

Specialized instruction emphasizing mailable production of **simulated** office projects. Computers and interactive software are used for **speed** building to achieve individual speed and accuracy goals. Prerequisite: OFAD 1302 or 1331. Lab required. **3 credit hours.**

### **OFAD 2305 MACHINE TRANSCRIPTION**

Instruction and practice in machine transcription of letters, memos and reports. Language, vocabulary and proofreading skills are reviewed. Specialized content for legal and medical programs. Prerequisite: OFAD 1302 or 1331. Lab required. 3 credit hours.

### **OFAD 2306 MEDICAL TRANSCRIPTION I**

Designed to develop basic level transcription skill transcribing chart notes, initial office evaluations, letters, history and physical examinations, consultations, emergency room reports, and discharge summaries using authentic physician dictation by medical specialty. Prerequisite: HLSC 1300, OFAD 1302 or 1331. Lab required. 3 credit hours.

### **OFAD 2307 MEDICAL TRANSCRIPTION II**

Designed to develop intermediate level transcription skills transcribing all major report categories from five medical specialties. Prerequisite: OFAD 2306. Lab required. 3 credit hours.

### **OFAD 2309 SPECIAL TOPICS IN MEDICAL TRANSCRIPTION**

Selected topics in medical transcription of advanced, original medical dictation in a variety of specialized fields to include cardiology, gastrointestinal, orthopedic, pathology, and radiology. Topics may vary each semester. Course may be repeated for credit as specialized topics vary. Prerequisite: OFAD 2307. Lab required. 3 credit hours.

### **OFAD 2310 MEDICAL TRANSCRIPTION SIMULATION**

Transcription of advanced, specialized, original medical dictation requiring strong proofreading and editing skills, while meeting progressively demanding accuracy and productivity standards similar to on-the-job experience. May be substituted for OFAD 7300 Cooperative Work Experience (Practicum) requirement, or may be elected for enhanced preparation for medical transcription employment. Prerequisite: OFAD 2307. Lab required. 3 credit hours.

### **OFAD 2315 OFFICE PROCEDURES**

Acquaints students with the varied aspects of office routines. Emphasis is on time management, mail responsibilities, telephone techniques, communication, job application/interviewing, critical thinking skills, decision making, ethics, office etiquette, and other topics associated with office technology. Prerequisite: OFAD 1302. Lab required. 3 credit hours.

### **OFAD 2333 ADVANCED WORD PROCESSING**

Designed to develop advanced skills in word processing using applications and desktop publishing projects requiring critical thinking and decision-making as expected in the work place. Prerequisite: OFAD 1302 or 1332 and 55 WPM. Lab required. 3 credit hours.

### **OFAD 7300 COOPERATIVE EDUCATION I**

Under supervision of the college and the employer, students combine classroom learning with career related work experience. Credit is earned for completion of specific learning objectives and seminar participation. Contact the CWE office. 3 credit hours.

### **OFAD 7305 COOPERATIVE EDUCATION II**

Continuation of supervised on-the-job experience and career related activities. Requires new learning objectives and seminar participation. Prerequisite: OFAD 7300. Contact the CWE office. 3 credit hours.

## **PHILOSOPHY**

### **PHIL 1301 INTRODUCTION TO PHILOSOPHY**

An introduction to critical and reflective thinking as applied to basic problems of existence and the meaning of human life. Selective philosophical problems are examined through the views of major philosophers. Studies will include ancient, medieval and modern thought. 3 credit hours.

### **PHIL 1304 COMPARATIVE RELIGION**

A study of religious traditions: Eastern and Western, ancient and modern. Special emphasis on such topics as the nature of God, religious experience, immortality and human freedom. 3 credit hours.

### **PHIL 2303 LOGIC**

An introduction to symbolic and informal logic. Emphasis on logical argument, fallacies, inductive and deductive proof, and correct reasoning. 3 credit hours.

### **PHIL 2306 ETHICS**

An introduction to moral philosophy. Examines moral problems through a variety of ethical systems. Topics include the nature of good and evil, abortion, bioethics, sexuality and world hunger. 3 credit hours.

### **PHIL 2307 SOCIAL AND POLITICAL PHILOSOPHY**

*Theoretical foundations of governmental systems.* Philosophers such as Plato, Hobbes, Locke, Kant and Nozick will be considered. 3 credit hours.

## **PHLEBOTOMY**

(Also see Health Science)

(Special admission requirement)

### **HLSC 1200 PHLEBOTOMY PRACTICUM**

Consists of a minimum of 100 hours in an affiliated laboratory performing phlebotomy duties under the supervision of a Certified Phlebotomist of Clinical Laboratory Generalist. Fulfills requirements for Certificate of Technology in Phlebotomy and eligibility for certification as Phlebotomy Technician. 2 credit hours.



### **HLSC1500 PHLEBOTOMY**

Includes fundamentals of Phlebotomy. Emphasizes theories and principles of biological specimen collection. Includes laboratory organization, anticoagulant action, specimen requirements acquisition procedures, interpersonal relationships, professional ethics, and procedures to safeguard against the acquisition or spread of pathogenic agents. Completion of course partially fulfills requirements for Certificate of Technology in Phlebotomy and eligibility for certification as a Phlebotomy Technician. Prerequisite: Admission to phlebotomy program and consent of department director. Corequisite: HLSC 1200. Lab required. 5 credit hours.

## **PHOTOGRAPHY**

### **COMM 1316 PHOTO ILLUSTRATION**

Problems and practices of photographers in advertising. Single, multiple and electronic flash will be studied and put to use. Emphasis on lighting, large format cameras and product photography. Prerequisite: ARTS 2356 and ARTS 2357 or consent of instructor. Lab required. 3 credit hours.

### **COMM 1317 PHOTOGRAPHER - CLIENT**

This class provides photography students the opportunity to work directly with the CCCC Public Relations and Publications Department on a photographer - client problem solving basis. The experience will produce printed materials providing the cornerstone of a professional photographic portfolio. Prerequisite: ARTS 2356. Lab required. 3 credit hours.

### **ARTS 2356 PHOTOGRAPHY I**

Introduction to photography including basic camera operations, darkroom techniques, with emphasis on visual imagination and design. Lab required. 3 credit hours.

### **ARTS 2357 PHOTOGRAPHY II**

Intermediate-level course with continued emphasis on darkroom proficiency. Learning color photography will constitute a major part of the curriculum. Beginning study of the zone system of exposure and introduction to large format cameras. Prerequisite: ARTS 2356. Lab required. 3 credit hours.

### **ARTS 2370 PHOTOGRAPHY PORTRAYAL**

Exploration of various photographic portrait styles, including both commercial and personal aspects of photographing the human subject. Included will be documentary photography of people, the environmental portrait and studio portraits. Creative approaches to the subject are encouraged. Prerequisite: ARTS 2356 and 2357 or equivalent. Lab required. 3 credit hours.

### **ARTS 2371 CONTEMPORARY STUDIES IN THE VISUAL ARTS PHOTOGRAPHY**

In-depth study of concerns and practices in the visual arts. This course may be repeated three times for credit. Specialized topics of study include:

#### **Advanced Black-and-White Photography**

Study and use of large format cameras, custom paper and film developers, and application of the zone system in photography. Prerequisites: ARTS 2356 and 2357. Lab required. 3 credit hours.

