Programs Available 2005-2006

PROGRAM	AWARD	CAMPUS
ARTS AND SCIENCES AND PRE-PROFESSIONAL EMPHASIS		
Arts & Sciences	AA/AS	All
Pre-professional Emphasis - Programs available at selected campuses		
Accounting	Law	
Architecture	Medicine	
Business Administration	Nursing	
Chiropractic	Optometry	
Computer Science	Pharmacy	
Dentistry	Physician's Assistant	
Education	Social Work	
Engineering	Veterinary Medicine	
Associate in General Studies	AGS	All

PROGRAM	AWARD	CAMPUS
VOCATIONAL AND PARA-PROFESSIONAL PROGRAMS		
ASEP - General Motors	AAS	A
ASSET - Ford	AAS	A
Accounting Certificate I	Certificate	B,N*U
Accounting Certificate II	Certificate	B,N*U
Accounting & Bookkeeping	Diploma	B,U
Accounting Information Systems	AS	A*,B,U
Accounting ParaProfessional	AS	A,B,C,N*,U
Accounting Specialist	AAS	B,U
Administrative Assistant	AAS	A,B,C,U
Adult Services	Certificate	A
Aging Services Management	AS	A
Agri-Business	AAS	A
Agri-Business - Agronomy	Certificate	A
Agri-Business - Animal Science	Certificate	A
Agri-Business - Farm Management	Certificate	A
Agri-Business - Sales/Service	Certificate	A
Airbrush Art	Certificate	A
Architectural Millwork	Diploma	A
Architectural Technologies	AAS, Diploma	A
Auto Collision Technology	AAS, Diploma	A
Auto Mechanics Technology	AAS	A,C*,U*
Auto Chassis & Power Train	Diploma	A
Auto Engines & Tune-up	Diploma	A
Auto Maintenance & Light Repair Technology	Diploma	A*,U
Biotechnology	AS	A
Building Maintenance	Certificate	A,N
Building Trades	Diploma	A
Business Administration	AS	A,B C,N,U,W
Business Information Systems	AAS	A,B*,C*,N,U,W
CAP - Chrysler	AAS	A
Caterpillar Technology	AAS	A
Chemical Dependency Counseling	Certificate	A
Civil Engineering Technology	AAS	B
Commercial Art	AAS	A
Commercial Horticulture	AAS	A
Greenhouse Production	Certificate	A
Turf Maintenance	Certificate	A
Computer Aided Design Technology	AAS, Diploma	A
Computer Applications	Certificate	A,B,U
Computer Languages	Certificate	A,U*
Computer Programming	AAS	A,U*,W*
Criminal Justice	AS or AA	A,B*,N*,U*
Culinary Arts	AAS, Diploma	A
Data Entry I	Certificate	A,B,C,U
Database Specialist	Certificate	A,W
Dental Assistant	Diploma	A
Dental Hygiene	AAS	A
Diemaking (See Tool & Die Making)	Diploma	A
Diesel Technology	AAS, Diploma	A
Dietary Manager	Certificate	A
Digital Publishing & Prepress	Certificate	A
E-Commerce Design	Certificate	W
Early Childhood Education	AS, Diploma	A,U*
Electrical Construction Trades	Diploma	N
Emergency Med Tech Basic	Certificate	A
Electronics, Robotics & Automation	AAS	A
Electronics Systems Servicing Technology	AAS	A

PROGRAM	AWARD	CAMPUS
Entrepreneurship	Diploma, Cert	A,N*,U
Fashion	Certificate	A
Fashion/Design	AAS, Diploma	A
Fire Science Technology	AS	A,U*
Fire Specialist	Certificate	A ,U*
Fitness and Sports Management	AS	B
Graphic Sales & Customer Service	Certificate	A
Graphic Technologies	AAS, Diploma	A
Greenhouse Production	Certificate	A
Heating, AC, Refrigeration Technology	AAS, Diploma	A
Hospitality Business	Diploma	A
Hotel & Restaurant Management	AAS	A
Human Services	AS	A,N*,U
Industrial Electro-Mechanical Technology	AAS	A,B*,C*,N*
Information Processing Support	Certificate	A,B,C,U
Information Technology Network Administrator	AAS	A,B*,C*,N*,U*,W*
Interior Design Consultant	Certificate	A
Land Surveying	AAS	B
Landscape Design	Certificate	A
Legal Assistant	AS, Certificate	U
Long Term Care Administrator	Certificate	A
Machinist Technology	Diploma	A, N
(see Tool & Die Making)		
Management	AAS, Certificate	A,N,B*,U*
Management Information Systems	AAS	A*, U
Manufacturing Technology	AAS	A,N
Marketing	AAS	A
Medical Administrative Assistant	AAS, Diploma	A
(see Secretarial Careers)		
Medical Assistant	Diploma	A
Medical Laboratory Technology	AAS	A
Medical Transcriptionist	Certificate	A,B,C,U
Microcomputers	Certificate	A,N*,U*,W
Mortuary Science - Advanced Standing	Diploma	A
Nurse Aide	Certificate	A,B,C
Nursing - Advanced Standing	AAS	A,B
Nursing - Associate Degree	AAS	A,B,C
Nursing - Practical	Diploma	A,B,C
Office Assistant	Diploma	A,B,C,N*,U
Office Specialist	Certificate	A,B,C,N*,U
Phlebotomy	Certificate	A
Printing Technologies	Certificate	A
Production Art	Certificate	A
Respiratory Therapy	AAS	A
Retailing	Diploma, Cert	A
Sales	Certificate	A
Sales & Management	Diploma	A
Secretarial Careers:		
Administrative Assistant	AAS	A,B,C,U
Medical Administrative Assistant	AAS, Diploma	A
Office Assistant	Diploma	A,B,C,N*,U
Office Specialist	Certificate	A,B,C,N*,U
Supervision	Certificate	A,B,N,U
Security & Safety Specialist	Certificate	A
Technical Management	Certificate	A
Telecommunications Technology	AAS, Certificate	W
Tool & Diemaking	AAS	A
Turf Maintenance	Certificate	A
Veterinary Technology	AAS	A
Welding	Diploma	A
Welding - Blueprint Reading	Certificate	A
Welding - Gas Metal Arc	Certificate	A
Welding - Gas Tungsten Arc	Certificate	A
Welding - Oxy-acetylene	Certificate	A
Welding - Pipewelding	Certificate	A
Welding - Shielded Metal Arc	Certificate	A
Welding - Structural Welding	Certificate	A

CAMPUS CODES:

(**A**) Ankeny   (**B**) Boone   (**C**) Carroll   (**N**) Newton   (**U**) Urban/Des Moines   (**W**) West

* Selected courses in this program are offered at this campus

AA = Associate in Arts degree   **AS** = Associate in Science Degree

AAS = Associate in Applied Science Degree   **AGS** = Associate in General Studies Degree

Table of Contents

Welcome to Des Moines Area Community College

Des Moines Area Community College understands the importance of preparing every student for career and personal success. The DMACC faculty and staff believe in your goals and your future. A DMACC education is the best place to start.

Community colleges have become integral to Iowa's business and industrial community. We meet that mission best when we provide affordable and meaningful opportunities for all students, regardless of where they are in life. Your DMACC education can begin before you graduate from high school and it can extend for a lifetime.

DMACC is committed to embracing change and anticipating emerging trends and issues in the employment marketplace and in the society we serve. Our pledge to you, the student, is to create abundant opportunities through a strong and relevant liberal arts curriculum, the very best career and technical education programs and through comprehensive and accessible student services to foster success.

We value your input and contribution. Learning is a two-way process. If at any time you would like to discuss your experience at DMACC, please feel free to contact me.

With warm regards,

Robert Denson
President

President Robert Denson

History

Des Moines Area Community College is a publicly supported two-year institution serving the Des Moines metropolitan area and surrounding counties. The College District includes all or major portions of Audubon, Boone, Carroll, Dallas, Guthrie, Jasper, Madison, Marion, Polk, Story and Warren counties and minor parts of 11 adjacent counties. It encompasses 6,560 square miles or about 11 percent of the land area of the state. Approximately 20 percent of the state's population resides within the district.

Des Moines Area Community College was officially created March 18, 1966 and was designated as Merged Area XI. A nine-member Board of Directors was elected and formally installed that same year.

The College was established after extensive studies had indicated the need for such an institution. Leading figures throughout the College's District combined their talents and resources to assure proper planning for the College.

In 1968, the Board of Directors adopted Des Moines Area Community College as the official name of the institution. The first classes were held at the new Ankeny Campus location in 1968. Administrative and operational control of Boone Junior College was assumed in 1969 and Carroll Campus in Carroll, Iowa, was initiated in 1979. The Urban Campus began operation in metropolitan Des Moines in 1972 and a new facility was constructed at Seventh and Laurel in 1980. The first classes were held in the fall of 1993 at Newton Polytechnic as a result of the cooperative effort of the Maytag Corporation, Iowa State University, the City of Newton and the DMACC Foundation. In October, 2001, the state-of-the-art technology facility, West Campus and Synerg.e™ Center, opened in West Des Moines.

Paul Lowery was the first superintendent/president of the College. Dr. Joseph A. Borgen served 20 years as the president from 1981 until his retirement in 2001. David England was the president of Des Moines Area Community College from 2001-2003. Robert Denson became our current president in November 2003.

Mission and Goals

It is the mission of Des Moines Area Community College to offer quality programs and courses to meet the different community interests, student abilities and personal objectives of citizens of all ages and levels of education, for the purpose of improving the quality of life, the economic conditions and the public welfare of our state.

Therefore, the Board of Directors, faculty and staff are committed to providing a variety of educational options on a non-discriminatory, open-door basis.

DMACC exists to:
- prepare or retrain students for employment and advancement in their chosen occupation through career education.
- prepare or retrain students for employment and advancement through occupationally-oriented associate degree programs.
- assist students in becoming active, responsible citizens in our democratic society through a program of practical education.
- provide effective assistance to students in exploring their interests, identifying their aptitudes and selecting the programs of study which best meet their needs and interests.
- provide counseling and other support services which improve students' chances for success in their educational endeavors.
- provide learning experiences and co-curricular activities which promote personal, social, academic and vocational development of students.
- prepare students for transfer, typically as juniors, to four-year colleges and universities.
- provide placement services for all students seeking full-time or part-time employment.
- provide opportunities for adults to complete their high school education.
- provide off-campus adult and continuing education programs as needs and interests are expressed.

Nondiscrimination Policy

Des Moines Area Community College shall not engage in nor allow discrimination covered by law, including harassment, based on race, color, national origin, creed, religion, gender, sexual orientation, age or disability. Veteran status in DMACC's educational programs, activities, employment practices, or admission procedures is also included to the extent covered by law. Individuals who believe they have been discriminated against may file a complaint through the College Discrimination Complaint Procedure. Complaint forms may be obtained from the Human Resources Department, Provost's office, EEO/AA Officer, Judicial, or the ombudsperson on any campus. Persons who wish additional information or assistance may contact the EEO/AA Officer, Executive Director, Human Resources, Bldg. 1, 515-964-6301.

Student Right to Know

Institutions are required to provide students with information regarding campus security, alcohol and drug use, crime prevention, reporting of crimes, sexual assaults, Equal Employment Opportunity and Affirmative Action, college policy regarding HIV/AIDS, graduation rates and transfer data and drug free schools and campus information. This data can be obtained at the Information Center on the Ankeny Campus and from the Provosts at all other campuses. It is also available on DMACC's webpage. Des Moines Area Community Caollege students are expected to be familiar with policies and procedures affecting their activites. Ignoance of policies and procedures will not excuse violaions.

DMACC Catalog

The Des Moines Area Community College Catalog is an annual publication of information regarding fees, curricula, policies and procedures. Statements set forth in the catalog are for informational purposes and should not be construed as the basis for a contract between the institution and the student. Every effort has been made to make the catalog accurate as of the date of publication; however, the catalog is not intended to be a complete statement of all procedures, policies, rules and regulations. The College reserves the right to change by appropriate action of the faculty, college administration, Board of Directors of Des Moines Area Community College or the State of Iowa, without notice to individual students, any academic or other requirement, course offerings, programs, rules, regulations, or fees.

Profile of DMACC

The Campuses

ANKENY CAMPUS is located on a 304 acre site six miles north of Des Moines within the city limits of Ankeny. The campus is easily accessible from both interstates 35 and 80. A directory of campus facilities is located at each entrance.

BOONE CAMPUS is located on a 37-acre site at the southeast edge of the city of Boone, just north of Hwy 30. Constructed in 1968, the campus was renovated and expanded in 1995 and 2005.

CARROLL CAMPUS is located on a 9-acre site at 906 North Grant Road in the city of Carroll. The Carroll Campus was started in 1979 and finished construction of a new building in 2004.

URBAN CAMPUS is located north of I-235 at 7th and Laurel in Des Moines. The campus opened two new buildings in 2003 and plans further expansion.

NEWTON POLYTECHNIC is located at 600 N. 2nd Ave. West in Newton and began operation in the fall of 1993.

WEST CAMPUS is located west of Interstate 35 at 5959 Grand Avenue in West Des Moines. The campus opened in the fall of 2001.

Credit classes have been offered on the basis of need in other locations throughout the area and in many area high schools. Community services and continuing education classes are offered in many additional communities within the College District.

Access to Campus Facilities

The DMACC campuses are generally open to students and the public from 7:30 a.m. to 9:00 p.m., Monday through Thursday and from 7:30 a.m. to 4:30 p.m. on Friday and 7:30 a.m. to 12:30 p.m. on Saturday (Saturday hours may vary on some campuses). The campuses are closed during other times and holidays. **Visit our website: www.dmacc.edu**

Accreditation

Des Moines Area Community College is accredited by the North Central Association of Colleges and Schools, 30 N LaSalle St., Suite 2400, Chicago, IL 60602-2504. The College is also approved by the Iowa State Department of Education and the Iowa Board of Regents. College transfer curricula meet the requirements of four-year colleges and universities. Both career option and college transfer curricula carry the approval of the United States Department of Education and are approved for veterans' benefits.The College also holds membership in the American Association of Community Colleges.

Board of Directors   DISTRICT

Harold Belken, Des Moines ·······································8

Ben Norman, Board Vice-Chair, Ankeny ····················6

Cheryl Langston, Ames···1

Naomi Neu, Carroll ··3

Joe Pugel, Board Chair, Newton ·······························5

Wayne Rouse, M.D., Boone·······································2

Madelyn Tursi, Des Moines·······································7

James Crawford, Clive ··9

Kevin Halterman, Indianola ······································4

DMACC Campus Listing

ANKENY CAMPUS
2006 South Ankeny Boulevard
Ankeny, IA 50023-8995
515-964-6200 or toll-free in Iowa
800-362-2127, FAX: 515-964-6391

BOONE CAMPUS
1125 Hancock Drive
Boone, IA 50036-5399
515-432-7203 or toll free in Iowa
800-362-2127, FAX: 515-433-5033

CARROLL CAMPUS
906 N. Grant Road
Carroll, IA 51401-2525
712-792-1755 or toll-free in Iowa
800-622-3334, FAX: 712-792-6358

NEWTON POLYTECHNIC
600 N. 2nd Avenue W.
Newton, IA 50208-3049
641-791-3622 or toll free in Iowa
800-362-2127, FAX: 641-791-1728

URBAN CAMPUS
1100 7th Street
Des Moines, IA 50314-2597
515-244-4226 or toll free in Iowa
800-362-2127, FAX: 515-248-7216

WEST CAMPUS
5959 Grand Ave
West Des Moines, IA 50266-5302
515-633-2407, FAX: 515-633-2409
or toll free in Iowa 800-362-2127

2005-2006 Calendar

August 2005

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

September 2005

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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

October 2005

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23	24	25	26	27	28	29
30	31					

November 2005

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27	28	29	30			

December 2005

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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

January 2006

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29	30	31				

February 2006

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26	27	28				

March 2006

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26	27	28	29	30	31	

April 2006

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23	24	25	26	27	28	29
31						

May 2006

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21	22	23	24	25	26	27
28	29	30	31			

June 2006

S	M	T	W	T	F	S
				1	2	3
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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

July 2006

S	M	T	W	T	F	S
						1
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9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
31	31					

Fall Semester 2005

Aug. 29, 2005 ....Fall Semester Begins (first day of classes)

Sept. 5, 2005...................................Labor Day, No Classes, Offices Closed

Oct. 1, 2005.....................................Application Deadline for Fall Graduates

Oct. 21, 2005..................................MIDTERM

Nov. 7, 2005 ....*Last Day to Withdraw From Regular Term Classes

Nov. 24-27, 2005............................Thanksgiving Holiday- No Classes, Offices Closed

Dec. 16, 2005 ....Last Day of Fall Semester

Dec. 24, 2005-Jan. 2, 2006..............Christmas & New Year's Holidays-Offices Closed

Spring Semester 2006

January 9, 2006 ....Spring Semester Begins (first day of classes)

January 16, 2006 ....Martin Luther King Holiday - Offices Closed

February 1, 2006 ....Application deadline Spring/Summer Graduates

March 3, 2006 ....MIDTERM

March 10, 2006 ....All Staff In-Service - No Classes, Offices Closed

March 20-26, 2006 ....Spring Break - No Classes, Offices Open

March 28, 2006 ....*Last Day to Withdraw From Regular Term Classes

May 4, 2006 ....Last Day of Spring Semester

May 4, 2006....................................7:00 p.m. Ankeny/Urban/Newton/ West Graduation

May 5, 2006....................................10:00 a.m. Boone Graduation

May 8, 2006 ....6:00 p.m. Carroll Graduation

Summer Semester 2006

May 30, 2006..................................Summer Semester Begins (first day of classes)

July 4, 2006 ....Holiday - No Classes, Offices Closed

August 9, 2006 ....Last Day of Summer Semester

KEY

▶ **Semester Begins**

▲ **Midterm**

⬡ **Last day to withdraw from classes***

★ **Holiday-College Closed**

◀ **Semester Ends**

▮ **Spring Break**

*These withdrawal dates are for classes that are scheduled for the full semester. Classes that are shorter in length or have a different timetable may have different deadlines for withdrawals. Consult the Registration Office for specific dates.

Campus Maps

Ankeny Campus

2006 S. Ankeny Blvd., Ankeny Iowa 50023-8995

(515) 964-6200 or 1-800-362-2127, Campus Code #1 and the Ext#

	Bldg. No.	Rm. No.	Ext No.
Academic Achievement	6	20	6558
Accidents-Auto (on Campus)	12	01	6500
Address Changes	1	16	6565
Advising	1	16	6246
Alumni Association	5	27	6376
Assessment Center	6	24	6595
Athletics/Recreation	5	26	6333
Bookstore	5	34	6302
Campus Clubs	5	26	6359/6376
Campus Events	1	06	6241
Campus Nurse	5	09	6352
Career Planning/Counseling	01	06	6246
Career Resource Center	1	06	6474
Drops/Add	1	16	6800
Emergencies	1	06	6246/6500
Foundation Office	22		7105
Information Center	1	06	6200

	Bldg. No.	Rm. No.	Ext No.
Financial Aid	1	16	6282/6283
Graduation	1	16	6647/6507
Health Insurance/Services	5	09	6352
International Students	1	16	6471
Job Placement	1	16	6215
Library	6	03	6317
Lost & Found	5	27	6359
Program Changes	1	16	6449/6496
Scholarships	1	16	6278
Security	12	01	6500
Services for Students w/Disabilities	6	30d	6850
Student Accounts	1	18	6432/6433
Transcripts	1	16	6396/6341
Transfer Evaluation	1	16	6647/6507
Tutoring Services	6	30	7004
Veterans Services	1	16	6284
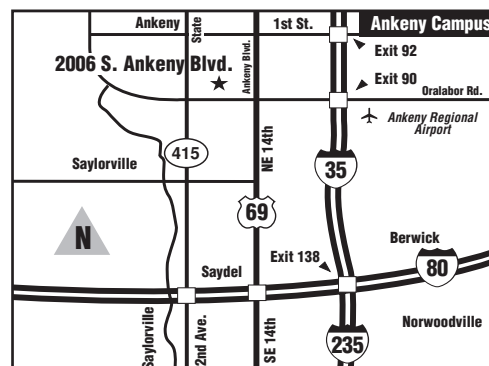
## Boone Campus

1125 Hancock DR., Boone, Iowa 50036-5399

(515) 432-7203 or 1-800-362-2127, Campus Code #3 and the Ext #

	Rm. No.	Ext No.
Academic Achievement	102	5096
Address Changes	120	5026
Advising	120A/129B	5025
Assessment Center	102	5096
Athletics/Recreation	133/120A	5050
Bookstore	101	5035
Campus Clubs	120	5030
Campus Events	120	7203
Career Planning/Counseling	120A/120B	5025
Drop/Adds	120	5026/7203
Emergencies	120	7203
Financial Aid	120	5022

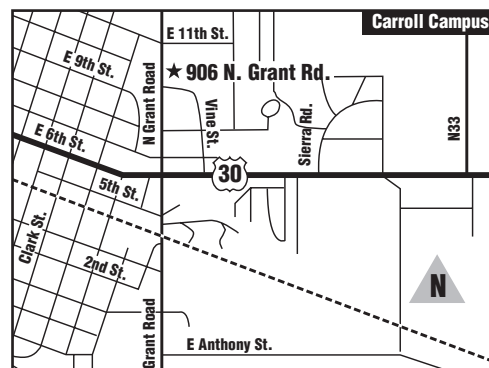|	Rm. No.	Ext No.
Graduation	120	5026
Information	120	7203
International Students	120A/120B	5026
Job Placement	120A	5025
Library	135	5040
Program Changes	120A/120B	5025
Security	105C	5052
Services for Students w/ Disabilities	120A/120B	5096
Student Accounts	120C/120D	5022
Transcripts	120	5026
Tutoring Services	102	5096
Veterans Services		Refer all inquiries to: 964-6284 or 800-362-2127 Ext.#6284 Ankeny Campus
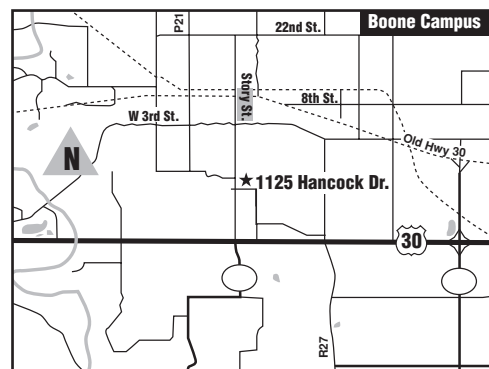
Carroll Campus

906 North Grant Rd., Carroll, Iowa 5140-2525

(712) 792-1755 or 1-800-362-2127, Campus Code #4 and the Ext #

	Rm. No.	Ext No.
Academic Achievement	157	8333/8307
Accidents-Auto (On Campus)	Business Office	Operator
Address Changes	141	8331/8332
Advising	141	8331/8332
Assessment Center	141	8331/8332
Bookstore	Bookstore	8310
Campus Clubs	141	8331/8332
Campus Events	141	8331/8332
Career Planning/Counseling	141	8331/8332
Drop/Adds	141	8331/8332
Emergencies	Business Office	Operator
Financial Aid	141	8305
Graduation	141	8331/8332
Health Insurance	141	8331/8332

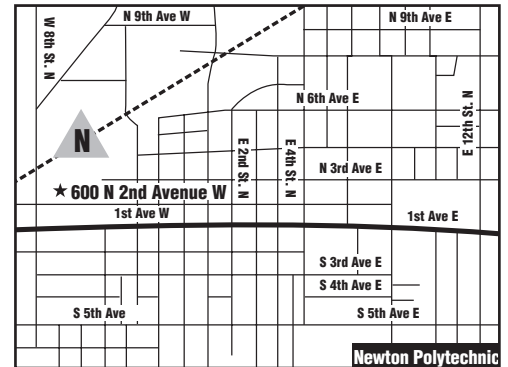|	Rm. No.	Ext No.
International Students	141	8331/8332
Job Placement	141	8331/8332
Library	158	8316/8317
Lost & Found	Business Office	Operator
Program Changes	141	8331/8332
Security	Maintenance	8312
Services for Students w/Disabilities	141	8331/8332
Student Accounts	Business Office	8305
Transcripts	141	8331/8332
Transfer Evaluation	141	8331/8332
Tutoring Services	157	8333
Veterans Services		Refer all inquiries to: 964-6284 or 800-362-2127 Ext.#6284, Ankeny Campus

Campus Maps

Newton Polytechnic Campus

600 N. 2nd Ave. W, Newton, Iowa 50208-3049

(641)-791-3622 or 1-800-362-2127, Campus Code #5, & the Ext #

|	Rm. No.	Ext No.		Rm. No.	Ext No.
Academic Achievement	130	1730	International Students	Info Desk	1722/1723
Accidents-Auto (on Campus)	Info Desk	3622/1720	Job Placement	Info Desk	1722/1723
Address Changes	Info Desk	3622	Lost & Found	Info Desk	3622
Advising	Info Desk	1722/1723	Program Changes	Info Desk	1722/1723
Assessment Center	130	1730	Security	Info Desk	1795
Bookstore	112	1770	Services for Students		
Campus Clubs	Info Desk	1722/1723	w/Disabilities	Info Desk	1722/1723
Campus Events	Info Desk	3622	Student Accounts	Info Desk	1725
Career Planning/Counseling	Info Desk	1722/1723	Transcripts	Info Desk	3622
Drop/Adds	Info Desk	1726/1724	Transfer Evaluation	Info Desk	1722/1723
Emergencies	Info Desk	3622	Tutoring Services	Info Desk	1730
Financial Aid	Info Desk	1725	Veterans Services	Refer all inquiries to:	
Graduation	Info Desk	1722/1723		964-6284 or	
Health Insurance/Services	Info Desk	3622/1725		800-362-2127 Ext.# 6284	
				Ankeny Campus	

Urban Campus

1100 - 7th St., Des Moines, Iowa 50314-2597

(515) 244-4226 or 1-800-362-2127, Code #2 and the Ext #

|	Rm. No.	Ext No.		Rm. No.	Ext No.
Academic Achievement	204	7204	International Students	101E	4226
Address Changes	101	4226	Job Placement	101D	7236
Advising	101E	4226	Library	122C	7210
Assessment Center	207A	7218	Lost & Found	101	4226
Bookstore	134A	7212	Program Changes	101	4226
Campus Clubs	101G	7234	Security	101	7200
Campus Events	101	4226	Services for Students		
Career Planning/Counseling	101E	7236	w/ Disabilities	101D	7505
Drop/Add	101	4226	Student Accounts	101A	7202
Emergencies	101	4226	Transcripts	101	4226
Financial Aid	101A	7202	Transfer Evaluation	101	4226
Graduation	101	4226	Tutoring Services	101	4226
Health Insurance/Services	101A	4226	Veterans Services	Refer all inquiries	
Information	101	4226		to: 964-6284 or	
				800-362-2127	
				Ext.#6284	
				Ankeny Campus	
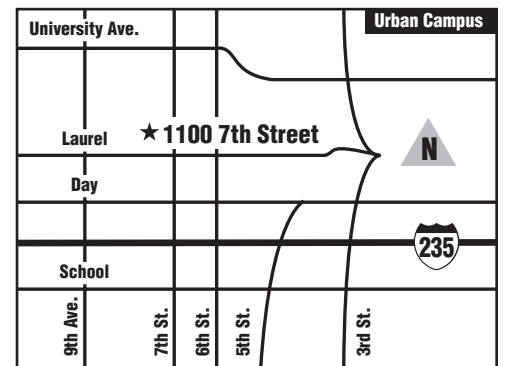
West Campus

5959 Grand Avenue, West Des Moines, Iowa 50266-5302

(515) 633-2407 or 1-800-362-2127, Code #6 and the Ext #

Phone No.			
Provost's Office	633-2439	Campus Tours	633-2408
Associate Dean	633-2442	Financial Aid	633-2411
Provost's Secretary	633-2406	Registration/Records	633-2408
Academic Achievement	633-2472	Resource Center (Library)	633-2426
Advising	633-2405	Student Accounts	633-2411
Bookstore	633-2423	Veterans Services	Refer all inquiries to:
			515-964-6284 or
			800-362-2127,
			ext. 6284, Ankeny Campus
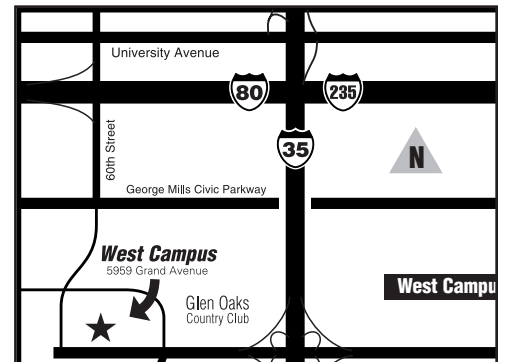
Admissions

Des Moines Area Community College is dedicated to assisting individuals to reach their educational and vocational goals. Admission to the college is open to all who apply and can benefit from courses and programs offered by the college. The college does reserve the right to guide the course placement of students on the basis of counseling, examination, pre-enrollment interviews and past academic achievement. Admission to the college does not guarantee acceptance into all courses or programs offered, and enrollment in some programs and courses depends on basic skill levels and/or available space.

DMACC operates under a continuous admissions process, so acceptance of applicants is granted when admissions procedures and requirements have been completed. Therefore, applicants will find it to their advantage to apply as soon as they have decided to seek admission to a program. After meeting program entrance requirements, those students who apply to a program already at enrollment capacity will be placed on stand-by status until an enrollment opportunity occurs.

Each program establishes the minimum entrance requirements for applicants. Proficiency in reading, writing and/or mathematics may be required for enrollment in selected courses within a program in addition to the program admission requirements.

Applying for Admission

1. Complete an admission application and submit it to:
   DMACC Admissions Office
   2006 South Ankeny Boulevard
   Ankeny, Iowa 50023-8995
   or fax the form to 515-964-6391.

   Students may request a form by calling the Admissions Office at 1-800-362-2127, ext. 6495, or 515-964-6495, or visit the DMACC web site at www.dmacc.edu. There is no fee for applying for admission to DMACC.

2. Complete any required assessment. Assessment guidelines can be found under the heading, Guidelines for Required Assessment.

3. Complete any program entrance requirements for the specific program for which application has been made.

4. Submit a copy of your high school transcript or GED scores if either is needed for entry to a specific program.

For admission requirements to any specific program, refer to the Program Entry Requirements in the informational material that accompanies each individual academic program.

After applicants have met all admission requirements, they will be notified. DMACC accepts students on a first-come, first-served basis. If a program is filled at the time all admission requirements are met, the applicants will be placed on stand-by and so notified.

Guidelines for Required Assessment

DMACC requires a skills assessment of all new, full-time students (full-time is defined as 12 credit hours or more during fall and spring semesters and 8 credit hours or more during the summer semester.) This assessment provides information about students' academic skills in reading, writing and mathematics. Assessment information is used to assist with course selection and schedule planning.

The assessment requirement may be met by completing any one of the following options:

1. Complete COMPASS testing at any DMACC campus. The COMPASS tests in math, reading and writing are given to students who do not qualify under options 2 or 3. There is no charge for this service the first time, however any retests cost $10 each.

2. Submit ACT Scores. ACT scores of 19 or above in reading, math and English can be used to meet DMACC's assessment requirement. ACT scores must be mailed to the Admissions Office. If the ACT scores are more than three (3) years old, it is recommended that students complete Option 1 - COMPASS testing.

3. Provide evidence of successful college experience. An official college transcript from each prior college attended must be mailed to the Admissions Office. The following criteria are used to grant assessment waivers:

   Writing - grade of C or higher in a college-level writing course.

   Reading - grade of C or higher in 6 hours of college-level academic course work such as psychology, sociology, economics, etc. and/or vocational technical course work requiring comparable reading skills.

   Math - grade of C or higher in a college-level mathematics course.

   If college experience is older than five (5) years, students are strongly encouraged to take the COMPASS test.

Assessment is not required if students are planning to enroll part-time, but is strongly encouraged. It is especially important in the following instances:

1. A mathematics assessment before enrolling in a math class or a course with a math prerequisite.

2. A writing assessment before enrolling in any course that has writing expectations or requirements.

3. A reading assessment before enrolling in a course with substantial reading assignments.

COMPASS testing is provided on all DMACC campuses. Call one of the numbers listed to make a testing appointment at the campus of your choice:

Ankeny
515-964-6595 or 1-800-362-2127, ext 6595
Boone
515-432-5096 or 1-800-362-2127, ext 5096
Carroll
712-792-1755 or 1-800-622-3334
Newton
641-791-1724 or 1-800-362-2127, ext 1724
Urban
515-248-7218 or 1-800-362-2127, ext 7218
West
515-633-2426 or 1-800-362-2127, ext 2426

Students taking the COMPASS test who need an accommodation because of disability must provide documentation of the disability prior to the test and make the necessary accommodation arrangements with the testing center in advance of the testing date.

Admission of High School Students

DMACC offers the opportunity for high school students to enroll in credit courses. Juniors and seniors must complete steps 1 and 2 below if enrolling as a part-time student, steps 1, 2 and 3 if enrolling full-time. Freshmen and sophomores must complete all four steps and are limited to no more than two credit courses each semester.

Admission steps:

1. Submit a completed Application for Admission.

2. Submit written approval from parent/guardian and high school counselor or principal.

3. Complete COMPASS testing or submit ACT scores. Course placement is mandatory based on the COMPASS or ACT scores.

4. Meet with a DMACC advisor or counselor prior to registration.

This procedure does not apply to high school age students enrolling under the Postsecondary Enrollment Options Act, Career Advantage or other special contractual agreements except that any full-time student must meet the Guidelines for Required Assessment.

Persons with disabilities are encouraged to attend and participate in all classes, activities and events sponsored by or held at Des Moines Area Community College. If you are a person with a disability who requires a reasonable accommodation, please contact the Coordinator of Special Needs at (515)964-6850 voice, or (515)964-6809 tty.

Admissions

Admission of Pre-High School Students

In limited circumstances, DMACC may allow pre-high school students to enroll in credit courses. Completion of all the steps listed below is necessary before the college will make a decision about admitting and enrolling any persons who are not at least a freshman in high school:

1. Approval of the school counselor or principal.

2. Approval of the parent or guardian.

3. COMPASS testing or submission of ACT scores. Students not meeting minimum scores for placement in college-level courses will not be allowed to enroll. Course placement based on test scores will be mandatory.

4. Any specific course or program prerequisite must be met.

5. Students are limited to no more than two credit courses per term.

6. Students must meet, without the parent being present, with the appropriate instructor, program chair, or dean for an evaluation of readiness for each desired course. A determination that a student is not ready, either educationally or emotionally, will prohibit enrollment in that course.

Admission of Home Schooled Students

Home schooled students may apply for admission by following these guidelines:

1. Complete a Des Moines Area Community College Application for Admission.

2. Provide a written statement of approval from a parent or guardian.

3. Complete COMPASS testing or submit ACT scores of 19 or better in the English, Mathematics and Writing tests. Note: Course placement is mandatory based on COMPASS or ACT results.

4. Students must meet with a DMACC advisor or counselor prior to registration

Admission of Guest Students

Students who have been accepted for admission at another college or university or whose primary enrollment is at another college may enroll as a "guest student" at DMACC. Guest student status allows an individual to enroll as a full-time student for summer semesters only without meeting the assessment requirements.

Guest students complete a DMACC Application for Admission and supply proof of enrollment such as an acceptance letter or a valid student ID from their primary school of attendance. Guest students who decide to enroll for a fall or spring semester must meet DMACC admission and assessment requirements.