#### **Advanced Color Photography**

Study of aesthetic and technical elements inherent to color image-making. Historical background combined with current trends make up a foundation for critical exploration into this medium. Prerequisites: ARTS 2356 and 2357. Lab required. 3 credit hours.

#### **Advanced Portrayal**

Advanced portraiture with professional photographer's approach. Includes advanced studio techniques working with color and black-and-white materials. Emphasis on development of personal style. Prerequisites: ARTS 2356, 2357 and 2370. Lab required. 3 credit hours.

#### **Alternative Processes**

Experimental, antique and non-silver printing processes and unconventional modes of presentation. The Gum-Bichromate process, the Cyanotype, the Kwik-Print, the Van Dyck and other alternate processes. Prerequisite: ARTS 2356 (ARTS 2357 also recommended). Lab required. 3 credit hours.

#### **Architectural Photography**

Exploration into the production of architectural images that go beyond mere documentation. Aesthetics, art, expression, communication, imagination, abstraction, reality, drama and emotion are a few of the dimensions discussed focusing on sensitive photographs not dependent on the quality of the subject matter. Technical considerations include view camera technique. Prerequisites: ARTS 2356 and 2357. Lab required. 3 credit hours.

#### **Collage/Montage**

Contemporary aesthetic issues involving the use of multiple images and mediums. Students will be challenged to expand the information content and complexity of their photographic images. Prerequisites: ARTS 2356 and 2357. Lab required. 3 credit hours.

#### **Digital Photography I/Photoshop**

Introduction to the Macintosh and Photoshop. Hands-on experience with digital photography. Students will use a variety of image-capture devices, both digital and traditional; enhance and manipulate images with a core of photoshop. Prerequisites: ARTS 2356 and recommend ARTS 2357. Lab required. 3 credit hours.

### **Digital PhotographyII**

Advanced level electronic imaging. Increased hands-on experience using the digital camera, scanners, Photoshop and high-end image manipulation of large digital files. Prerequisite: ARTS 2371, Digital Photo I Lab required. 3 credit hours.

### **Documentary Photography**

Extension of the great documentary tradition. Production of social documentary photographs centered on a community phenomenon or dealing with issues in the urban area. Prerequisite: ARTS 2356 (ARTS 2357 also recommended). Lab required. 3 credit hours.

### **Fashion Photography**

Study of historical and current advertising fashion techniques. Emphasis on cultural contributions and outside artistic influence. Studio and location techniques considered. Prerequisites: ARTS 2356 and 2357. Lab required. 3 credit hours.

### **Hand-Coloring Photography**

Instruction will include archival processing photography; toning; photographic papers for hand-coloring; techniques; and subject material. Demonstrations, lectures, slides, field trips and shooting will be used in instruction. Prerequisite: ARTS 2356. Lab required. 3 credit hours.

### **Infrared Photography**

Will cover various methods and techniques involving the use of this scientific material for artistic purposes. Prerequisite: ARTS 2356 and ARTS 2357. Lab required. 2 credit hours.

### **Landscape Photography**

Exploration into the aesthetic and technical aspects of landscape as a subject. Eighteenth century through modernist and post-modernist approaches to the idea of landscape as a primary source of meaning from both conceptual and design standpoints are examined. Prerequisite: ARTS 2356 and 2357. Lab required. 3 credit hours.

### **Large Format Photography**

Examination of the technical requirements of large format cameras and the resulting aesthetic contribution to the photographic image. Zone system image management, photo chemistry, darkroom procedures and contact printing are among the concepts investigated. Prerequisites: ARTS 2356 and 2357. Lab required. 3 credit hours.

### **Night Photography**

This course will introduce the student to a new photographic environment along with its accompanying technical requirements. A series of assignments will explore various artificial/available light sources and the special techniques required to make pictures in this challenging situation. Prerequisite: ARTS 2356 Lab required. 3 credit hours.

### **Photographic Book Making**

A disciplined craft approach to the presentation of a visual *art* in the book form. Students will address the special problems related to the preparation of an image book including editing, sequencing, overall design considerations and book construction methods. Prerequisite: ARTS 2356 and ARTS 2357. Lab required. 3 credit hours.

### **Platinum/Palladium Photography**

Review of the history of non-silver photography with emphasis on platinum/palladium processes. Examination of the various techniques in non-silver printing, learning to mix the emulsion from the basic compounds, learning the results from different developing agents. Creative exposure and development. Prerequisites: ARTS 2356 and 2357. Lab required. 3 credit hours.

### **Portfolio (Photography)**

Advanced photography for development of a strong portfolio of images, either commercial or fine arts. Outcome will be a portfolio of high quality images that can be shown for the purpose of obtaining commercial contracts or exhibitions. Prerequisites: ARTS 2356 and 2357 and one advanced photography course. Lab required. 3 credit hours.

### **Portrayal/Lighting the Subject**

The emphasis in this course will be on lighting people in the studio and in the environment. Color and B&W films will be covered. Students will be required to successfully complete an individual portrait and to complete individual assignments that represent a variety of subjects. Prerequisites: ARTS 2356 and 2357. Lab required. 3 credit hours.

### **Seminar/Portfolio**

Designed to provide advanced artists with continuous critical feedback on work in progress. Weekly group critiques will be alternated with panel discussions, guest lecturers and museum/gallery visits. Prerequisites: ARTS 2356 and 2357. Lab required. 3 credit hours.

### **Series/Sequence Photography**

The investigation of photographic images in context to the post modern concepts of series, sequence and scale. Prerequisite: ARTS 2356. Lab required. 3 credit hours.

### **View Camera/Zone System**

Examination of the technical requirements of large format cameras and the resulting aesthetic contribution to the photographic image. Zone system image management, photo chemistry, darkroom procedures and contact printing are among the concepts investigated. Prerequisites: ARTS 2356 and 2357. Lab required. 3 credit hours.

### **ARTS 2372 HISTORY OF PHOTOGRAPHY**

A study of the emergence and development of the first technological art form. Emphasis is placed upon the aesthetic and scientific issues that shape the visual literacy of today's society. From early woodcuts to high tech computer imaging, the information age is scrutinized in order to understand and appreciate photography's growing importance within the visual arts. 3 credit hours.

### **ARTS 2389 ACADEMIC COOP PHOTOGRAPHY**

Under supervision of the college and the employer, students combine classroom learning with career related work experience. Credit is earned for completion of specific learning objectives and seminar participation. Contact the CWE office. 3 credit hours.

## **PHYSICAL EDUCATION AND HEALTH**

(Also See Dance)

### **PHED 1100 BEGINNING WEIGHT TRAINING AND CONDITIONING**

An introductory course in weight training and body building to learn the basic techniques for strength development and cardiovascular conditioning. The use of various weight machines, free weights and aerobic machines are utilized to establish an individual fitness program. 1 credit hour.

### **PHED 1102 INTERMEDIATE WEIGHT TRAINING AND CONDITIONING**

Advanced techniques in strength development and cardiovascular conditioning assists individuals in establishing their own fitness program. Prerequisite: PHED 1100 or instructor's permission. 1 credit hour.

### **PHED 1103 ADVANCED WEIGHT TRAINING AND CONDITIONING**

Weight training program tailored to the individual who has experience in proper techniques and conditioning and wants to continue in an excelled program. Prerequisite: PHED 1102 or consent of instructor. 1 credit hour.

### **PHED 1104 BEGINNING JOGGING AND FITNESS**

Develops cardiovascular endurance, flexibility and strength through jogging, stretching and weight training. Physical fitness assessment leads to development of an individual fitness program. 1 credit hour.

### **PHED 1105 INTERMEDIATE JOGGING AND FITNESS**

An accelerated fitness program structured for further improvement in cardiovascular endurance, flexibility and strength. Prerequisite: PHED 1104 or instructor's permission. 1 credit hour.

### **PHED 1106 WALKING AND FITNESS**

The student will improve cardiovascular, muscle toning and flexibility through a vigorous walking and conditioning program. 1 credit hour.

### **PHED 1107 CYCLING**

An introductory course in cycling to learn the basic techniques of bicycling and improve cardiovascular conditioning. Students are required to have their own bicycle. 1 credit hour.

### **PHED 1108 CROSS TRAINING I**

Extensive course offering training techniques and strategies for multi-sport aerobic activities. Involves a weight training program specifically designed to build strength and a running program that will include intervals, hills and speed work for the cross training athlete. Concurrent enrollment in PHED 1109 recommended. 1 credit hour.

### **PHED 1109 CROSS TRAINING II**

Extensive course offering training techniques and strategies for multi-sport aerobic activities. Involves competitive swimming and cycling workouts emphasizing technique and improvement. Students are required to have their own bicycle. Concurrent enrollment in PHED 1108 recommended. 1 credit hour.

### **PHED 1111 BASKETBALL**

Fundamental skills and strategies are reviewed through knowledge of the history, rules, terminology. Students then participate in game situations. 1 credit hour.

### **PHED 1112 SOCCER**

Develops the basic skills and strategies through knowledge of the history, rules and terminology, along with participation in game situations. 1 credit hour.

### **PHED 1113 SOFTBALL**

Fundamental skills including throwing, batting, fielding and base running as well as knowledge of the rules and terminology are emphasized along with participation in game situations. 1 credit hour.

### **PHED 1114 VOLLEYBALL**

Individual skills and techniques, application of rules and an introduction to offensive and defensive strategies are stressed in this course. 1 credit hour.

### **PHED 1115 ARCHERY**

Provides instruction in the basic techniques, rules and scoring. The history and terminology of archery are also investigated. 1 credit hour.

### **PHED 1116 BADMINTON**

History, rules, basic strokes and strategies in singles and doubles play are emphasized through intra-class competition. 1 credit hour.

**PHED 1117 BEGINNING TENNIS**

Introduction to the rules, scoring and fundamental techniques for beginners are stressed. Participation by skill level for singles and doubles play, is made to ensure vigorous activity for fitness. 1 credit hour.

**PHED 1118 INTERMEDIATE TENNIS**

Develops and improves each skill level in serving, forehand and backhand drives, lobs and volleys. Performance strategies for both singles and doubles are drilled. Prerequisite: PHED 1117 or consent of instructor. 1 credit hour.

**PHED 1119 ADVANCED TENNIS**

Emphasizes advanced techniques and strategies for the competitive tennis player. Provides theory and practice drills for advanced players who ultimately compete in singles and doubles tournaments. Prerequisite: PHED 1118 or consent of instructor. 1 credit hour.

**PHED 1120 BEGINNING RACQUETBALL**

Instruction in rules and basic skills. Develops the fundamental techniques of court play for beginners. Participation by skill level assures vigorous activity to develop cardiovascular fitness. 1 credit hour.

**PHED 1121 INTERMEDIATE RACQUETBALL**

Drills in serving, forehand and backhand drives, kill shots. Z shots and lobs help develop strategies for singles and doubles play. Prerequisite: PHED 1120 or consent of instructor. 1 credit hour.

**PHED 1122 ADVANCED RACQUETBALL**

Advanced drills for competitive racquetball players stress techniques and strategies needed for tournament competition. Prerequisite: PHED 1121 or consent of instructor. 1 credit hour.

**PHED 1123 BEGINNING GOLF**

Basic fundamentals, knowledge of the history, terminology and scoring of golf are stressed. 1 credit hour.

**PHED 1124 INTERMEDIATE GOLF**

Advanced skill techniques and strategies of golf are developed. Prerequisite: PHED 1123 or consent of instructor. 1 credit hour.

**PHED 1125 BOWLING**

Ball selection, stance, four step approach, rules and scoring procedures are taught. Emphasis is placed on game situations. 1 credit hour.

**PHED 1126 SELF DEFENSE**

A basic understanding and practical application of fundamental self defense techniques through physical conditioning includes; balance, focus, breath control, block and counter, avoiding attack, striking, thrusting and kicking. 1 credit hour.

**PHED 1127 BEGINNING KARATE**

Introduction to basic techniques, formal exercises and sparring techniques for the beginner. 1 credit hour.

**PHED 1128 INTERMEDIATE KARATE**

Intermediate skills and techniques of karate. 1 credit hour.

**PHED 1129 INTRODUCTION TO HATHA YOGA**

The practice of yogic postures, or "asana", can be defined as physical positioning that coordinates breathing with moving and holding still for the purpose of both stretching and strengthening parts of the body. The movements close and squeeze and then open and soak internal organs with blood and nourishment, leading to a deep state of rest and health. 1 credit hour.

**PHED 1130 INTERMEDIATE HATHA YOGA**

This course will focus on the refinement of the asanas (postures) covered in the introductory course, with emphasis on breath work. More advanced asanas will be introduced with emphasis on integrating yoga into daily routines at home and work. Prerequisite: PHED 1129. 1 credit hour.

**PHED 1131 BEGINNING SWIMMING**

Non-swimmers and beginners are taught basic swimming skills and strokes. Personal safety skills and confidence in the water are emphasized. 1 credit hour.

**PHED 1132 INTERMEDIATE SWIMMING**

Includes further stroke development in front and back crawl, side stroke, breast stroke, diving and some competitive swimming techniques. Development of cardiovascular endurance is stressed through lab swimming. Prerequisite: PHED 1131 or instructor's permission. 1 credit hour.

**PHED 1134 LIFEGUARD TRAINING**

Skills, methods and techniques involved in lifesaving and water safety are reviewed. Successful completion leads to American Red Cross Lifesaving Certification. 1 credit hour.

**PHED 1135 WATER SAFETY INSTRUCTION**

Successful completion of the course allows the student to take the standardized test given by the American Red Cross examiners for certification as a water instructor. Prerequisite: Current American Red Cross Senior Lifesaving Certificate. 1 credit hour.

**PHED 1136 WATER AEROBICS**

Level of fitness is improved through exercises in the water. A non-impact style of exercises that utilizes water resistance for increasing muscular strength, endurance, and cardiovascular fitness. Swimming skills are not necessary. 1 credit hour.



### **PHED 1137 SWIMMING CONDITIONING**

Level of fitness is improved through swimming strokes and water exercises. Different swimming programs will enhance muscular strength, endurance and cardiovascular fitness. Prerequisite: Proficiency in basic swimming. 1 credit hour.

### **PHED 1145 HORSEMANSHIP**

This course is designed to introduce the students to basic fundamentals of horsemanship. History, nature, and care of the horse will be covered in addition to riding skills of both English and Western disciplines. 1 credit hour.

### **PHED 1151 BEGINNING SCUBA**

The course is divided into academic training and confined-water training. All equipment is supplied except mask, fins, boots and snorkel. Students completing course requirements are eligible to perform the open water training for Professional Association of Diving Instructors (PADI) certification as a basic scuba diver (not a course requirement). Permission of PHED coordinator required. 1 credit hour.