Note: Guest students are not eligible for financial aid.

Admission of International Students

Admission of International Students

International students are persons in the United States who have a non-immigrant visa including an F-1 visa. Specific requirements must be met before being admitted to Des Moines Area Community College. No admission decision will be made until the International Student Office receives all required documents.

Deadlines for New International Students

All Applications for Admission and supporting documents must be received NO LATER THAN 120 days prior to the first day of the semester.

Semester	Deadline
Fall 2005	April 23, 2005
Spring 2006	September 10, 2005
Summer 2006	January 27, 2006

If your paperwork is received after the deadline, we will process your application for the next semester. Example: If you apply to attend school for the fall semester and your documentation arrives after April 23rd, we will process your application for the spring semester.

Deadlines for International Transfer Students

Semester	Deadline
Fall 2005	July 7, 2005
Spring 2006	November 30, 2005
Summer 2006	April 12, 2006

New International Student Applicants

New international students will need to obtain a Certificate of Eligibility form I-20 in order to receive a student visa through the U.S. Consul or Embassy in their country. The I-20 indicates that all admission requirements have been met to enter the College. This document is issued through SEVIS, the Student Exchange Visitor Information System. The U.S. Consulates make the final decision regarding whether students will be allowed to enter the United States to study.

All International Students must report to DMACC on or before the date stated in the I-20 forms. Late arriving students will not be allowed to register for class.

International students requesting admission and issuance of an I-20 must provide:

1. A completed and signed DMACC Application for Admission.

2. A completed International Student Information Form.

3. A Financial Resource Statement verifying the ability of the student or the student's sponsor to meet all educational and living expenses for one year while attending DMACC. This must be signed and sealed by a notary public or accompanied by a letter or bank statement dated within six months of the application. Financial support of approximately $15,000.00 (USD) is needed per year. Students who are issued an F-1 visa to study in the United States are not permitted to work off campus unless they receive authorization from the government. There are very few opportunities to work on campus.

4. Payment of a $100.00 processing fee. This may be sent in the form of a bank draft or an international postal money order. Payment must be made before an I-20 will be issued.

5. Official transcripts with evidence of graduation from a secondary school and transcripts from all post-secondary institutions attended. Photocopies may be accepted if they are properly notarized as true copies. Transcripts must be translated into English.

   Students who wish to transfer credits from a college or university from outside the United States to apply toward degree requirements at Des Moines Area Community College must have transcripts reviewed by a commercial service. The review must be completed at the subject analysis or catalog level. Students are responsible for the additional fees. Contact the International Student Office for further information.

   The college issues an I-20 Certificate of Eligibility form after students complete the steps above and qualify for admission.

Documents required to complete the admission process:

6. Official evidence of English proficiency (if your native language is NOT English). Submit one of the following:

   a. TOEFL (Test of English as a Foreign Language) score of 173 on the computer test or 500 on the paper test in order to enroll in credit courses. The code for DMACC is #6177.

   b. COMPASS ESL test score of 95 in order to enroll in credit courses. This test is available at the assessment center located on each DMACC campus.

   c. Official transcripts from an accredited United States college or university showing successful completion ("C" or better grade) in a freshman level English composition course.

7. A deposit of $3,000.00 to cover direct educational expenses for the first semester of enrollment. This must be paid before you may register for class. Part of this deposit may be used to meet the cost of the required medical insurance discussed below.

8. Proof of medical insurance. Students who purchased their own medical insurance must provide proof of insurance within the first 15 days of the semester. If no proof of insurance is provided, insurance will be provided and a fee of **approximately** $750.00 per year will be assessed to each student.

9. Completion of the "Guidelines for Required Assessment" and all full-time DMACC students must complete any additional entry requirements for their program of study.

Admissions

Transfer International Student Applicants

Students who apply to Des Moines Area Community College as a transfer student from a college or university within the United States must provide the same items as new students listed as 1-9 above. In addition, transfer students must submit:

9. A transfer release signed by the Designated School Official (DSO) or Alternate Responsible Officer (ARS) from their most recent school of attendance.

10. Copies of passports including the VISA pages, I-94 forms and all previously issued I-20 forms.

Residency

Students may be considered a resident of Iowa for purposes of determining in-state tuition if they are permanently domiciled in Iowa and have resided in the state for a period of not less than ninety (90) days prior to the start of the academic term. When residency is in question, the burden of proof of domicile is on the student.

To apply for reclassification from non-resident to resident status, students must complete a "Request for Determination of Residency Status" form and submit it along with two (2) additional documents evidencing Iowa residency. Examples of acceptable documents include:

• Written and notarized documentation from an employer that you are employed in Iowa or a signed and notarized statement from you describing your employment and sources of support.

• Iowa state income tax form.

• Iowa driver's license

• Iowa vehicle registration card.

• Iowa voter registration card.

• Proof of Iowa Homestead Credit on property taxes.

• Other indicators of Iowa residency, such as rent receipts, utility bills, bank statements, etc.

No two documents may come from the same source. Requests for change in residency must be submitted prior to the start of the semester for which you are registering. Reclassification of residency is not retroactive.

Non-citizens must submit proof of legal immigration status by submitting a copy of their Permanent Resident Card or I-94 page from your passport showing approved resident status by the Bureau of Immigration and Citizenship Services. **International students cannot establish residency while studying in this country on a temporary visa.**

Residency questions and documents should be submitted to the Director of Admissions on the Ankeny Campus.

Readmission

In general, students who are in good standing and have not enrolled for one or more consecutive semesters do not need to apply for readmission to the College. Prior to registration, students must verify the accuracy of their existing information. It is recommended that students visit with a counselor/advisor to review their academic records.

Students accepted to a limited enrollment or selective admission program and who did not start when planned or withdrew for one or more semesters must contact the department chairperson to request enrollment as a "Restart" student.

Students who have been suspended due to failure to meet the College's scholastic standards must meet the requirement for readmission as found in the Scholastic Standards section of the catalog before re-enrolling.

Students who have been suspended for a disciplinary reason may not re-enroll before meeting all requirements imposed at the time of suspension.

Transferring Credit to DMACC
Evaluation of Previous Training and Education

Students must request that a transcript bearing the official seal and signature of the official in charge of the records be sent directly to the DMACC Admissions Office by each college or university previously attended. Transcripts which have been in the student's possession will not be considered official documents. Transcripts must be sent from each previously attended institution even though all previous records may be summarized on one transcript. DMACC will accept credit from an institution only when submitted by the institution where the credit was earned.

Students submitting an official transcript in a language other than English must also submit and pay for an English translation of this transcript. Upon receipt, the Admissions Office will forward official transcripts to the Credentials Office for evaluation.

A maximum of 43 semester credit hours of transfer credit is applicable toward associate degree requirements. The total grade point average of credits transferred to DMACC must equal 2.0 or higher. Some programs may require a minimum grade of "C" in each course that fulfills a degree requirement. Since the student's grade point averages are calculated from course work taken at DMACC only, grades earned at other colleges or universities will not be used in the computation of the student's GPA at DMACC.

Upon completion of the transfer credit evaluation, students will receive reports listing the equivalent DMACC courses.

The acceptance and use of transfer credit is subject to limitations in accordance with the educational procedures of the College.

Credit for Educational Experience in the Armed Forces

Credit earned through educational experiences in the armed forces can be validated and accepted by the College. Credit is accepted based on state-wide policies at Iowa colleges and universities and based on its applicability toward meeting the requirements in the student's program of study. An American Council on Education (ACE) publication, "Guide to the Evaluations of Educational Experiences in the Armed Services," is generally used in making these determinations.

Credit is awarded only for significant learning experiences as recommended by the ACE guide. No credit will be awarded based on the Military Occupational Specialties evaluation program.

Credit may be awarded for course work completed via correspondence, classroom study and/or examination through the United States Armed Forces Institute. Credit may also be granted on the basis of scores earned on the Subject Standardized Test of the Defense Activity for Non-Traditional Educational Support. Copies of transcripts showing such work will be evaluated by the Credentials Office .

College Tours

Prospective students are invited to visit any or all of the DMACC campuses during Discover DMACC Day. Students may register by calling 1-800-362-2127, ext. 7100 or on the web at www.dmacc.edu/discover.htm. Individual tours may be arranged by calling 1-800-362-2127 and selecting the campus of your choice or by calling the individual campus at:

Ankeny Campus..................................**515-965-7100**

Boone Campus **515-432-5025**

Carroll Campus **712-792-8332**

Newton Campus **641-791-3622**

Urban Campus **515-248-7236**

West Campus **515-633-2408**

Registration

Students may register for courses during the times and dates listed in the schedule of classes published prior to the beginning of each semester. Registration is not complete until students have paid their tuition and fees or when payment has been officially authorized by the Financial Aid Office or Business Office. Students with past-due obligations to the College will not be permitted to register for classes until the obligations are resolved.

Registration Procedures

New, Full-time Students

Registration for all new full-time students (12 credits or more fall and spring semester or 8 or more credits summer term) is scheduled by the Student Development Office. New students who have been accepted for admission will be notified when to report for registration. Counselors and advisors will be available to assist with registration.

To help students make a successful transition to college, DMACC offers an Orientation to College course, CDEV100. The course uses short lectures, demonstrations, guest speakers and practical exercises to help students understand the entire college experience from classroom expectations to learning resources. CDEV100 is

strongly recommended for students who fit these guidelines:

- Enrolled in an arts and sciences, preprofessional or general education program and
- Enrolled full-time and
- Have no previous college experience

New, Part-time Students

New part-time students (11 or fewer credits fall and spring semesters, 7 or fewer credits summer term) are encouraged to participate in orientation/registration, but are not required to do so. Registration during the time and dates published in the schedule of classes can be completed in person, by telephone, fax, or via the internet.

Continuing Students

These students may register in person, by telephone, mail, fax, or via the internet in accordance with the times and dates published in the schedule of classes or via the internet.

Adding or Dropping a Course

Students may add a credit course through the first five days of the semester for regular full term classes. Course adds can be in person, by phone, fax, or via the internet. Students are not permitted to attend a course unless officially registered for the course.

Students may drop a credit course through the 50th class day of the fall and spring semesters and the 30th class day of the summer term. The last day to drop a course offered during terms other than fall, spring and summer semesters depends on the length of the term; the applicable date is published in the schedule of classes and is also available by contacting the Registration Office. Courses dropped during the first week of the semester will not show on the student's transcript. Courses dropped after the first week and through the deadline will be shown on the transcript and will be assigned a grade of "W".

Deadlines for dropping courses are different than refund deadlines. Information about refund deadlines can be found in the Education Expense/Student Accounts section of this catalog, in the schedule of classes published before each semester and by contacting the Registration Office.

Students who withdraw from a course will not be permitted to continue attending the course. Students who have a "hold" on their records due to unpaid financial obligations will be permitted to withdraw from credit courses, but will not be permitted to obtain transcripts and graduation awards will not be conferred. In addition, students who have indebtedness may be prohibited from enrolling in courses as long as the indebtedness remains. Unpaid debts may be referred to a collection agency and/or a credit bureau. Students should contact the Business Office to resolve their debt.

Students may be administratively dropped from courses for non-attendance. Information on this procedure is contained in the Academic Information section of this catalog under "Attendance and Enrollment."

Dropping or Adding Courses After the Deadlines

Students who miss the deadline for dropping a course, receiving a refund of tuition and fees, or adding a course may file an appeal asking that the deadline in question be waived. In order to appeal, students complete a Petition for Policy Waiver and submit it to their campus Student Services Office. Students must have exceptional extenuating circumstances that precluded compliance with the deadlines. Documentation must be submitted in support of the petition. Petitions must be submitted no later than midterm of the semester immediately following the semester of enrollment. The Petition for Policy Waiver Committee reviews the petitions and notifies students of the final disposition of petitions in writing.

Non-Credit Course Registration, Adds and Drops

Registration during the time and dates published in the Continuing Education schedule of classes can be accomplished in person, by telephone, mail, or fax, or via the internet.

Educational Expense/Student Accounts

Tuition and Fee Charges

The DMACC Board of Directors establishes tuition and fee charges. Tuition is charged on a per credit basis. Additional supplemental fees are described below under "other fees". Non-resident tuition, not including fees, is twice the amount of resident student tuition. See the following chart on the following page of tuition and fees. The DMACC Board of Directors has the authority to change tuition and fees after the charges are published in this catalog.

Other Fees

Additional fees, including, but not limited to, supplemental course fees, lab fees, music fees, TV class and Internet fees are also Board approved. These fees are market driven.

Indebtedness Policy

Students who have a balance due to the College should contact the Business Office to resolve their debt. Unpaid debts may be referred to a collection agency and/or a credit bureau. Students with unpaid financial obligations may have a "hold" put on their record. The hold may permit students to withdraw from credit courses provided the withdrawal deadline is met, but will prohibit students from enrolling in courses, obtaining or sending transcripts, and graduating.
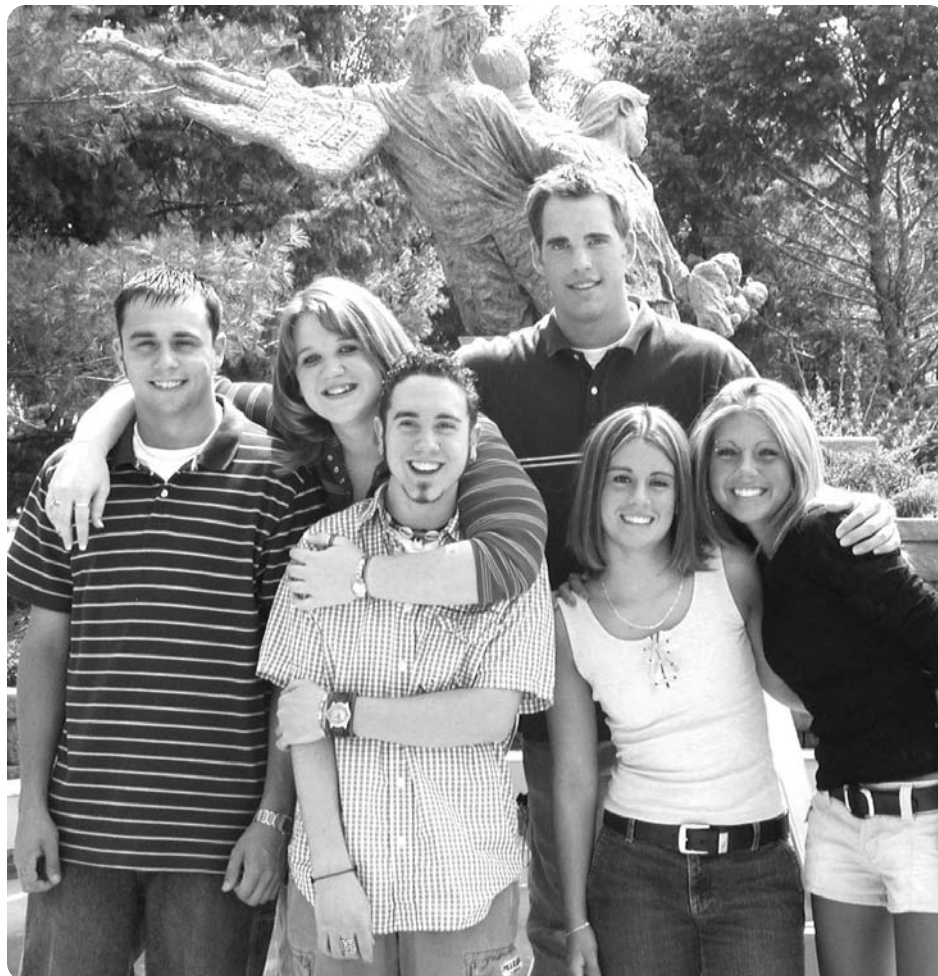
Deposits

International students are required to pay a $3,000 deposit prior to admission to the college. This is coordinated through the International Student Office.

Students must notify Business Office when they have deposited money available to pay tuition. At the student's request, additional deposit money may be released for the purchase of books at the college bookstore.

Students are encouraged to deposit money prior to each semester of enrollment. Call the International Student Office at the Ankeny campus for information.

Campus Bookstore Purchases

Bookstores are located at each DMACC campus. Students should purchase books at the campus they will be attending. Financial aid credits may be used at the bookstore after the authorized aid has been released to accounts.

Payment Policy

Payment for credit class enrollment must be made by the published due date. If fees are paid through approved government agencies or private agencies or employers, it is the student's responsibility to notify the Business Office prior to the payment due date.

An installment plan is available upon request. An additional fee is assessed for each installment plan arrangement. See the Business Office at the campus you attend for more information.

Important: Failure to make complete payment or establish a Payment Plan by the published due date may result in the cancellation of credit class enrollment unless special arrangement has been made with the Business Office or the Financial Aid Office. The Financial Aid Office reserves the right to "hold" students' enrollment pending verification of aid requested.

Payment for Non-Credit Continuing Education classes is required before the start of the class.

Educational Expense/Student Accounts

Student Tuition Rate for Credit Offerings

Full or part-time enrollment (per credit) Resident...**$ 95.00**

Full or part-time enrollment (per credit) Non-Resident...**$ 190.00**

Audit (per credit)..**$ 95.00**

Career Supplemental non-credit courses (per contact hour) ....**Market Rate**

Continuing and General Adult Ed - Local schools (per contact hour) ....**Market Rate**

English as a Second Language

Level 4- 6 (per course) ....**$ 75.00**

High School-Diploma (per course) ....**$ 75.00**

      Correspondence fee   ....**$ 85.00**

Non-resident tuition is 200% of resident rate

Fees

Music fee (piano/instrumental per course) ....**Market Rate**

Correspondence course fee ....**$ 15.00/per course**

Convenience fee - not refundable (TV classes - per course) ....**$ 30.00/course**

Convenience fee (Online classes - per credit hour)   ....**$ 20.00/per credit**

Materials, supplies, lab fees for selected courses (per course)...**Market Rate**

Deferred payment fee ....**$ 25.00**

International student processing fee...**$ 100.00**

GED - Testing/Diploma fee ....**$ 85.00**

      Instruction fee ....**$ 50.00**

NLN Testing - per test..**$ 100.00**

Returned Check Fee ....**$ 20.00**

Transcript Fees

Regular request (sent within two business days) ....**No Charge**

Same-day service request ....**$ 5.00**

FAX requests ....**$ 5.00**

Traffic Fines

Parking in handicapped stall ....**$ 100.00**

Illegal Parking ....**$ 10.00**

Improper permit display or no permit displayed ....**$ 10.00**

Parking in unauthorized area ....**$ 25.00**

Moving violation ....**$ 50.00**

Littering, reckless driving, driving in unauthorized area ....**$ 50.00**

Des Moines Area Community College reserves the right to change tuition, fees and fines.

Refunds

Important considerations before dropping classes:

1.   Students should consider consulting with an advisor or counselor.

2.   Students should consider insurance issues affected by dropping classes.

3.   Students should consider a possible reduction of financial aid. See the Financial Aid Recipients section of this catalog.

Student refunds are computed by using:

1.   The date the Student Registration Office receives a formal drop form from the student **or**

2.   The date the Student Registration Office receives a phone call or fax from the student requesting a class drop **or**

3.   The date the student initiates a drop via the Internet.

NOTE: Students eligible for a refund will receive a check in the mail or a refund adjustment to their previous MasterCard/VISA or Discover payment.

Refund Schedule

(normal/full length term classes only)

First Week of term...100%

Second Week of term..100%

After Second Week of term..No Refund

Important:

1.   Refunds for classes other than the normal full term length will be prorated. A complete copy of the refund policy for all semesters is available at all campuses in the Business/Student Accounts Offices.

2.   Refunds for TV classes are based on the published class/term dates - **NOT the viewing dates.**

DMACC reserves the right to change the Refund Schedule at any time.

Education Tax Credits

Federal income tax credits are available to persons who pay higher education costs. The amount of credit is determined by the amount of qualified tuition and related expenses paid for a student and the amount of the tax filer's adjusted gross income. Education tax credits are subtracted from the tax amount owed. For more information concerning how to qualify for these credits call the IRS Help Line at 1-800-829-1040 or call 1-800-829-3676 and ask for the IRS publication 970, Tax Benefits for Higher Education. Details are also available on the internet at http://www.ed.gov/inits/hope/.

Financial Aid

How to Apply for Financial Aid at DMACC

Financial aid at DMACC is need-based. The College believes that the financing of an undergraduate education is a partnership between the student and college and the student should pay to the extent they are capable.

Students apply for financial aid at DMACC by filing a Free Application for Federal Student Aid (FAFSA). Eligibility for funds is based on a federal formula and each student's financial situation, as well as DMACC's cost of attendance. The following topics provide basic information concerning the financial aid awarding process at DMACC.

Budget Allowances

In addition to tuition and fees, allowances are made for room and board, personal expenses, books and supplies, child care and transportation in determining financial need.

Cost of Attendance

Estimated costs for a full-time undergraduate student, based on the 2005-2006 budget, are as follows:

	Iowa Resident	Non-Resident
Tuition and Fees	$2,850	$5,700
Books and Supplies	860	860
Room and Board	4,914	4,914
Personal/Misc.	1,568	1,568
Transportation	1,710	1,710
	$11,902	$14,752

Filing Request for Special Consideration

There are times, after receiving the award notification from the DMACC Student Financial Aid Office that a student/family may find it difficult to finance their expected contributions due to changes in their financial circumstances. If this is the case, a student/family may file a Request for Special Consideration. If a student/family has new or additional information concerning their financial circumstances, it should be submitted in writing and sent to the attention of the Director of Student Financial Aid, Ankeny Campus. Any supporting documentation should be sent with the Request for Special Consideration.

Free Application for Federal Student Aid (FAFSA)

One application is all it takes. Applications are available at all campuses. Students may access the Free Application for Federal Student Aid (FAFSA) on the Web at www.fafsa.ed.gov. Students may access the Web by using computers available in the Student Financial Aid Office located in building 1 on the Ankeny Campus.

1. Continuing students will be mailed a renewal FAFSA and student PIN from the U.S. Department of Education between November and December each year.

2. New students may apply on the web at www.fafsa.ed.gov or pick up a copy of the FAFSA from high school guidance offices or from the DMACC Financial Aid Office on the Ankeny Campus or from the Business Office on the Boone, Carroll, Newton, Urban and West Campuses.

When to Apply

It is necessary to file a FAFSA each year. Priority consideration will be given to students who apply by April 1 prior to the fall term.

1. Complete the FAFSA as soon after January 1 as possible.

2. Make sure the appropriate signatures are on all forms.

3. Review all data before mailing the FAFSA. Check the student's social security number and birth date. ESTIMATED tax data may be used, but it is preferred that taxes be completed before filing the FAFSA, when possible.

4. Mail the FAFSA in the attached envelope.

5. If the student will be filing the FAFSA by using the Internet, it may be necessary to print the signature page and mail it to: Federal Student Aid Programs, PO Box 4008, Mt. Vernon, IL 62864-8608.

Financial Aid Updates on the WEB

Once students have enrolled at DMACC and applied for financial aid, they may check on the status of their financial aid by reviewing DMACC's student website at www.dmacc.edu. Students will need their DMACC student PIN numbers.

To Obtain a DMACC PIN

To request a PIN number, or if the student has forgotten their PIN number, contact 1-800-362-2127, Ext. 6800 or 515-964-6800 or email to: info-sys@dmacc.edu.

Helpful hints section:

1. Keep together copies of all forms, letters, award notices and financial aid-related documents.

2. Please include student's name and social security number on all correspondence.

3. The student will be contacted by the DMACC Financial Aid Office, if additional documents, such as tax returns, are needed.

Types of Aid
(Grants and Scholarships)

Federal Pell Grants

These grants are awarded based on financial need and are available if the student has filed a FAFSA, shows financial need and does not have a bachelor's degree. Students should contact the DMACC Financial Aid Office concerning their eligibility.

Federal Supplemental Educational Opportunity Grants (SEOG)

SEOG is available for undergraduate students who have completed and filed a FAFSA, are enrolled at least half-time and show exceptional financial need. The maximum amount is $500.00 for a full-time student.

Iowa Vocational-Technical Tuition Grants (IVTTG)

IVTT Grants are available for students enrolled in vocational-technical programs. The Iowa College Student Aid Commission through notification by DMACC awards IVTTG awards. The maximum annual award is $1,200.

Iowa Grant

These grants are available to undergraduate students enrolled at least half-time who have applied for financial aid and show exceptional need. The maximum amount offered is $1000 per academic year.

State of Iowa Scholarship Program

This program was established by the Iowa Legislature to provide recognition and monetary awards to Iowa's top high school students. To be considered a state scholar, a student must: (1) meet the state's requirements and be a designated State of Iowa Scholar, (2) be entering as a freshman at DMACC and (3) plan to enroll full-time. Students should see their high school counselor for assistance. The maximum amount is $400.00 for the freshman year only.

Miscellaneous Scholarships

Scholarships available from off-campus sources are posted on the Financial Aid bulletin boards on each DMACC campus.

Applying for DMACC and Outside Scholarships and Grants

DMACC Scholarships and Grants

The DMACC Foundation provides funds for DMACC students as scholarships and grants. Foundation money comes from private sources, including individual donations, business and industry support and a variety of fund-raising activities. These awards are competitive and are awarded through an application process. Most awards are based on both financial need and academic achievement, with a few that are based solely on academic achievement. A full listing of Foundation scholarship awards available college-wide can be found on the Foundation's web site www.dmacc.edu/foundation or can be obtained from the Financial Aid Office, Building 1, Ankeny Campus.

How to Apply

Students may apply for most DMACC Foundation scholarships by completing a Generic Scholarship Application form on the DMACC internet site at: http://www.dmacc.edu/foundation, or by calling 515-964-6278 or 800-362-2127 ext. 6278 and asking for an application form. Program specific forms are available from program chairs or the Financial Aid Office. The Financial Aid Office also has special application forms for several named scholarship funds. For most scholarships, the annual deadline date is May 1. Scholarships with other deadlines are described in the Foundation Scholarship brochure and on the Foundation web site. Completed applications must be returned to the Financial Aid Office. Incomplete applications or those received after the deadline date will not be considered.

Financial Aid

Criteria and Conditions for DMACC Foundation Awards

The Foundation requires all applicants to have a minimum verifiable cumulative grade point average (GPA) of 2.0 and be enrolled at DMACC (any campus) for a minimum of 6 credit hours. Specific scholarships may have higher minimum criteria. GPAs can be from high school, other colleges, or from the students' prior or current DMACC attendance. If a GPA is not from DMACC, copies of transcripts must accompany applications.

For most DMACC Foundation scholarships, students must verify financial need and filing an application for federal financial aid is the best way to do this.

Examples of Awards:

Erskine F. and Vina G. Bennett Scholarships

This award is for full time students at the Newton campus and requires a 3.0 GPA. The award is need-based and pays all tuition and fees for the Fall semester. Term offered: Fall (not renewable)

Melvin G. Straub Scholarship in Graphic Communication

This award is for students in graphic communication with a minimum 2.5 GPA as they enroll for their third (summer) term. Term offered: Summer semester (renewable for fall)

DMACC Pioneers Scholarships

This scholarship is funded by the DMACC Pioneers, an organization of retired DMACC and Iowa Department of Education employees. To be eligible a 2.75 GPA is required. Awards are $400 for full-time and $200 for part-time. Awards are renewable dependent on maintaining minimum criterion. Term Offered: Fall (renewable for spring)

Campus General Scholarships

Each of the DMACC campuses have a general scholarship category. These awards are based on a minimum 2.0 GPA. Award amount varies. Term Offered: Fall (renewable for spring)

The Pella Rolscreen Scholarship

Application for this award is open to Ankeny and Carroll campus students only. This scholarship requires a 3.0 GPA and is need-based. Awards are for $350. Term Offered: Fall (renewable for spring)

Lue B McLain Trust Scholarship

Application for this award is limited to Newton Community Schools graduates or Jasper County resident students. This scholarship requires a 2.5 GPA and is need based. The award may be used at all campuses. Award is $500. Term Offered: Fall (renewable for spring)

Sciences & Humanities Scholarship

Must be a Liberal Arts student. Requires a 3.0 GPA. Preference given to non-traditional students. Term Offered: Fall - (renewable for spring)

Al Borchers Memorial Scholarship

Awards to student enrolled full or part-time in a Business/Math Program at the Newton Campus. Must be a Jasper County resident with a minimum 2.5 GPA. Term Offered: Fall (not renewable)

DMACC Alumni Association

DMACC Alumni Association Scholarships and Grants

DMACC's Alumni Association annually awards scholarships to outstanding DMACC students and financial grants to students with financial need. These awards are made possible through special alumni fund-raising activities and gifts to the Association for this purpose. Contact the DMACC Alumni Office for more information. Term Offered – Spring

How DMACC Awards are Paid

Unless otherwise stated on specific applications, all awards are for tuition and books at DMACC only and for the semester for which the award is given. Some awards are renewable for the following terms. All awards will be applied directly to a student's account at DMACC. If a recipient fails to maintain his/her original enrollment criteria or drops out before the term ends, he/she may be required to repay the DMACC Foundation.

Outside Scholarships and Grants Websites
FASTWEB-http://www.fastweb.com

CollegeQuest-http://www.collegequest.com

CASHE-http://www.cashe.com

Tips for Applying for Outside Scholarships and Grants
- Focus on scholarships/grants with criteria that closely matches the student.
- Send a self-addressed stamped envelope when requesting applications and information about scholarships/grants.
- Be aware of deadlines.

Employment

College Work-Study Program (CWSP)

The College Work-Study Program is for students who show financial need. To be eligible a student must be enrolled and show financial need. The College Work-Study Program offers part-time jobs on and off-campus. Students should contact the DMACC Student Employment Assistance Office for available positions.

Community Service/America Reads/Counts

DMACC is an America Reads/Counts College. Students who are College Work-Study eligible may be employed as tutors for children in reading and math. As America Reads tutors, students may work in a child care center, a school, an after school program or a library. Community Service and America Reads/Counts opportunities are listed in the Employment Assistance Offices on all DMACC campuses.

Study Abroad

A student in a study abroad program is eligible for aid if the program is approved for credit by an eligible school and the student is enrolled as a regular student at the eligible school. DMACC will accept the study abroad coursework for credit. The coursework does not have to be required for the student's degree program. DMACC must have a contractual agreement with the foreign school or a single written arrangement with a study-abroad organization to represent agreement between DMACC and one or more foreign schools. A financial aid advisor will assist you with obtaining financial aid for study abroad. Visit the Financial Aid Office on the Ankeny Campus or call 515-964-6283.

Loans

Federal Direct Student Loan Program– Subsidized and Unsubsidized: These are need-based, variable interest rate loans available to assist students for educational costs. Students must file a completed Free Application for Federal Student Aid (FAFSA) and be enrolled at least half-time to apply for a loan. The government pays the interest on the subsidized loan during periods of enrollment and the six-month grace period. The student pays all interest after receiving an unsubsidized loan. Repayment for both loan types begins six months after terminating enrollment or dropping to less than half-time. The maximum annual subsidized/unsubsidized Direct Loan amounts are $2,625 for freshmen and $3,500 for sophomores. Independent students may be eligible to receive additional unsubsidized loans. Loan funds cannot be released until 30 days after the term starts if the student is a first-time borrower. Entrance and exit counseling are required.

Federal Direct Parent Loans for Undergraduate Students (PLUS)

A PLUS loan is a variable interest rate loan available to parents of dependent students. Students must be enrolled at least half-time. Parents can borrow the cost of the dependent student's education minus any financial aid the student receives. Parents apply through the DMACC Financial Aid Office.

Partnership Loans

The Partnership Loan Program provides low-interest loans to students and families who would not otherwise receive adequate amounts of student aid. Students may obtain additional information by calling 1-800-542-6005.

Entrance Counseling

All first-time borrowers at DMACC are required to attend an entrance counseling session. Students may use the Internet Entrance Counseling - tutorial, at www.dl.ed.gov or visit the Financial Aid Office.

Financial Aid

Exit Counseling

Students leaving or graduating from DMACC must complete the Exit Counseling requirement. It is important for students to know the amount of their loans, as well as repayment options and requirements and loan cancellation provisions. Students may use the www.dlservicer.ed.gov to complete the Exit Counseling requirement or visit any DMACC campus for Exit Counseling.

Veterans Educational Benefits

The DMACC Veterans Services office assists students in applying for veterans' educational benefits, acts as a liaison between the student and the federal Department of Veterans Affairs (DVA) and serves as a resource to other DMACC departments and services.

Students who could be eligible for veterans educational benefits through the VA are: former full time active duty U.S. military veterans, current members of the Iowa National Guard, current members of U. S. military reserve units, participants in the VA vocational rehabilitation program, and surviving dependents and spouses of service related disabled or deceased veterans.

Application for veteran benefits should be completed when applying for admission to DMACC and forms are available from the veterans office on the Ankeny campus. The application process for new claims takes a minimum of eight weeks to complete by the DVA. Therefore, appropriate paperwork should be completed as early as possible.

DMACC is an SOC - Servicemembers Opportunity College - and career and degree programs are approved by the DVA for VA benefits. Monthly pay rates are set by Congress and the DVA. They vary according to student's benefit category and are based on a student's credit hour enrollment each term. Further details may be obtained at the Office of Student Financial Aid/Veterans Services, Ankeny Campus, 515-964-6284, or toll free number 1-800-362-2127 or on the web at www.dmacc.edu/veterans

Iowa National Guard

The Iowa National Guard Educational Assistance Program may pay up to 50% of an eligible student's tuition (not additional class fees) fall and spring semesters at DMACC. Eligible students must be active members of the Iowa Army or Air National Guard. The Iowa Adjutant General (TAG) determines eligibility for this tuition assistance program and funding for it is determined annually by the Iowa General Assembly. Individuals must apply for this grant through their Guard unit commander each spring for the coming academic year. TAG notifies the Iowa College Student Aid Commission (ICSAC) of approved application. That agency notifies DMACC of the student's eligibility and authorizes payment of the funds to DMACC.

Iowa New Choices

The Iowa New Choices Program provides support to single parents who have full or joint custody of minor children, single pregnant women, or low-income Iowans receiving public assistance or preparing to enter the job market. The support services include academic advising, career assessment and planning, referral services to various community agencies and the promotion of non-traditional occupations. Financial assistance may be provided in the following forms: Bus passes on a first come, first serve basis; mileage allowance to the Ankeny and Urban campuses if the student lives outside Polk County; childcare assistance if not eligible for State block grant. All financial assistance depends on availability of funds. Details may be obtained from the Iowa New Choices Office on the Urban campus, 515-248-7520.

Similar services are also available at the Boone and Carroll campuses.

Dislocated Workers

Adults whose jobs are being eliminated through downsizing or business closing should contact the Dislocated Worker Center in their county.

Strive

The STRIVE (Selected Training Received in Vocational Education) Program provides vocational education to special needs students from high school. Details may be obtained from the STRIVE coordinator on the Ankeny Campus.

Vocational Rehabilitation

Through a special agreement with the Iowa Division of Vocational Rehabilitation Services, a rehabilitation counselor is assigned to DMACC to provide rehabilitation services to eligible students. These services include assistance in obtaining medical evaluations, vocational evaluations, physical restoration, job training, financial aid and job placement.

Requirements for Continued Financial Aid Eligibility

Satisfactory Academic Progress (SAP)

Federal regulations require that students maintain satisfactory academic progress in the program of study they are pursuing in order to receive financial aid. At DMACC, a student must earn and maintain a minimum cumulative grade point average of 2.0. The student must also earn a minimum number of credits per year to continue receiving aid. Financial aid includes all federal and state grants, college work-study and loans, including the Federal Direct Student Loans. Academic records will be reviewed every semester.

Financial Aid Academic Progress Standards

Financial Aid Academic Progress Standards are established to encourage students to successfully complete courses and progress satisfactorily toward program completion. Students shall maintain the following academic standards to continue receiving financial aid:

1. **Qualitative Measurement:**

   a. During the first term a student is enrolled and receiving financial aid at DMACC he/she must earn a minimum grade point average of 2.0.

   b. Subsequent terms will require the student to earn a cumulative GPA of at least 2.0.

   c. Acceptable grades to maintain a cumulative 2.0 GPA are: A (superior), B (above average), C (average), P (pass), T (credit by testing). A grade of D (below average) will be acceptable only from the standpoint that it is figured into the cumulative GPA.

   d. If a student receives an I (incomplete), W (withdraw or dropped), X (repeats), or F (failing), he/she may receive financial aid as long as the student completes the required minimum hours for each calendar year and maintains a cumulative 2.0 GPA.

2. **Quantitative Measurement:**

   a. If receiving aid as a full-time student (registered for 12 or more credits), a minimum of 8 credits must be earned each regular semester (16 credits per calendar year).

   b. If receiving aid as a 3/4 time student (registered for 9, 10, or 11 credits), a minimum of 6 credits must be earned each regular semester (12 credits per calendar year).

   c. If receiving aid as a 1/2 time student (registered for 6, 7, or 8 credits), a minimum of 4 credits must be earned each regular semester (8 credits per calendar year).

   d. Minimum credits not earned will result in deficit credits. The number of deficit credits must be eliminated the next term of enrollment.

   e. Summer credits earned will be included when totaling minimum credits completed for each calendar year.

3. **Warning Status**

   Students will be placed on Warning Status if either the qualitative or quantitative criteria are not met. During the next term of enrollment the student must increase his/her grade point average to a cumulative 2.0 GPA if the qualitative measurement was not met. If the student does not earn the minimum required credits, he/she must earn the deficit credits the next term that he/she is enrolled in addition to the minimum credits required by the next term. (Example: if a full-time student is deficient by 4 hours fall semester, a total of 4 + 8 credits with an appropriate GPA must be maintained spring semester).

4. **Cancellation of Eligibility**

   The second consecutive term a student fails to meet one or more of the minimum progress standards, he/she will have his/her eligibility for financial aid cancelled.

Financial Aid

5. Regaining Eligibility

To regain eligibility for financial aid, the student will be required to regain a cumulative 2.0 GPA at his/her own expense. If the student did not earn the minimum credits for which he/she received aid, the student must earn the number of deficit credits, as indicated in point 3 above, at his/her own expense.

If the student is re-enrolling after an absence of one or more terms and has had financial aid cancelled, the minimum qualitative and quantitative standards to regain eligibility must be met. If he/she feels extenuating circumstances prevented these standards from being maintained, an appeal may be made in writing to the Financial Aid Appeal Committee.

If the student is reinstated for financial aid as a result of an appeal, attendance and compliance with the committee's instruction letter will be monitored. If the student is reported as not attending classes or not complying with the terms of the appeal, any subsequent financial aid will be cancelled.

6. Transfer Students

Students transferring to DMACC may have credits accepted at DMACC but accepted credits will not be figured into the cumulative GPA. Students will be held responsible only for academic progress made at DMACC.

7. Appeals of Cancellation of Eligibility

A student may submit a written appeal documenting extenuating circumstances that prevented him/her from meeting minimum standards. Appeal forms will be mailed with the cancellation letters. The deadline for a written appeal will be indicated on the appeal form included with the letter of cancellation. Additional forms are available at the Financial Aid Office, Ankeny Campus; and the Business Offices at the Boone, Carroll, Newton, Urban and West campuses.

A student may be required to meet with an academic counselor before aid is finalized. Following the Appeal Committee's meeting, students may call the Financial Aid office concerning the Committee's decision. In addition, a written summary of the Committee's decision will be mailed to the individual student.

8. Duration of Eligibility

Students who have earned two (2) Associate Degrees at DMACC will need to seek the advice of an academic counselor before receiving further financial aid.

Students who have earned 150% of the number of credits required to graduate in their program will need to seek the advice of an academic counselor before receiving further financial aid. (Example: the student's program requires 64 credits for completion; the student has earned 96 credits without completing the program, he/she will need to seek advice from an academic counselor).

NOTE: The student's program of study may require more credit hours than the minimums stated by this policy.

Repeating Classes

Financial Aid will monitor students with excessive retakes and this may result in a financial aid warning or cancellation.

What happens when students retake a class that has a grade higher than an 'F'? The credits are reduced in the semester the original class was taken. This could result in the student being short credits.

Example:

A part-time student enrolled in 7 credits gets a "D" in a 4 credit class in the fall and maintains a GPA of 2.0. His status is satisfactory. If he retakes that class in the spring, those 4 fall semester credits will be removed and his status will be deficit one credit and would be on warning, even if the spring semester credits and grades were satisfactory. The credits you earn for a class you have already passed will not be counted toward the number of credits required in the Quantitative Measurement for Satisfactory Academic Progress.

A re-take of a class that has been passed will not make up deficit credits because it only replaces the grade for credits you have earned.

Never Attending Process
(10th day — NA)

Prior to the 10th day of class, instructors are provided class lists and must identify students who have never attended their class. Students will receive a letter indicating the classes that were reported. Students are instructed that if they have been reported in error, they need to obtain their instructor's signature and submit the signed letter to the Information Center by the deadline provided. If the letter is not returned, the student is dropped from those reported classes and the student's financial aid is adjusted accordingly. If a balance is then due, a letter is sent to the student indicating the amount and a due date.

Quit Attending Process
(mid-term — QA)

Instructors are asked to report students who have quit attending. A letter is sent to the students showing what classes have been reported as QA. They must obtain the instructor's signature and submit the signed letter to the FAO. If all instructors report a student as QA, a Return to Title IV calculation is completed. The student is dropped from his classes and receives a letter telling him of any amount he may owe to the college or Department of Education and the methods of repayment. Those students who are reported in some, but not all of their classes as QA should consider dropping those courses in order to avoid getting a failing grade.

Leave of Absence

A leave of absence may be granted to a student who leaves DMACC for military reasons or for jury duty. Only one leave per academic year will be allowed. The student must return by the end of the leave of absence or the student is treated as a withdrawal.

Financial Aid Recipients

If any amount of tuition is paid with funds from a Title IV Program and the student withdraws during the established refund period, the Title IV program funds will be adjusted and any unearned aid will be returned in the following order: Loans: Federal Unsubsidized, Federal Subsidized and Federal Plus. Grants: Federal Pell Grant, Federal Supplemental Educational Opportunity Grant and Other Title IV programs.

Under federal law DMACC must return the funds as soon as possible, but no later than 30 days after DMACC determines the student's withdrawal date.

Check out your Financial Aid on the Web at: **www.DMACC.edu**
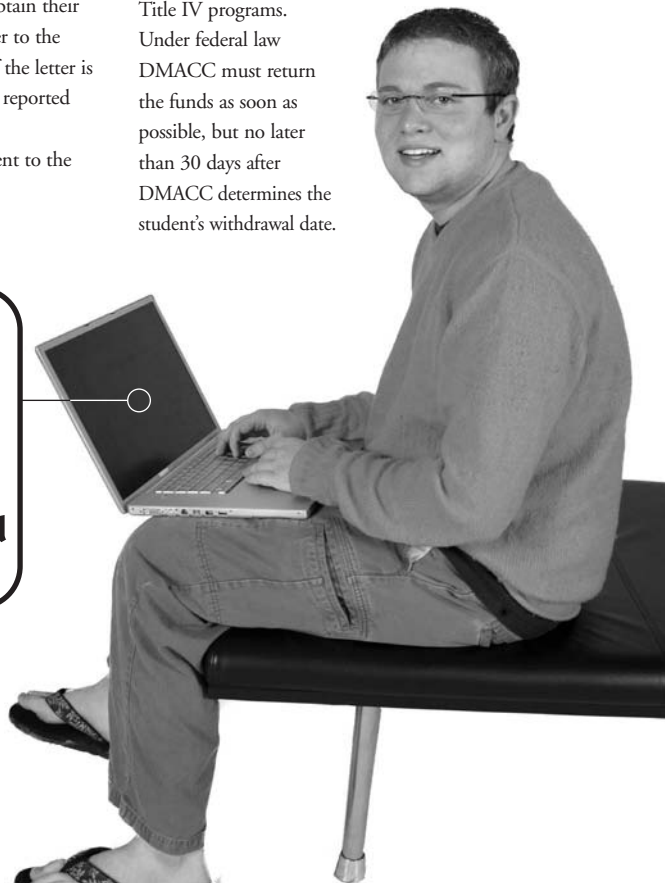
Financial Aid

Return of Financial Aid Title IV Funds

A student's financial aid is based on the number of classes the student is enrolled in and the number of days the student is enrolled in classes. When a student initiates a withdrawal from one or more classes the amount of financial aid the student is eligible to receive is affected.

The Return of Title IV funds to the federal government is based on a calculation which determines how much aid the student is eligible to receive and how much the student is no longer eligible for, because he/she is no longer enrolled in school. This calculation is applicable until the student has completed more than 60 percent of the semester. Once the student has completed more than 60 percent of the semester, all financial aid is considered earned.

For example:

If a student completed 10 percent of the semester, the student will have earned 10 percent of the financial assistance awarded for the semester. Any aid above and beyond the 10 percent is considered un-earned and must be returned to the federal government.

Who Is Responsible for Returning the Unearned Funds?

As prescribed by federal law DMACC is required to return the lesser of:

- The unearned amount of the financial aid; or
- An amount equal to the student's total institutional charges for the semester, multiplied by the percentage of unearned aid. As prescribed by federal law the amount the student must return is:
- The unearned amount of Title IV assistance minus any funds DMACC returned.

If the student is required to repay unearned loan funds, these funds will be repaid in accordance with the terms of the promissory note. That is, through scheduled payments to the holder of the loan over a period of time.

If the student is required to repay unearned Pell and/or SEOG Grant funds, the law provides that the student is only required to return 50 percent of the unearned grant. Any unearned grant money must be repaid by either making arrangements with DMACC or with the U.S. Department of Education.

Example:

Bill Dollar is a returning student from Des Moines who was disappointed to have to withdraw from DMACC during the semester, particularly since he is doing very well in the twelve credit hours he is taking. Bill has to withdraw for personal reasons.

Bill was awarded the following financial aid, which was credited to his student account:

Federal Direct Student Loan...............................$1,261

Federal Pell Grant 998

Federal SEOG..250

Total Financial Aid Awarded $2,509

Bill completed only 11 days of classes or 10 percent of the semester. Bill's tuition and fee charges for the full semester are $1,140.00.

To determine how much money must be returned by DMACC and Bill, the financial aid staff must first determine how much financial aid Bill did not earn.

Since Bill only attended 10 percent of the semester, he only earned 10 percent of his financial aid. Therefore, the unearned percent of his financial aid is 90 percent.

Total Financial Aid Awarded $2,509

Multiply Percent of Unearned Aid ....X .90

Amount of Unearned Aid.............................$2,258.10

Per federal requirements, DMACC and Bill must repay a total of $2,258.10.

DMACC is required to return the lesser of the unearned amount of financial aid or the amount of total institutional charges multiplied by the percent of unearned aid.

In this example DMACC would be required to pay back the amount of institutional charges because it is the lesser amount.

Total Institutional Charges............................$1,140.00

Multiply Percent of Unearned Aid ....X .90

Amount to be Repaid....................................$1026.00

Bill is required to return the remaining unearned amount.

Total Unearned Aid......................................$2,258.10

Subtract Percent of Unearned Aid.................-$1026.00

Amount Bill Must Repay $1,232.10

Amount and Order of Repayment

In the example, both DMACC and Bill must return loan funds. After completing the calculations and following the repayment guidelines it was determined that DMACC should repay $1026.00 to Bill's loan. Bill will be required to repay $235.50 to the Federal Direct Student Loan Program, through a repayment plan in accordance with the terms of his promissory note.

In addition, based on the calculations, $997.10 of Bill's Pell Grant was unearned. As DMACC has already paid the total amount it owes to the loan program, Bill is responsible for paying back the unearned Pell Grant. However, because the unearned Pell Grant money is to be repaid by Bill (the student), only 50 percent of the unearned grant must be repaid.

Unearned Pell Grant $997.10

X   .50

$498.55

Title IV Grant Overpayment

If a student is required to repay an unearned grant (over-payment), the student will remain eligible for Title IV aid up to 45 days after the student has been notified of the overpayment. The student may resolve the overpayment by repaying the overpayment in full to DMACC, by making satisfactory repayment arrangements with DMACC, or by making satisfactory repayment arrangements with the U.S. Department of Education.

Outstanding Balance on DMACC Account

If a student withdraws from DMACC prior to completing 60 percent of the semester, the student is responsible for paying any outstanding tuition and fee charges that remain after DMACC has repaid any unearned financial aid to the federal government.

Example:

Bill's tuition for the term is $1,140.00. Because Bill withdrew during the third week of classes (11 days), his tuition refund is calculated at 0 percent. Because Bill only earned 10 percent of his financial aid, only $251.00 of his DMACC bill was covered. Bill still owes DMACC $889.10. He will need to make payment arrangements with the DMACC Student Accounts Office.

Post Withdrawal Disbursement

The federal law provides that, if a student did not receive all of his/her earned financial assistance prior to leaving school, DMACC may credit a student's account for any outstanding institutional charges. However, DMACC must seek the student's written permission within 30 days of the student's withdrawal date to do so.

Questions Concerning Return of Financial Aid Title IV Funds

Contact the DMACC Financial Aid Office by calling 1-800-362-2127, ext. 6282 for additional information concerning the Return of Title IV Aid or at www.DMACC.edu/finaid.htm. As the regulations governing Return of Title IV aid are subject to change, refer to DMACC's financial aid web site www.DMACC.edu/finaid for up-to-date information.

Academic Information

Academic Integrity

Academic integrity, doing one's own work in course assignments and in tests, is one of the most important values in higher education. Receiving credit for plagiarizing or cheating violates that value. It is unacceptable for students to submit another person's work as their own. If students quote, summarize, paraphrase, or use an author's idea, they must acknowledge the source, otherwise they are plagiarizing. Allowing others to accept credit for work not their own in tests or in written and oral reports is also cheating. Students who plagiarize or cheat will be held accountable by their instructor and are subject to the sanctions outlined in the Academic Misconduct Procedure.

Academic Recognition

Dean's/Provost's List: Students who have earned 6 credits in any term with a 3.500 to 3.99 grade point average are honored by being named to the Dean's/Provost's List. Students are mailed a certificate from their respective Dean or Provost and the names of students on the list are published in their "hometown" newspaper.

President's List: Students who have earned 6 credits in any term with a 4.00 grade point average are honored by being named to the President's List. Students are mailed a certificate from the president and the names of students on the President's List are published in their "hometown" newspaper.

Attendance & Enrollment

Students have the primary responsibility for dropping courses or withdrawing from the College if they decide not to attend. The College, however, has administrative procedures whereby students may be dropped.

At the beginning of the semester, instructors are asked to report the names of students who do not attend class. Students are notified and, if they wish to remain in class, must obtain their instructors' written permission. Financial aid may be adjusted for students who are administratively dropped.

When one-third of the term has passed, instructors are asked to report students who quit attending class and/or who have grades below 2.0. All students on the report are notified. Those students who quit attending all courses and have financial aid may be dropped. Students may be required to repay financial aid under the federal repayment formula and will be notified. (For information on the Return of Title IV Funds, please see the Financial Aid section.) The students will have the established options to appeal in writing to the Financial Aid Appeals Committee or the Petition for Policy Waiver Committee.

Auditing Courses

Students may enroll in any course on an audit basis if space is available. The same tuition and fees are due for audited courses. Each audited course will appear on the student's transcript with no credit and a mark of audit ("N"). Students auditing courses are not required to complete regular assignments or examinations, though attendance is expected. Enrollment on an audit basis does not qualify for financial aid or insurance purposes.

The deadline for changing a course from "credit" to "audit" is the same as the deadline for dropping classes. The completion of a Drop/Add form is required. Once a class has been placed on an audit status, it cannot be changed back to credit.

Grade Reports

Final grade reports are issued from the Office of Academic Records approximately one to two weeks after the end of a term.

Progress grade reports are issued from this same office prior to midterm and the deadline for dropping classes. This report notifies students who are not progressing satisfactorily (receiving F, D-, D, D+, or C-grades) of services available to help them improve their academic performance. Students who have quit attending class are also notified. Students should be aware that there is not 100% participation in progress reporting. If there is a question about their grades, students should contact their instructors.

Grading System

Grading Scale

The grading scale and designations for DMACC coursework are listed below. Please note that it is the option of each faculty member whether or not to incorporate the plus/minus values into their grading scale. The course syllabus should specify the grading scale.

Letter Grade	Numerical Value
A	4.00
A-	3.67
B+	3.33
B	3.00
B-	2.67
C+	2.33
C	2.00
C-	1.67
D+	1.33
D	1.00
D-	.67
F	.00

Other Grade Designations:

W	Withdrawn
P	Pass
I	Incomplete
T	Testing
N	Audit
L	Life Experience

Computing GPA

The method of computing grade point average (GPA) is as follows:

a. Multiply hours of credit in each course by the appropriate numerical value of the grade to find the quality points.

b. Total the quality points earned.

c. Divide the total quality points earned by the total number of semester hours taken (excluding courses in which a "W", "I", "N", "P", "T", or "L" was received).

Example:

	Semester Hours	Grade	Quality Points
Composition I	3 X	B+ (3.33) =	9.99
Fundamentals of Speech	3 X	A (4 .00) =	12.00
Finite Mathematics	4 X	C- (1.67) =	6.68
Intro to Computer Literacy	3 X	C+ (2.33) =	6.99
Elementary Spanish	4 X	D+ (1.33) =	5.32
TOTAL	17 semester hours		40.98

Divide 40.98 points by 17 semester hours = 2.411

Repeat Coursework

Students may repeat a course previously taken at DMACC if the course is currently being offered. When a course is repeated, only the hours and the grade point value of the last grade earned will be included in calculating the grade point average. Earlier grades recorded for the repeated course will remain on the transcript record, but will be excluded from the GPA calculation. Withdrawing from a course that is being repeated and receiving a grade of "W" does not constitute a course repeat.

Repeat Symbols

I Grade value included in the GPA calculation

E Grade value excluded in the GPA calculation

The repeat symbol will be noted in the far right column on the transcript record next to the respective course.

Example:

FL 92-93 PSCH 101	**D**	**3.00**	**E**
SP 95-96 PSCH 101	**A**	**3.00**	**I**

Grade Appeals

Students should first attempt to resolve the matter with their instructors. If students wish to proceed further, they should follow the steps outlined in The Appeal Process for Final Grades. A copy of this procedure is available in any DMACC Student Service office. An ombudsperson is available on each campus to assist with the appeal process.

Academic Information

Repeat, Incomplete and Failing Mark Policies

Students unable to complete some portion of assigned course work during the regular term may sign a contract with an instructor approving an "I" (Incomplete) grade. In such cases the students must complete the course by the midterm date of the following term. Incomplete grades are generally not approved unless there is an extenuating circumstance such as serious injury or illness. An extension of time to complete the work for the course may be granted by the instructor until the end of the term. "Incomplete" grades automatically change to "F" grades if the work is not satisfactorily completed within the time period specified.

Students who fail a required course, must repeat and pass that course at Des Moines Area Community College in order to fulfill graduation requirements. Whenever a course is repeated, only the latter grade is included in the computation of the grade point average. This privilege does not pertain to courses failed while in attendance at other colleges and universities. Des Moines Area Community College cannot make changes in the grades issued by other institutions. Withdrawing from a course that is being repeated and receiving a grade of "W" does not constitute a course repeat.

Other Credit Options and Special Offerings

Advanced Placement (AP)

This program allows students, while still in high school, to take examinations for credit at the college level. DMACC awards credit for advanced placement through the Advanced Placement Program in art, computer science, English, foreign languages, history, mathematics, music and sciences. AP credit will be applied to the student's permanent record as transfer (TRF) credit after a minimum of 12 semester hours of credit has been successfully completed at DMACC.

Advanced Standing Credit

A maximum of 30 semester hours of credit may be earned through proficiency examinations, military credit, national standardized tests and employment experience. Advanced Standing credit with the exception of transfer credit will be included on the student's permanent record after 12 semester hours of credit have been successfully completed at the college. Credit will not be granted if

students have successfully completed college courses representing the same content.

Alternative Methods for Obtaining Credit

Students may obtain college credit for competencies gained through formal training, work experience, or certain approved examinations. Some alternative methods available include:

- Converting DMACC continuing education coursework to credit.
- Converting DMACC corporate training to credit.
- Earning credit for experiential learning through portfolio development or skills demonstration.
- Earning credit through the assessment of work experience.
- Converting certification or licensure from a state or national examination to credit.

Students should first examine the competencies for courses to determine which course or courses provide instruction in the subject area. Course competencies are available on the Internet via the DMACC homepage. "Student Application for Alternative Credit" forms are available in the Academic Records Office. Students then contact the dean or department chairperson in that subject matter area who will determine if there is a possibility of obtaining credit and the method of assessment that may be available and appropriate for that course. Students may be required to complete a challenge test, develop a portfolio and/or provide documentation. There is a charge for awarding alternative credit. Credit for employment experience is limited to courses that meet program requirements for internship, career courses, practicum, clinical experiences, field experiences and seminars related to these types of courses.

Any credit awarded through alternative means will be posted to the transcript with marks of "T" or "L" which are not included in the grade point average.

Challenge Tests

(Local Department Examinations)

Students who have met the entrance requirements of the College and who are matriculating in a program of study leading to a degree, diploma or certificate may take locally constructed departmental examinations for credit in certain specified areas for which they and the department feel they have the necessary preparation.

- Students may challenge test a course only once. This can occur at any time prior to formal registration in that course or, if the students are enrolled in the course, by the designated drop date for the course.
- A course that is a prerequisite to a course that has been successfully completed cannot be challenged.
- A challenge test cannot be used as a course repeat.
- Credit earned by challenge testing is entered on students' permanent record only when students have earned 12 credit hours at DMACC. A "T" grade is earned and is not included when computing grade point average.

Students interested in taking a Challenge exam should contact the appropriate educational department for specific information on tests available and fees for testing.

Credit for Educational Experience in the Armed Forces

Educational experiences in the armed forces can be validated and accepted for credit by the College. Credit is granted based on state-wide policies at Iowa colleges and universities and based on the applicability of the educational experiences toward meeting the requirements in the student's program of study. An American Council on Education (ACE) publication, "Guide to the Evaluations of Educational Experiences in the Armed Services," is generally used in making these determinations.

Credit is awarded only for significant learning experiences as recommended by the ACE guide. No credit will be awarded based on the Military Occupational Specialties evaluation program.

Credit may be awarded for course work completed via correspondence, classroom study and/or examination through the United States Armed Forces Institute. Credit may also be granted on the basis of scores earned on the Subject Standardized Test of the Defense Activity for Non-Traditional Educational Support. Copies of transcripts showing such work will be evaluated by the Office of Credentials.

College Level Examination Program (CLEP)

Des Moines Area Community College will award credit based on scores obtained on the General examinations and Subject examinations. Up to 30 semester hours of credit may be granted. CLEP credit will not be granted if it duplicates credit for a course already taken. A minimum of 12 semester credit hours must be successfully completed at DMACC before the CLEP credit will be applied to the students' permanent records.

CLEP testing is available on the Ankeny campus. Contact the Assessment Center for more information.

Cross-Enrollment

Under a special agreement, a limited number of students may enroll, tuition free, in one course at Drake University, Grand View College, or Iowa State University fall or spring semester, provided they are taking at least 12 semester hours at DMACC, have earned 12 semester credits (including transfer credit) and have a cumulative 2.0 GPA. This credit will be added to the DMACC transcript according to transfer credit guidelines. This agreement does not apply to summer session. For more information on Cross Enrollment, contact the DMACC Registration Office.

Academic Information

High School Articulated Courses

DMACC has entered into joint enrollment agreements with some of the high schools in the district. Specific courses are offered in the high schools under curriculum guidelines jointly approved by DMACC and the high school. Credit earned through these agreements is recorded as transfer (TRF) credit.

Articulated credit is recorded on the students' permanent records after the students have applied for admission, earned 12 credits at DMACC and paid the required fee for each course being articulated.

Independent Study

Independent study provides an opportunity for the above-average student to do independent research in areas not covered in the regular curriculum or to explore in greater depth a topic covered in a course. Each independent study project must be arranged in advance through a supervising faculty member. The standard tuition charge will be made. Independent study may not be used to earn credit for any courses listed in the College catalog or substitute for any required or option courses in a program. Each independent study may be for one, two or three credits. A maximum of four hours of elective credit in any one term and eight hours in total may be earned through independent study. Students may register for course work in independent study at any time during the term.

International Travel/Study Courses

DMACC faculty in a range of disciplines have traveled extensively, lived or studied in countries around the globe. Wishing to share their interest in and expertise of a particular country or region of the world, these faculty members arrange international travel and travel/study opportunities for students. Since the tours are educational travel, students may receive academic credit on designated trips. These international travel/study programs permit students to spend one or two weeks exploring a country, with additional time spent at home reading, writing and reflecting about the country they have experienced. Most travel/study courses are independent study credits issued under a global studies (GLOS) acronym.

For information on the Study Abroad in England program or international travel/study courses, please contact the Global Studies chairperson at 515-965-7032.

Postsecondary Enrollment Options Act

Eligible high school students may be accepted for admission to DMACC under Iowa's Postsecondary Enrollment Options Act. Approval by the high school is mandatory before any high school student may be accepted under this program. If the student is approved and accepted, the high school will pay up to $250 per course of the cost of the tuition, fees, books, materials and supplies. Students enrolled under this program take DMACC courses and credit is earned as DMACC credit.

Semester Abroad

DMACC offers students an opportunity to take selected classes in English, speech, history and humanities during a spring semester Study Abroad in London program. The program is offered by DMACC as part of the Iowa Community College International Association's Study Abroad Consortium. Students from all 15 of Iowa's community colleges spend 10 weeks in London studying with an Iowa community college instructor. A British professor at the University of London teaches British Life and Culture, a mandatory course in the curriculum. Classes are held on the University of London campus. Students reside with families in local homes. In addition to lectures and class discussions, students are able to take advantage of an expanded classroom, as they tour museums and historic monuments and attend live theatre performances in London and the surrounding area. Students are expected to enroll for 12 credits, which may include some independent study work. Program arrangements are made by the American Institute for Foreign Study, which specializes in study abroad programs for colleges and universities. Financial aid is available for study abroad.

Scholastic Standards

The following applies only to credit enrollment at DMACC.

Passing grades are required in all courses outlined in the program of study. The cumulative grade point average of 2.000 in all course work applicable to the degree, diploma, or certificate of specialization is required for satisfactory completion or progress.

Students who have attempted 12 or more credits with grades of A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F or P at Des Moines Area Community College are subject to the following academic progress standards:

1. Satisfactory academic progress is indicated by a cumulative grade point average (GPA) of 2.000 or higher.

2. Guidelines for placing a student on "ACADEMIC PROBATION":

   a. A student whose cumulative GPA falls below 2.000 at the end of any term will be placed on ACADEMIC PROBATION for the next term of enrollment.

   b. Students on ACADEMIC PROBATION who are assigned more than one grade of C- or less grade at progress report time will be restricted from registering for future credit coursework until they have developed an Educational Achievement Plan with a counselor, advisor and/or program chairperson and obtained the appropriate signatures for approval.

   c. A student on ACADEMIC PROBATION will return to a status of "good academic standing" when his/her cumulative GPA is raised to 2.000 or higher.

   d. A student on ACADEMIC PROBATION will continue on probationary status if his/her term GPA for the term following his/her placement on probation is 2.000 or higher but the cumulative GPA remains below 2.000. This same rule will apply for the next term of enrollment.

   e. The College will not award a Certificate of Specialization, Diploma, or Degree to a student who has a GPA below 2.000 in his/her chosen program of study. Only grades for coursework applicable to the chosen program of study will be calculated in the program GPA.

3. Guidelines for placing a student on "CONDITIONAL ENROLLMENT:"

   a. A student on probation who earns a term GPA of less than 2.000 will be placed on CONDITIONAL ENROLLMENT for the next term of enrollment.

   b. If the student is registered for the following term and is placed on CONDITIONAL ENROLLMENT for that term, he/she will be required to meet with a counselor/advisor no later than the first day of the CONDITIONAL ENROLLMENT term to review his/her course selections. Failure to comply will result in canceled classes.

   c. If the student placed on CONDITIONAL ENROLLMENT is not registered for the next term, he or she must meet with a counselor/advisor prior to re-enrolling in credit coursework.

   d. A student on CONDITIONAL ENROLLMENT who is assigned more than one grade of C- or less at progress time will not be allowed to register for the following term until his/her conditional enrollment term final grades are recorded.

   e. A student on CONDITIONAL ENROLLMENT who earns a term GPA of 2.000 or higher, but the cumulative GPA remains below a 2.000, will be placed on ACADEMIC PROBATION.

   f. A student on CONDITIONAL ENROLLMENT who earns a term GPA and a cumulative GPA of 2.000 or higher will be placed in good standing.

4. Guidelines for placing a student on "ACADEMIC SUSPENSION": A student on CONDITIONAL ENROLLMENT who earns a term GPA of less than 2.000 will be placed on ACADEMIC SUSPENSION and will not be allowed to enroll in credit coursework for a period of one term.

Academic Information

5. Guidelines for RE-ENROLLMENT OF SUSPENDED students:

   a. After the non-enrollment period, a student on ACADEMIC SUSPENSION may apply for re-enrollment. Students who are placed on academic suspension at the end of the spring semester may not re-enroll until the following spring semester.

   b. In all instances, a readmitted student will be placed on CONDITIONAL ENROLLMENT.

   c. A student seeking re-enrollment must develop an Educational Achievement Plan with a counselor/advisor and/or program chairperson and obtain the appropriate signatures for approval.

   d. A student on Academic Suspension for a second or subsequent time may re-enroll only after receiving written approval of the Director of Student Development.

   e. Individual programs may impose additional re-enrollment requirements.

6. A student placed on ACADEMIC SUSPENSION may appeal. Students wishing to appeal should contact the Director of Student Development, Ankeny Campus.

Student Records-Confidentiality

Student Records – Confidentiality – Family Educational Rights and Privacy Act (FERPA)

Des Moines Area Community College complies with the laws the State of Iowa and the United States in the maintenance of, access to, and release of student records. All procedures conform to the Family Educational Rights and Privacy Act (FERPA), sometimes referred to as the Buckley Amendment.

At its discretion DMACC may provide certain information designated as "Directory Information" to the public unless students have requested that their Directory Information not be released.   Directory Information is defined as: student name, address, telephone number, date and place of birth, major field of study, dates of attendance, degrees and awards received, most recent educational institution attended, participation by the student in officially recognized activities, weight and height of members of athletic teams, and e-mail address.

With the exception of the Directory Information items listed above, all student records are considered to be confidential and are only open to College employees with a legitimate educational interest in the records and others as designated in the College's FERPA procedure. Except as provided for within the Act, personally identifiable information about students will not be released without the student's written permission.

Under FERPA students also have certain rights to inspect and review their education records, request amendment of their records, consent to disclosure of personally identifiable information contained in education records, and file a complaint with the U.S. Department of Education concerning an alleged failure to comply with FERPA.

To obtain copies of the procedure and more detailed information contact the Registrar's Office on the Ankeny campus.

Transfer Credit

A maximum of 43 semester credit hours of transfer credit is applicable toward associate degree requirements. The total grade point average of credits transferred to DMACC must equal 2.0 or higher. Some programs, e.g. Health Service programs and Accounting Specialist, may require a minimum grade of "C" in specific courses that fulfill a degree requirement. Grades earned at other colleges or universities will not be used in the computation of students' GPA at DMACC. Refer to Admission section on the Evaluation of Previous Training and Education for more details on transcript processing and transfer credits.

Transcript Requests

Des Moines Area Community College will send or issue a transcript when students or former students submit a signed, written request. Students can mail or FAX requests to the Office of Academic Records. Transcript request forms are available at each campus, but a letter requesting a transcript will be honored.

Transcript requests should include the student's name, social security number, telephone number, dates of attendance and the address to which the transcript should be mailed.

Except during peak periods, transcripts are sent within two working days after the receipt of the request. During peak periods transcript requests are processed in the order they are received. There is no fee for transcripts unless special services are requested. In order for the transcript to be official, it must be sent directly to the receiving institution. Any copy of a transcript that is issued to students is considered to be unofficial. Transcripts will not be issued for students who have an unpaid financial obligation to Des Moines Area Community college.

Students who have access to the DMACC Web Info System can view an unofficial copy of their transcript on the Internet.

Transferring from DMACC to Another Institution

- Students considering transfer to another college or university should contact an admissions or transfer counselor at that institution early in the planning process.

- The transferability of Des Moines Area Community college courses to other colleges and universities is determined by the receiving institution.

- Official college or university transcripts and high school transcripts are required during the application process. Students should request these documents from all prior schools be sent directly to the transfer institution.

- A financial aid transcript may be required from each college or university attended in order to receive aid at the transfer institution.

- Students should keep a copy of all the catalogs of colleges attended. These may be needed when discussing transfer credit.

Copies should be kept of all documents completed as well as a record of names and phone numbers of people contacted at the transfer institution. This will help if there is a need to clarify information in the future. Applications for most major Iowa colleges and universities and information on colleges and universities throughout the United States, are available in the Career Resource Center in Building 1, Ankeny campus.

Program Requirements & Graduation

Programs of Study

Instruction is offered in a variety of courses and programs to meet the diverse needs of DMACC students. Students may engage in areas of study which emphasize:

Arts and Sciences

- General Education curriculum is designed for students intending to transfer to a four-year institution. Students may also take these courses for enrichment or with the intent of concluding their education with an associate degree.
- Para-professional curriculum prepares students for employment in a variety of public service fields. Students may also transfer to a four-year institution.
- Pre-professional curriculum provides the recommended courses for the first two years of study in various professions.

Vocational Education

- Vocational/Technical programs are designed to teach the essential skills and operational theory needed to ensure occupational competency. Vocational/Technical programs are designed to fulfill the employment needs of the community.

Continuing Education

- Continuing Education is designed for vocational training, professional advancement, personal enrichment, physical fitness, or just the pleasure of learning. Classes, workshops and seminars are designed for those to whom academic credit is not required. These courses have no tests, grades, or homework.

Pre-College Programs of Study

- College Preparatory courses are designed to aid students whose educational background requires strengthening to achieve success in regular college-level courses.
- Adult Basic Education (ABE) is designed to provide individualized instruction to adults who need development or review of basic reading, language, or mathematical skills. ABE services are provided to adults who are seeking high school completion, vocational advancement, further training, English as a Second Language and general improvement of everyday living skills. Classes are offered in many locations throughout the college district.
- The Adult High School Diploma program is designed for adult students seeking a high school diploma. Courses required of all students enrolled in the program are:
- Two credits in American History
- One credit in American Government
- Two credits in Mathematics
- Two credits in Science
- Four credits in English
- Elective courses shall be completed to meet a minimum requirement of 32 credits.
- Iowa High School Equivalency Diploma is awarded by the State of Iowa through the Iowa Department of Education. Eligible adults may earn this Diploma by achieving passing scores on the General Education Development (G.E.D.) test administered by the College.