### **PHED 1152 ADVANCED OPEN-WATER SCUBA**

Advanced open-water scuba combines advanced scuba techniques and rescue diving. Scuba techniques include natural and compass navigation as well as night and deep water diving. The rescue diving techniques include rescue diver exercises in water, emergency management and diving first aid. Prerequisite: Permission of PHED coordinator required. 1 credit hour.

### **PHED 1238 CONCEPTS OF PHYSICAL FITNESS AND WELLNESS**

This course will introduce the basic concepts of fitness, nutrition, health promotion and disease prevention. The students will gain knowledge to make intelligent choices that contribute to a healthy lifestyle. The course will incorporate both lecture and physical activity laboratories. 2 credit hours.

### **PHED 1301 INTRODUCTION TO PHYSICAL EDUCATION**

Designed as a career orientation in health, physical education and recreation. The history, philosophy and principles including teacher qualifications, vocational opportunities and skills testing are emphasized. 3 credit hours.

### **PHED 1304 PERSONAL HEALTH**

Acquire the knowledge to improve the quality of one's life, protect yourself from disease, and become an informed consumer. Nutrition, mental health, physical fitness, drugs, and sex education are discussed. 3 credit hours.

### **PHED 1306 SAFETY AND FIRST AID**

Students learn to recognize, evaluate and prioritize the first aid needs of individuals in emergency situations. Lectures, demonstrations and practical experience provide qualified students with American Red Cross certification. 3 credit hours.

### **PHED 1308 SPORTS OFFICIATING**

Knowledge and practice in officiating volleyball, basketball and other appropriate sports are stressed. Students are expected to officiate tournaments and intramural games. Lab required. 3 credit hours.

### **PHED 2389 ACADEMIC CO-OP PHYSICAL EDUCATION**

Under supervision of the college and the employer, students combine classroom learning with career related work experience. Credit is earned for completion of specific learning objectives and seminar participation. Contact the CWE office. 3 credit hours.

## **PHYSICAL THERAPIST ASSISTANT**

(Special admission requirement)

### **PTAS 1401 INTRODUCTION TO PHYSICAL THERAPY**

Introduction to the field of physical therapy; history of the profession, of the physical therapist assistant; definition of their role in the health care team, interpersonal relations, and medical ethics; working situations, common diagnoses encountered and treatment modalities/procedures utilized; concepts of cleanliness and body mechanics. Includes a field trip to and observation in a local physical therapy facility as well as an applied anatomy lab. Lab required. 4 credit hours.

### **PTAS 1402 PHYSICAL THERAPY PROCEDURES**

Study of procedure related to patient positioning, range of motion, bed mobility, transfers, tilt table, and wheelchair management, gait training utilizing parallel bars, walkers, crutches, and canes: vital signs, goniometry and limb length/girth measurement. Lab required. 4 credit hours.

### **PTAS 1403 KINESIOLOGY**

Study of the motion of musculoskeletal system of the human body related to normal activities and dysfunction due to neuromuscular impairment and orthopedic problems. Prerequisite: PTAS 1401 and 1402. Lab required. 4 credit hours.

### **PTAS 1404 PHYSICAL AGENTS**

Introduction to the physical agents such as heat, cold, light, sound, electricity, water, and others including their therapeutic application in modality form, with emphasis on interaction with the patient during the preparation, administration and completion of treatment modalities. Prerequisite: PTAS 1401 and 1402. Lab required. 4 credit hours.

### **PTAS 2101 PTA SEMINAR (MEDICAL ETHICS)**

A seminar on physical therapy administration, state laws pertaining to the practice of physical therapy, state board examination, clinical affiliation requirements, review of medical ethics, confidentiality, and patient rights. Prerequisite: PTAS 2301, 2402, and 2403. 1 credit hour.

### **PTAS 2301 CLINICAL PATHOPHYSIOLOGY**

Survey of conditions commonly encountered in the practice of physical therapy; the pathology, etiology, signs, symptoms, evolution and therapeutic management of disease entities and injuries; introduction to pharmacological treatment and its effect on the patient under physiotherapeutic treatment. Includes medical/surgical conditions, orthopedics, pediatrics, geriatrics, neurology, and dermatology. Prerequisite: PTAS 1402. 3 credit hours.

### **PTAS 2401 CLINICAL PRACTICUM I**

A four week, supervised clinical practicum (160 hours) in a physical therapy facility. Progression of participation is correlated with student's knowledge and proficiency level as established by academic faculty. This course contains 48 hours of classroom (prior to clinical) to integrate learned procedures with manual treatment skills. Prerequisite: PTAS 1403 and 1404. 4 credit hours.

### **PTAS 2402 THERAPEUTIC EXERCISE**

Concepts and techniques in therapeutic and exercise relating to strength, endurance, mobility and flexibility, relaxation, and coordination and skill with application to: regions of the body including soft-tissue lesions and common surgical procedures and arthritic patient; pulmonary conditions; cardiac and vascular disorders. Prerequisites: PTAS 2401. Lab required. 4 credit hours.

### **PTAS 2403 ADVANCED TOPICS IN REHABILITATION**

Approach to habilitation and rehabilitation with technique development in the rehabilitation of neurological and musculoskeletal disorders with emphasis on cerebrovascular accidents, cerebral palsy, spinal cord injuries, the amputee, prosthetics, orthotics; the burned patient, aseptic technique and wound debridement, training in activities of daily living; special gait problems. Prerequisites: PTAS 2401. Corequisite: PTAS 2404. Lab required. 4 credit hours.

### **PTAS 2404 CLINICAL PRACTICUM II**

Two clinical practicums in physical therapy facilities of 160 hours each. One of the two may be in a rehabilitation facility. Prerequisite: PTAS 2301, 2402 and 2403. Corequisite: PTAS 2101. 4 credit hours.

## **PHYSICS**

### **PHYS 1401 GENERAL PHYSICS I**

Algebra-based physics course for the science major in areas such as biology, medicine, pharmacy. Topics include laws of motion of heat, work and energy, and sound. Prerequisite: Two years of high school algebra and trigonometry recommended (or equivalent.) Lab required. 4 credit hours.

### **PHYS 1402 GENERAL PHYSICS II**

A continuation of Physics 1401. Includes topics of electricity, magnetism, light, optics, relativity and atomic physics. Prerequisite: PHYS 1401. Lab required. 4 credit hours.

### **PHYS 1411 ELEMENTARY ASTRONOMY**

Introduction to the solar system, stars, stellar groupings and galaxies; telescopes and other astronomical instruments are discussed. Physical characteristics of the motion of bodies in the solar system are studied along with stellar evolution, supernova, black holes, neutron stars, comets pulsars and galaxies. Laboratory exercises, night observations, planetarium and observatory visits all combine to enhance lecture material. Prerequisite: MATH 0305 or equivalent. Lab required. 4 credit hours.

### **PHYS 1415 PHYSICAL SCIENCE I**

Survey of the principles of physics and chemistry. Topics include: heat, light, sound, matter, Newtonian physics, electricity and magnetism, gas laws and optics. Prerequisite: MATH 0305 or equivalent. Lab required. 4 credit hours.

### **PHYS 2425 COLLEGE PHYSICS I**

A calculus-based analysis of classical physics designed to meet the needs of science majors in fields such as physics, computer science and engineering. Topics include laws of motion, force, momentum, work and energy, angular momentum, and rotational and oscillatory motion. Laboratory experiments reinforce concepts presented in lecture. Prerequisite: MATH 2413. Corequisite: MATH 2414. Lab required. 4 credit hours.

### **PHYS 2426 COLLEGE PHYSICS II**

Addresses electric fields, AC and DC currents, dielectrics, magnetic fields, magnetic properties of matter, inductance, electromagnetism, properties of waves and optics. Laboratory experiments reinforce principles presented in lecture. Prerequisite: PHYS 2425. Lab required. 4 credit hours.

### **PHYS 2389 ACADEMIC CO-OP PHYSICS**

An instructional program designed to integrate on-campus study with practical hands-on work experience in physics. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of physics. Contact the CWE office. 3 credit hours.

## PSYCHOLOGY

### PSYC 2301 GENERAL PSYCHOLOGY

Introduces the student to the major topics in scientific psychology as applied to human behavior. Topics include research methods, physiological factors, learning, motivation, emotions, personality, adjustment, stress, psychological disorders and therapies. Application of these principles will be made to the human experience. Lab required. 3 credit hours.

### PSYC 2302 APPLIED PSYCHOLOGY

Application of psychological principles to issues of human relations in organizational settings. Emphasis on self-understanding, inter-personal relations, and career development. Lab required. 3 credit hours.

### PSYC 2306 HUMAN SEXUALITY

Designed to assist the student in the understanding of human sexuality including an appreciation of different approaches to sexuality as well as an awareness of one's own sexuality and its impact on adjustment to life. A student may register for this course as PSYC 2306 or SOCI 2306, but not for both. 3 credit hours.

### PSYC 2314 LIFE SPAN PSYCHOLOGY

A life-span approach to human development studying the processes of life from conception through adulthood and aging. Information on physical, cognitive and psychosocial aspects of human growth, development and behavior is included. Application of these principles will be made to daily lifestyles. Prerequisite: PSYC 2301. Lab required. 3 credit hours.

### PSYC 2315 PSYCHOLOGY OF ADJUSTMENT

Psychological theory will be presented enabling students to gain insight into adjustment topics that can be applied to their own lives and the lives of those around them. 3 credit hours.

### PSYC 2316 PSYCHOLOGY OF PERSONALITY

An in-depth study of theories of personality with practical application of each. Methods of personality measurement and assessment are also included. Prerequisite: PSYC 2301. Lab required. 3 credit hours.

### PSYC 2319 SOCIAL PSYCHOLOGY

Research and theory regarding social factors that influence human behavior. Focuses on attitudes, interpersonal attraction, aggression, conformity, communication, values, roles and group processes. Application of these principles will be made to the human experience. Prerequisite: PSYC 2301 or SOCI 1301. Lab required. 3 credit hours.

### PSYC 2370 DRUG USE AND ABUSE

A view of the individual, the substance and the cultural context in which they interact. This course is designed to provide a basic understanding of the psychopharmacology of drugs used and abused in today's society. The emphasis of the study will be the major perspectives of drug use including legal, moral, public health/disease model/psycho-social and socio-cultural. 3 credit hours.

### PSYC 2371 SELECTED TOPICS IN PSYCHOLOGY

An in-depth study of selected topics on current issues in psychology. Course may be repeated for credit as topics vary. Selected topics include:

#### A Survey of Eating Disorders

Studies the history, dynamics, prevalence, symptoms and treatment approaches to eating disorders. Examines biological, psychoanalytic, behavioral, cognitive and other theoretical perspectives. 3 credit hours.

#### Individual Counseling

Presents an introduction to interviewing, history-taking, care-giving, listening, intervention and interpretation skills. Includes experience under supervision. Prerequisite: PSYC 2301 or SOCI 1301. 3 credit hours.

#### Abnormal Psychology

Introduces the study of abnormal behavior. Focuses on the causes, assessment and treatment of maladaptive behavior. Emphasizes contemporary views regarding the nature of mental disorder. Prerequisite: PSYC 2301. 3 credit hours.

#### The Social Psychology of Death and Dying

Explores social, emotional and cognitive processes involved in our understanding and acceptance of death and dying from a cross-cultural perspective. May register for this course as PSYC 2371 or SOCI 2371 but not both. Lab required. 3 credit hours.

### PSYC 2389 ACADEMIC CO-OP PSYCHOLOGY

An instructional program designed to integrate on-campus study with practical hands-on work experience in psychology. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of psychology. Contact the CWE office. 3 credit hours.



## READING

### READ 0300 DEVELOPMENTAL READING I

Designed to raise the reading level of students through the acquisition of basic vocabulary and comprehension skills. This course may not be used to satisfy the requirements of an associate degree. Prerequisite: Assessment. Lab required. 3 credit hours.

### READ 0305 DEVELOPMENTAL READING II

Offers additional instruction in developing vocabulary and comprehension skills. Effective study skills are introduced. This course may not be used to satisfy the requirements of an associate degree. Prerequisite: Completion of READ 0300 or assessment. Lab required. 3 hours credit.

### READ 0310 DEVELOPMENTAL READING III

Seeks to further improve students' vocabulary, comprehension and study skills. This course may not be used to satisfy the requirements of an associate degree. Prerequisite: Completion of READ 0305 or assessment. Lab required. 3 credit hours.

### READ 1300 ANALYTICAL READING & CRITICAL THINKING

Inquiry to improve comprehension in non-fiction material. The development of interpretive comprehension skills and expansion of these skills into higher level analysis, synthesis and evaluative processes will be emphasized. Prerequisite: Assessment. Lab required. 3 credit hours.

## REAL ESTATE

### RLST 1301 REAL ESTATE PRINCIPLES I

Fundamental principles of real estate with emphasis on real property interests and ownership, the Texas Real Estate License Act, forms of ownership, legal descriptions, taxes, liens, contracts, fair housing, credit and community reinvestment. (Core Course) 3 credit hours.

### RLST 1302 REAL ESTATE PRINCIPLES II

Fundamental principles of real estate with emphasis on appraisal, finance, titles and transfers, closings, leases and property management, controls on land use, investments, fair housing, credit and community reinvestment. (Core Course) 3 credit hours.

### RLST 1303 LAW OF AGENCY

A study of the principal-agent relationship, including duties, authority, creation and termination. The relationship between the broker and the buyer and seller, and between other brokers and their salesmen are studied. Topics include deceptive trade practices, employment and antitrust law, and ethics. (Core Course) 3 credit hours.

### RLST 1305 REAL ESTATE MATH

Review of mathematical logic and arithmetic skills including percentages, interest, time-valued money, depreciation, amortization, proration and estimation of closing statement. Includes use of TI Business Analyst 2 + calculator. (Core Course) 3 credit hours.

### RLST 1310 REAL ESTATE APPRAISAL

Includes the central purposes and functions of an appraisal, social and economic determinant of value, appraisal case studies, cost, market data and income approaches to value estimates, final correlations and reporting. (Core Course) 3 credit hours.

### RLST 1315 PROMULGATED CONTRACT FORMS

The course covers all aspect of real estate contracts, including the unauthorized practice of law, the broker-lawyer committee, current promulgated forms, case studies involving use of forms and hands-on experience in the preparation and use of the promulgated forms. (Core Course) 3 credit hours.