Transfer Information

DMACC offers the first two years of most baccalaureate degree programs. Students can attend DMACC for their first two years and earn an Associate in Arts (AA) or Associate in Science (AS) degree.

Articulation agreements and major transfer plans have been developed to assist students in transferring. Four-year colleges/universities vary in the required number and nature of pre-professional and general education courses which should be completed at DMACC.

The information included in the AA degree will change as four-year colleges/universities change their degree requirements, so students should contact the admissions office at the four-year institution they expect to attend as soon as possible after beginning at DMACC. Because other colleges can change their requirements, articulation agreements and transfer plans cannot be considered an agreement or contract between students and DMACC or its staff.

Transfer plans are available for some vocational programs to selected colleges.

The advisors and counselors at each campus are available to work with students in planning their program and assisting them in making decisions for a successful transfer. The following information is available for students:

- Transfer Plans for different majors at various colleges/universities
- General articulation agreements between DMACC and colleges/universities
- College/university catalogs
- Admission applications for some colleges/universities
- Dates of visits from college/university admission representatives
- Transfer scholarship information

Program to Assist College Transfer (PACT)

Students interested in transferring to Iowa State University in either the College of Business or the College of Family and Consumer Science after their course completion at DMACC are encouraged to participate in the Program to Assist College Transfers (PACT). PACT will assist students with a smooth transition between DMACC and ISU. Staff from the selected college will facilitate this transfer by:

1. Assigning students to an ISU advisor to help select appropriate coursework.

2. Inviting students to participate in ISU programs and activities appropriate to their major.

3. Assisting students with the ISU application process.

For more detailed information and program requirements contact any DMACC counselor or advisor.

Course Substitutions

On a limited basis, students may request course substitutions in their programs of study. Course substitution is defined as "the replacement of one course with another." Course substitutions will be allowed only:

- In clearly warranted situations, such as a scheduling conflict beyond the student's control.
- When the student clearly demonstrates knowledge/competency in the subject area for which the substitution is requested and when such knowledge/competency is accurately assessed through measures such as testing, documentation of prior course work, or certification.
- When the substituted course reflects similar or complementary content/skills.
- As a reasonable accommodation for a student with a disability. (See the procedure titled Reasonable Accommodations for Applicants for Admission and Students with Disabilities.)

Non-core courses may not be substituted for courses designated as core requirements for a particular academic award. Adjunct courses may not be used to meet degree requirements other than electives. In programs exceeding twenty-four (24) semester credit hours, no more than one-eighth (1/8) of the total number of credits may be substituted. In programs of fewer than twenty-four (24) semester credit hours, only one (1) course of up to four (4) semester credit hours may be substituted.

Students who wish to request a course substitution should contact the program chairperson in their area of study.

Graduation Requirements

Students must satisfy the requirements in effect at time of enrollment in their program or the requirements in effect at the time of graduation.

If program requirements are not satisfied within five years of the first term of enrollment in their program of study, students can no longer use those requirements effective at the time they initially enrolled in their program and must complete the program requirements effective at the time of their graduation.

All requirements of the chosen program must be satisfied, although adjustments may be made where program curriculum has changed and courses are no longer available. It is the responsibility of the students to know and to observe the requirements of their curriculum and the rules governing academic work. If students have an unpaid debt to the College, graduation awards will not be conferred.

Program Requirements & Graduation

Graduation Analysis Report

Students may visit the credentials/graduation office or mail a request to receive a report of their progress toward completion of requirements for a program of study. Students are encouraged to request a Graduation Analysis Report at least one semester prior to their planned graduation date to assist with planning their final semester.

Application for Graduation

Candidates for graduation must complete an application for graduation in order to receive their diploma. Students who do not complete requirements for graduation in the term for which they applied must submit a new application. Students who plan to participate in one of the annual commencement ceremonies indicate their intent on the application for graduation. There is no graduation fee. Students who plan to receive more than one degree, diploma or certificate need to complete a graduation application for each program. Candidates for graduation should submit their applications to the credentials/graduation office at the Ankeny campus or the Student Services Office at the other DMACC campuses by the following dates:

Fall...**October 1**
Spring..**February 1**
Summer...**February 1**
(if students plan to participate in the annual commencement ceremonies)
Summer ....**June 1**

Commencement Ceremonies

Students who graduate at the end of Fall, Spring or Summer terms are invited to participate in the annual commencement ceremonies in May. Participation in commencement ceremonies is free. Ankeny, Newton, Urban and West campuses have a combined commencement ceremony. The Boone and Carroll campuses have individual ceremonies.

Diplomas

Diplomas are mailed to students approximately three to four weeks after final grades are posted. Students seeking degree verification may request a copy of their transcript showing the degree awarded and date granted from the transcript office. Transcripts may be ordered prior to the end of the term to be sent once grades and graduation status are finalized. There is no charge for transcripts unless special services are requested.

Graduation Honors

Phi Theta Kappa

Phi Theta Kappa is a national scholastic honor society for students of two-year colleges. There are chapters on all DMACC Campuses. Membership may be conferred upon students who have completed at least 12 semester hours of course work with a 3.50 grade point average in courses that apply toward a two-year associate degree program. In addition, potential members must have high moral character and desirable qualities of citizenship and leadership. Interested students should contact the Phi Theta Kappa advisor at their campus for details about their campus chapter.

Graduation With Program Honors

Candidates for graduation who earn a cumulative grade point average of at least 3.50 in course work applicable to their program of study will graduate with program honors.

General Education

General Education integrates curricula in all degree and diploma programs at DMACC. It focuses on the knowledge and skills necessary for the understanding and effective application of many fields which include written/oral communications, pure/applied science, mathematics, social /behavioral sciences and humanities. The essential importance of general education remains a central principle in curriculum development at Des Moines Area Community College.

Students will acquire skills for lifelong learning by

1. Understanding and demonstrating effective communication.
   a. Write organized, clear and grammatically correct English, appropriate to purpose and audience
   b. Read a document and demonstrate an understanding of its content, such as by drawing inferences and distinguishing between major ideas and supporting detail and between fact and opinion.
   c. Present an organized oral message, appropriate to purpose and audience, using correctly spoken English.
   d. Listen attentively, respectfully and sensitively to a message and demonstrate an understanding of the message.
   e. Work collaboratively.
   f. Use technical communication effectively.
2. Understanding and demonstrating logical and critical thinking.
   a. Develop reasoned and thorough arguments.
   b. Analyze the arguments of others, distinguishing fact from opinion and identifying assumptions and inferences.
   c. Recognize and value the existence of different points of view.
   d. Analyze the conditions of a given problem and design solutions to it.
   e. Develop research techniques and acquire knowledge of bibliographic citation.
3. Developing an understanding of fundamental scientific principles and their application.
   a. Demonstrate an understanding of basic scientific principles.
   b. Apply scientific principles to analyze and solve problems in nature, culture and society.
   c. Make informed decisions, as citizens, on matters of public policy related to science.
4. Developing an understanding of fundamental mathematical principles and their application.
   a. Obtain correct mathematical results with or without technological assistance.
   b. Develop logical thinking skills that permit the selection of models appropriate to problems.
   c. Express models numerically, graphically and symbolically.
   d. Identify, interpret and manipulate relevant data.
5. Developing an understanding of human society and cross-cultural variation and perspective.
   a. Demonstrate an understanding of social and behavioral sciences and their application to the study of cultural diversity.
   b. Demonstrate an understanding of social and behavioral sciences and their application to the study of global cultures.
6. Developing a knowledge of and appreciation for the human condition as expressed in works of human imagination and thought.
   a. Demonstrate a fundamental knowledge of history, philosophy, literature, or the arts.
   b. Demonstrate an understanding of the impact of human expression on culture and of culture on human expression.
   c. Recognize the significance of historical context to culture and human expression.

Degrees Awarded

DMACC awards the Associate in Arts (AA), Associate in Science (AS), Associate in Applied Science (AAS) and Associate in General Science (AGS) degrees plus Diplomas and Certificates of Specialization. Course availability varies by campus.

Degrees

The requirements for the AA, AS, AAS, AGS degrees and the Diploma and the Certificate listed below represent the minimum content required in any program offering these degrees at Des Moines Area Community College. Specific programs may and often do, require additional course work. Students must refer to the programs of study, which are approved by the State Department of Education and published in this college catalog. For specific programs, see the program section for course requirements and listing.

Program Requirements & Graduation

Associate in Arts Degree (AA)

To receive an AA degree students must:

A. Maintain a 2.0 grade point average on all work applicable for the AA degree.

B. Earn at Des Moines Area Community College a minimum of 1/3 of the semester credit hours applicable to the degree being pursued. No more than 43 transfer semester credit hours may be applied toward the degree.

C. Complete the final 10 semester credit hours at DMACC (or petition to the Registrar for an exception).

D. Complete a minimum of 64 semester credit hours.

E. Include at least 48 semester credit hours of core courses.
- **Communications** ....**9 credits**
- **Social & Behavioral Sciences** ....**9 credits**
- **Math & Sciences** ....**9 credits**
- **Humanities** ....**9 credits**
- **Distributed requirements** ....**12 credits**

F. Include at least 16 semester credit hours of elective credit.

   1. Students may include no more than 16 semester credit hours of vocational/technical credit.

   2. Students may have up to 8 semester credit hours of Independent Study courses; a limit of 4 semester credit hours of Independent Study may be earned in any single semester.

For specific programs, see program section for program requirements and course listing.

Associate in Science Degree (AS)

To receive an AS degree students must:

A. Maintain a 2.0 grade point average on all work applicable for the AS degree.

B. Earn at Des Moines Area Community College a minimum of 1/3 of the semester credit hours applicable to the degree being pursued. No more than 43 transfer semester credit hours may be applied toward the degree.

C. Complete the final 10 semester credit hours at DMACC (or petition to the Registrar for an exception).

D. Complete a minimum of 64 semester credit hours.

E. Include at least 28 semester credit hours of core courses.
- **Communications** .... **9 credits**
- **Social & Behavioral Sciences** ....**6 credits**
- **Math & Sciences** ....**6 credits**
- **Humanities** ....**3 credits**
- **Distributed requirements** ....**4 credits**

F. Include at least 36 semester credit hours of elective credit.

   1. Students may include 16 semester credit hours of vocational/technical credit.

2. Students may have up to 8 semester credit hours of Independent Study courses; up to 4 semester credit hours of Independent Study may be earned in any single semester.

For specific programs, see program section for program requirements and course listing.

Associate in General Studies Degree (AGS)

To receive an AGS degree students must:

A. Maintain a 2.0 grade point average on all work applicable for the AGS degree.

B. Earn at Des Moines Area Community College a minimum of 1/3 of the semester credit hours applicable to the degree being pursued at DMACC. No more than 43 transfer semester credit hours may be applied toward the degree.

C. Complete the final 10 semester credit hours at DMACC (or petition to the Assistant Registrar for an exception).

D. Students must complete a minimum of 12 semester credit hours at DMACC after the effective date of the AGS degree (January 1, 1992).

E. Complete a minimum of 64 semester credit hours.

F. Complete the following core:
- **Communications** ....**3 credits**
- **Social & Behavioral Science/ Humanities** ....**3 credits**
- **Math & Sciences** ....**3 credits**
- **Distributed requirements** ....**3 credits**

G. **Electives - 52 credits**

Students may include no more than 8 semester credit hours of Independent Study courses; no more than 4 semester credits of Independent Study may be earned in any single semester.

Associate in Applied Science Degree (AAS)

Programs of study that lead to an Associate in Applied Science degree include specific courses required for the degree in addition to the core and general education requirements listed below. Refer to individual A.A.S. programs of study in this catalog to learn degree requirements in addition to these general requirements.

To receive an AAS degree students must:

A. Maintain a 2.0 grade point average on all work applicable for the AAS degree.

B. Earn at Des Moines Area Community College a minimum of 1/3 of the semester credit hours applicable to the degree being pursued at DMACC. No more than 43 transfer semester credit hours may be applied toward the degree.

C. Complete the final 10 semester credit hours at DMACC (or petition to the Registrar for an exception).

D. Complete all required courses in a particular program of study. (Minimum of 64 semester credit hours)

E. Students must satisfy the following core:

   1. Communications - 3 credits

      ENGL 117, ENGL 118, ENGL 119, ENGL 410, BTEC 205

   2. Social & Behavioral Sciences/Humanities - 3 credits

      AGRI411
      ANTH 120, 121
      ARTS 101
      ASL-101, 102, 103, 104
      CHIN 101, 102, 103, 104
      DRAM 110
      ECON 101, 102
      FREN 101, 102, 103, 104
      GERM 101, 102, 103, 104
      GEOG 141, 147, 148
      HIST 121, 122, 124, 125
      HUMN 115, 131, 133
      ITAL 101, 102, 103, 104
      JAPN 101, 102, 103, 104
      LITR 120, 121, 122, 123, 125, 130, 131, 132, 133, 134
      MGMT 203
      MUSI 130, 131
      PHIL 110, 111, 112, 113
      PHOT 105
      PLSC 111, 112, 121, 122, 126
      PSCH 101, 103, 104, 105, 106, 108
      SOCY 101, 102, 103, 105
      SPAN 101, 102, 103, 104

   3. Mathematics or Sciences - 3 credits

      BIOL 118, 119, 126, 127, 132, 133, 134, 140, 141, 142, 149, 154
      BSAD 152 or MATH 121, BSAD223
      CHEM 120, 131, 132, 151, 152, 161, 162
      ELEM 450
      ELHT 313, 323
      MATH 115, 118
      MATH 121 or BSAD152,
      MATH 122, 123, 124, 129, 130, 131, 132, 410, 411,
      PHYL 106, 111, 112, 121, 122, 401

   4. Distributed Requirement - 3 credits

      Choose one course from 1, 2, or 3 above or SPCH 110, SPCH 117 or ELEM 451.

Diploma

To receive a diploma students must:

A. Maintain a 2.0 grade point average on all work applicable for the diploma.

Program Requirements & Graduation

B. Earn at DMACC a minimum of 1/3 of the semester credit hours applicable to the degree being pursued.

C. Complete the final 10 semester credit hours at DMACC (or petition to the Registrar for an exception).

D. Complete all required courses in a particular program of study. (Minimum of 30 semester credit hours)

E. Complete the following core:
- One Communications course
- One Social & Behavioral Science course
- One Math course

Course options for the above core are listed in specific programs of study.

Advanced Standing Diploma
To receive an advanced standing diploma students must:

A. Prior to entry into the program, complete
- An associate degree or at least 64 semester credits of college-level course work from an accredited institution of higher education.
- One Communications Core course
- One Social & Behavioral or Humanities Core Science course
- One Math core course

B. Maintain a 2.0 grade point average in all work applicable to the advanced standing diploma.

C. Earn at DMACC a minimum of 1/3 of the semester credit hours applicable to the diploma being pursued.

D. Complete the final 10 semester credit hours at DMACC (or petition to the Registrar for an exception).

E. Complete a minimum of one general education course as part of the program of study.

F. Complete all required courses in the particular program of study which will include a minimum of 30 semester credit hours.

Certificate of Specialization
To receive a certificate students must:

A. Maintain a 2.0 grade point average on all work applicable for the certificate.

B. Earn at DMACC a minimum of 1/3 of the semester credit hours applicable to the certificate being pursued.

C. Complete the number of semester credit hours required in a particular program of study.

D. Complete all required courses in a particular program of study.

Certificate of Completion

A certificate of completion is issued to signify that a student has satisfactorily completed a program of instruction other than those listed above. Certificates are normally issued to students at the completion of a specific short-term program of study.
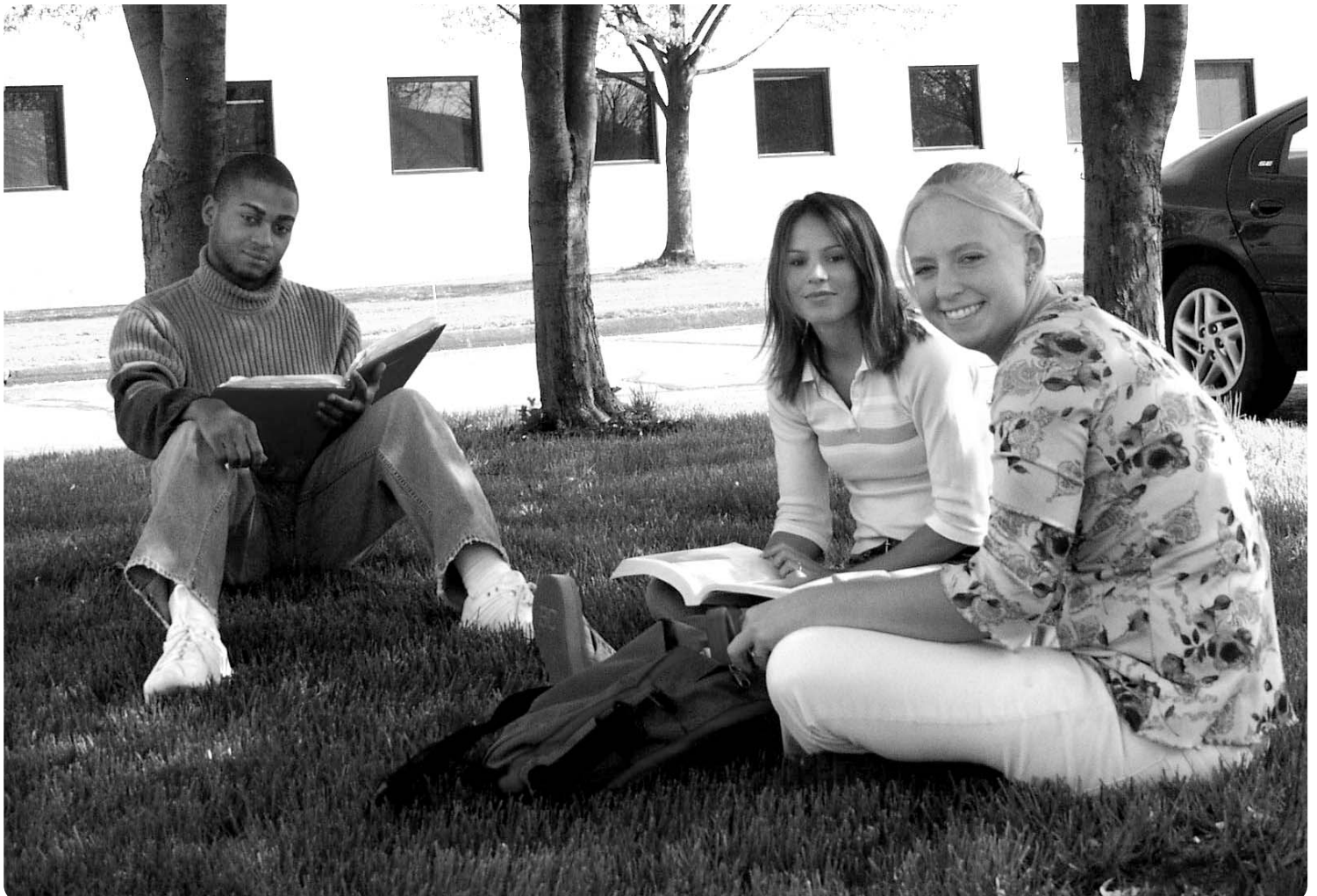
Student Services

Academic Achievement Centers

The Academic Achievement Centers located on each campus are available to all full-time and part-time students in the following categories:

1. Students seeking assistance with college course work, especially in the areas of math, science, English, reading and study skills.

2. Adults working toward high school completion (GED or adult high school diploma) or completing a program of basic literacy skills (ABE).

3. Students pursuing studies for academic upgrading, prerequisites, or enrichment.

Instructors will diagnose academic skill levels, establish individual programs of study and assist in the learning process. Students progress at a pace based on ability, interest, needs, and time available for learning.

Computer services are also available in the Academic Achievement Centers. These services include various educational and support programs in many areas and a computer-based educational system (PLATO).

Contact the Academic Achievement Center at each campus for additional information.

Alumni Association

Des Moines Area Community College has an active Alumni Association. Headed by a volunteer Alumni Board of Directors, the Association strives to remain in contact and provide service and benefits to alumni. Through annual fund-raising activities, the Association provides scholarships and grants to deserving DMACC students. For more information, contact the Alumni Office.

Assessment Centers

The COMPASS assessment is available for current and prospective students at each of the six DMACC campuses. Please call for an appointment.

Ankeny Campus 515-964-6595
Boone Campus 515-432-5096
Carroll Campus 712-729-8303
Newton Campus 641-791-1730
Urban Campus 515-248-7218
West Campus 515-633-2426

The Ankeny Assessment Center offers:

ACT, VUE, EMT-B & First Responder, LSAT, MCAT, MPRE, PRAXIS, and Plumbers & Steamfitters Local Union Math Test.

The Boone Assessment Center also offers CLEP testing.

Campus Security

Law enforcement and security is provided as warranted by existing conditions to help ensure the safety and security of our campuses. DMACC provides 24-hour/7 day security officer patrol of the Ankeny Campus. At the Urban Campus, security officer patrol is 7 a.m. through 10:30 p.m., Monday through Thursday; 7:00 a.m. through 3:00 p.m. Friday; and 8:00 a.m through 2:00 p.m. Saturday. Security measures may include uniformed security guards, closed circuit television, building security systems, exterior lighting, courtesy phones and attention to landscape materials. In addition, the Ankeny, Des Moines, Boone, Carroll, Newton and West Des Moines Police Departments patrol and assist the College in their respective jurisdictions. DMACC Security personnel administer traffic and parking regulations and provide assistance to the college community.

Career & Transfer Resource Center (CTRC)

The CTRC offers assistance and informational resources to students, prospective students and for career changers, for all stages of career planning. The CTRC has up-to-date information about hundreds of occupations. There are many resources available for Iowa's two-year and four-year colleges and universities as well as information on colleges throughout the United States. Students will find great tips and information for transfer planning. CHOICES, a computerized career-guidance system, is an excellent resource.

Appointments are preferred, but walk-in assistance is also available.

The CTRC resources will enable persons to learn about job requirements, job trends and salaries. Students will be better prepared for making decisions about school majors and costs. Career planners will organize personal interests and skills for making better choices. Call for appointment at 515-964-6474.

Child Care

The DMACC Child Development Center on the Ankeny Campus provides child care for the children of students and staff. Children ages 2 - 5 are eligible for child care during normal College business hours. Children must attend on a full or part-time regularly scheduled basis. The child care center is open year round on student contact days only. There is generally a waiting list. To request an application or for more information call 515-964-6588.

Children should not be brought to class or left unattended at any time in a classroom, at clinical sites, or on College property.

College Bookstores

The College bookstores are located at all DMACC campuses to serve students, faculty and staff.

In addition to course requirements, the bookstores stock supplemental study aids, paper products, office supplies, calculators, cassette recorders, computer supplies, seasonal and everyday greeting cards, imprinted gift items and up-to-date college fashions.

Hours of operation vary at each campus. Check with each bookstore for more information. During the first week of each semester, hours will be extended to accommodate evening and weekend students. During student breaks all bookstores will close early and hours will be posted.

A cash register or financial aid receipt is required for a full refund or exchange of any textbook. Textbooks may be returned within 14 days from the beginning of each semester, as long as the textbook is in the same condition as when purchased. Check with the bookstore for further details of the Bookstore Return Policy. Materials purchased with a check require ten working days for a cash refund.

Students whose books do not qualify for a refund are encouraged to use our book buyback at the end of each semester. Check with the bookstore about further details regarding the Buyback Policy. Representatives from wholesale companies may be present at the beginning of the semester and mid-term. Notices will be posted at least two weeks before the end of the semester with all necessary information.

Textbook purchases should be made at the campus location of your class. Mail orders from the Ankeny Campus bookstore are available for other off-campus courses. online purchases may be made through the DMACC Web Site www.dmacc.edu. MasterCard, VISA and Discover charge cards are accepted. A picture I.D. is required when writing a check in the bookstore. Students with prewritten checks from parents must also present a picture I.D. Checks must be written for the amount of purchase only and payable to DMACC or Knowledge Knook Bookstore.

Students receiving funds from an agency must pick up a voucher in Student Accounts before purchasing books and supplies.

Picture IDs are required for all Financial Aid and Voucher purchases.

Student Handbook

For more information about services, procedures and policies at Des Moines Area Community College pick up a copy for the Student Handbook at any Student Services office. The Handbook includes information on student rights and responsibilities, student conduct and discipline policies, parking policies, academic appeals, policies regarding tobacco, alcohol and weapons on campus and more.

Student Services

Counseling Services

The College provides professional counselors to assist students in career and educational planning and in solving problems of a personal nature. Counselors help students make decisions and plan for a successful future. Counselors are available to help students choose an educational program or career direction, recommend and interpret career tests and inventories, examine mid-career options, discuss anticipated academic difficulties and develop an appropriate course of study.

Students who experience difficulty or dissatisfaction with their curriculum are encouraged to make use of the counseling services to explore options or an alternative course of action. Counselors can also provide assistance with study skills, developing satisfying personal and social relationships, solving financial problems and getting through a crisis.

Counseling services are available to assist all students including those in evening classes and at off-campus sites. Contact the most convenient campus for further information.

College Preparatory Education

College Preparatory Education offers a variety of academic and personal support services to help students succeed in reaching their educational and career goals. These services are particularly designed for students who need to strengthen their academic skills before enrolling in college-level courses.

Staff are available to counsel and advise students prior to registration and during their enrollment. Instructional services provided by the program include a career plan-ning course and preparatory courses in reading, writing, mathematics and study skills. Although credits from the college preparatory courses do not count toward a degree or diploma, they do help students fill in any gaps in the skills needed for success in college-level courses. The Aca-demic Achievement Centers provide the following support services to students enrolled in college preparatory courses: tutoring, individualized instruction, homework help, as-sessment of basic skills and vocational interest and academic planning

Educational Advising

Educational advisors are available to assist students in planning their educational programs, meeting graduation requirements, further developing their academic skills and using resources of the College to meet their educational needs. Assistance is given in selecting a transfer institution and the transferring of credits. The value of the degree, di-ploma and certificate programs is explained.

Food Services

Vending machines are available at each campus. The Ankeny, Boone, Urban and West Campuses have food services where food is prepared on site. For formal dining, the Culinary Arts students on the Ankeny campus operate the Bistro located in building 7.

Recreation and Wellness Programs

There are indoor recreational facilities on the Ankeny Campus. Schedules of the events and guidelines for utilization of the facilities are available.

Recreation/Wellness Services serve students' recreational needs. All current Des Moines Area Community College students and current alumni are eligible to participate in Recreation/Wellness Program Activities.

The Ankeny Campus Recreation & Wellness Program offers many fitness and recreational opportunities for current DMACC students. The gym, located in building 5, is able to accommodate basketball, volleyball, badminton, and fitness classes, as well as jogging, walking on the track. The Fitness/Weight Room, adjacent to the gym, offers a wide variety of fitness and weightlifting equipment, including treadmills, stair climbers, exercise bikes, and Cybex equipment. Locker rooms and shower facilities are available for use as well with a small charge for locker rental and towel service.

Open Recreation: the gym and Fitness/Weight Room are available for use by current DMACC students, staff, and faculty, as well as Alumni Association members with a current membership card. Wellness members and students may take advantage of the additional fitness classes, incentive programs and personal training offered. All users of the facilities must have appropriate footwear for use in the fitness facilities. Users are also asked to sign in when they use the facilities.

Guest Night: During the Fall and Spring semesters, Tuesday and Thursday nights are Guest Nights. From 4:00 p.m. – 6:00 p.m., each user may bring one guest, age 12 or older. Guests must be with an eligible user at all times, and all guests must follow the rules of the gym and Fitness/Weight Room.

Information Center

The main DMACC Information Center is located in Building 1 on the Ankeny Campus. The Center is designed to help students, prospective students and visitors to the college. Material is available on all college programs, current course listings and general DMACC information. Information can also be obtained at the Student Life or Student Development/ Counseling & Advising offices of the Boone, Carroll, Newton, Urban and West Campuses.

Student Employment Assistance

Services include: lists of job openings (full-time and part-time) available in the area; assistance to students wanting to obtain work in the College Work-Study Program; refer-rals for internship and summer employment; on-campus recruitment and interviews by employers; labor market information.

Individual assistance with resume writing, application letters, interviewing and job-seeking skills is readily available.

Also available is a free on-line employment service to help students find careers that match their degrees: www.ic.net.

For further information contact the Ankeny Student Employment Assistance Office (515-964-6463), or the Student Services Offices on the Boone, Carroll, Newton, Urban and West campuses.

Libraries

Library services are provided at the Ankeny, Boone, Carroll and Urban Campuses. The DMACC Libraries' website provides access to information from any computer on the college network at www.library.dmacc.edu. Remote access is also available to patrons that have a current DMACC library card. DMACC provides access to INNOPAC, the online catalog; several EBSCO host databases, Lexis-Nexis Academic both of which include full text articles from over 8,000 periodicals as well as abstracting and indexing for over 10,000 titles. Also available are other resources such as CQ Researcher, Grolier Online Encyclopedia, online catalogs of other Iowa libraries, online reference service, and library news and information. The DMACC Libraries are full members of the On-line Computer Library Center, Inc. (OCLC), an internationally recognized bibliographic utility, which provides important products and services to libraries and their users. DMACC is a member of the Polk County Biomedical Consortium, a group of health science libraries affiliated with the National Library of Medicine. DMACC also participates in the State Library of Iowa's Open Access program, which allows our cardholders to borrow materials from other participating libraries.

Ankeny Campus

The Ankeny Campus Library has 40,000 volumes in the book collection, 200 periodical subscriptions and 3,000 videos and other audiovisual materials. The collections emphasize subjects related to the College curriculum, including the humanities, social sciences, natural and health sciences, business and technology. Interlibrary loan service is available at no charge to DMACC students and staff for books and articles not owned by our libraries. Other services include reference assistance, coin-operated photocopiers, group study rooms, an individualized listen-ing/viewing room and library orientation sessions for individual classes at the request of the instructor.

Boone Campus

The Boone Campus Library has a collection of

Student Services

approximately 19,000 circulating and reference books, 175 periodical subscriptions, compact discs, audio books and a large collection of videos. Material not owned by the Library can be obtained through interlibrary loan at no charge. It also participates in the Open Access program through the State Library. The Library also provides access to the 40-station student computer lab at the Boone Campus. In addition, Library Instruction classes (LIBS120) and Internet Research classes (LIBS123) are offered by the staff each semester.

Carroll Campus

The library at the Carroll campus has a collection of books, periodicals, audiovisual materials and electronic resources. The library collections of all DMACC campuses are located on the INNOPAC, the electronic database, and students can intra-campus loan these materials. Library orientation classes and additional instruction on computer database searching are provided upon request at the Carroll Campus Library. These resources provide students with the tools to locate the materials needed for assignments and lifelong learning. The Carroll Campus Library facilities include a computer lab, the testing center, academic achievement center, an elementary curriculum library and multi-media storage area for media equipment availability and check out.

Newton Polytechnic

The Interactive Learning Center (ILC) at the Newton Polytechnic campus houses a growing collection of academic, research and leisure reading books, as well as a number of periodical, newspaper and audiovisual titles. Students may conduct on-line research via the DMACC Library website (www.library.dmacc.edu) at the computer stations located in the ILC or from their home computers. The ILC also houses instructor reserve materials and is the designated location for students to take make-up exams and quizzes. Students who enrolled in telecourses may view telecourse videotapes for these courses in the ILC. Students may borrow materials housed at any of the other DMACC libraries by processing an interlibrary loan request at the ILC.

Urban Campus

The library at Urban Campus has a book collection of more than 13,000 volumes. This collection reflects the courses of study for the College, including a reference collection unique to the Urban Library that compliments the legal assistant program.

In addition to the book collection, the Urban Campus Library subscribes to a large number of periodicals and has many more periodicals available on-line along with other reference databases. There is a collection of video tapes that supplements the textbooks in accounting and mathematics, video tapes for the telecourse division of the College and video tapes to amplify a variety of subjects. There is a pamphlet file of materials to use in research.

Students can access materials from other libraries through interlibrary loan services. Study facilities and audio-visual equipment are available in the Library. Assistance in the use of the library and its materials can be obtained from the library staff.

West Campus

The Interactive Learning Center (ILC) at West Campus will assist students to access the resources available through the Ankeny campus and other participating libraries.

Rehabilitation Counseling

Through an agreement with Iowa Vocational Rehabilitation Services, a vocational rehabilitation counselor is assigned to the college to provide rehabilitation services to eligible students with disabilities. Individualized services to assist the student achieve his/her vocational goals are identified in a jointly-developed written rehabilitation plan. Vocational rehabilitation counseling is provided to eligible students by a professional counselor who has expertise in disability and vocational areas.

Services for Students with Disabilities

DMACC is committed to providing an accessible environment which supports students with disabilities in reaching their full potential. Support services are available for students who have visual, hearing, mobility, learning, or other types of disabilities to ensure equal access to educational opportunities. Specialized software, adaptive equipment, alternative testing, classroom accommodations and sign language interpreting are examples of the support services offered.

DMACC employs a special needs coordinator to work with students to develop and coordinate services based on individual student need. If you are a student with a disability who requires reasonable accommodation to participate fully at DMACC, follow the steps listed below.

1. Contact the special needs coordinator at (515) 964-6850 V, (515) 964-6809 TTY or the counseling and advising office on any of the six campuses for an Application for Accommodation.

2. Submit the completed application and supporting documentation to:
   Des Moines Area Community College
   2006 South Ankeny Boulevard, Bldg. 6-10b
   Ankeny, Iowa 50023-8995
   Attention: Special Needs Coordinator

3. Schedule a time to meet with the special needs coordinator, counselor, or advisor to discuss coordination of these services.

4. Contact the special needs coordinator with any questions during this process.

Student Housing

While DMACC does not own or operate any student housing, student housing apartments are located on the Ankeny Campus. This housing is owned and operated by a private firm. For information about this housing contact the manager at Campus View Apartments at 515-964-7474. The College Information Center in Building 1 of the Ankeny campus also provides information on the student apartments as well as other housing options near the Ankeny and Urban campuses.

Information about housing for the Boone, Carroll, Newton & West campuses is available from the Student Services Offices at the respective campuses.

Testing Center

The Testing Center provides a site for make-up testing when students have missed class on a test day. The center also serves as a site for administering correspondence tests for courses taken at other institutions and challenge tests for DMACC courses.

Students must arrange with their instructors to have tests sent to the Testing Center. When they arrive to take their exams, they will be required to present picture identification, such as a driver's license. For Testing Center hours, students should contact the Information Desk at the Newton Campus and the Testing Center or Academic Achievement Center at the Ankeny, Boone, Urban campuses and the Learning Resource Center at the West campus.

Tutoring

The Tutoring Office provides peer tutors to assist students who have difficulty with a particular course or courses. Knowledgeable tutors can assist students by reviewing the course material, answering questions and reviewing for exams. Students can be scheduled individually or with a group. For more information call the Tutoring Office on the Ankeny campus at 515-965-7004 or stop by Building 6, room 20. Students interested in tutoring on the Boone, Carroll, Newton, Urban and West campuses should contact the Academic Achievement Center at the campus attended. The college cannot guarantee the availability of tutors.

Employment Opportunities: The tutoring offices hire students as peer tutors. Come work in a fun, flexible environment and earn extra money while on campus. Contact the Tutoring Office on the Ankeny Campus at 515-965-7004 or the Academic Achievement Center on the Boone, Carroll, Newton, Urban and West campuses.