### RLST 1320 REAL ESTATE SALES AND MARKETING

Includes real estate professionalism and ethics, characteristics of successful salespeople, time management, psychology of marketing, listing procedures, advertising, negotiating and closing, financing and the Deceptive Trade Practices-Consumer Protection Act. (Core Course). 3 credit hours.

### RLST 2101 REAL ESTATE SPECIAL TOPICS I

This course is designed to provide current legal, judicial, legislative and regulatory information for the real estate licensee, as well as, the advanced real estate student. Prerequisites and topics covered will be annotated in each semester's class schedule. Course may be repeated for credit as topics vary. (Related Course). 1 credit hour.

### RLST 2104 APPRAISAL ETHICS - USPAP

The course offers the history of professionalism in appraising, federal appraisal legislation, the Appraisal Foundation, the Uniform Standards of Professional Appraisal Practice and Appraisal Organizations' Code of Ethics. (Related Course) 1 credit hour.

### RLST 2302 REAL ESTATE SPECIAL TOPICS II

This course is designed to provide current legal, judicial, legislative and regulatory information for the real estate licensee, as well as, the advanced real estate student. Prerequisites will vary based on topics covered and will be annotated in each semester's class schedule. Course may be repeated for credit as topics vary. (Related Course). 3 credit hours.



### **RLST 2305 REAL ESTATE INVESTMENTS**

Financing, evaluation and management of real estate investments. Real estate investment characteristics, techniques of investment and analysis, discount and nondiscounted investment criteria, time-valued money, leverage, tax shelters and consideration, investment risks and applications to property tax. (Core Course). 3 credit hours.

### **RLST 2310 REAL ESTATE FINANCE**

Includes monetary systems, primary and secondary money markets, sources of mortgage loans, federal government programs, loan applications, processes and procedures, closing costs, alternative financial instruments, Equal Credit Opportunity Acts, Community Reinvestment Act and State Housing Agency. (Core Course). 3 credit hours.

### **RLST 2315 REAL ESTATE PROPERTY MANAGEMENT**

Includes the role of a property manager, landlord policies, operational guidelines, leases, lease negotiations, tenant relations, maintenance, reports, habitability laws and the Fair Housing Act. (Core Course). 3 credit hours.

### **RLST 2320 REAL ESTATE LAW**

Includes the legal concepts of real estate, land description, real property rights and estates in land, contracts, conveyances, encumbrances, foreclosures, recording procedures and evidence of titles. (Core Course). 3 credit hours.

### **RLST 2325 REAL ESTATE COMMERCIAL**

A study of the commercial class of real estate, considering the developing, appraising, marketing, contracting and financing functions related to business properties, including office building, shopping centers, stores, hotels and parking facilities. (Related Course). 3 credit hours.

### **RLST 2330 REAL ESTATE FINANCIAL ANALYSIS**

Financial applications useful to real estate professionals, real estate students and serious real estate investors. The emphasis is on the use of hand-held HP-17B2 or HP-19B2 calculators as a tool to analyze the many financial problem situations that agents encounter in the business. Topics include loan calculation, net present value, internal rate of return, discounting, depreciation, programming techniques and more. (Related Course). MUST have a HP-17B2 calculator or HP-19B2 calculator. 3 credit hours.

### **RLST 2335 REAL ESTATE BROKERAGE**

Study of the brokerage business including planning and organization, operational policies and procedures, personnel recruiting, selection and training, record keeping and control analysis of real estate firm, criteria for expansion and a study of the law of agency. (Core Course). Prerequisite: RLST 1302. 3 credit hours.

### **RLST 7300 COOPERATIVE EDUCATION I**

Under supervision of the college and the employer, students combine classroom learning with career related work experience. Credit is earned for completion of specific learning objectives and seminar participation. Contact the CWE office. 3 credit hours.

### **RLST 7305 COOPERATIVE EDUCATION II**

Continuation of supervised on-the-job experience and career related activities. Requires new learning objectives and seminar participation. Prerequisite: RLST 7300. Contact the CWE office. 3 credit hours.

## **RESPIRATORY CARE**

(Special admission requirement)

### **RTTP 1205 RESPIRATORY PHARMACOLOGY**

Provides a working knowledge of basic drugs used by the therapists related to respiratory care patients. 2 credit hours.

### **RTTP 1300 RESPIRATORY CARE SCIENCE**

This course includes a detailed review of the anatomy and physiology of the cardiopulmonary system. The application of chemistry, physics and microbiology in respiratory care are discussed. 3 credit hours.

### **RTTP 1310 RESPIRATORY CLINICAL PRACTICE II**

Continues RTTP 1500, providing students with practical experience in those skills acquired in the previous semester. 3 credit hours.

### **RTTP 1315 RESPIRATORY DISEASE**

Builds on a basic understanding of physical assessment, the disease progress as it is related to the cardiopulmonary system and proper recognition of the signs and symptoms of the disease and the recommended treatment. In addition, there will be a presentation of pulmonary function testing. 3 credit hours.

### **RTTP 1320 RESPIRATORY CLINICAL PRACTICE III**

Continues RTTP 1310, providing student with opportunities to apply those skills acquired during the previous semester along with the following new skills; basic pulmonary function testing, arterial-blood gas procurement and critical care. 3 credit hours.

### **RTTP 1400 FUNDAMENTALS OF RESPIRATORY CARE I**

Develops a safe working knowledge of the function, usage and troubleshooting of fundamental respiratory care equipment. Lab required. 4 credit hours.

### **RTTP 1405 FUNDAMENTALS OF RESPIRATORY CARE II**

Focuses on critical care, including airway care and classification and application of mechanical ventilators. Lab required. 4 credit hours.

**RTTP 1410 FUNDAMENTALS OF RESPIRATORY CARE III**

Includes continuation of mechanical ventilation, respiratory disease, and introductory neonatal and pediatric respiratory care. Lab required. 4 credit hours.

**RTTP 1500 RESPIRATORY CLINICAL PRACTICE I**

Students apply skills learned in didactic and practiced in the laboratory in a clinical hospital setting. Lab required. 5 credit hours.

**RTTP 2110 CLINICAL SIMULATION**

This course will utilize both latent image and computerized clinical simulations to review the application of respiratory care. The primary emphasis will be the improvement of information gathering and decision making skills. 1 credit hour.

**RTTP 2310 PERINATAL RESPIRATORY CARE**

Continues neonatal and pediatric respiratory care, includes neonatal and pediatric respiratory disease, assessment techniques and mechanical ventilation.

**RTTP 2320 ADVANCED RESPIRATORY CARE**

Includes advanced assessment techniques: CXR evaluation, capnograph, pressure, flow and volume curves. Special procedures including chest tubes, thoracentesis and bronchoscopy. Also includes advanced pulmonary function testing. Lab required. 3 credit hours.

**RTTP 2330 RESPIRATORY CLINICAL PRACTICE IV**

Application of advanced respiratory techniques to include advanced critical care, roentgenographic patterns of respiratory disease, neonatal care and post-operative care of cardiopulmonary patient. 3 credit hours.

**RTTP 2340 RESPIRATORY CLINICAL PRACTICE V**

This course is a completion of the clinical experience to prepare the student to perform as an advanced respiratory care practitioner. 3 credit hours.

**RTTP 2350 ADVANCED PATIENT ASSESSMENT**

This course includes a detailed review of advanced patient assessment which includes hemodynamics monitoring, ECG interpretation, and fluid and electrolyte interpretation. Lab required. 3 credit hours.

**RUSSIAN****RUSS 1411 BEGINNING RUSSIAN I**

Introduction to the basic skills of speaking, reading, writing, and listening, designed for students with little or no previous language training. Includes an introduction to Russian culture. Instruction is enhanced by the use of audio tapes, slides, computer software, and video cassettes. Lab required. 4 credit hours.

**RUSS 1412 BEGINNING RUSSIAN II**

A continuation of Russian 1411. Prerequisite: RUSN 1411 or equivalent. Lab required. 4 credit hours.

**RUSS 2311 INTERMEDIATE RUSSIAN I**

An intensive review of Russian grammar followed by continued development of speaking, listening, reading, and writing skills. Instruction enhanced by slides, tapes, and other audio-visual aids. Prerequisite: RUSN 1412 or equivalent. 3 credit hours.

**RUSS 2312 INTERMEDIATE RUSSIAN II**

Continued intensive review of Russian grammar followed by continued development of speaking, listening, reading, and writing skills. Instruction enhanced by slides, tapes, and other audio-visual aids. Prerequisite: RUSN 2311 or equivalent. 3 credit hours.

**SEMICONDUCTOR MANUFACTURING TECHNOLOGY****SEMI 1370 SEMICONDUCTOR MANUFACTURING I**

This course surveys the field of microelectronics (semiconductor manufacturing). It includes definitions of common terms, identification of the various branches of microelectronics, history, quality control principles and processes and manufacturing processes with an emphasis on "clean room" operations. Lab required. 3 credit hours.

**SEMI 2370 SEMICONDUCTOR MANUFACTURING II**

This course is the capstone course for the Semiconductor Equipment Technician program. The Semiconductor Manufacturing concept is emphasized to include teamwork, vocabulary, responsibilities of each component, applied TQM and communication. A team project will require technical writing of reports, quality control, integration of electronics, fluid power, computer operations, mathematics, general education and the use of graphic materials. An overall knowledge of Wafer Fabrication Operations is the goal. Pre-requisite: Semiconductor Manufacturing I. Lab required. 3 credit hours.

## ENGT 1471 FLUID POWER SYSTEMS

The principles of industrial hydraulics, pneumatics and vacuums are examined. Pumps, compressors, motors, cylinders, valves, fluids and conductors are studied. The analysis and design of fluid power circuitry is emphasized. Troubleshooting, problem solving, calculations, use of schematics and diagrams, working in a group and report writing skills are emphasized. Hydraulic, pneumatic and vacuum circuits are set up and evaluated in the laboratory. Lab required. 4 credit hours.

*This course will be offered as SEMI 1471 beginning spring 1998.*

## ENGT 1472 COMPUTER AIDED INSTRUMENTATION & TESTING

Industrial instrumentation and testing are introduced. Both analog and digital measuring systems are studied. Included are characteristics of basic AC and DC meters, digital meters, impedance bridges, oscilloscopes and electronic counters. Analog-to-digital, computer-controlled, and digital-to-analog measuring systems are introduced. Computer-aided instructional materials and analysis techniques are utilized. Lab required. 4 credit hours.

*This course will be offered as SEMI 1472 beginning spring 1998.*

## SIGN LANGUAGE

(Also see Interpreter Preparation Program)

### SGNL 1401 AMERICAN SIGN LANGUAGE I

Introduction to American Sign Language, Deaf Culture, and a brief history of sign. Includes the development of expressive and receptive sign skills, numbers, sign vocabulary and the manual alphabet. This class is conducted primarily without voice. Lab required. 4 credit hours.

### SGNL 1402 AMERICAN SIGN LANGUAGE II

Includes a study of sign vocabulary, numbers, fingerspelling and Deaf Culture. Also emphasizes further development of receptive skills, expressive skills, application of rudimentary syntactical and grammatical structures and an understanding of Deaf and Hearing Cultures. This class is conducted primarily without voice. Prerequisite: SGNL 1401 or challenge equivalent. Lab required. 4 credit hours.

### SGNL 2109 ASL CONVERSATION

Special course to provide students with the opportunity to discuss abstract ideas such as religion, politics, and current events. Prerequisite: SGNL/IPPD 2401 or 2402 or instructor's approval. 1 credit hour.

### SGNL 2401/IPPD 2401 AMERICAN SIGN LANGUAGE III

Includes the integration of ASL expressive and receptive skills using bilingual techniques. Also includes a study of vocabulary, idioms, culture, ASL linguistics, manual and non-manual aspects of ASL, and cross-cultural communication techniques. This course will be highly interactive, centering on lab exercises, peer critiques, guest lectures and applications

of basic ethical principles. Students will be afforded the opportunity to interpret for guest speakers. This class will be conducted primarily without voice. Prerequisite: SGNL 1402 or equivalent credit by exam. Lab required. 4 credit hours.

*Note: SGNL 2401 and IPPD 2401 are identical. A student may register for either SGNL 2401 or IPPD 2401, but not for both. Registration in IPPD 2401 requires approval of program coordinator and the IPPD Language Assessment Committee.*

### SGNL 2402/IPPD 2402 AMERICAN SIGN LANGUAGE IV

Continued integration of ASL expressive and receptive skills using bilingual techniques; continued study of vocabulary, idioms, ASL linguistics, manual and non-manual aspects of ASL, cross-cultural communication techniques and culture. Continued application of introductory level interpreting and transliterating skills with appropriate RID guidelines governing ethical behavior. Students will be afforded opportunities to continue interpreting for guest speakers. This course will be primarily conducted without voice. Prerequisite: IPPD 2401/SGNL 2401 or equivalent credit by exam. Lab required. 4 credit hours.

*Note: SGNL 2402 and IPPD 2402 are identical. A student may register for either SGNL 2402 or IPPD 2402 but not for both. Registration in IPPD 2402 requires approval of program coordinator and the IPPD Language Assessment Committee.*

## SMALL BUSINESS MANAGEMENT

### SBMT 1300 SMALL BUSINESS MANAGEMENT I

Introduction to planning, establishing and operating a small business. Includes constructing a business plan. 3 credit hours.

### SBMT 1305 SMALL BUSINESS FINANCING

Financial planning, use of financial data, forecasting financial needs, control of cash and other assets, capital budgeting, acquisition valuation, financial sources. 3 credit hours.

### SBMT 1310 PRINCIPLES OF RETAILING

Introduction to the operation of the retail system of distribution including consumer demand, site location, store, layout and credit practices. 3 credit hours.

### SBMT 2300 SMALL BUSINESS MANAGEMENT II

Continued study of elements introduced in SBMT 1300. In addition, such topics as promoting a small business, hiring and managing people, product and services marketing, and record keeping are explored. Prerequisite: SBMT 1300 or consent of instructor. 3 credit hours.

## **SOCIOLOGY**

### **SOCI 1301 INTRODUCTION TO SOCIOLOGY**

An introduction to the social science which focuses on external influences on human behavior originating from people in our daily lives and from events occurring on a societal or global scale. The following aspects of social life will be applied to the human experience: social forces, global interdependence, culture, socialization, social interaction, deviance, social stratification, race relations, gender and sexuality. Lab required. 3 credit hours.

### **SOCI 1306 SOCIAL PROBLEMS**

An in-depth examination of selected social problems, their nature, cause, extent and effect upon society. Social problems will be analyzed at the local, state, national, and international levels. Topics include: Inequality based race, gender, age and class. Lab required. 3 credit hours.