Student Activities

DMACC Choirs

For students interested in choral music DMACC Ankeny Campus offers two student choral group experiences. The Concert Choir (MUSI 144) meets on MWF from 11:15 a.m. until 12:10 p.m. This group, the larger of the two choirs, is available to everyone. No audition is required and no experience is necessary, however, it is expected that persons who enroll will have sufficient pitch-matching skills to accurately learn to sing the choral part to which they are assigned. The Chamber Choir (MUSI 145) is selected by audition from the Concert Choir membership. Chamber Choir rehearses MWF from 12:25 PM until 1:00 PM. Both choirs sing a wide variety of music ranging from serious to pop selections and perform two concerts each semester. Concert Choir is a two-hour elective credit course. Chamber Choir is a one-hour elective credit course. Students interested in Concert Choir should register for MUSI 144. Students may not register for Chamber Choir until after they have auditioned and been accepted. Volunteer choral ensembles are organized on a semester-to-semester basis. These are open to all DMACC students, full or part-time. As with Concert Choir, it is expected that students have the ability to learn choral parts as needed. Announcements about the volunteer ensembles are posted on SAC Bulletin Boards, in other places in buildings, 2, 4, 5, 6, 7 and 8, and on the Music homepage on www.dmacc.edu. Interested students may contact the Choral Conductor in Building 5, Room 41 on the Ankeny Campus.

DMACC Drama

The DMACC drama program offers students the opportunity to gain practical experience in theatre production on the Ankeny and Boone campuses. Students can earn college credit in a variety of areas, including acting, lighting, costumes, directing, promotion, and scenery work. Annual playwriting contests for students may allow them to see their work produced on campus.

Intramural Athletics

Intramural activities provide an opportunity for students to participate in a wide variety of sports activities on a recreational basis. A year-round program of tournaments and team sports provides for participation on an individual or team basis.

Intercollegiate Athletics

Student athletes may compete on a national level at the Boone campus. DMACC is a member of the Iowa Community College Athletic Conference (ICCAC) and the National Junior College Athletic Association. Currently, the College offers women's intercollegiate athletics in basketball, volleyball, and golf as well as men's intercollegiate athletics in basketball and baseball on the Boone Campus.

Student Activities Council

The Student Activities Council, as the primary student body representative, is an integral part of the College. Through its work, students are provided an opportunity to participate in the democratic process. Meetings are held on a regular basis. The Council serves as a liaison between the administration, faculty, staff and the student body in areas of mutual interest. The purpose of the organization is to promote college spirit, provide a focal point for discussions between students and the college staff and to give students a representative voice in college affairs. Any student, administrator, or faculty member may attend meetings of the Student Activities Council and take part in discussion, but only members may vote.

Student Activities

Much of a student's growth is the result of participation in activities, clubs and organizations. It is the philosophy of the College that co-curricular activities complement the academic program. The activities are financed by a portion of the service fee which is charged each term in addition to regular tuition. Student representatives elected to the Student Activities Council are responsible for assessment and disbursement of these funds.

Student Centers

Student lounge and recreation areas are provided for student use during non classroom hours. Various types of game equipment are available and food and beverage facilities are located in or near each of these areas.

Student Clubs and Organizations

Students are encouraged to participate in campus clubs and organizations. Students may form a new club by contacting the Student Activities Office for information. Most recognized organizations fall into one of the following classifications:

1. Preprofessional and departmental clubs are joined by students wishing to pursue interests which contribute to the development of career fields.

2. Service organizations have as their primary purpose activities which will contribute positively to the College and the community.

3. Scholastic honorary organizations offer membership on the basis of academic excellence and performance.

4. Special interest organizations are planned by students who desire to develop or broaden their interest in some particular aspect of their lives.

Student Publications

On the Boone Campus students publish the "Banner" and on the Ankeny Campus students publish "The Chronicle." On the Urban Campus, students publish "The Urban Vibe." These are student newspapers that emphasize news, features, entertainment, sports and college events. For additional information, contact the publications advisor at the Ankeny, Boone or Urban Campus.

Ticket Sales

Discount tickets to various activities and attractions are available at the Student Activities office at Ankeny, the Advising Office at Carroll, or at the Business Offices at Boone, Urban, Newton and West campuses. The Ankeny Campus offers discount tickets to Civic Center events, Buccaneers Hockey, Adventureland Park, Worlds and Oceans of Fun, White Water University Park, Ankeny Springwood Theater and Copper Creek Theater in Pleasant Hill, Woodland Hills Golf Course and Carmike Movie Theaters in Des Moines. The Carroll Campus offers Worlds of Fun, Oceans of Fun and Carroll Theater V discounted tickets. Urban Campus offers discount tickets to Adventureland Park, White Water University Park, Carmike Theaters, Fridley Theaters and discounted bus passes for Metro Transit Authority. Ticket offerings vary at the Boone, Newton and West campuses. Check in the main offices for details. Cash and personal checks are accepted.

Business Resources

Synerg.e® Center

The Synergy.e® Center was created as part of the West campus with the sole purpose of bringing together people and technology to build better learning solutions. Through active partnerships with other educational institutions, providers of technology, and business and industry, DMACC will help to advance education through the use of technology. Activities of the Synergy.e® Center include:

- Creation of the EduLab Consortium, a group of proactive educational institutions brought together for the purpose of pooling intellectual capital and resources for the accelerated advancement of education course content delivery through technology;

- Building close partnerships with a variety of technology-focused companies and organizations for the development of new applications and processes within the context of learning;

- Beta-testing of new and emerging technologies within the educational context;

- Building partnerships with business and industry as a whole to bring real-life technology-based projects to classroom lab environments to enhance student motivation and learning;

- Creation and development of publications, white papers, e-books and a variety of other learning resources;

- Hosting annual conferences and informational workshops to provide up-to-date, relevant information in a focused environment.

The Synergy.e® Center is committed to solving the problems and issues surrounding the use of technology in varying educational contexts and rapidly changing environments. Through continuous innovation and assessment, the Synergy.e® Center will improve and accelerate the process of educational adaptation to changing market demands and requirements.

DMACC Business Resources (DBR)

Des Moines Area Community College Business Resources (DBR) provides businesses, governmental agencies and non-profit organizations with the training and consulting they need to optimize performance through improved employee and managerial skills. DBR provides a broad spectrum of training services, including technical training in manufacturing and maintenance, management and supervisory skills, employee workplace skills, organizational change, and waste management and control. From the needs assessment to the customized design and implementation of training programs, DBR consultants ensure schedules and budgets are met. Training can be provided at the business, on one of our six campuses in central Iowa, online, or at any convenient location.

Continuing Education & Specialized Programs

Adult Basic Education ABE/HSE/ESL

The Adult Basic Education Program (ABE) provides opportunities for adults in need of literacy skills and refresher basics in reading, writing and math. ABE classes are offered at various locations in and around Des Moines and in cooperation with local schools and organizations.

Individualized instruction allows students to focus on their immediate needs. ABE classes are provided free of charge.

GED classes, or High School Equivalency (HSE) preparation, provide instruction to prepare adults for the General Education Development Test (GED) and earn the High School Equivalency Diploma. Individual and small group instruction allow students to progress through the five subject areas evaluated on the GED exam. These include: Test 1, Writing Skills; Test 2, Social Studies; Test 3, Science; Test 4, Reading; and Test 5, Math.

> **GED Testing Centers**
> **DMACC Ankeny Campus**
> **DMACC Boone Campus**
> **DMACC Carroll Campus**
> **DMACC Urban Campus**
> **DMACC Newton Polytechnic Campus**
> **DMACC Success Center**

English as a Second Language

English as a Second Language is a program for people who speak, read and write best in a language other than English and desire to improve their use of the English language. Entry-level English through college-prep English is available.

For more information call 515-964-6384 or 800-362-2127, ext. 6384.

Conference and Event Planning Services

The DMACC Campuses provide an ideal location for your meetings, workshops, or conferences.

DMACC provides event planning services with experienced meeting planners at DMACC Campuses or other locations.

Services include:

• Experienced conference planning staff

• Documentation of mandatory professional Continuing Education

• Registration services

• Marketing and Brochure development

• Facility and Meal planning

• Consulting services

• Campuses-Auditorium Seating, AV & Satellite downlink, Free Parking

•ADA Compliant

Call DMACC for your conference planning needs.

1-800-362-2127, ext. 6214 or 515-964-6214.

Conference Center - Newton

The DMACC Newton Conference Center is located in the DMACC Newton Polytechnic Building in Newton, Iowa. Serving groups from 5 to 350, the DMACC Newton Conference Center offers a 325 seat state-of-the-art auditorium, a 4,800 square foot subdividing banquet room, reception area and breakout rooms. Parking is conveniently located at the facility with access to complete food and beverage service, audio visual equipment and other conference services.

For further information please contact the conference center staff at 641-792-1850.

Continuing Education

The Continuing Education division provides a wide range of educational experiences. Activities for courses may begin at any time and do not necessarily coincide with the College's academic calendar. A variety of non-credit vocational and avocational classes, seminars, conferences and workshops are offered at various locations to assist individuals in continued professional and personal development. Topic areas may include: business/management, health occupations and personal growth. Specific classes are also designed to meet the continuing education requirements for licensing and re-certification of professionals in areas such as child care, insurance, nursing, emergency medical services, cosmetology, real estate, long-term care and social work.

The Conference Center on the Ankeny and Newton Polytechnic Campuses provide settings for many conferences and events offered in cooperation with DMACC. The Continuing Education division works with local businesses, service agencies, institutions, organizations, and associations to tailor courses or conferences specifically for employees or members.

For more information call 515-964-6214.

Distance Learning

Distance learning provides alternative delivery of credit classes throughout the district, state and nation. College credit classes are provided via Online Courses utilizing the World Wide Web, the Iowa Communications Network (ICN) and through television courses aired on Mediacom Cable, College Channel 16 and Iowa Public Television Channel 11 in Central Iowa. For more information, see the Distance Learning Homepage at www.dmacc.edu/distance/welcome.htm or call 515-964-6422.

Noncredit and continuing education opportunities are also available through online classes. For more information regarding noncredit and continuing education classes offered online, call 515-964-6699 or 800-362-2127, extension 6699.

Continuing Education & Specialized Programs

Evening/Weekend College

Courses offered evenings and weekends provide opportunities for degree completion, career development/enhancement and cultural enrichment, in both credit and continuing education format, for students who are unable to take classes during the day.

The Evening/Weekend College provides support to the full range of services offered for students, faculty and staff during evening and weekend hours. These include Registration, Student Accounts, Limited Financial Aid, Student Records and Admissions. Support is also provided for the Distance Learning classes, and Continuing Education courses. For further information on the Ankeny Campus call 515-964-6286 or 1-800-362-2127, ext. 6286. For services available at the Boone, Carroll, Newton Polytechnic, Des Moines Urban and West Campus in West Des Moines call their main campus numbers. Evening counselor and advisor appointments available 4:00-7:00 pm. Monday-Thursday.

Transportation Institute Commercial Vehicle

Commercial Vehicle Operator Program

The Transportation Institute commercial vehicle operator program is one of approximately 50 in the U.S. which has been certified by the Professional Truck Drivers Institute. The 240-hour, noncredit program uses the U.S. Department of Transportation Model Curriculum. Students may complete the program in the daytime in 6 weeks or during the evenings in 12 weeks.

The Institute provides customized programs and services to individuals and companies including: remediation and evaluation services, advanced driver programs, Defensive Driving Course (DDC), driver/dispatcher relationships and driver retention programs. It also offers a Train the Trainer Program that allows carriers to train their driver finishers ensuring a higher success rate with their student program and online web-based course for DOT-mandated entry level driver certification.

RV Safety and Education Program

RV Safety and Education Program Students become confident when traveling in situations they may encounter in the RV lifestyle after receiving training in all phases of driving, maneuvering and backing a recreational vehicle. The RV program is a total of 16 hours, 8 hours in the classroom and 8 hours hands-on driving. The program specializes in safety, respect, patience and confidence in a variety of vehicles of all sizes from class A, B, & C motor homes, to fifth-wheel trailers to travel trailers.

We also have RV (Recreation Vehicle) training and educational programs aimed at present and prospective RV drivers to provide the best information and training possible about RVs and the RV lifestyle. DMACC is the second school nationwide to offer this RV training.

Des Moines Area Community College
Educational Programs

> **A** = Associate Degree
> **D** = Diploma
> **C** = Certificate

ACCOUNTING
- (A) Accounting Information Systems
- (A) Accounting Paraprofessional
- (A) Accounting Specialist
- (D) Accounting & Bookkeeping
- (C) Accounting Certificate I
- (C) Accounting Certificate II

ADMINISTRATIVE ASSISTANT/LEGAL/ SECRETARIAL CAREERS
- (A) Administrative Assistant
- (A) Legal Assistant
- (A)(D) Medical Administrative Assistant
- (D) Office Assistant
- (C) Medical Transcriptionist
- (C) Information Processing Support
- (C) Office Specialist
- (C) Supervision

AUTOMOTIVE/DIESEL
- (A) ASEP – General Motors
- (A) ASSET – Ford
- (A) Auto Collision Technology
- (A) Auto Mechanics Technology
- (A) CAP – Chrysler
- (A) Caterpillar Technology
- (A)(D) Diesel Technology
- (D) Auto Chassis & Power Train
- (D) Auto Engines & Tune-Up
- (D) Auto Maintenance & Light Repair

Agri-Business
- (A) Agri-Business AAS
- (A) Veterinary Technology
- (C) Agronomy
- (C) Animal Science
- (C) Farm Management
- (C) Sales and Service

Art
- (A) Commercial Art
- (C) Air Brush Art Certificate
- (C) Production Art Certificate

BIOTECHNOLOGY
- (A) Biotechnology

BUSINESS
- (A) Business Administration
- (A)(C) Fashion/Design
- (A) Marketing
- (A)(C) Management
- (D)(C) Entrepreneurship
- (D) Mortuary Science
- (D)(C) Retailing
- (D)(C) Sales and Management
- (C) Interior Design Consultant
- (C) Technical Management

BUILDING TRADES
- (A)(D) Heating, Air Conditioning, & Refrigeration Technology
- (D) Architectural Millwork
- (D) Building Trades
- (D) Electrical Construction Trades
- (C) Building Maintenance

COLLEGE TRANSFER – LIBERAL ARTS
- (A) Associate of Arts
- (A) Associate of Science

COMMUNITY SERVICES
- (A)(D) Early Childhood Education
- (A) Criminal Justice
- (A) Fire Science Technology
- (A) Human Services
- (C) Fire Specialist
- (C) Chemical Dependency Counseling

COMPUTERS AND DATA PROCESSING
- (A) Business Information Systems
- (A) Computer Programming
- (A) Information Technology/Network Administration
- (A) Management Information Systems
- (C) Computer Applications
- (C) Data Base Specialist
- (C) Data Entry
- (C) Computer Languages
- (C) E-Commerce Design
- (C) Microcomputers

CULINARY ARTS – HOTEL MANAGEMENT – DIETARY MANAGEMENT
- (A)(D) Culinary Arts
- (A) Hotel & Restaurant Management
- (D) Hospitality & Business
- (C) Dietary Management

DRAFTING/DESIGN
- (A)(D) Architectural Technology
- (A)(D) Computer Aided Design Technology

ENGINEERING & ELECTRONICS TECHNOLOGY
- (A) Civil Engineering Technology
- (A) Electronic Systems Servicing Technology
- (A) Electronics, Robotics & Automation
- (A)(C) Land Surveying
- (A)(C) Telecommunications Technology

FITNESS
- (A) Fitness & Sports Management

HEALTH PROFESSIONS
- (A) Aging Services Management
- (A) Associate Degree Nursing (RN)
- (A) Advanced Standing Nursing (RN)
- (A) Dental Hygiene
- (A) Medical Laboratory Technology
- (A) Respiratory Therapy
- (D) Licensed Practical Nursing (LPN)
- (D) Medical Assistant
- (C) Adult Services Specialist
- (C) Emergency Medical Technology (EMT)
- (C) Long Term Care Administrator
- (C) Phlebotomy
- (C) Nurse Aide

HORTICULTURE
- (A) Commercial Horticulture
- (C) Greenhouse Production
- (C) Landscape Design
- (C) Turf Maintenance

MANUFACTURING
- (A)(D) Graphic Technologies
- (A)(D) Industrial Electro-Mechanical Technology
- (A) Manufacturing Technology
- (A) Tool and Diemaking
- (D) Machinist Technology
- (D) Die Making
- (D)(C) Welding
- (C) Digital Publishing & Prepress
- (C) Graphic Sales & Customer Service
- (C) Printing Technologies
- (C) Security & Safety Specialist

Choose a **Career Path**

The following steps may help you identify a program of study if you are uncertain of a career path.

STEP 1

Complete this Personal Career Profile. Check the items from each category listed below that describe you. Understanding your interests, values, skills and talents is helpful information when selecting a successful career and work environment.

Values
The most important values for the work place are:

☐ To influence others   ☐ To acquire knowledge/skills
☐ To help others   ☐ To be physically challenged
☐ To compete   ☐ To have power/prestige
☐ To think creatively   ☐ To be financially secure
☐ To be flexible   ☐ Other _____

Skills
The skill areas I most like to use are:

☐ Reasoning   ☐ Working with details
☐ Communicating   ☐ Initiating
☐ Investigating   ☐ Working under pressure
☐ Hands-on   ☐ Working as a team
☐ Organizing   ☐ Serving the customer
☐ Managing   ☐ Other _____
☐ Analyzing

School Subjects
The subjects I did well in and enjoy are:

☐ Office courses   ☐ Business Courses
☐ Math   ☐ Voc/Tech; i.e., construction,
☐ English   mechanics
☐ Science   ☐ Family/Consumer Science
☐ Social Sciences   ☐ Foreign Language
☐ Fine Arts   ☐ Other _____
☐ Computers

Interests
The interest areas I enjoy most are:

☐ People   ☐ Ideas
☐ Things (hands on)   ☐ Other _____
☐ Data

Other areas to consider are:

Special awards received   Clubs and organizations
Enjoyable work experience   Special talents
Hobbies

Take the information you circled and write a statement that may help summarize your career profile.

My career profile is: _____

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Are you a **Match?**

STEP 2

Skills, values, interests, and subjects that are specific to program areas at Des Moines Area Community College are listed below. Use that information with the Personal Career Profile in Step 1 to help you find a match. Continue on your path with Step 3 and Step 4. Complete the "Are You a Match?" activity. Compare the items you identified in your "Personal Career Profile" to the items checked in the "Are You a Match" activity. If there is a match, you may want to explore programs offered within that division. Select the programs that appear to meet most of the items you checked in both activities.

Arts & Sciences – College Transfer
- ☐ Need credit in an academic area to enter a four-year plan of study
- ☐ Want to improve your skill in a certain academic area
- ☐ Want to explore courses to determine areas of interest
- ☐ Interested in problem solving, decision-making, and critical thinking skills
- ☐ Interested in learning about the arts and humanities
- ☐ Interested in learning about people, culture, and social issues
- ☐ Want to use written and oral communication skills

Agricultural/Natural Resources:
- ☐ Like to work outdoors
- ☐ Have knowledge in science
- ☐ Would enjoy growing and selling horticulture products
- ☐ Would enjoy managing a farm or livestock operation
- ☐ Enjoy finding solutions to problems
- ☐ Prefer physical activity
- ☐ Managing/marketing an agri-related business

Art
- ☐ Operate computers
- ☐ Create or copy drawings to use in advertising
- ☐ Enjoy expressing my feelings
- ☐ Can visually express ideas
- ☐ Have good spatial perception
- ☐ Work well under stress

Business & Information Management
- ☐ Have organizational and accuracy skills
- ☐ Operate computers and other business machines
- ☐ Help customers
- ☐ Work with detailed forms, records and claims
- ☐ Manage a business
- ☐ Persuade others
- ☐ Enjoy using numerical concepts
- ☐ Enjoy business/office subjects
- ☐ Like working as a team member
- ☐ Have good communication skills

Health
- ☐ Like to help people
- ☐ People trust me
- ☐ Enjoy biology, chemistry or physics
- ☐ Like working a flexible schedule
- ☐ Like to work with the sick or injured
- ☐ Think critically and creatively
- ☐ Can be physically demanding
- ☐ Like to work with data
- ☐ Use math principles in practical situations

Hospitality
- ☐ Enjoy preparing food
- ☐ Use math principles in practical situations
- ☐ Like working with the public
- ☐ Comfortable working a flexible schedule, sometimes under pressure
- ☐ Have a pleasant accommodating manner
- ☐ Make creative designs with food
- ☐ Good organizational skills

Industrial Technology
- ☐ Enjoy working with data
- ☐ Like to install/repair/service equipment
- ☐ Enjoy operating equipment and computers
- ☐ Like math
- ☐ Have good problem solving skills
- ☐ Like computers
- ☐ Work alone
- ☐ Like vocational technical classes
- ☐ Customer service skills

Public & Human Services
- ☐ Can take the initiative
- ☐ Be involved in helping persons with personal problems
- ☐ Help people in legal situations
- ☐ Work with small children
- ☐ Persuade persons to take certain actions
- ☐ Have good communication skills
- ☐ A team player
- ☐ Have flexible schedule
- ☐ Like social science courses

STEP 3

Schedule an appointment with the program counselor/advisor at the campus offering the program(s) that interest you. This appointment will provide you with more details about the program and its requirements and will help confirm your program choice.

STEP 4

Contact the counseling/advising staff at the campus you plan to attend for more in-depth career assistance if needed. The Ankeny and Urban Campuses can also provide additional resources and services through their Career Resource Centers.

Programs Available

Arts & Sciences

The Arts and Sciences division of the college offers traditional college freshman/sophomore courses in communications, humanities, math, science and social sciences. It provides liberal arts and preprofessional courses; paraprofessional courses in disciplines such as biotechnology, criminal justice and human services; selected general education courses for vocational programs; and remedial courses in mathematics, reading and writing for students who need academic assistance before undertaking college-level work.

Students who graduate from the Arts and Sciences division are expected to demonstrate the ability to think and to communicate effectively both orally and in writing; to use mathematics meaningfully, not just punch in numbers on a calculator; to understand the modes of inquiry of the major disciplines; to be aware of our culture and of other cultures and times; to achieve insights gained through experience in thinking about ethical problems; to develop the capacity for self-understanding and problem solving; and finally, to gain sufficient depth in some field of knowledge to contribute to society.

DMACC students will acquire skills for lifelong learning by:

1. Understanding and demonstrating effective communication.
2. Understanding and demonstrating logical and critical thinking.
3. Developing an understanding of fundamental scientific principles and their application.
4. Developing an understanding of fundamental mathematical principles and their application.
5. Developing an understanding of human society and cross-cultural variation and perspectives.
6. Developing a knowledge of and appreciation for the human condition as expressed in works of human imagination and thought.

Associate in Arts Degree (AA)

The Associate in Arts Degree provides the courses of study equivalent to those offered to freshman and sophomore level students attending any four-year college/university. If students receive the AA from DMACC, this degree, in most cases, will meet the lower division requirements of four-year colleges/universities and will admit them to the junior status level. The degree requirements consist of both their general education requirements and elective courses to be used in preparation for a major area of study.

Students should contact the specific institution to which they wish to transfer regarding any unique requirements of that institution. The DMACC Advising and Counseling staff can also assist students with the transfer process. (See transfer tips in the Tips for Student Success section of the catalog.)

College transfer work is offered in the following disciplines:

Many four-year colleges/universities have joined with DMACC to develop articulation agreements and specific major transfer guides to assist students. Students should visit personnel from each college for the most current information.

Accounting	Dentistry	Law	Physics
Anthropology	Education	Literature	Political Science
Architecture	Engineering	Mathematics	Psychology
Art	English	Medicine	Physician's Assistant
Business Administration	French	Music	Sociology
Chemistry	Geography	Nursing	Social Work
Chiropractic	History	Optometry	Spanish
Computer Science	Humanities	Pharmacy	Speech
Drama	Journalism	Philosophy	Veterinary

AA Degree requirements

To receive an AA degree, students must:

A. Maintain a 2.0 grade point average on all work applicable to the AA degree.

B. Earn a minimum of 1/3 of the semester credit hours applicable to the degree being pursued at DMACC. No more than 43 transfer semester credit hours may be applied toward the degree.

C. Complete the final 10 semester credit hours at DMACC (or petition to the Credentials Office for an exception).

D. Complete a minimum of 64 semester credit hours.

E. Include at least 48 semester credit hours of core courses:

- Communications — 9 credits
- Social & Behavioral Sciences — 9 credits
- Math & Sciences — 9 credits
- Humanities — 9 credits
- Distributed requirements — 12 credits

F. Include at least 16 semester credit hours of elective credit.

   1. Students may include 16 semester credit hours of vocational/technical credit.

   2. Students may have up to 8 semester credit hours of Independent Study Courses; up to 4 semester credit hours of Independent Study may be earned in any single semester.

Communications   **9 Credits**

Students must take three courses:

1. **ENGL 117 Composition I**
2. **ENGL 118* Composition II or ENGL 119 Technical and Business Writing**
3. **One speech course from the following list:**
   - **SPCH110 Fundamentals of Speech**
   - **SPCH117 Interpersonal and Small Group Communication**

*Students who plan to transfer to a four-year institution are advised to take ENGL 117 and ENGL 118.

Social and Behavioral Science   **9 Credits**

NOTE: Students must complete at least 3 courses. Each course must be from a distinct discipline (reflected by a distinct acronym).

ANTH 120	Introduction to Anthropology	PLSC 121	World Politics
ANTH 121	Cultural Anthropology	PLSC 122	Comparative Political Systems
ECON 101	Principles of Macroeconomics	PLSC 126	Intro to Public Administration
ECON 102	Principles of Microeconomics	PSCH 101	General Psychology
GEOG 141	Intro to Geography	PSCH 103	Developmental Psychology
GEOG 147	Developed World	PSCH 104	Abnormal Psychology
GEOG 148	Third World	PSCH 105	Social Psychology
HIST 121	Western Civilization Beg to 1715	PSCH 108	Human Sexuality & Gender Roles
HIST 122	Western Civilization 1715 to Present	SOCY 101	Intro to Sociology
HIST 124	American History 1492 to 1877	SOCY 102	Social Issues
HIST 125	American History 1877 to Present	SOCY 103	Courtship, Marriage & Family
PLSC 111	American National Government	SOCY 105	Race, Ethnic & Gender Relations
PLSC 112	State & Local Government		

Programs Available

Mathematics & Sciences   **9 Credits**

NOTE: Students must take one laboratory science course from BIOL, CHEM, or PHYL and BSAD 152 or one MATH course listed below.

BIOL 118	Environmental Conservation	MATH 115	Finite Mathematics
BIOL 119	Environmental Conservation Lab	MATH 118	Math for Elementary Educators
	(if student has credit for BIOL 118)	MATH 121	Elementary Statistics
BIOL 126	Field Biology		(OR BSAD152 Business Statistics)
BIOL 127	Human Biology	MATH 122	Calculus for Business/Social Science
BIOL140	Introductory Biology	MATH 123	Trigonometry
BIOL 141	Principles of Biology I	MATH 124	Precalculus
BIOL 142	Principles of Biology II	MATH 129	Calculus I
BIOL 149	General Microbiology	MATH 130	Calculus II
BIOL 154	General Anatomy & Physiology	MATH131	Calculus III
BSAD 152	Business Statistics	MATH 132	Differential Equat/Laplace Trans
	(OR MATH 121 Elementary Statistics)	PHYL 106	Survey of Physical Science
CHEM 120	Survey of Chemistry	PHYL 111	College Physics I
CHEM 131	General Chemistry I	PHYL 112	College Physics II
CHEM 132	General Chemistry II	PHYL 121	Classical Physics I
CHEM 151	General/Inorganic Chemistry I	PHYL 122	Classical Physics II
CHEM 152	General/Inorganic Chemistry II		
CHEM 161	Organic Chemistry I		
CHEM 162	Organic Chemistry II		

Humanities   **9 Credits**

ARTS 101	Art Appreciation	ITAL 104	Intermediate Italian II
ASL-101	American Sign Language I	JAPN 101	Elementary Japanese I
ASL-102	American Sign Language II	JAPN 102	Elementary Japanese II
ASL-103	American Sign Language III	JAPN 103	Intermediate Japanese I
ASL-104	American Sign Language IV	JAPN 104	Intermediate Japanese II
CHIN 101	Elementary Chinese I	LITR 120	Intro to Literature
CHIN102	Elementary Chinese II	LITR 121	Major British Writers
CHIN 103	Intermediate Chinese I	LITR 122	Major American Writers I
CHIN 104	Intermediate Chinese II	LITR 123	Major American Writers II
DRAM 110	Intro to Theatre	LITR 125	Contemporary Literature
FREN 101	Elementary French I	LITR 130	Science Fiction
FREN 102	Elementary French II	LITR 131	Detective Fiction
FREN 103	Intermediate French I	LITR 132	Humor
FREN 104	Intermediate French II	LITR 133	Black American Literature
GERM 101	Elementary German I	LITR 134	Women's Literature
GERM 102	Elementary German II	MUSI 130	Music Appreciation
GERM 103	Intermediate German I	MUSI 131	Intro to Music
GERM 104	Intermediate German II	PHIL 110	Intro to Philosophy
HIST 121	Western Civilization Beg to 1715	PHIL 111	Intro to Logic
HIST 122	Western Civilization 1715 to Present	PHIL 112	Ethical Problems
HUMN 115	Introduction to Film	PHIL 113	Comparative Religions
HUMN 131	Humanities through Arts	SPAN 101	Elementary Spanish I
HUMN 133	America in the Movies	SPAN 102	Elementary Spanish II
ITAL 101	Elementary Italian I	SPAN 103	Intermediate Spanish I
ITAL 102	Elementary Italian II	SPAN 104	Intermediate Spanish II
ITAL 103	Intermediate Italian I		

Distributed Requirement   **12 Credits**

Complete 12 additional credits from any of the courses in categories Communications, Social and Behavioral Science, Math & Sciences and Humanities.

Electives   **16 Credits**

1. Students may include no more than 16 semester credit hours of vocational courses.

2. Students may have up to 8 semester credit hours of Independent Study courses; up to 4 semester credit hours of Independent Study may be earned in any single semester.

Associate in Science Degree (AS)

The Associate in Science degree is awarded upon satisfactory completion of a program of college-level courses designed to prepare students for transfer to a four-year college/university or for skills preparation for entry level employment in a specific occupation (Career Option Programs) where a bachelor's degree is usually needed. For advancement in the field, a bachelor's degree is typically required.

Career Option Programs available at DMACC are:

Accounting Information Systems	Management Information Systems	Criminal Justice	Human Services
Accounting Paraprofessional	Business Administration	Fitness & Sports Management	Legal Assistant
Biotechnology	Early Childhood Education	Fire Science Technology	Management Information Systems
		Health Care Administration	

Information on each program is found in this catalog. See Index for page numbers.

Associate in Science requirements

To receive an AS degree, students must

A. Maintain a 2.0 grade point average on all work applicable to the AS degree.

B. Earn a minimum of 1/3 of the semester credit hours applicable to the degree being pursued at DMACC. No more than 43 transfer semester credit hours may be applied toward the degree.

C. Complete the final 10 semester credit hours at DMACC (or petition to the Credentials Office for an exception).

D. Complete a minimum of 64 semester credit hours.

E. Include at least 28 semester credit hours of core courses:

- Communications   9 credits
- Social & Behavioral Sciences   6 credits
- Math & Sciences   6 credits
- Humanities   3 credits
- Distributed requirements   4 credits

F. Include at least 36 semester credit hours of elective credit.

AS Core Requirements

Communication   **9 credits**

Students must take three courses:

1. ENGL 117 Composition I

2. ENGL 118* Composition II or ENGL 119 Technical and Business Writing

3. One speech course from the following list:

    SPCH110 Fundamentals of Speech

    SPCH117 Interpersonal and Small Group Communication

*Students who plan to transfer to a four-year institution are advised to take ENGL 117 and ENGL 118.

Social and Behavioral Sciences   **6 credits**

ANTH 120	Introduction to Anthropology	PLSC 121	World Politics
ANTH 121	Cultural Anthropology	PLSC 122	Comparative Political Systems
ECON 101	Principles of Macroeconomics	PLSC 126	Intro to Public Administration
ECON 102	Principles of Microeconomics	PSCH 101	General Psychology
GEOG 141	Intro to Geography	PSCH 103	Developmental Psychology
GEOG 147	Developed World	PSCH 104	Abnormal Psychology
GEOG 148	Third World	PSCH 105	Social Psychology
HIST 121	Western Civilization Beg to 1715	PSCH 108	Human Sexuality & Gender Roles
HIST 122	Western Civilization 1715 To Present	SOCY 101	Intro to Sociology
HIST 124	American History 1492 to 1877	SOCY 102	Social Issues
HIST 125	American History 1877 to Present	SOCY 103	Courtship, Marriage & Family
PLSC 111	American National Government	SOCY 105	Race, Ethnic & Gender Relations
PLSC 112	State & Local Government		

Programs Available

Mathematics and Sciences   **6 credits**

NOTE: Students must take one MATH or BSAD 152 and one science from BIOL, CHEM, or PHYL.

BIOL 118	Environmental Conservation	CHEM 162	Organic Chemistry II
BIOL 119	Environmental Conservation Lab	MATH 115	Finite Mathematics
	(if student has credit for BIOL 118)	MATH 118	Math for Elementary Educators
BIOL 126	Field Biology	MATH121	Elementary Statistics
BIOL 127	Human Biology		(OR BSAD 152 Business Statistics)
BIOL140	Introductory Biology	MATH 122	Calculus for Business/Social Science
BIOL 141	Principles of Biology I	MATH 123	Trigonometry
BIOL 142	Principles of Biology II	MATH 124	Precalculus
BIOL 149	General Microbiology	MATH 129	Calculus I
BIOL 154	General Anatomy & Physiology	MATH 130	Calculus II
BSAD 152	Business Statistics	MATH131	Calculus III
	(Or MATH 121 Elementary Statistics)	MATH 132	Differential Equat/Laplace Trans
CHEM 120	Survey of Chemistry	PHYL 106	Survey of Physical Science
CHEM 131	General Chemistry I	PHYL 111	College Physics I
CHEM 132	General Chemistry II	PHYL 112	College Physics II
CHEM 151	General/Inorganic Chemistry I	PHYL 121	Classical Physics I
CHEM 152	General/Inorganic Chemistry II	PHYL 122	Classical Physics II
CHEM 161	Organic Chemistry I		

Humanities   **3 credits**

ARTS 101	Art Appreciation	ITAL 104	Intermediate Italian II
ASL-101	American Sign Language I	JAPN101	Elementary Japanese I
ASL-102	American Sign Language II	JAPN 102	Elementary Japanese II
ASL-103	American Sign Language III	JAPN 103	Intermediate Japanese I
ASL-104	American Sign Language IV	JAPN 104	Intermediate Japanese II
CHIN 101	Elementary Chinese I	LITR 120	Intro to Literature
CHIN 102	Elementary Chinese II	LITR 121	Major British Writers
CHIN 103	Intermediate Chinese I	LITR 122	Major American Writers I
CHIN 104	Intermediate Chinese II	LITR 123	Major American Writers II
DRAM 110	Intro to Theatre	LITR 125	Contemporary Literature
FREN 101	Elementary French I	LITR 130	Science Fiction
FREN 102	Elementary French II	LITR 131	Detective Fiction
FREN 103	Intermediate French I	LITR 132	Humor
FREN 104	Intermediate French II	LITR 133	Black American Literature
GERM 101	Elementary German I	LITR 134	Women's Literature
GERM 102	Elementary German II	MUSI 130	Music Appreciation
GERM 103	Intermediate German I	MUSI 131	Intro to Music
GERM 104	Intermediate German II	PHIL 110	Intro to Philosophy
HIST 121	Western Civilization Beg to 1715	PHIL 111	Intro to Logic
HIST 122	Western Civilization 1715 to Present	PHIL 112	Ethical Problems
HUMN 115	Introduction to Film	PHIL 113	Comparative Religions
HUMN 131	Humanities through Arts	SPAN 101	Elementary Spanish I
HUMN 133	America in the Movies	SPAN 102	Elementary Spanish II
ITAL 101	Elementary Italian I	SPAN 103	Intermediate Spanish I
ITAL 102	Elementary Italian II	SPAN 104	Intermediate Spanish II
ITAL 103	Intermediate Italian I		

Distributed Requirement   **4 credits**

Select the remainder from any of the courses in categories Communications, Social and Behavioral Science, Math & Sciences and Humanities.