### **SOCI 2301 MARRIAGE AND FAMILY**

A functional and empathetic approach to understanding the structural developmental and institutional aspects of marriage and the family. Emphasis on the American family with consideration given to courtship, mate selection, marriage and its dynamics, conflict, family violence, child-rearing patterns, the later years of marriage, divorce and remarriage. Lab required. 3 credit hours.

### **SOCI 2306 HUMAN SEXUALITY**

Designed to assist the student in the understanding of human sexuality including an appreciation of different approaches to sexuality as well as an awareness of one's own sexuality and its impact on adjustment to life. A student may register for this course as PSYC 2306 or SOCI 2306, but not for both. 3 credit hours.

### **SOCI 2319 MINORITY STUDIES**

The historical, economic, social and cultural development of minority groups in American society. Includes the causes and consequences of prejudice and discrimination. Lab required. 3 credit hours.

### **SOCI 2371 SELECTED TOPICS IN SOCIOLOGY**

An in-depth study of selected topics on current issues in sociology. Course may be repeated for credit as topics vary. Selected topics include:

#### **The Social Psychology of Death and Dying**

Explores social, emotional and cognitive processes involved in our understanding and acceptance of death and dying from a cross-cultural perspective. May register for this course as SOCI 2371 or PSYC 2371 but not both. Lab required. 3 credit hours.

### **Belize: A Case Study of Social Change**

Study of social change in ancient and present day cultures, applying sociological and anthropological theory and fieldwork techniques. Students live in Creole, Mayan and Garifuna villages. International field trip required. 3 credit hours.

### **SOCI 2389 ACADEMIC CO-OP SOCIOLOGY**

An instructional program designed to integrate on-campus study with practical hands-on work experience in sociology. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of sociology. Contact the CWE office. 3 credit hours.

## **SPANISH**

### **SPAN 1300 CONVERSATIONAL SPANISH I**

Intensive practice in conversational Spanish. Prerequisite: SPAN 1412 or consent of discipline coordinator. 3 Credit hours.

### **SPAN 1310 CONVERSATIONAL SPANISH II**

A continuation of Spanish 1300. Prerequisite: SPAN 1300. Requires consent of discipline coordinator. 3 credit hours.

### **SPAN 1411 BEGINNING SPANISH I**

An introduction to the four basic skills of speaking, reading, writing and listening. Designed for students with little or no previous language training. Includes an introduction to aspects of Hispanic civilization. Instruction enhanced by the use of slides, tapes, computer software and video cassettes. Lab required. 4 credit hours.

### **SPAN 1412 BEGINNING SPANISH II**

A continuation of Spanish 1411. Prerequisite: SPAN 1411 or consent of discipline coordinator. Lab required. 4 credit hours.

### **SPAN 2311 INTERMEDIATE SPANISH I**

An intensive review of Spanish grammar followed by continued development of speaking, listening, reading and writing skills. Instruction enhanced by the use of slides, tapes and other audio-visual aids. Prerequisite: SPAN 1412 or consent of discipline coordinator. 3 credit hours.

### **SPAN 2312 INTERMEDIATE SPANISH II**

A continuation of Spanish 2311. Extensive written and oral work and extensive reading of literary works in Spanish of moderate difficulty. Prerequisite: SPAN 2311. 3 credit hours.



### **SPAN 2321 SPANISH LITERATURE I**

A study of Spanish literature from its origin to 1700 through lectures, discussions and reading of major literary works. Some attention will also be given to the historical context of each work. Prerequisite: SPAN 2312 or consent of instructor. 3 credit hours.

### **SPAN 2322 SPANISH LITERATURE II**

A study of Spanish literature from 1700 to the present. Discussions, lectures and readings of major literary works with some attention to historical contexts. Prerequisite: SPAN 2312. 3 credit hours.

## **SPEECH**

(Also see Communication)

### **SPCH 1311 FUNDAMENTALS OF SPEECH COMMUNICATION**

Survey of basic factors affecting human interaction through communication; emphasis on the development of oral communication competencies; practice in delivering oral presentations. 3 credit hours.

### **SPCH 1315 PUBLIC SPEAKING I**

Study and practice in the preparation and delivery of oral presentations; practice in different types of speeches and forms of delivery; evaluation of speakers and speeches. 3 credit hours.

### **SPCH 1318 INTERPERSONAL COMMUNICATION**

The study of verbal and nonverbal communication as it primarily relates to persons in relationships. Emphasis in interpersonal contexts such as gender communication, familial relationships and intercultural communication. 3 credit hours.

### **SPCH 1321 BUSINESS AND PROFESSIONAL SPEAKING**

Study of the importance of oral communication in business; practice in small group communication; study of the relationship of communication to organizational conflict, management and international business; practice in conducting and participating in business interviews and presentations. 3 credit hours.

### **SPCH 1371 PUBLIC SPEAKING II**

Advanced skills and techniques of speaking. Includes impromptu and extemporaneous speaking, congressional speaking and the use of parliamentary procedure, and speaking before large audiences. Prerequisite: SPCH 1315 or consent of instructor. 3 credit hours.

### **SPCH 2341 ORAL INTERPRETATION**

Introduction to the techniques of interpretation; preparation, analysis, reading of poetry, prose and dramatic literature; analysis and criticism of a variety of literary forms. Prerequisite: SPCH 1315 or consent of instructor. 3 credit hours.

### **SPCH 2370 LANGUAGE AND COMMUNICATION**

Appreciation of interdisciplinary approaches to the study of language; comprehension of viewpoints offered by various fields. Prerequisite: SPCH 1311 or consent of instructor. 3 credit hours.

### **SPCH 2389 ACADEMIC CO-OP SPEECH**

An instructional program designed to integrate on-campus study with practical hands-on work experience in speech. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of speech. 3 credit hours.

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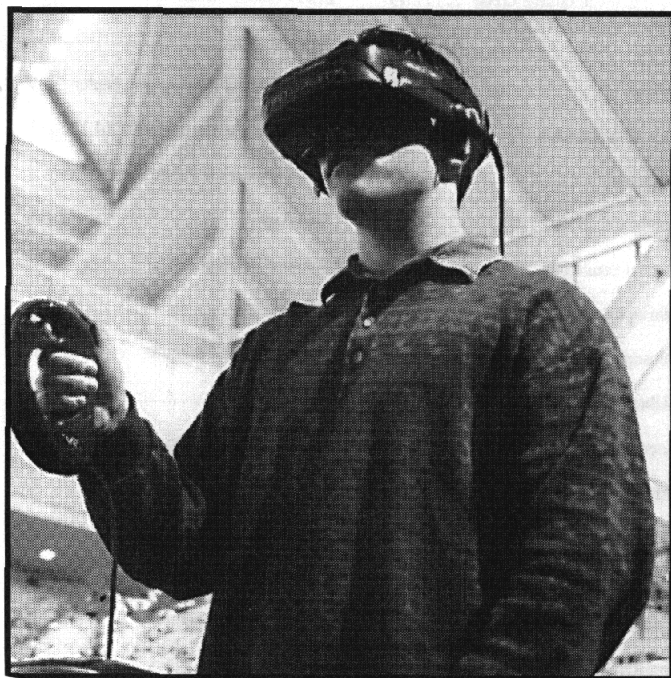
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