Electives   **36 credits**

1.   Students may include no more than 16 semester credit hours of vocational courses.

2.   Students may include up to 8 semester credit hours of Independent Study courses; up to 4 semester credits of Independent Study may be earned in any single semester.

Associate in General Studies

The Associate in General Studies degree (AGS) provides students an opportunity to select their coursework to meet specific educational goals and interests. The AGS degree is generally not designed to meet college transfer requirements. Students wishing to complete an AGS degree are encouraged to consult with a counselor or advisor in the Student Development Office for assistance.

Associate in General Studies requirements:

To receive an AGS degree, students must:

A.   Maintain a 2.0 grade point average on all work applicable for the AGS degree.

B.   Earn a minimum of 1/3 of the semester credit hours applicable to the degree being pursued at DMACC. No more than 43 transfer semester credit hours may be applied toward the degree.

C.   Complete the final 10 semester credit hours at DMACC (or petition to the Credentials Office for an exception).

D.   Complete a minimum of 64 semester credit hours.

E.   Satisfy the following core:

- Communications   3 credits
- Social & Behavioral Science/Humanities   3 credits
- Math or Sciences   3 credits
- Distributed requirements   3 credits

F.   Complete 52 credits of elective coursework.

Students may include no more than 8 semester credit hours of Independent Study courses; no more than 4 semester credits of Independent Study may be earned in any single semester.

AGS Core Requirement Classes (12 credit hours)

Communications   **3 Credits**

ENGL 410	Communication Skills	ENGL 119	Technical and Business Writing
ENGL 117	Composition I	BTEC 205	Business English
ENGL 118	Composition II		

Programs Available

Social and Behavioral Sciences/Humanities   **3 Credits**

AGRI 411	Agricultural Economics	JAPN 104	Intermediate Japanese II
ARTS 101	Art Appreciation	LITR 120	Intro to Literature
ANTH 120	Introduction to Anthropology	LITR 121	Major British Writers
ANTH 121	Cultural Anthropology	LITR 122	Major American Writers I
ASL-101	American Sign Language I	LITR 123	Major American Writers II
ASL-102	American Sign Language II	LITR 125	Contemporary Literature
ASL-103	American Sign Language III	LITR 130	Science Fiction
ASL-104	American Sign Language IV	LITR 131	Detective fiction
CHIN 101	Elementary Chinese I	LITR 132	Humor
CHIN 102	Elementary Chinese I	LITR 133	Black American Literature
CHIN 103	Intermediate Chinese I	LITR 134	Women's Literature
CHIN 104	Intermediate Chinese II	MGMT 203	Human Relations in Business
DRAM 110	Introduction to Theatre	MUSI 130	Music Appreciation
ECON 101	Principles of Macroeconomics	MUSI 131	Introduction to Music
ECON 102	Principles of Microeconomics	PHIL 110	Introduction to Philosophy
FREN 101	Elementary French I	PHIL 111	Introduction to Logic
FREN 102	Elementary French II	PHIL 112	Ethical Problems
FREN 103	Intermediate French I	PHIL 113	Comparative Religions
FREN 104	Intermediate French II	PHOT 105	Principles of Photography
GERM 101	Elementary German I	PLSC 111	American National Government
GERM 102	Elementary German II	PLSC 112	State and Local Government
GERM 103	Intermediate German I	PLSC 121	World Politics
GERM 104	Intermediate German II	PLSC 122	Comparative Political Systems
GEOG 141	Intro to Geography	PLSC 126	Intro to Public Administration
GEOG 147	Developed World	PSCH 101	General Psychology
GEOG 148	Third World	PSCH 103	Developmental Psychology
HIST 121	Western Civ Beg to 1715	PSCH 104	Abnormal Psychology
HIST 122	Western Civ 1715 to Present	PSCH 105	Social Psychology
HIST 124	American History 1492 to 1877	PSCH 106	Psych of Human Relations and Adj
HIST 125	American History 1877 to Present	PSCH 108	Human Sexuality and Gender Roles
HUMN 115	Introduction to Film	SOCY 101	Introduction to Sociology
HUMN 131	Humanities Through Arts	SOCY 102	Social Issues
HUMN 133	America in the Movies	SOCY 103	Courtship, Marriage and Family
ITAL 101	Elementary Italian I	SOCY 105	Race, Ethnic and Gender Relations
ITAL 102	Elementary Italian II	SPAN 101	Elementary Spanish I
ITAL 103	Intermediate Italian I	SPAN 102	Elementary Spanish II
ITAL 104	Intermediate Italian II	SPAN 103	Intermediate Spanish I
JAPN 101	Elementary Japanese I	SPAN 104	Intermediate Spanish II
JAPN 102	Elementary Japanese II		
JAPN 103	Intermediate Japanese I		

Math or Sciences   **3 Credits**

BIOL 118	Environmental Conservation	ELHT 313	Technical Math I
BIOL 119	Environmental Conservation Lab	ELHT 323	Technical Math II
BIOL 126	Field Biology	MATH 115	Finite Mathematics
BIOL 127	Human Biology	MATH 118	Math for Elementary Educators
BIOL 132	Health Science Microbiology	MATH 121	Elementary Statistics
BIOL 133	Health Science Anatomy		(OR BSAD 152 Business Statistics)
BIOL 134	Health Science Physiology	MATH 122	Calculus for Business/Social Science
BIOL140	Introductory Biology	MATH 123	Trigonometry
BIOL 141	Principles of Biology I	MATH 124	Precalculus
BIOL 142	Principles of Biology II	MATH 129	Calculus I
BIOL 149	General Microbiology	MATH 130	Calculus II
BIOL 154	General Anatomy and Physiology	MATH131	Calculus III
BSAD 152	Business Statistics	MATH 132	Differential Equat/Laplace Trans
	(OR MATH 121 Elementary Statistics)	MATH 410	Mathematics for Technicians I
BSAD 223	Business/Financial Math	MATH 411	Mathematics for Technicians II
CHEM 120	Survey of Chemistry	PHYL 106	Survey of Physical Science
CHEM 131	General Chemistry I	PHYL 111	College Physics I
CHEM 132	General Chemistry II	PHYL 112	College Physics II
CHEM 151	General/Inorganic Chemistry I	PHYL 121	Classical Physics I
CHEM 152	General/Inorganic Chemistry II	PHYL 122	Classical Physics II
CHEM 161	Organic Chemistry I	PHYL 401	Physics for Technicians
CHEM 162	Organic Chemistry II		
ELEM 450	Related Math		

Distributed Requirement   **3 Credits**

Choose one course from Communications, Social and Behavioral Sciences/Humanities, Math or Sciences above or SPCH 110, SPCH 117 or ELEM 451.

Electives   **52 Credits**

Students may include no more than 8 semester credit hours of Independent Study courses; no more than 4 semester credits of Independent Study may be earned in any single semester.

Total AGS Degree Requirements   **64 credits**

Programs Available

ASEP - General Motors

The Automotive Service Educational Program (ASEP), co-sponsored by DMACC and General Motors, is a two-year automotive program designed to prepare students for employment as a GM dealership technician. The curriculum, designed by General Motors and DMACC, leads to the associate degree in Automotive Technology. The program involves classroom lecture, laboratory experience, and dealership work experience.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement, aptitude and ability tests and be accepted by General Motors as a participant. In addition, all program participants must be employed by a participating General Motors dealership. Students start in October each year.

Graduation Requirements

To earn an ASEP General Motors AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

ASEP312	GM Specialized Electronics Training	4
ASEP317	GM Shop Fund and Minor Service	3
ASEP318	GM Steering/Suspension/Brakes	4
ASEP320	Technical Internship I	3
ASEP326	GM Auto Air Conditioning Systems	3
ASEP327	Minor Service/Repair-GM Engines	3
ASEP328	Diagnosis/Repair-GM Electrical System	3
ASEP330	Technical Internship II	3
ASEP333	Major Service Procedures/GM Engines	3
ASEP336	GM Carb and Fuel Induction Systems	3
ASEP337	GM Tune-Up Proc and Emission Control	4
ASEP340	Technical Internship III	3
ASEP344	GM Manual Drivetrains	4
ASEP345	GM Automatic Drivetrains	4
ASEP350	Technical Internship IV	3
ASEP354	Advanced GM Motors Systems	5
AUTO464	Auto Measurement and Tools	3
BSAD150	Intro to Business	3
ENGL410	Communication Skills	3
MATH410	Mathematics for Technicians I	3
PHYL401	Physics for Technicians	3
PSCH106	Psychology of Human Relations & Adjustment	3
Total credits required to complete this program		**73**

ASSET - Ford

The Automotive Student Service Educational Training Program (ASSET), co-sponsored by DMACC and Ford Motor Company, is a two-year automotive program designed to upgrade the technical competence and professional level of the incoming Ford or Lincoln/Mercury dealership technician. The curriculum, designed by Ford Motor Company and DMACC, leads to the associate degree in Automotive Technology and Ford Technician Training Certification. The program involves classroom lecture, laboratory experience and dealership work experience.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement, aptitude and ability tests and be accepted by Ford Motor Company as a participant. In addition, all program participants must be employed by a participating Ford or Lincoln/Mercury dealership.

Graduation Requirements

To earn an ASSET Ford AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

ASST312	Ford Automotive Electronics	5
ASST317	Ford Shop Fund and Minor Service	3
ASST318	Ford Steering/Suspension/Brakes	6
ASST320	Technical Internship I	3
ASST326	Ford Auto Air Conditioning Systems	3
ASST328	Diagnosis/Repair Ford Electrical Systems	5
ASST330	Technical Internship II	3
ASST333	Ford Engine Diagnosis/Repair	4
ASST336	Ford Fuel Systems & Injection	3
ASST337	Ford Tune-Up Procedure and Emission Control	4
ASST340	Technical Internship III	3
ASST344	Ford Driveline and 4X4 Diagnosis and Repair	2
ASST345	Ford Manual Transmissions	2
ASST346	Ford Transmission and Transaxles	4
ASST350	Technical Internship IV	3
ASST354	Ford Advanced Engine Controls, Electronics	5
BSAD150	Intro to Business	3
ENGL410	Communication Skills	3
MATH410	Mathematics for Technicians I	3
PHYL401	Physics for Technicians	3
PSCH106	Psychology of Human Relations & Adjustment	3
Total credits required to complete this program		**73**

Accounting & Bookkeeping

The Accounting and Bookkeeping program prepares you for a career in accounting. Many career opportunities exist for you upon completion of the Accounting and Bookkeeping program. You will identify, analyze, summarize, communicate and record business transactions.

You will take specialized courses in accounting including payroll, financial and managerial computers and accounting procedures equipping you with marketable skills for any business environment. You will receive not only conceptual training but actual "hands-on" training that will provide you with the important abilities needed for success. You will complete an internship in a professional work environment where many of the skills and procedures studied in the classroom are practiced under the combined guidance of a teacher and a cooperating employer. You will find employment opportunities in the profit and nonprofit private and governmental sectors.

Locations: Boone, Urban

Selected courses in this program are offered at other campuses.

Program Entry Requirements

• Complete an application, satisfy the assessment requirement and attend any required information/ registration session.

• Successful completion of BTEC329 Keyboarding I or keyboarding skills of 25 NWPM is strongly recommended.

• Students start fall term.

Graduation Requirements

To earn an Accounting and Bookkeeping diploma, a student must complete the requirements for the degree and maintain a 2.0 grade point.

Programs Available

Term 1–Select 1 Course From Each Option

ACCT101	Principles of Accounting I		4
ACCT408	Accounting Professional Development		3
BSAD223	Business/Financial Math		3
COMS181	Intro to Computer Literacy		3
MGMT203	Human Relations in Business	Opt1	3
PSCH101	General Psychology	Opt1	3
ECON101	Principles of Macroeconomics	Opt1	3
ECON102	Principles of Microeconomics	Opt1	3
ENGL117	Composition I	Opt2	3
BTEC205	Business English	Opt2	3

Students planning to transfer to a four-year institution should select courses numbered between 100 and 199. ECON 101 or ECON 102 is strongly recommended for business majors.

Term 2

ACCT102	Principles of Accounting II	4
ACCT315	Financial Analysis	3
ACCT411	Payroll Accounting	3
ACCT351	Financial Accounting/Computers	3
ACCT352	Excel for Accounting Principles	3

Term 3–Select 1 Course From Option 3 and 1 Course from Option 4

ACCT404	Accounting Career Seminar		1
ACCT402	Accounting Internship	Opt3	4
ACCT403	Accounting Internship	Opt3	3
ENGL118	Composition II	Opt4	3
ENGL119	Technical and Business Writing	Opt4	3
ENGL410	Communication Skills	Opt4	3

Students planning to transfer to a four-year institution should select ENGL118.

Total credits required to complete this program   **42**

Accounting Certificate I and Accounting Certificate II
(see Certificate Section page 77)

Accounting Information Systems

The Accounting Information Systems program prepares you for a career in accounting and for a liaison position between accounting and the information systems. You will receive strong information technology skills in addition to traditional accounting skills. You will become proficient in commercial and customized accounting software and spreadsheets.

You will take courses in accounting for taxes and payroll on computers along with programming that will allow you to seek advanced placement in accounting or information systems. Optional courses in programming allow you to select a mainframe or a personal computer environment.

You will find employment opportunities are found in the profit and nonprofit private and governmental sectors.

Locations: Ankeny, Boone, Urban

Selected courses in this program are offered at other campuses.

Program Entry Requirements
- Complete an application, satisfy the assessment requirement and attend any required information/registration session.
- Successful completion of BTEC329 Keyboarding I or keyboarding skills of 25 NWPM is strongly recommended.
- High school Algebra II or higher with a grade of "C" or better or MATH094 and/or MATH115 at DMACC.
- Students start fall term at Boone and Urban campuses, spring term at Ankeny and Carroll campuses. Course sequence will vary at Ankeny, see a counselor/advisor for details.

Graduation Requirements

To earn an Accounting Information Systems AS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1

ACCT101	Principles of Accounting I	4
COMS181	Intro to Computer Literacy	3
ECON101	Principles of Macroeconomics	3
ENGL117	Composition I	3
Any AA/AS degree Core MATH course		4

Students planning to transfer to a four-year institution should check with that institution regarding math requirements before selecting math courses for this program.

Term 2–Select 1 Course From Option 1

ACCT102	Principles of Accounting II		4
ENGL118	Composition II		3
COMS111	Computers & Program Logic		3
ACCT351	Financial Accounting/Computers		3
ACCT411	Payroll Accounting	Opt1	3
ACCT315	Financial Analysis	Opt1	3

Term 3–Select 1 Course From Option 2

ACCT103	Intermediate Accounting I		4
ECON102	Principles of Microeconomics		3
SPCH110	Fundamentals of Speech		3
COMS125	Business Programming COBOL I	Opt2	3
DATA103	Visual Basic Programming	Opt2	3
DATA318	C++ Programming	Opt2	3
Any AA/AS degree Core MATH course			4

Students planning to transfer to a four-year institution should check with that institution regarding math requirements before selecting math courses for this program.

Term 4–Select 1 Course From Option 3

ACCT206	Income Tax		3
ACCT312	Accounting Information Systems		4
ACCT352	EXCEL for Accounting Principles		3
COMS126	Business Programming COBOL II	Opt3	4
DATA110	Computer Network Literacy	Opt3	3
Any AA/AS Degree Core BIOL, CHEM or PHYL course			3
Any AA/AS Degree Core Humanities course			3

Students planning to transfer to a four-year institution should check with that institution regarding requirements for science and humanities before selecting courses for this program.

Total credits required to complete this program   **69**

Programs Available

Accounting Paraprofessional

The Accounting Paraprofessional program prepares you for an accounting career. You will be on a pre-CPA/CMA track that is articulated with selected four-year institutions to facilitate the completion of a Bachelor's degree. You will be able to identify, analyze, summarize, communicate, record and interpret business transactions and financial statements. You will become proficient in commercial and customized accounting software and spreadsheets. The program is 68 credits and you can complete it in four regular semesters.

You will study professional and ethics case studies for business and obtain oral and written communication skills that are necessary for success in business. Courses in accounting, taxes and payroll with commercial software allow you to seek advanced placement in accounting or information systems departments.

Employment opportunities are found in the profit and nonprofit private and governmental sectors.

Locations: Ankeny, Boone, Carroll, Urban

Selected courses in this program are offered at other campuses.

Program Entry Requirements
- Complete an application, satisfy the assessment requirement and attend any required information/registration session.
- Successful completion of BTEC329 Keyboarding I or keyboarding skills of 25 NWPM is strongly recommended.
- High school Algebra II or higher with a grade of "C" or better or MATH094 and/or MATH115 at DMACC.
- Students start fall term at Urban and Boone campuses, spring term at Ankeny and Carroll campuses. Course sequence will vary at Ankeny and Carroll, see a counselor/advisor for details.

Graduation Requirements

To earn an Accounting Paraprofessional AS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average. A grade of "C" or better is required in all ACCT course work.

Term 1

ACCT101	Principles of Accounting I	4
COMS181	Intro to Computer Literacy	3
ECON101	Principles of Macroeconomics	3
ENGL117	Composition I	3
Any AA/AS degree Core MATH course		4

Students planning to transfer to a four-year institution should check with that institution regarding math requirements before selecting math courses for this program.

Term 2

ACCT102	Principles of Accounting II	4
ACCT315	Financial Analysis	3
ACCT351	Financial Accounting/Computers	3
ACCT411	Payroll Accounting	3
ENGL118	Composition II	3

Term 3

ACCT103	Intermediate Accounting I	4
ACCT203	Cost Accounting	4
ECON102	Principles of Microeconomics	3
SPCH110	Fundamentals of Speech	3
Any AA/AS degree Core MATH course		4

Students planning to transfer to a four-year institution should check with that institution regarding math requirements before selecting math courses for this program.

Term 4—Select 1 Course From Each Option

ACCT206	Income Tax		3
ACCT312	Accounting Information Systems		4
ACCT352	Excel for Accounting Principles		3
Any AA/AS Degree Core BIOL, CHEM or PHYL course		Opt1	3
Any AA/AS Degree Core Humanities course		Opt2	3

Students planning to transfer to a four-year institution should check with that institution regarding requirements for science and humanities before selecting courses for option 1 and 2 in this program.

Total minimum credits required to complete this program   67

Accounting Specialist

The Accounting Specialist program prepares you for an accounting career. You will be able to identify, analyze, summarize, communicate, record and interpret business transactions and financial statements. You will learn commercial and customized accounting software and spreadsheets and you will apply the skills via intensive accounting applications.

You will study professional and ethical behavioral case studies for business, as well as attain oral and written communication skills that are necessary for success. Technical courses in accounting, taxes and payroll with commercial software will allow you to seek advanced placement in accounting or information systems departments. You will experience a professional work environment under the combined guidance of a teacher and a cooperating employer where many of the skills and procedures studied in the classroom are observed and practiced.

You will find employment opportunities in the profit and non-profit private and governmental sectors.

Locations: Boone, Urban

Selected courses in this program are offered at other campuses.

Program Entry Requirements
- Complete an application, satisfy the assessment requirement and attend any required information/registration session.
- Successful completion of BTEC329 Keyboarding I or keyboarding skills of 25 NWPM is strongly recommended.
- High school Algebra II or higher with a grade of "C" or better or MATH094 and/or MATH115 at DMACC.
- Students start fall term at Urban and Boone.

Graduation Requirements

To earn an Accounting Specialist AAS degree, a student must complete the requirements for the degree, maintain a 2.0 grade point average and receive a grade of "C" or above in all ACCT course work.

Term 1—Select 1 Course From Option 1

ACCT101	Principles of Accounting I		4
ACCT408	Accounting Professionalism		3
COMS181	Intro to Computer Literacy		3
ENGL117	Composition I	Opt1	3
BTEC205	Business English	Opt1	3
Any AA/AS degree Core MATH course			4

Students planning to transfer to a four-year institution should check with that institution regarding math requirements before selecting math courses for this program.

Term 2—Select 1 Course From Option 2

ACCT102	Principles of Accounting II		4
ACCT315	Financial Analysis		3
ACCT351	Financial Accounting/Computers		3
ACCT411	Payroll Accounting		3
ENGL118	Composition II	Opt2	3
ENGL119	Technical and Business Writing	Opt2	3
ENGL410	Communication Skills	Opt2	3

Students planning to transfer to a four-year institution should select ENGL118.

Programs Available

Term 3–Select 1 Course From Option 3

ACCT404	Accounting Career Seminar		1
SPCH110	Fundamentals of Speech		3
ACCT402	Accounting Internship	Opt3	4
ACCT403	Accounting Internship	Opt3	3

Term 4–Select 1 Course From Option 4

ACCT103	Intermediate Accounting I		4
ACCT203	Cost Accounting		4
BUSL101	Business Law I	Opt4	3
ECON101	Principles of Macroeconomics	Opt4	3
Any AA/AS degree Core MATH course			4

Students planning to transfer to a four-year institution should check with that institution regarding math requirements before selecting math courses for this program.

Term 5–Select 1 Course From Option 5

ACCT206	Income Tax		3
ACCT312	Accounting Information Systems		4
ACCT352	EXCEL for Accounting Principles		3
MGMT203	Human Relations in Business	Opt5	3
PSCH101	General Psychology	Opt5	3
ECON102	Principles of Microeconomics	Opt5	3

Students planning to transfer to a four-year institution should select courses numbered from 100 to 199. ECON 101 is strongly recommended for business majors.

Students planning to transfer to a four-year institution should check with that institution regarding science and humanities requirements before selecting courses for this program.

Total minimum credits required to complete this program   68

Administrative Assistant

Today's business offices have a need for highly-skilled employees who possess the skills and confidence necessary to handle a wide variety of office tasks. The Administrative Assistant degree provides a strong foundation in office skills, including the technological aspects, and combines course work and hands-on computer experience. The curriculum includes comprehensive work skills preparation necessary for the administrative assistant to work in business, professional offices and other employing agencies.

Students will be prepared to demonstrate good communication skills, problem-solving skills, effective human relations skills, and skilled use of computer applications and office procedures.

Locations: Ankeny, Boone, Carroll, Urban

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements

To earn an Administrative Assistant AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1

BSAD223	Business/Financial Math	3
MGMT203	Human Relations in Business	3
BTEC205	Business English	3
BTEC305	Word Processing Skill Development I	4
BTEC324	Office Calculators	1
BTEC355	Computer Applications	3

Term 2

COOP220	Career-Seeking Skills	2
BTEC204	Office Procedures	3
BTEC206	Business Correspondence Techniques	3
BTEC306	Word Processing Skill Development II	3
BTEC356	Advanced Computer Applications	3
BTEC405	Professional Development	3

Term 3–In addition to the required course, students must select 1 Course From Option 1, 1 Course from Option 2, and 2 Courses from Option 3

MGMT153	Office Management		3
ACCT101	Principles of Accounting I	Opt1	4
ACCT301	Accounting Fundamentals	Opt1	3
SPCH110	Fundamentals of Speech	Opt2	3
SPCH117	Interpersonal & Small Group Comm	Opt2	3
BSAD150	Intro to Business	Opt3	3
BSAD151	Personal Finance	Opt3	3
BSEN229	Small Business Management	Opt3	3
BUSL101	Business Law I	Opt3	3
DATA110	Computer Network Literacy	Opt3	3
MGMT243	Management of Information	Opt3	3
MKTG102	Principles of Marketing	Opt3	3

Term 4–Select 3 Credits From Option 4

BTEC207	Administrative Office Applications		3
BTEC357	Emerging Technologies		3
BTEC358	PC Desktop Publishing Principles		3
BTEC410	Office Internship		2
BTEC411	Office Seminar		1
Any Accounting course (except adjunct)		Opt4	
Any Business Admin course (except adjunct)		Opt4	
Any Business Law course (except adjunct)		Opt4	
Any Computer Science course (except adjunct)		Opt4	
Any Data Processing course (except adjunct)		Opt4	
Any Economics course (except adjunct)		Opt4	
Any Management course (except adjunct)		Opt4	
Any Marketing course (except adjunct)		Opt4	
Any Business Technology course (except adjunct)		Opt4	

Total minimum credits required to complete the AAS degree   64

Aging Services Management

The Aging Services Management program provides students with the opportunity to develop the knowledge and skills needed to perform the duties of a health care administrator in long-term care facilities and residential care facilities; director in assisted living and adult day care programs; or management with adult services agencies. An administrator or director may be responsible for planning, organizing, staffing, directing, and budgeting of a facility or agency that works with the older adult population. Students in this program will explore specific administration areas such as management, services, financial, legal regulations and human relations. There are four tracks for students to select a career path. The Aging Services Management programs provide classes on the web, TV, and weekends to meet the needs of the nontraditional student.

Students completing the AS degree will have the option of seeking employment in a health-care-related field, or transferring to a four-year college or university.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement, and attend any required information/registration sessions. Students may start any term.

Graduation Requirements

To earn an Aging Services Management AS degree with an emphasis in either the Long-Term Care Administration track or the Adult Services track, a student must complete the standard core requirements for the degree, plus the required and option courses and maintain a 2.0 grade point average.

Programs Available

Long-Term Care Administration Track

The Long-Term Care Administration AS degree track provides students with the knowledge and skills needed to perform the duties of a nursing home administrator. Administrators play a vital role in planning, organizing, staffing, directing and controlling the operation of a long-term care facility.

IMPORTANT NOTE: Students are strongly advised to contact one of the staff members in Aging Services Management in Bldg. 9, Room 3 on the Ankeny Campus or call 515-964-6814 or 515-964-6262 regarding additional important information to meet state licensure requirements for nursing home administrator .

Required Courses

Complete AS Degree Core Requirements		28
ASM278	Management in Senior Care Services	3
ASM279	Health Care Human Resources	3
ASM280	Health Care Delivery Systems	2
ASM282	Aging Services In the Continuum/Care	2
ASM283	Aging Policies & Government Programs	2
SOCY204	Social Gerontology/Applications	4
SOCY205	Issues in Aging	2

Practicum:

ASM251	Governance of NF/SNF	2
ASM252	Governance of Assisted Living/SNF	2
ASM253	LTC Practicum: Psychosocial Needs	2
ASM254	LTC Practicum: Physical Needs	2
ASM255	LTC Practicum: Administration	2
ASM257	Capstone	2

Option Courses - Select a Mimimum of 10 Credits from Option 1

ACCT101	Principles of Accounting I	Opt1	4
ACCT301	Accounting Fundamentals	Opt1	3
ASM238	Health Care Financial Management	Opt1	3
ASM239	Information Systems in Health Care	Opt1	2
ASM274	Law and Ethics in Health Care	Opt1	3

Adult Services Track

The Adult Services AS degree track provides students with the course work to qualify to be administrators or directors of Residential Care Facilities, Assisted Living programs, Adult Day Care programs, home and community based services and agencies that work with the elderly. Administrators or directors play a vital role in planning, organizing, staffing, directing and controlling the operation of adult services programs.

Note: If you are planning to work in a residential care facility it is recommended that you take SOCY101 Introduction to Sociology and PSCH101 General Psychology to fulfill the Social and Behavioral Sciences component of the AS Degree core requirements.

Required Courses

Complete AS Degree Core Requirements		28
ASM278	Management in Senior Care Services	3
ASM279	Health Care Human Resources	3
ASM280	Health Care Delivery Systems	2
ASM282	Aging Services In the Continuum/Care	2
ASM283	Aging Policies & Government Programs	2
SOCY204	Social Gerontology/Applications	4
SOCY205	Issues in Aging	2
ASM239	Information Systems in Health Care	2
ASM257	Capstone	2
ASM256	Agency Experience	2
ASM274	Law and Ethics in Health Care	3

Option Courses - Select 1 Course from Option 2 and a Minimum of 10 Credits from Option 3

ACCT101	Principles of Accounting I	Opt2	4
ACCT301	Accounting Fundamentals	Opt2	3
ASM251	Governance of NF/SNF	Opt3	2
ASM252	Governance of Assisted Living	Opt3	2
ASM238	Health Care Financial Management	Opt3	3
ASM295	Death and Dying	Opt3	3
ASM292	Activities	Opt3	4
DMAS355	Food Production Management	Opt3	1
DMAS356	Food Service Management	Opt3	2
HRMT334	Human Nutrition	Opt3	3
HUMS202	Interviewing/Interpersonal Relations	Opt3	3
MEDA462	Medical Terminology	Opt3	1
MKTG102	Principles of Marketing	Opt3	3
PHYE146	Personal & Community Health	Opt3	3

Total minimum credits required to complete this program with either track   68

Agri-Business

The Agri-Business program is designed to prepare students for the rapidly expanding food fiber and natural resources industry. Students are given an option of emphasizing agricultural supply and service and farm management.

This program provides the student with training in the latest developments in technical agriculture in both the classroom and industry settings. The program also includes on-the-job employment experience in the industry.

Students who elect to take agricultural supply and service courses will be capable of filling entry-level jobs including agronomist, livestock, grain and petroleum marketing specialist. Other job opportunities may be found within the seed, chemical, banking and commodity brokerage industry.

Students who elect to take farm management courses may enter production agriculture or find employment as a farm management specialist.

Students should visit with program instructors and counselors for information regarding courses that transfer to four-year institutions.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements

To earn an Agri-Business AAS degree, students must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

AGRI201	Feeding & Animal Nutrition I	3
AGRI202	Crop Scouting	3
AGRI203	Feeding & Animal Nutrition II	3
AGRI204	Animal Science	3
AGRI206	Crop Management	3
AGRI207	Livestock Disease Prevention	3
AGRI209	Soils Laboratory	1
AGRI216	Commodity Marketing	3
AGRI217	Precision Agriculture Applications	3
AGRI219	Soils and Fertilizers	3
AGRI411	Agricultural Economics	3
AGRI421	Chemical Technology	3
AGRI430	Agribusiness Internship I	2
AGRI436	Grain Management	2
AGRI455	Agribusiness Internship II	3
COMS181	Intro to Computer Literacy	3
COOP220	Career-Seeking Skills	2
SPCH110	Fundamentals of Speech	3

Programs Available

Option Courses–Select 1 Course From Options 1, 2, 3 and 4. Select 4 Courses from Option 5

MATH115	Finite Mathematics	Opt1	4
MATH410	Mathematics for Technicians I	Opt1	3
ACCT101	Principles of Accounting I	Opt2	4
ACCT301	Accounting Fundamentals	Opt2	3
ENGL117	Composition I	Opt3	3
ENGL410	Communication Skills	Opt3	3
MGMT203	Human Relations in Business	Opt4	3
PSCH101	General Psychology	Opt4	3
SOCY101	Introduction to Sociology	Opt4	3
AGRI222	Survey of the Aquaculture Industry	Opt5	3
AGRI304	Swine Production and Management	Opt5	3
AGRI305	Beef Production and Management	Opt5	3
AGRI306	Advanced Crop Management	Opt5	3
AGRI322	Agribusiness Management	Opt5	3
AGRI323	Farm Management	Opt5	3
AGRI333	Petroleum Products in Agriculture	Opt5	3
BUSL101	Business Law I	Opt5	3
MKTG103	Principles of Selling	Opt5	3

Total minimum credits required to complete this program   73

Agri-Business Agronomy, Agri-Business Animal Science, Agri-Business Farm Management and Agri-Business Sales/Service Certificates
(see Certificate Section starting on page 77)

Airbrush Art (see Certificate Section page 78)

Architectural Millwork

The Architectural Millwork program will give students the training to produce one-of-a-kind cabinetry, millwork (wood trim) and solid surface products, such as solid surface counter tops. Students will receive classroom instruction as well as hands-on training and experience using modern millwork equipment. Graduates of the program will earn a diploma, which will prepare them for entry-level positions in the architectural millwork field.

Location: Ankeny
Program Entry Requirements
Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall term.

Graduation Requirements
To earn an Architectural Millwork diploma, complete all course work as prescribed and maintain a 2.0 (C) grade point average.

ALL MILL courses are reserved for students accepted into the full-time Architectural Millwork program.

Term 1

MILL440	Blueprint Reading and Layout	3
MILL441	Material Identification and Usage	3
MILL442	Introduction to Portable Tools	3
MILL443	Stationary Equipment	4
HLCR314	Emergency Care	1
MATH410	Mathematics for Technicians I	3

Term 2

MILL444	Advanced Equipment Techniques	3
MILL445	32 Millimeter Cabinet Techniques	3
MILL446	Millwork Techniques	4
MILL447	Introduction to Application	3
ENGL410	Communication Skills	3

Term 3

MILL448	Advanced Millwork Applications I	5
MILL449	Advanced Millwork Applications II	5

Total credits required to complete this program   43

Architectural Technologies

The Architectural Technologies program is designed to develop the proper manual and computer skills and knowledge required for satisfactory entrance into the field of architectural drafting and detailing.

Graduates are employed by architects, structural, mechanical and electrical engineers, contractors, subcontractors and building equipment and material suppliers. Students visit a construction site to observe actual construction practices and architectural offices to experience their future work environment.

Location: Ankeny
Selected courses offered at Urban campus
Program Entry Requirements
Complete an application, satisfy the assessment requirement and attend any required information/registration sessions. Submit evidence of grade "C" or above in one year of high school algebra or the equivalent (DMACC Academic Achievement Center Algebra I & II or MATH 092).

Students start summer term.

NOTE: DATA110 has a prerequisite of COMS181 Introduction to Computer Literacy.

The requirement for MATH410 & 411 can be fulfilled with evidence of a grade of "C" or above in MATH 123 or an equivalent mathematics course; and a COMPASS Trigonometry score of 35. When students meet their math requirement this way additional credits to meet the 65 credit program requirement must come from courses in Option 1 or as approved by the instructor.

Graduation Requirements
To earn an Architectural Technologies diploma or AAS degree, students must complete all course work as prescribed and maintain a 2.0 (C) grade point average.

Term 1

ARCH410	Architectural Drafting I	2
ARCH460	Architectural Drafting Lab I	3
ARCH464	Construction Techniques I	2
ARCH472	Construction Estimating	2
CADD401	Intro to Computer Aided Drafting	3

Term 2

ARCH420	Architectural Drafting II	2
ARCH461	Architectural Drafting Lab II	3
ARCH470	Construction Techniques II	2
ARCH473	Building Assemblies I	2
CADD403	Intermediate CADD-Architectural	3
ENGL117	Composition I	3
MATH410	Mathematics for Technicians I	3

Term 3–Select 1 Course from Option 1

ARCH462	Architectural Drafting III		2
ARCH463	Architectural Drafting Lab III		3
ARCH465	Building Assemblies II		2
ARCH471	Construction Techniques III		3
ARCH475	Technical Report & Specs		2
MATH411	Mathematics for Technicians II		3
MGMT203	Human Relations in Business	Opt1	3
PSCH101	General Psychology	Opt1	3
PSCH106	Psychology of Human Relations & Adjustment	Opt1	3
SOCY101	Introduction to Sociology	Opt1	3

Total credits required to complete the diploma   48

Additional Courses Required to Complete this Program

HIST121	Western Civilization Beginning to 1715	4
HIST122	Western Civilization 1715 to Present	4
ENGL119	Technical and Business Writing	3
DATA110	Computer Network Literacy	3
CADD410	Introduction to Multimedia	3

Total credits required to complete the AAS degree   65

Programs Available

Auto Collision Technology

The Auto Collision Technology program is designed to prepare students for employment in the highly technological auto collision industry and to update those already employed.

The Auto Collision diploma option prepares graduates for entry into auto collision jobs related to paint, refinishing and major structural repairs.

In addition, individual courses may be taken to satisfy the person who wants only specific segments of the complete program.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall or spring term.

Graduation Requirements

To earn an Automotive Collision Technology diploma or AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Auto Collision - Diploma
Required Courses

AUTC403	Basic Shop Safety	1
AUTC405	Basic Shop Operations/Metal	5
AUTC408	Basic Shop Operations/Paint	5
AUTC410	Basic Estimating	2
AUTC412	Get Ready for Paint	7
AUTC413	Plastic Repair and Refinishing	3
AUTC414	Collision Analysis and Measuring	2
AUTC420	Advanced Refinishing	6
AUTC421	Adv Estimating/Ownership/Management	2
AUTC440	Frame and Unibody Structural Repair	5
ENGL410	Communication Skills	3
MATH410	Mathematics for Technicians I	3
WELD468	Related Welding/Auto Collision	2

Total credits required to complete the diploma   46

Auto Collision - AAS

AUTC403	Basic Shop Safety	1
AUTC405	Basic Shop Operations/Metal	5
AUTC408	Basic Shop Operations/Paint	5
AUTC410	Basic Estimating	2
AUTC412	Get Ready for Paint	7
AUTC413	Plastic Repair and Refinishing	3
AUTC414	Collision Analysis and Measuring	2
AUTC420	Advanced Refinishing	6
AUTC421	Adv Estimating/Ownership/Management	2
AUTC440	Frame and Unibody Structural Repair	5
AUTO469	Basic Automotive Electricity	3
AUTO470	Advanced Automotive Electricity	3
AUTO472	Auto Air Conditioning and Heating	4
AUTO486	Basic Brakes	3
AUTO488	Basic Suspension/Alignment	4
ENGL410	Communication Skills	3
HLCR314	Emergency Care	1
MATH410	Mathematics for Technicians I	3
PHYL401	Physics for Technicians	3
WELD468	Related Welding/Auto Collision	2

Option Courses–Select 1 Course From Each Option

MGMT203	Human Relations in Business	Opt1	3
PSCH106	Psychology of Human Relations & Adj	Opt1	3
PSCH101	General Psychology	Opt1	3
SOCY101	Introduction to Sociology	Opt1	3
BSEN229	Small Business Management	Opt2	3
BUSL101	Business Law I	Opt2	3

Total credits required to complete the AAS degree   73

Auto Mechanics Technology

The Auto Mechanics Technology program is designed to prepare students for employment in the high technology automotive service industry and to update those already employed.

The Auto Mechanics Technology Associate of Applied Science (AAS) degree program is a comprehensive training program designed to cover all aspects of automotive repair. Graduates with an AAS degree find employment in dealerships, independent service facilities, corporate repair facilities, and automotive parts establishments. They are employed as automotive technicians, insurance claims adjusters, automotive instructors, and repair technicians in related fields.

There are three separate diploma options which can be taken individually or in combination. One option prepares graduates for job entry in current automotive technology tune-up and engine repair. Another option prepares graduates to enter the automotive industry trained in the latest power train and chassis repair techniques. A third option prepares graduates to enter the automotive industry as a maintenance and light repair technician. Diploma recipients may receive an AAS degree by completing the additional courses required for the Auto Mechanics Technology AAS degree.

Location: Ankeny, selected courses offered at the other campuses.
Auto Maintenance & Light Repair diploma is available only at the Urban campus.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Ankeny and Urban Campus students start fall term, Carrol Campus students start spring term.

Graduation Requirements

To earn a diploma in Auto Engines and Tune Up, Auto Chassis and Power Train or Maintenance Light Repair, or an AAS degree in Auto Mechanics Technology, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Auto Engines & Tune up

This diploma option prepares graduates for job entry in current automotive technology tune-up and engine repair.

Required Courses

AUTO464	Auto Measurement and Tools	3
AUTO466	Fuel Systems	4
AUTO469	Basic Automotive Electricity	3
AUTO470	Advanced Automotive Electricity	3
AUTO472	Auto AC and Heating	4
AUTO474	Automotive Engine Fundamentals	3
AUTO476	Electronic Engine Controls	6
AUTO478	Advanced Tune-Up	4
AUTO479	Service Management	2
AUTO482	Advanced Engines	3
ENGL410	Communication Skills	3
MATH410	Mathematics for Technicians I	3
PHYL401	Physics for Technicians	3

Total credits required to complete Engines & Tune-Up diploma   44

Auto Chassis & Power Train

This diploma option prepares graduates to enter the automotive industry in the latest power train and chassis repair techniques.

Required Courses–Select 1 Course from Option 1

AUTO464	Auto Measurement and Tools	3
AUTO484	Basic Power Train	6
AUTO486	Basic Brakes	3
AUTO488	Basic Suspension/Alignment	4
AUTO490	Advanced Power Train	6
AUTO492	Advanced Brakes & Alignment	5
ENGL410	Communication Skills	3

Programs Available

HLCR314	Emergency Care		1
MGMT203	Human Relations in Business	Opt1	3
PSCH101	General Psychology	Opt1	3
PSCH106	Psychology of Human Relations & Adj	Opt1	3
SOCY101	Introduction to Sociology	Opt1	3
Total credits required for Chassis & Power Trains diploma			**34**

Automotive Maintenance & Light Repair Technology
Urban Campus

This diploma option prepares graduates for a career in automotive maintenance and minor repair. This will include the light repair and maintenance of electrical systems, brakes, suspension, steering, alignment, heating, air conditioning, and engines.

Required Courses–Select 1 Course from Option 1

AUTO464	Auto Measurement and Tools		3
AUTO469	Basic Automotive Electricity		3
AUTO470	Advanced Automotive Electricity		3
AUTO472	Auto AC and Heating		4
AUTO474	Automotive Engine Fundamentals		3
AUTO479	Service Management		2
AUTO486	Basic Brakes		3
AUTO488	Basic Suspension/Alignment		4
AUTO492	Advanced Brakes & Alignment		5
ENGL410	Communication Skills		3
HLCR314	Emergency Care		1
MATH410	Mathematics for Technicians I		3
MGMT203	Human Relations in Business	Opt1	3
PSCH101	General Psychology	Opt1	3
PSCH106	Psychology of Human Relations & Adj	Opt1	3
SOCY101	Introduction to Sociology	Opt1	3
Total credits required for Auto Maintenance & Light Repair diploma			**40**

Automotive Mechanics Technology - AAS degree

Required Courses–Select 1 Course from Option 1

AUTO464	Auto Measurement and Tools		3
AUTO466	Fuel Systems		4
AUTO469	Basic Automotive Electricity		3
AUTO470	Advanced Automotive Electricity		3
AUTO472	Auto AC and Heating		4
AUTO474	Automotive Engine Fundamentals		3
AUTO476	Electronic Engine Controls		6
AUTO478	Advanced Tune-Up		4
AUTO479	Service Management		2
AUTO482	Advanced Engines		3
AUTO484	Basic Power Train		6
AUTO486	Basic Brakes		3
AUTO488	Basic Suspension/Alignment		4
AUTO490	Advanced Power Train		6
AUTO492	Advanced Brakes & Alignment		5
HLCR314	Emergency Care		1
ENGL410	Communication Skills		3
MATH410	Mathematics for Technicians I		3
PHYL401	Physics for Technicians		3
WELD467	Related Weld-Transportation Trades		2
MGMT203	Human Relations in Business	Opt1	3
PSCH101	General Psychology	Opt1	3
PSCH106	Psychology of Human Relations & Adj	Opt1	3
SOCY101	Introduction to Sociology	Opt1	3
Total credits required for the Auto Mechanics AAS degree			**74**

Biotechnology

The Biotechnology program is designed to prepare students to work as Biotechnology technicians in this rapidly expanding field which includes research and development, quality control, manufacturing, or related areas. Biotechnology is a broad term spanning several different disciplines. Specific career opportunities could require skills related to genetic engineering of plants or microorganisms, gene therapy to correct human health problems, DNA fingerprinting, vaccine development, or production of food, drugs and other consumer products.

The program is structured to allow students to develop marketable job skills while incorporating the requirements for a two-year liberal arts degree. Most of the credits will transfer to four-year institutions. The program includes many lab-based courses, which enables students to apply what they learn in chemistry, math and statistics, biology, microbiology, genetics and molecular biology. Specific skills such as written and oral communications, critical thinking, problem-solving, computer skills and small group collaboration are an integral part of the program. Students participate in internships in cooperation with potential employers.

Students planning to transfer to a four-year program after completion of this program should consider taking CHEM151 and 152 (instead of CHEM131 and 132) and CHEM161 and 162, depending on the program being considered. In addition, many programs will require calculus (MATH129 and/or 130) and physics (PHYL121 and 122 or PHYL111 and 112). Additional credit hours in humanities and the social sciences may also be helpful. Please check with the program chairperson for Biotechnology or an advisor for additional information or assistance.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

One year of high school chemistry or Academic Achievement Chemistry I & II, two years of high school algebra or MATH092 and 094 and satisfactory writing skills. Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall or spring term.

Graduation Requirements

To earn a Biotechnology AS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

BIOL140	Introductory Biology		3
BIOL111	Opportunities in Biology		1
ENGL117	Composition I		3
CHEM131	General Chemistry I		4
COMS181	Introduction to Computer Literacy		3
BIOL141	Principles of Biology I		4
CHEM132	General Chemistry II		4
ENGL118	Composition II		3
MATH121	Elementary Statistics		4
ENGL119	Technical and Business Writing		3
BIOL142	Principles of Biology II		4
BIOL149	General Microbiology		4
SPCH110	Fundamentals of Speech		3
BIOL162	Cell and Molecular Biology		5
BIOL165	Genetics		3
BIOL163	Topics in Biotechnology		1
BIOL167	Biotechnolgy Internship		3

Option Courses – Select 3 Credits From Options 1 and 6 Credits from Option 2

Core Humanities	Opt 1	3
Core Social and Behavioral Sciences	Opt 2	6
Total minimum credits required to complete this program		**64**

Programs Available

Building Maintenance Certificate
(see Certificate Section page 78)

Building Trades

The Building Trades program provides students with the skills and knowledge necessary to enter either residential or commercial construction fields.

Classroom work focuses on familiarizing the students with basic knowledge of construction materials. Laboratory activities emphasize practical hands-on skills needed in the building trades.

The last term is devoted to applying classroom theory and lab skills in an actual construction job, either residential or commercial.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall term.

Graduation Requirements

To earn a Building Trades diploma, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1

BLDG451	Materials/Construction Theory	5
BLDG452	Construction Techniques	7
BLDG453	Care/Use of Hand/Power Tools	1
BLDG455	Construction Blueprint Reading	1
BLDG456	Materials Takeoff	1
HLCR314	Emergency Care	1
MATH410	Mathematics for Technicians I	3

Term 2

BLDG461	Concrete Systems and Forming	4
BLDG462	Construction Drafting & Design	2
BLDG464	Interior Trim Practices	3
BLDG480	Construction Procedure/Application I	5
ENGL410	Communication Skills	3

Term 3

BLDG481	Construction Procedure/Application II	5
BLDG482	Construction Procedure/Application III	5
Total credits required to complete this program		**46**

Business Administration

The Business Administration program offers the student a number of career and educational opportunities. The curriculum is designed for career oriented students who desire career positions in business; college transfer students who wish to complete a four-year degree; working adults who want to complete their associate degree, gain advancement opportunities, or who are considering a career change.

Unique features of the Business Administration curriculum include: introductory business studies in business administration areas, a complement of arts and science transfer courses and an Associate in Science degree.

This program helps prepare the student for a career, or should the student decide to transfer to a four-year college, this program provides a curriculum that will satisfy most freshman and sophomore Business Administration requirements of four-year colleges. The Student Development Office can provide course check sheets from the various colleges identifying which DMACC courses should be taken for college transfer. Students planning on transferring to a four-year college should contact a counselor or advisor for course planning assistance.

Locations: Ankeny, Boone, Carroll, Newton, Urban, West

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements

To earn a Business Administration AS degree, a student must complete the standard core requirements for the degree, plus the Business Administration required courses and options and maintain a 2.0 grade point average.

Required Courses

	Complete AS Degree Core Requirements	28
ACCT101	Principles of Accounting I	4
ACCT102	Principles of Accounting II	4
BSAD150	Intro to Business	3
BSAD255	Intro to International Business	3
BUSL101	Business Law I	3
COMS181	Intro to Computer Literacy	3
ECON101	Principles of Macroeconomics	3
ECON102	Principles of Microeconomics	3
	Total	54

NOTE: ECON101 and ECON102 can be used to satisfy the Social and Behavioral Sciences component of the AS degree core. Students choosing this option will need to complete an additional 6 credit hours from either AS degree core or General Business Option courses to meet program requirements.

In addition to the required courses students must choose one of the following plans:

1. College Transfer Plan

Students planning to transfer to a four-year institution should complete:

Additional Course Requirements

a. Any AS Degree Core MATH Course   4

students should check with the four year institution regarding math requirements before selecting a MATH course for this program.

b. AS Degree Core Requirement Course   3

students should check with the four year institution regarding requirements for Social and Behavioral Sciences, Science, or Humanities before selecting courses for this program.

c. One Course from the General Business Option Course Plan below   3

Total minimum credits required for the College Transfer Plan   64

2. General Business Option Course Plan–

Select 3 Courses From Option 1

BSAD151	Personal Finance	Opt1	3
BSAD201	Principles of Banking	Opt1	3
BSAD224	Introduction To Investments	Opt1	3
BSAD225	Principles of Insurance	Opt1	3
BSAD256	Virtual Business Firm	Opt1	3
BSEN229	Small Business Management	Opt1	3
BUSL102	Business Law II	Opt1	3
MGMT102	Introduction to Management	Opt1	3
MGMT243	Management of Information	Opt1	3
MKTG102	Principles of Marketing	Opt1	3
Elective			1
Total minimum credits required for the General Business Option Plan			**64**

3. Business Computer Option Course Plan–

Select Both Courses From Option 1 and Select 1 Course from Option 2

COMS111	Computers and Program Logic	Opt1	3
COMS125	Business Programming COBOL I	Opt1	3
BSEN306	E-Commerce Website I	Opt2	3
COMS126	Business Programming COBOL II	Opt2	4
DATA103	Visual BASIC Programming	Opt2	3
DATA104	Advanced Visual BASIC	Opt2	3
DATA110	Computer Network Literacy	Opt2	3

Programs Available

DATA306	COBOL Intermediate	Opt2	4
DATA318	C++ Programming	Opt2	3
DATA341	Introduction to Databases	Opt2	3
DATA343	Introduction to SQL	Opt2	3
DATA349	Advanced PL/SQL Program Units	Opt2	3
DATA350	Relational Database Design	Opt2	3
BTEC356	Advanced Computer Applications	Opt2	3
Elective			1

Total minimum credits required for the Business Computer Option Plan   64
Total minimum credits required for this program using any plan   64

Business Information Systems

The Business Information Systems program is intended for the student who is interested in a programming career in a client/server environment or in the areas of electronic commerce or database applications. This is especially true of the career opportunities in the PC-related programming fields as well as the newer fields of electronic commerce and databases.

The BIS degree will allow a student to study a variety of different areas related to PC programming and related applications. This program emphasizes flexibility to allow a student to take courses that relate to specific areas of interest. It is also possible for the student to take course work from several different but related areas of study. For example: many electronic commerce applications use databases as an integral part of their business. These combined skills will give the student a more marketable background.

Information Technology careers require more diversity of skills and abilities than in the past. Employers are looking for employees with a variety of skills in related areas. Many projects today require a variety of computer-related skills and business knowledge. This degree will address those demands through more flexible course selection and exposure to a variety of programming skills and tools.

Location: Ankeny, Newton, Urban, West

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements

To earn a Business Information Systems AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

ACCT101	Principles of Accounting I	4
BSAD150	Intro to Business	3
COMS111	Computers and Program Logic	3
COMS125	Business Programming COBOL I	3
COMS181	Intro to Computer Literacy	3
DATA103	Visual BASIC Programming	3
DATA110	Computer Network Literacy	3
DATA341	Introduction to Databases	3
DATA343	Introduction to SQL	3
DATA382	Systems Analysis	4
MGMT243	Management of Information	3
Any AA/AS degree Core MATH course		4

Option Courses...

Select 1 Course From Option 1

Select 1 Course from Option 2,

Select 1 Course from Option 3, and

Select 18 Credits from Options 4

ENGL117	Composition I	Opt1	3
ENGL410	Communication Skills	Opt1	3
SPCH110	Fundamentals of Speech	Opt2	3
Any AA/AS Core SPCH		Opt2	3
MGMT203	Human Relations in Business	Opt3	3
PSCH101	General Psychology	Opt3	3
SOCY101	Intro to Sociology	Opt3	3

ACCT351	Financial Accounting/Computers	Opt4	3
BSEN305	E-Commerce on the Web	Opt4	3
BSEN306	E-Commerce Website I	Opt4	3
BSEN307	E-Commerce Website II	Opt4	3
BTEC329	Keyboarding I	Opt4	1
COMS112	Computers & Program Logic II	Opt4	3
COMS126	Business Programming COBOL II	Opt4	4
COMS301	Java Programming	Opt4	3
COMS302	Advanced Java	Opt4	3
COMS303	E-Commerce Scripting Languages	Opt4	3
COMS310	C# Programming	Opt4	3
COMS340	Into to Website Develoment	Opt4	3
COMS345	Intro to XML	Opt4	3
COOP220	Career-Seeking Skills	Opt4	2
DATA104	Advanced Visual BASIC	Opt4	3
DATA106	Microcomputers in Business	Opt4	3
DATA309	COBOL on the World Wide Web	Opt4	3
DATA318	C++ Programming	Opt4	3
DATA319	Assembler - Beginning	Opt4	4
DATA320	Advanced C++	Opt4	3
DATA349	Advanced PL/SQL Program Units	Opt4	3
DATA350	Relational Database Design	Opt4	3
ENGL119	Technical & Business Writing	Opt4	3

Total credits required to complete AAS degree   66

CAP - Chrysler

The Chrysler Automotive Program (CAP), co-sponsored by DMACC and Daimler/Chrysler Company, is a two-year automotive program designed to upgrade the technical competence and professional level of the incoming Daimler/Chrysler dealership technician. The curriculum, designed by Daimler/Chrysler and DMACC, leads to the associate degree in Automotive Technology. The program involves classroom lecture, laboratory experience and dealership work experience.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement, aptitude and ability tests and be accepted by Daimler/Chrysler as a participant. In addition, all program participants must be employed by a participating Chrysler dealership. Students start in October each year.

Graduation Requirements

To earn a CAP Chrysler AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

CAP-312	Chrysler Electrical/Electronics	4
CAP-317	Shop Fundamentals and Minor Service	4
CAP-318	Basic Brakes	4
CAP-320	Technical Internship I	3
CAP-328	Chrysler Electrical Systems Repair	4
CAP-329	Chrysler Steering & Suspension	3
CAP-330	Technical Internship II	3
CAP-335	Service/Repair Chrysler Engines	5
CAP-336	Chrysler Fuel Systems	3
CAP-340	Technical Internship III	3
CAP-346	Chrysler Engine Performance	5
CAP-347	Chrysler Heating & AC	3
CAP-350	Technical Internship IV	3
CAP-354	Chrysler Manual Drivetrains	4
CAP-355	Chrysler Automatic Drivetrains	4
CAP-356	Advanced Chrysler Systems	5
CAP-360	Technical Internship V	2
ENGL410	Communication Skills	3
MATH410	Mathematics for Technicians I	3
PHYL401	Physics for Technicians	3
PSCH106	Psychology of Human Relations & Adjustment	3

Total credits required to complete this program   74

Programs Available

Caterpillar Technology

The Caterpillar Technician program prepares students for a career in the area of diesel repair, focusing on Caterpillar products. Instruction is in the repair, maintenance and testing of diesel engines, power trains and components of trucks and construction equipment.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements

To earn a Caterpillar Technology AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

DISL401	Diesel Engines I	6
DISL402	Diesel Engines II	6
MATH410	Mathematics for Technicians I	3
DISL404	Power Trains I	6
DISL406	Hydraulics and Brakes	5
DISL408	Basic Electricity	5
DISL420	Air Conditioning	3
DISL428	Operation and Maintenance	5
DISL405	Power Trains II	5
DISL409	Diesel Electronics	5
DISL430	Caterpillar Fuel Systems	4
DISL431	Caterpillar Failure Analysis	2
DISL432	Caterpillar LS/PC Hydraulics	2
DISL433	Caterpillar Service Information System	2
DISL470	Advanced Electricity	4
DISL434	Caterpillar Internship	4
DISL435	Caterpillar Multi-Media	2
WELD467	Related Welding-Transportation Trades	2
ENGL410	Communication Skills	3
PHYL401	Physics for Technicians	3
MGMT203	Human Relations in Business	3
Total credits required to complete AAS degree		**80**

Chemical Dependency Counseling

(see Certificate Section page 78)

Civil Engineering Technology

The Civil Engineering Technology program prepares the student for a career as a technician in the areas of design, surveying, construction and inspection. These positions could include highway/bridge design, surveying, right-of-way legalities, materials testing and highway/bridge construction techniques.

Upon completion of the program, graduates will be able to follow laboratory procedures and apply their knowledge through the use of high-tech instruments. They will have a working knowledge of surveying equipment, industry-based computer software and laboratory testing instruments.

The program is designed to fill an increasing demand for technically skilled people in the civil engineering technology field and demand is expected to continue well into the 21st century.

Location: Boone

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students must have earned a grade of "C" or above in a high school algebra course, or be placed in MATH411 by the results of a Compass test. If students are not placed in MATH411, they will be required to take remedial math courses to be brought up to the level of MATH411 before taking that course.

This program is designed to start in the fall semester. Students who desire to start other terms may be accepted, but may not graduate in four semesters due to the sequencing of course work. If starting other than fall, please contact the Civil Engineering Technology department.

Graduation Requirements

To earn a Civil Engineering Technology AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

CET-315	Fundamentals of Civil Engineering		3
CET-320	Survey I		3
CET-325	Survey II		4
CET-330	Highway Design I		4
CET-340	Construction I		3
CET-350	Materials I		4
CET-360	Soils and Foundations		3
CET-380	Statics		3
CET-390	Automated Design I		4
CET-422	Survey III		4
CET-430	Highway Design II		4
CET-440	Construction II		3
CET-450	Materials II		3
CET-470	Structure Design and Construction		3
CET-490	Automated Design II		4
COMS181	Intro to Computer Literacy		3
ENGL117	Composition I		3
ENGL119	Technical and Business Writing		3
MATH411	Mathematics for Technicians II		3
CET-405	Field Coop		5
With faculty approval, students may take the following in place of CET-405:			
CET-407	Field Orientation		2
AND 1 of the following courses:			
MGMT203	Human Relations in Business		3
OR			
PSCH101	General Psychology		3

Option Courses... Select 1 Course from Option 1

MGMT203	Human Relations in Business	Opt1	3
PSCH101	General Psychology	Opt1	3
PSCH106	Psychology of Human Relations & Adj	Opt1	3
Total credits required to complete AAS degree			**72**

Commercial Art

The Commercial Art program prepares students for a career in graphic communications. Skills emphasized stress the ability to successfully design and produce a wide variety of materials for use in this challenging field. The development of "portfolio quality" work is stressed throughout the training program.

Courses utilizing the traditional methods along with desktop publishing prepare students for entry level positions. Required courses such as design, typography, electronic photo editing and computer graphics allow students to seek advanced opportunities. Electives in photography, printing, airbrush and advanced computer graphics will allow students to specialize.

Internship and portfolio preparation courses focus on the placement of students in the "real world." Instructors have all been employed in the career field and are teaching courses directly related to their expertise.

When the program is completed, students may find employment in art studios, advertising agencies, in-house art departments, printing companies, publishing firms and other establishments in need of creative communications.

Location: Ankeny

Program Entry Requirements

Complete an application and attend a Commercial Art Realities Exploration Day, obtaining a satisfactory score on an art portfolio. Although not a requirement for acceptance into this program, students are encouraged to take the COMPASS assessment. Students start fall term.

Programs Available

Graduation Requirements

To earn a Commercial Art AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

CART401	Commercial Art Orientation	3
CART403	Communication Design I	3
CART404	Typography II	3
CART405	Typography I	3
CART407	Production Art I	3
CART410	Illustration I	3
CART411	Communication Design II	3
CART415	Production Art II	3
CART421	Internship Preparation	2
CART424	Commercial Art Internship I	3
CART426	Communication Design III	3
CART430	Production Art III	3
CART436	Portfolio Preparation I	3
CART437	Communication Design IV	3
CART440	Production Art IV	3
CART444	Portfolio Preparation II	3
CART459	Computer Graphics I	3
CART463	Electronic Photo Editing	3
DKTP401	Intro To Desktop Publishing	3

Option Courses—Select 2 Courses From Option 1

CART414	Illustration II	Opt1	3
CART419	Lettering and Sign Art	Opt1	2
CART425	Commercial Art Internship II	Opt1	3
CART428	Illustration III	Opt1	3
CART449	Airbrush I	Opt1	4
CART451	Airbrush II	Opt1	4
CART462	Computer Graphics II	Opt1	3
GRPH400	Graphic Arts Orientation	Opt1	4
GRPH401	Methods of Graphic Arts	Opt1	3
GRPH416	Desktop Publishing II	Opt1	3
GRPH425	Electronic Image Control	Opt1	4
PHOT106	Advanced Photography	Opt1	3
PHOT407	Studio Photography	Opt1	3
MKTG104	Advertising/Sales Promotion	Opt1	3

Option Courses—Select 1 Course From Each Option

AAS Degree Core Communications	Opt2	3

AAS Core Social and Behavioral Sciences/Humanities

(PHOT105 recommended)	Opt3	3
AAS Degree Core Mathematics or Sciences	Opt4	3
AAS Degree Core Distributed Requirement	Opt5	3

Total minimum credits required to complete this program **73**

Commercial Horticulture

The Commercial Horticulture program provides students with technical training in the broad horticultural field through classroom, greenhouse, turf lab, tree nursery and practical on-the-job employment experiences.

Graduates of the program will be capable of filling jobs in fields such as greenhouse operator and management involving greenhouse production, scheduling and marketing, landscaping involving design, planting and maintaining trees, shrubs, turf and foliage plants for the beautification of home, commercial, public, and recreational grounds. Other jobs may include turf management involving establishing, managing and maintaining grassed areas for ornamental and/or recreational purposes; nursery operation and management concerned with the production of trees, shrubs and turf for the purpose of transplanting or propagating them. Employment may also be found in garden center merchandising and management, merchandising of flowers and foliage plants and their design. Certificates of specialization are offered in Greenhouse Production, Landscape Design and Turf Maintenance.

In addition to the required and option courses listed, there are five elective courses that may be taken for additional credit. Those courses are COMH433 Irrigation Systems, COMH435 Sports Turf, COMH483 Plant Propagation II, COMH497 Floral Design I and COMH485 Floral Design II.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements

To earn a Commercial Horticulture AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

AGRI209	Soils Laboratory**	1
AGRI219	Soils and Fertilizers**	3
COMH441	Landscape Drafting	1
COMH450	Botany	3
COMH486	Construction, Safety & Maintenance	2
COMH488	Woody Plant Materials	3
COMS181	Intro to Computer Literacy	3
COMH410	Introduction to Greenhouse	3
COMH437	Turf I**	2
COMH440	Landscape Design I	3
COMH454	Horticulture Internship I	2
COMH478	Plant Propagation I	3
COMH453	Landscape Design II	2
COMH457	Fruit and Vegetable Science	3
COMH458	Insects and Diseases	2
COMH489	Herbaceous Plant Materials	3
COMH411	Horticulture Chemical Techniques**	2
COMH479	Nursery Production I	3
COOP220	Career-Seeking Skills	2
COMH452	Arboriculture	3
COMH469	Garden Center Management	3
COMH498	Horticulture Internship II	2
AAS Degree Core science course		3

For the Turf Maintenance Emphasis the following course is required

COMH455	Turf II**	3

For the Greenhouse Production Emphasis the following course is required

COMH490	Greenhouse Production Techniques	3

Option Courses Either Plan—Select 1 Course From Each Option

MATH115	Finite Mathematics	Opt1	4
MATH410	Mathematics for Technicians I**	Opt1	3
ENGL117	Composition I	Opt2	3
ENGL410	Communication Skills	Opt2	3
MGMT203	Human Relations in Business	Opt3	3
PSCH101	General Psychology	Opt3	3
PSCH106	Psychology of Human Rel & Adj.	Opt3	3
ACCT301	Accounting Fundamentals	Opt4	3
MKTG103	Principles of Selling	Opt4	3

Total minimum credits required for the Greenhouse Production emphasis *72*
Total minimum credits required for the Turf Maintenance emphasis *72*

In addition to the courses required for this degree, students may take the following courses to enhance their background or for personal enrichment.

COMH433	Irrigation Systems**	2
COMH435	Sports Turf**	2
COMH497	Floral Design I	1
COMH483	Plant Propagation II	1
COMH485	Floral Design II	1

*(Courses marked with ** are required for the Turf Maintenance Certificate)*

Programs Available

Computer Aided Design Technology

Computer Aided Design (CAD) Technology prepares students for a career in a variety of design drafting disciplines. The CAD technology student will be exposed to different CAD software packages and computer operating systems. Students will learn how to create CAD models and drawings to meet international and U.S. customary drafting standards.

Students can obtain a one year diploma or a two year associate degree in CAD technology. Students enrolled in the one year diploma will be taught basic drafting and CAD practices with emphasis on entry-level drafting job skills. Students enrolled in the associate degree program will complete the first year diploma requirements and in the second year apply advanced CAD software operations including three-dimensional (solid) modeling, computer analysis and rendering. Associate degree students will also be taught a variety of specialized drafting standards in their respective field of interest.

Engineering and manufacturing design drafting, computer animation and graphics, technical publishing and independent CAD contracting are areas that Computer Aided Design Technology program graduates may find employment.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Successful completion of COMS181 (Intro to Computer Literacy) or equivalent; or approval of the program counselor. Students start fall term.

Graduation Requirements

To earn a Computer-Aided Design Technology diploma or AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1—Select 1 Course From Option 1

CADT410	CAD Graphics I		6
CADT406	Networking Systems Involving CAD		3
MATH410	Mathematics for Technicians I		3
MGMT203	Human Relations in Business	Opt1	3
PSCH106	Psychology of Human Relations & Adj	Opt1	3

Term 2

MATH411	Mathematics for Technicians II	3
CADT431	Manufacturing Interfaces	3
ENGL117	Composition I	3
CADT411	CAD Graphics II	6

Term 3

CADT415	Engineering Disciplines & Practices	3
CADT420	Microstation CAD	3
CADT425	Applied Materials and Processes	3
Total credits required to complete the diploma		**39**

Term 4

CADT412	CAD Applications I	3
CADT426	Parametric CAD I	3
CADT451	Mechanical Systems	3
CADT461	Design Project I	4
ENGL119	Technical and Business Writing	3

Term 5

CADT428	Introduction to Finite Elem Analysis	3
CADT432	CAD Applications II	3
CADT462	Parametric CAD II	3
CADT463	Design Project II	5
Total credits required to complete the AAS degree		**69**

Computer Applications and Computer Languages Certificate (see Certificate Section page 79)

Computer Programming

The Computer Programming curriculum prepares students for a position as a computer programmer or programmer analyst. With additional experience, graduates can advance to positions as systems analysts and programming managers.

The major curriculum focus is on technical courses which lead to proficiency in designing, writing and testing computer programs. The program also emphasizes the understanding of business and accounting principles since the majority of programming applications relate to specific business problems.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements

To earn a Computer Programming AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

ACCT101	Principles of Accounting I	4
BSAD150	Intro to Business	3
COMS111	Computers and Program Logic	3
COMS125	Business Programming COBOL 1	3
COMS181	Intro to Computer Literacy	3
COOP220	Career-Seeking Skills	2
DATA301	DOS Job Control	4
DATA306	COBOL-Intermediate	4
DATA308	COBOL-Advanced	3
DATA319	Assembler/Beginning	4
DATA334	Applications Programming	6
DATA341	Introduction to Databases	3
DATA343	Introduction to SQL	3
DATA352	Telecommunications/CICS Programming	4
DATA382	Systems Analysis	4
ENGL117	Composition I	3
Any AA/AS degree Core MATH course		3-5
BTEC329	Keyboarding I	1

Select 1 Course From Option 1, 2 Courses from Option 2 and 1 Course from Option 3

MGMT203	Human Relations in Business	Opt1	3
PSCH101	General Psychology	Opt1	3
SOCY101	Introduction to Sociology	Opt1	3
DATA103	Visual BASIC Programming	Opt2	3
DATA104	Advanced Visual BASIC	Opt2	3
DATA309	COBOL on the World Wide Web	Opt2	3
DATA318	"C++" Programming	Opt2	3
DATA320	Advanced C++	Opt2	3
DATA327	Assembler/Advanced	Opt2	4
DATA349	Advanced PL/SQL Program Units	Opt2	3
DATA350	Relational Database Design	Opt2	3
SPCH110	Fundamentals of Speech	Opt3	3
SPCH117	Interpersonal and Small Group Comm	Opt3	3
Total minimum credits required to complete this program			**72**

Programs Available

Criminal Justice - AA or AS

The Criminal Justice program prepares students for a career in such areas as law enforcement, corrections, security and juvenile justice. The program allows students to choose either an AA or AS degree. All students must complete the basic Criminal Justice requirements, then select other Criminal Justice classes in areas of primary interest.

Note: Students who have a criminal background history may make it through the program, but it is NOT likely that they will find employment in the Criminal Justice field, and students with a criminal history may NOT be eligible for an internship which is required for the AS degree.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements

To earn a Criminal Justice AA or AS degree, a student must complete the standard core requirements for the degree, plus the Criminal Justice required courses and options and maintain a 2.0 grade point average.

AA Degree
Required Courses

CRIM101	Intro to Criminal Justice		3
CRIM103	Community Relations		3
CRIM105	Constitutional Law		3
CRIM235	Survey/Criminal Justice Agencies		3
PLSC126*	Intro to Public Administration		3
SOCY107	Criminology		3

Complete remaining AA Degree Core Requirements   45
(PLSC126 is a required course for this program and may also be used to fulfill 3 credits of Social & Behavioral Science AA Core)

Option Courses—Select 12 Credits From Option 1

CRIM104	Criminal Law	Opt1	3
CRIM106	Juvenile Law	Opt1	3
CRIM107	Theories of Interviewing	Opt1	3
CRIM110	Penology	Opt1	3
CRIM211	Correctional Treatment	Opt1	3
CRIM212	Correctional Law	Opt1	3
CRIM214	Criminal Investigation I	Opt1	3
CRIM236	Internship	Opt1	3
CRIM255	Criminal Investigation II	Opt1	3
CRIM273	Introduction to Security	Opt1	3
CRIM275	Scientific Investigation	Opt1	3
CRIM285	Criminal Justice Ethics	Opt1	3

Total minimum credits required to complete the AA degree   75

AS Degree
Required Courses

Complete AS Degree Core Requirements   28
(ENGL117, 118 and 119 are required for this AS degree)

CRIM101	Intro to Criminal Justice		3
CRIM103	Community Relations		3
CRIM105	Constitutional Law		3
CRIM235	Survey/Criminal Justice Agencies		3
CRIM236	Internship		3
PLSC126*	Intro to Public Administration		3
SOCY107	Criminology		3

(PLSC126 is a required course for this program and may also be used to fulfill 3 credits of Social & Behavioral Science AS Core)

Option Courses—Select 15 Credits From Option 1

CRIM104	Criminal Law	Opt1	3
CRIM106	Juvenile Law	Opt1	3
CRIM107	Theories of Interviewing	Opt1	3
CRIM110	Penology	Opt1	3
CRIM211	Correctional Treatment	Opt1	3
CRIM212	Correctional Law	Opt1	3
CRIM214	Criminal Investigation I	Opt1	3
CRIM255	Criminal Investigation II	Opt1	3
CRIM273	Introduction to Security	Opt1	3
CRIM275	Scientific Investigation	Opt1	3
CRIM285	Criminal Justice Ethics	Opt1	3

Total minimum credits required to complete the AS degree   64

Culinary Arts

The Culinary Arts program prepares students to enter culinary positions with hotels, restaurants, clubs or institutions and some select jobs in dining room service, catering or management. By the end of the program graduates will have taken courses in food preparation, nutrition, menu planning, purchasing, garde manger and baking. International cuisine, restaurant management and advanced culinary cuisine are practicum courses and a valuable part of the training. These courses are management designed and offer students practical knowledge of the restaurant industry.

Upon successful completion of terms 1 through 5, students will receive a Culinary Arts AAS degree. The first three terms must be completed before enrollment is allowed in terms 4 and 5. Students with a shorter term educational goal may receive a diploma upon completion of terms 1, 2 and 3.

The Culinary Arts Program is accredited by the American Culinary Federation.

Location: Ankeny
Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall or spring term.

Graduation Requirements

To earn a Culinary Arts AAS degree or diploma, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1—Select 1 Course From Option 1

HRMT315	Sanitation and Equipment		2
HRMT319	Sanitation and Equipment Lab		1
HRMT316	Food Preparation I		3
HRMT320	Food Preparation I Lab		3
HRMT330	Intro to Hospitality Industry		2
BSAD223	Business/Financial Math	Opt1	3
MATH410	Mathematics for Technicians I	Opt1	3
Any MATH course designated as Core		Opt1	3

Term 2—Select 1 Course From Option 2

CULA340	Baking		2
HRMT321	Dining Room Fundamentals		2
HRMT326	Food Preparation II		2
HRMT328	Food Preparation II Lab		2
HRMT350	Nutrition		2
HRMT351	Menu Planning		2
ENGL410	Communication Skills	Opt2	3
Any ENGL course designated as Core		Opt2	3

Term 3

CULA386	Garde Manger		2
HRMT347	Work Experience		3
MGMT203	Human Relations in Business		3

Total credits required to complete the diploma   37

Programs Available

Term 4–Select 1 Course From Option 3

CULA446	International Cuisine Lab I		3
CULA456	International Cuisine		2
HRMT335	Restaurant Management		2
HRMT348	Food Service Purchasing		2
HRMT357	Culinary Skill Development		3
SPCH110	Fundamentals of Speech	Opt3	3
Any SPCH course designated as Core		Opt3	3

Term 5

COOP220	Career-Seeking Skills	2
CULA349	International Cuisine Lab II	3
CULA365	Advanced Baking/Buffet Decorating	2
CULA451	Culinary Cuisine Lab	4
CULA452	Advanced Culinary Cuisine	2
HRMT367	Beverage Seminar	2
Total credits required to complete the AAS degree		**67**

Data Entry I and Data Specialist Certificates (see Certificate Section page 79)

Dental Assistant

The Dental Assistant program prepares the student, as a member of the dental health team, to assist the dentist in all phases of dentistry. The program includes general and specialty dentistry, chairside procedures, radiology and laboratory and business office assisting.

An integral part of the educational program is clinical experience; this is provided by rotation through various dental facilities.

The Dental Assistant program is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council of Postsecondary Accreditation and the United States Department of Education.

Criminal background checks will be completed on each student. Criminal convictions or documented history of abuse may delay or prevent students from participating in clinical education experiences. Students unable to participate in clinical education will be unable to complete the Dental Assistant program.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required in-formation/registration session. Keyboard skills of 35 WPM with no more than 5 errors is strongly recommended. High school biology is strongly recommended. Submit proof of high school graduation or GED prior to enrollment. Students start fall term.

Graduation Requirements

To earn a Dental Assistant diploma, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1

DENA302	Dental Science I	4
DENA304	Dental Anatomy	2
DENA325	Dental Materials Lab	1
DENA320	Preclinical Dental Assisting	6
DENH201	Dental Materials	2
DENH257	Dental Radiography I	3

Term 2

DENA305	Dental Radiography II	2
DENA309	Dental Assisting Seminar	1
DENA310	Dental Assisting Clinical	3
DENA312	Dental Science II	2
DENA322	Clinical Dental Assisting	5
DENA323	Dental Business Office Procedures	2
ENGL117	Composition I	3

Term 3

DENA316	Ethics and Clinical Seminar	1
DENA318	Dental Assisting Clinical II	4
PSCH106	Psychology of Human Relations & Adjustment	3
SPCH110	Fundamentals of Speech	3
Total credits required to complete this program		**47**

Dental Hygiene

The Dental Hygiene curriculum is designed to prepare graduates for positions in general and specialty dental offices, hospitals, schools, public health agencies and industrial agencies.

Students are trained in educational methods and preventive clinical services which qualify them as dental health educators and competent clinicians. Emphasis is placed on the correlation between prevention, education and the clinical phases of dental hygiene practice as well as basic and social sciences.

The Dental Hygiene program is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council of Postsecondary Accreditation and the United States Department of Education.

Location: Ankeny

Program Entry Requirements

Complete an application. Attend a Dental Hygiene program information session. Provide proof of high school graduation or GED completion. Complete required COMPASS testing obtaining satisfactory scores in reading (81 or above) and writing (70 or above) or ACT scores in Reading (19 or above) and English (19 or above).Complete the following courses with a grade of C (not C-) or better in each:

1. BIOL 154 General Anatomy and Physiology OR both

   BIOL133 Health Science Anatomy AND
   BIOL134 Health Science Physiology

2. CHEM131 Introduction to General Chemistry

3. BIOL149 General Microbiology OR
   BIOL132 Health Science Microbiology

When transferring equivalent courses to DMACC, an official transcript must be sent to the Admissions Office as courses are completed.

After completing the Program Entry Requirements, your name will be added to a Wait List until a position in the program becomes available.

Wait List Processing

Position of the Wait List will be determined by the number of support courses completed (CHEM132 Introduction to Organic/Biochemistry, PSCH101 General Psychology, SOCY101 Introduction to Sociology, ENGL117 Composition I, SPCH110 Fundamentals of Speech OR SPCH117 Interpersonal & Small Group Communication). When there is no completion of any remaining support courses for three years from the date the student's name went on the Wait List, the applicant will be deleted from the list.

Graduation Requirements

To earn a Dental Hygiene AAS degree, a student must successfully complete all dental hygiene and liberal arts support courses required in the curriculum, achieving a grade of "C" (not C-) or better in each course. In order to progress to the next term of the Dental Hygiene program, all required courses in the current term must be completed with a grade of "C" or better.

Note: Criminal background checks will be completed on each student. Criminal convictions or documented history of abuse may prevent students from participating in clinical experiences. Students who do not participate in clinical education will be unable to complete the program.

Programs Available

Term 1–CPR Certification

CHEM132	Intro to Organic/Biochemistry		4
DENH208	Principles of Dental Hygiene		2
DENH209	Principles of Dental Hygiene Practicum		3
DENH210	Oral Histology and Embryology		2
DENH230	Dental Anatomy		4
DENH257	Dental Radiography I		3

Term 2–Select the Option 1 Course or both Option 2 Courses

DENH228	Dental Hygiene I		2
DENH229	Dental Hygiene I Practicum		4
DENH259	Dental Radiography II		2
DENH293	General and Oral Pathology		3
DENH240	Nutrition/Preventative Dentistry	Opt1	4
HRMT334	Human Nutrition	Opt2	3
DENH241	Nutrition/Dental Counseling	Opt2	1

Term 3

DENH278	Dental Hygiene II		2
DENH279	Dental Hygiene II Practicum		2
DENH280	Periodontology		2
DENH282	Dental Pharmacology		3
PSCH101	General Psychology		3

Term 4

DENH201	Dental Materials		2
DENH203	Dental Materials Lab		1
DENH227	Dental Health Education		3
DENH288	Dental Hygiene III		2
DENH281	Dental Hygiene III Practicum		5
SOCY101	Introduction to Sociology		3

Term 5 –Select 1 Course From Option 3

DENH290	Community Dentistry		3
DENH298	Dental Hygiene IV		2
DENH291	Dental Hygiene IV Practicum		5
ENGL117	Composition I		3
SPCH110	Fundamentals of Speech	Opt3	3
SPCH117	Interpersonal & Small Group Communication	Opt3	3
Total credits required to complete this program			**77**

Diemaking (See Tool & Diemaking)

Diesel Technology

The Diesel Technology program prepares students for a career in the area of diesel repair. Instruction is in the repair, maintenance and testing of diesel engines, power trains and components of trucks and heavy construction equipment.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements

To earn a Diesel Technology diploma or AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses - Diploma

DISL401	Diesel Engines I	6
DISL402	Diesel Engines II	6
MATH410	Mathematics for Technicians I	3
DISL404	Power Trains I	6
DISL406	Hydraulics and Brakes	5
DISL408	Basic Electricity	5
DISL420	Air Conditioning	3
DISL428	Operation and Maintenance	5
ENGL410	Communication Skills	3
Total credits required to complete the diploma		**42**

Required Courses - AAS

DISL401	Diesel Engines I	6
DISL402	Diesel Engines II	6
MATH410	Mathematics for Technicians I	3
DISL404	Power Trains I	6
DISL406	Hydraulics and Brakes	5
DISL408	Basic Electricity	5
DISL420	Air Conditioning	3
DISL428	Operation and Maintenance	5
DISL405	Power Trains II	5
DISL409	Diesel Electronics	5
DISL407	Diesel Fuel Systems	6
DISL470	Advanced Electricity	4
DISL417	Heavy Equipment Repair	5
DISL418	Truck Repair	5
WELD467	Related Welding-Transportation Trades	2
ENGL410	Communication Skills	3
PHYL401	Physics for Technicians	3
MGMT203	Human Relations in Business	3
Total credits required to complete the AAS degree		**80**

Dietary Manager (see Certificate Section page 79)

E-Commerce Design (see Certificate Section page 79)

Early Childhood Education

The Early Childhood Education program prepares students for careers working with young children in a variety of settings. Students who successfully complete the program are competent to assume a position of responsibility in early childhood education.

Course work includes early childhood development, guidance techniques, assessment, curriculum planning, infant and toddler care, health, safety and nutrition and emergency care.

Students will have the opportunity to participate in the Des Moines Area Community College Child Care Center as well as a community-based program as they develop their competencies in the field of early childhood education.

When course work is completed, students will assume positions in a variety of settings such as child care centers, preschools, child development homes and public and private schools working with infants and toddlers, preschoolers or school-age children. A second career option, Early Childhood Education Associate, is also available.

DHS criminal history record checks will be completed on each student. Criminal convictions or documented history of abuse will prevent students from participating in practicum and participation experiences. Students unable to complete these classes will not receive a degree in Early Childhood Education.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend required information/registration session. Students start fall term.

Graduation Requirements

To earn an Early Childhood Education diploma, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Recommended Course of Study

A recommended course of study, listed below, has been created to insure that each student completes the program in the minimal amount of time required. However, the course of study can be tailored to meet the specific needs of each student.

Programs Available

Required Courses 1st Semester

CHLD110	Early Childhood Development		3
CHLD210	Intro to Early Childhood Education		1
CHLD211	Guidance Techniques for Young Children		2
CHLD212	Assessment and Planning for Young Children		1
CHLD213	Group Experience for Early Childhood Programs		2
CHLD214	Curriculum for Preschool Children		3
CHLD240	Emergency Care		1
CHLD410	Student Participation I		3
		Total	16

Required Courses 2nd Semester

CHLD215	Child Health, Safety and Nutrition		3
CHLD216	Infant and Toddler Care and Education		3
CHLD217	Professional Relationships		2
CHLD411	Student Participation II		3
CHLD420	Early Childhood Education Practicum		2

Option Courses–Select 1 Course From Each Option

ENGL117	Composition I	Opt1	3
ENGL410	Communication Skills	Opt1	3
BTEC205	Business English	Opt1	3
MGMT203	Human Relations in Business	Opt2	3
SOCY101	Introduction to Sociology	Opt2	3
PSCH101	General Psychology	Opt2	3
PSCH106	Psychology of Human Relations & Adj	Opt2	3
		Total	19

Total credits required to complete this program   **35**

Early Childhood Education-Associate

The Early Childhood Education Associate program is designed to build on those skills developed in the Early Childhood Education diploma program and to broaden the students' background in general education. Further competence in early childhood education is developed through course work in administration of programs for children and field practicum settings.

Students completing the Early Childhood Education diploma program plus the additional requirements listed will earn an Early Childhood Education Associate in Science degree. They may choose to transfer to a four-year institution or take one of the many jobs available in early childhood education. **This program is not intended for students who are in Elementary Education.**

Students who intend to transfer to a four-year institution should contact the Early Childhood Education program chair or program counselor to obtain information about articulation agreements.

DHS criminal history record checks will be completed on each student. Criminal convictions or documented history of abuse will prevent students from participating in practicum and participation experiences. Students unable to complete these classes will not receive a degree in Early Childhood Education.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements

To earn an Early Childhood Education AS Degree, a student must complete the standard core requirements for the degree plus the Early Childhood Education program required courses and options and maintain a 2.0 grade point average.

Recommended Course of Study

A recommended course of study, listed below, has been created to insure that each student completes the program in the minimal amount of time required. However, the course of study can be tailored to meet the specific needs of each student.

Required Courses–1st Semester

CHLD110	Early Childhood Development		3
CHLD210	Intro to Early Childhood Education		1
CHLD211	Guidance Techniques for Young Children		2
CHLD212	Assessment and Planning for Young Children		1
CHLD213	Group Exp for Early Childhood Programs		2
CHLD214	Curriculum for Preschool Children		3
CHLD240	Emergency Care		1
CHLD410	Student Participation I		3
		Total	16

Required Courses–2nd Semester

CHLD215	Child Health, Safety and Nutrition		3
CHLD216	Infant and Toddler Care and Education		3
CHLD217	Professional Relationships		2
CHLD411	Student Participation II		3
CHLD420	Early Childhood Education Practicum		2
		Total	13

Required Courses for Remaining Semesters

Additional AS Degree Core Requirements		28
CHLD220	Admin of Programs/Children	3
CHLD421	Early Childhood Ed Assoc Practicum	3
Elective courses		2

Total minimum credits required to complete this program   **65**

Electrical Construction Trades

The Electrical Construction Trades program prepares students for entry level positions in residential, commercial and industrial wiring. At the completion of the program, students should be able to install electrical wiring to National Electric Code code in residential and commercial settings. In addition, students should be able to install motor controlled equipment in industrial operations using more complex systems such as Programmable Logic Controllers.

Location: Newton
Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall term.

Graduation Requirements

To earn an Electrical Construction Trades diploma, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1

MATH410	Mathematics for Technicians I	3
BLDG455	Construction Blueprint Reading	1
ELEM325	General Electricity	3
ELCT400	National Electric Code® Residential	3
ELCT405	National Electric Code® Residential Lab	3

Term 2

ELCT410	National Electric Code® Commercial/Industrial	3
ELCT415	National Electric Code® Commercial/Industrial Lab	4
HTPC358	Motor Controls	3
ENGL410	Communication Skills	3
COMS181	Introduction to Computers	3

Term 3

HTPC368	Advanced Motor Controls	3
ELCT420	Electrical Grounding	2
HTPC359	Programmable Logic Controllers	3
MGMT203	Human Relations in Business	3

Total credits required to complete this program   **40**

Programs Available

Electronic Systems Servicing Technology

The Electronics Systems Servicing Technology program prepares students for a career as a technician for servicing electronic systems. Upon completion of this program, students should be able to diagnose and repair electronic equipment including personal security systems, business machines and medical electronics.

The curriculum includes the fundamental technologies, systems applications and an internship. Upon program completion graduates may seek employment with local and regional electronic systems servicing companies.

The last term of the ESST program requires an internship (ESST388). Before students enroll in the ESST388 Internship course, they will be required to achieve a grade of "C" or higher in the DMACC courses pertaining to the students chosen internship area. Students may choose an internship emphasis from one of the following four categories:

Consumer Electronics: Courses requiring a grade of "C" or higher are ESST380 and 381

Security Systems: Courses requiring a grade of "C" or higher are ESST382 and 383

Business Machines: Courses requiring a grade of "C" or higher are ESST378 and 379

Medical Electronics: Courses requiring a grade of "C" or higher are ESST384 and 385

Location: Ankeny

Program Entry Requirements
1. Complete an application.
2. Satisfy the assessment requirement and attend any required information/ registration sessions.
3. Complete the required departmental algebra requirement by:
   a. completing department entrance exam obtaining a satisfactory score of 17 or higher, or
   b. submitting ACT scores with a math sub score of 19 or higher, or
   c. submitting official high school transcripts showing successful completion of high school algebra II or higher within the last 5 years, or
   d. successful completion of MATH094 or ELHT313 or an equivalent course with a grade of "C" or better.

Students start fall term.

Graduation Requirements

To earn an Electronics Systems Servicing Technology AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1–Select 1 Course from Option 1

ELHT314	Circuit Analysis I		5
ELHT316	Circuit Analysis I Lab		3
ELHT315	Fabrication Techniques		3
ELHT323	Technical Math II		3
ENGL117	Composition I	Opt1	3
ENGL410	Communication Skills	Opt1	3

Term 2–Select 1 Course from Option 2

ELHT332	Digital Electronics		3
ELHT364	Digital Electronics Lab		3
ELHT331	Circuit Analysis II		3
ELHT363	Circuit Analysis II Lab		3
MGMT203	Human Relations in Business	Opt2	3
PSCH101	General Psychology	Opt2	3
PSCH106	Psychology of Human Relations & Adj.	Opt2	3
SOCY101	Introduction to Sociology	Opt2	3

Term 3

ESST376	Electro-Mechanical Systems	2
ESST377	Electro-Mechanical Systems Lab	2
ESST378	Basic Imaging Devices	3
ESST379	Basic Imaging Devices Lab	3
ECON101	Principles of Macroeconomics	3

Term 4

ESST380	Communications Systems	3
ESST381	Communications Systems Lab	3
ESST375	Computer Repair & Networking	4
ESST382	Security Systems	3
ESST383	Security Systems Lab	4

Term 5

ESST384	Medical Electronics Systems	3
ESST385	Medical Electronics Systems Lab	3
ESST386	System Troubleshooting	2
ESST387	System Troubleshooting Lab	3
ESST388	Internship	5

Total credits required to complete the AAS degree   78

Electronics, Robotics and Automation

The Electronics, Robotics and Automation program prepares students for a career as a technician in industrial manufacturing. At the end of the program students should be able to diagnose and repair industrial equipment ranging from the basic motor control devices used in hard automation to the sophisticated industrial robots and computer integrated manufacturing cells that utilize microprocessors for programming and servo control.

The curriculum includes both the fundamental technologies and system applications. Upon program completion students may seek employment with area manufacturers maintaining plant equipment or with companies that produce process control or robotic devices.

Location: Ankeny

Program Entry Requirements
1. Complete an application.
2. Satisfy the assessment requirement and attend any required information/ registration sessions.
3. Complete the required departmental algebra requirement by:
   a. completing department entrance exam obtaining a satisfactory score of 17 or higher, or
   b. submitting ACT scores with a math sub score of 19 or higher, or
   c. submit official high school transcripts showing successful completion of high school algebra II or higher within the last 5 years, or
   d. successful completion of MATH094 or ELHT313 or an equivalent course with a grade of "C" or better.

Students start fall term.

Graduation Requirements

To earn an Electronics, Robotics and Automation AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1–Select 1 Course from Option 1

ELHT314	Circuit Analysis I		5
ELHT316	Circuit Analysis I Lab		3
ELHT315	Fabrication Techniques		3
ELHT323	Technical Math II		3
ENGL117	Composition I	Opt1	3
ENGL410	Communication Skills	Opt1	3

Term 2

ELHT331	Circuit Analysis II	3
ELHT363	Circuit Analysis II Lab	3
ELHT332	Digital Electronics	3
ELHT364	Digital Electronics Lab	3
ELHT324	Computer Programming	3

Term 3–Select 1 Course from Option 2

ELHT346	Microcomputer Operating Systems	3
HTPC358	Motor Controls	3
HTPC360	Industrial Electronics	2

Programs Available

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Degrees and Diplomas

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Term 4

ELHT340	Microprocessors		3
ELHT341	Microprocessors Lab		5
ITNA310	Intro to CISCO Networking I		4
ECON101	Principles of Macroeconomics		3

Term 5

HTPC351	Hydraulics and Pneumatics		3
HTPC352	Hydraulics and Pneumatics Lab		2
HTPC355	Process Control Instrumentation		3
HTPC357	Process Control Instrumentation Lab		2
HTPC359	Programmable Logic Controllers		3
CIM-404	Robotics		2

Term 6

HTPC363	Mechanisms		2
HTPC364	Mechanisms Lab		2
CIM-413	Introduction to FMS Cell		2
MGMT203	Human Relations in Business	Opt2	3
PSCH101	General Psychology	Opt2	3
PSCH106	Psychology of Human Relations & Adj	Opt2	3
SOCY101	Introduction to Sociology	Opt2	3

Total credits required to complete this program   **79**

Emergency Medical Tech Basic and Entrepreneurship Certificates

(see Certificate Section page 80)

Entrepreneurship

The many rewards and challenges of owning your own business are being realized by increasing numbers of people. The Entrepreneurship program will help you put together or improve your plans for being successful in owning or operating a small business. In addition to innovative marketing strategies, creative financing methods and employee development skills, the program emphasizes personal development in accounting, supervision, communication and relationship management. Both day and evening courses are offered.

Location: Ankeny, Urban
Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements

To earn an Entrepreneurship diploma, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

ACCT351	Financial Accounting/Computers		3
BSAD223	Business/Financial Math		3
BSAD255	Intro to International Business		3
BSEN229	Small Business Management		3
BSEN302	Small Business Management Strategies		3
BSEN303	Small Business Marketing		3
BSEN304	Small Business Start-Up		2
BSEN305	E-Commerce on the Web		3
BUSL310	Basic Law for the Entrepreneur		2

Option Courses—Select 1 Course From Each Option

ACCT101	Principles of Accounting I	Opt1	4
ACCT301	Accounting Fundamentals	Opt1	3
ENGL117	Composition I	Opt2	3
ENGL410	Communication Skills	Opt2	3
MGMT203	Human Relations in Business	Opt3	3

PSCH101	General Psychology	Opt3	3
BSAD256	Virtual Business Firm	Opt4	3
COMS181	Intro to Computer Literacy	Opt4	3
MKTG103	Principles of Selling	Opt4	3
BTEC355	Computer Applications	Opt4	3

Total credits required to complete this program   **38**

Fashion Certificate (see Certificate Section page 80)

Fashion/Design

Challenges and rapid advancement opportunities set in an exciting atmosphere of change, fast paced business decisions and competition are offered to you in a fashion career. Take part in the action where style becomes a way of expression in apparel and accessories as well as interior design. A career in the fashion industry could include management, designing, buying, marketing or promotion, sales, customer service or visual merchandising.

The curriculum has been designed with the help of employers in both the apparel and interior design industries. Many students achieve management positions upon graduation or shortly thereafter because of the specialized course work and individual effort. Graduates interested in apparel design or interior design usually transfer to a four-year program.

Instruction is based upon lectures, labs, internships, speakers and a variety of conferences and field studies in fashion centers such as New York City. These activities offer the student a chance to interact with key industry professionals and develop an invaluable employment network.

Two awards are offered in the Fashion program. Upon successful completion of the Fashion/Design program students will receive an AAS degree. Students with a shorter-term educational goal may receive a diploma.

Fashion/Design emphasizes career development along with transfer options for students planning on attending a four year college. Contact a DMACC Fashion/Design instructor, counselor or advisor for transfer planning assistance.

Location: Ankeny
Selected courses in this program are offered at other campuses.

Program Entry Requirements
Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements
To earn a Fashion diploma or AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses-Fashion/Design AAS Degree

MKTG231	Fashion Analysis & Design	3
MKTG234	Interior Design Analysis	3
MKTG323	Visual Merchandising/Design	2
MKTG331	Fashion Coordination/Promotion	3
MKTG332	Textiles	3
MKTG102	Principles of Marketing	3
MKTG103	Principles of Selling	3
MKTG104	Advertising/Sales Promotion	3
MGMT244	Leadership Development	3
MGMT341	Business Internship I	6
MGMT342	Internship Seminar I	2
MGMT353	Business Internship II	4
MGMT358	Internship Seminar II	1
MGMT406	Relationship Strategies in Business	2
COOP220	Career-Seeking Skills	2

Programs Available

Option Courses–Select 1 Course From Each Option

MKTG233	Design Concepts	Opt1	3
MKTG235	Interior Design Planning	Opt1	3
BSAD150	Introduction to Business	Opt2	3
MKTG321	Retail Management I	Opt2	3
BSEN229	Small Business Management	Opt3	3
MKTG324	Fashion Buying	Opt3	3
MGMT101	Supervisory Management	Opt3	3
MKTG322	Retail Management II	Opt3	3
DKTP401	Intro To Desktop Publishing	Opt4	3
COMS181	Intro to Computer Literacy	Opt4	3
BTEC355	Computer Applications	Opt4	3
ENGL117	Composition I	Opt5	3
ENGL410	Communication Skills	Opt5	3
MGMT203	Human Relations in Business	Opt6	3
PSCH101	General Psychology	Opt6	3
BSAD223	Business/Financial Math	Opt7	3
MATH115	Finite Mathematics	Opt7	4
SPCH110	Fundamentals of Speech	Opt8	3
SPCH111	Public Communication	Opt8	3
SPCH117	Interpersonal & Small Group Comm	Opt8	3

Elective Courses

	Electives	3-4
Total credits required to complete the AAS degree		**70**

Required Courses - Fashion/Design Diploma

MKTG231	Fashion Analysis & Design	3
MKTG234	Interior Design Analysis	3
MKTG323	Visual Merchandising/Design	2
MKTG332	Textiles	3
MKTG102	Principles of Marketing	3
MKTG103	Principles of Selling	3
MGMT341	Business Internship I	6
MGMT342	Internship Seminar I	2
MGMT406	Relationship Strategies in Business	2
MGMT244	Leadership Development	3
COOP220	Career-Seeking Skills	2

Option Courses-Select 1 Course From Each Option

MKTG321	Retail Management I	Opt1	3
BSAD150	Introduction to Business	Opt1	3
MGMT203	Human Relations in Business	Opt2	3
PSCH101	General Psychology	Opt2	3
BSAD223	Business/Financial Math	Opt3	3
MATH115	Finite Mathematics	Opt3	4
ENGL117	Composition I	Opt4	3
ENGL410	Communication Skills	Opt4	3
Total credits required to complete the diploma			**44**

Fire Specialist (see Certificate Section page 80)

Fire Science Technology

The Fire Science Technology program provides a fundamental base of knowledge for people seeking career opportunities in the broad field of fire protection.

During the program, students complete general education core requirements and specific fire science courses. The latter examine the causes and behavior of fire and the means of minimizing its destructive effects through design, detection, suppression and prevention.

Students who possess a Fire Fighter I Certification can apply for four elective credits toward the AS degree in Fire Science Technology. Students who possess a Fire Fighter II Certification can apply for three elective credits toward the AS degree in Fire Science Technology. The Certification is based on the National Fire Protection Association Standard NEPA 1001 and accredited by a nationally recognized fire service accreditation agency.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements

To earn a Fire Science Technology AS degree, a student must complete the standard core requirements for the degree, plus the Fire Science Technology required courses and maintain a 2.0 grade point average.

Required Courses

CHEM131	Intro to General Chemistry	4
ENGL117	Composition I	3
ENGL118	Composition II	3
FIRE241	Fire Behavior and Investigation	3
FIRE242	Property Insurance and Fraud Investigation	3
FIRE243	Building Construction	3
FIRE244	Fire Protection Systems	3
FIRE245	Hazardous Materials	3
FIRE247	Planning for Fire Protection	3
FIRE248	Emergency Scene Management	3
FIRE249	Occupational Safety/Health in Emergency Services	3
FIRE250	Principles of Fire Protection	3
MGMT102	Introduction to Management	3
PHIL112	Ethical Problems	3
PHYL106	Survey of Physical Science	4
PLSC112	State & Local Government	3
PSCH101	General Psychology	3
AS Degree Core MATH		3
AS Degree Core SPCH		3
Electives		5-6
HLCR307 Emergency Med Tech Basic is recommended		
Total minimum credits required to complete the AS degree		**64**

Fitness and Sports Management

Fitness and Sports Management is designed to give students three different areas to choose from: Fitness Management, Sports Management, or Health. This degree is designed to be a 2-year degree. The degree is designed for individuals who would like to pursue a career in the fitness, sports, recreation, or health fields.

The Fitness and Sports management A.S. degree is a transfer degree, designed to prepare students for a Fitness Management, Sports Management and Health program at a 4 year school. Graduates from the program may also be able to find entry-level positions at parks and recreation departments, YMCA/YWCA's, private health clubs, golf courses, schools, hospitals, or other facility management positions.

Location: Boone

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. A program orientation will be required for all students entering the program. Students start any term.

Graduation Requirements

To earn a Fitness and Sports Management AS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses - All Students

COMS181	Intro to Computer Literacy	3
ECON102	Principles of Microeconomics	3
ENGL117	Composition I	3
ENGL118	Composition II	3
EXSP271	Field Experience	2
EXSP220	Physical Fitness & Conditioning	2
HRMT334	Human Nutrition	3
LIBS120	Library Instruction	1
PHYE144	Intro to Physical Education	3
PHYE146	Personal & Community Health	3
SPCH110	Fundamentals of Speech	3
Total Required Courses - All Students		**29**

Programs Available

In addition to the required courses for all students, each student must choose one of the following emphasis plans: Fitness Management, Health, or Sports Management and complete the requirements for their chosen emphasis.

Fitness Management Emphasis
Required Courses

BIOL133	Health Science Anatomy		3
BIOL134	Health Science Physiology		3
EXSP145	First Aid		2
EXSP221	Leadership Techniques for Fitness Program		2
MGMT102	Principles of Management		3
PHYE157	Intro to Athletic Training		2
PSCH103	Developmental Psychology		3
Any AS Degree Core Humanities			6
Any AS Degree Core Social Sciences			3
Elective			2

Option Courses-Select 1 Course from Each Option

MATH123	Trigonometry	Opt1	3
MATH121	Elementary Statistics	Opt1	4
PHYL106	Survey of Physics	Opt2	4
PHYL111	College Physics	Opt2	4

Health Emphasis
Required Courses

BIOL133	Health Science Anatomy	3
BIOL134	Health Science Physiology	3
BIOL141	Principles of Biology I	4
EXSP145	First Aid	2
MATH121	Elementary Statistics	4
MKTG102	Principles of Marketing	3
PSCH103	Developmental Psychology	3
PSCH108	Human Sexuality	3
Any AS Degree Core Humanities		6
Any AS Degree Core Social Sciences		3
Elective		2

Sports Management Emphasis
Required Courses

ACCT101	Principles of Accounting I	4
BIOL154	General Anatomy & Physiology	5
ECON101	Principles of Macroeconomics	3
EXSP270	Principles of Sports Management	3
MATH115	Finite Mathematics	4
MGMT102	Principles of Management	3
MKTG102	Principles of Marketing	3
SOCY101	Introduction to Sociology	3
Any AS Degree Core Humanities		3
Elective		2

Option Courses—Select 1 Course From Option 3

PSCH101	General Psychology	Opt3	3
PSCH103	Developmental Psychology	Opt3	3

Recommended Electives

COMH435	Sports Turf	2
JNAD125	Principles of Advertising	3
MKTG306	Sports and Entertainment Marketing	3
PHYE155	Theory of Coaching	1
PHYE164	Personal Wellness	2
PHYE140	Sports Officiating	3
PHYE149	Wellness Programming/Planning/Organization	3
PHYE150	Fitness Testing/Programming	3

Total credits required to complete this program

with a Fitness Management, Health or Sports Management emphasis   65

Graphic Technologies

Graphic Technologies is designed to fill an increasing demand for technically skilled people in printing and publishing. Students learn technical skills including basic layout, digital publishing, digital photo editing, digital prepress functions, variable data publishing, database management, web site production and printing methods in the areas of offset, screen, flexography and digital. Cost estimating and print job management and planning are also stressed. Students work individually and collaboratively to accurately develop and produce printed projects. The goal is for all students to leave the program with advanced skills and a technical portfolio. In addition to working on class projects, students experience real world work situations through internship and working with customers in the classroom setting.

In the third term, students choose an emphasis in either printing technologies or digital publishing. Students choosing a printing technologies emphasis take advanced courses in offset and specialty printing technologies. Students choosing a digital publishing emphasis take advanced digital publishing image enhancement courses. By taking some additional courses, students can also apply for one of three specialty certificates; Printing Technologies, Digital Publishing & Prepress, or Graphic Sales and Customer Service.

Upon successful completion of Terms 1, 2 and 3 of the Graphic Technologies curriculum or the required courses, students may receive a diploma. By completing the entire program student receive an AAS Degree. When students complete the program they may find employment in a variety of graphic communications companies including small and large printing companies, in-house publishing and printing departments, publishing firms, full-service graphic services providers, other companies in need of individuals with printing and digital publishing expertise.

Location: Ankeny
Program Entry Requirements

Complete an application. Students must obtain a satisfactory score in English and Math on the COMPASS test. Basic keyboarding skills are recommended. Students start fall term.

Graduation Requirements

To earn a Graphic Technologies diploma or AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1—Select 1 Course From Option 1

BTEC355	Computer Applications	3
DKTP401	Intro To Desktop Publishing	3
GRPH400	Intro to Printing Methods	4
GRPH401	Intro to Graphic Communication	3
GRPH406	Graphic Design I	3

Term 2

GRPH409	Project Planning & Management	3
GRPH410	Printing Methods I	4
GRPH416	Desktop Publishing II	3
GRPH421	Electronic Prepress I	4
AAS Core Communications		3

Term 3

Students who choose an empasis in Printing Technologies should select Option 1.

Students who choose an emphaiss in Digital Publishing should select Otion 2

GRPH420	Advanced Printing Methods	Opt1	4
GRPH427	Specialty Printing Methods	Opt1	4
GRPH425	Electronic Image Control	Opt2	4
GRPH426	Graphic Design II	Opt2	4
AAS Core Math & Sciences			3
MATH 410 Recommended			
AAS Core Distributed Rerquirement			3
MGMT101 Recommended			

Total credits required to complete the diploma   47

Programs Available

Term 4 - Students must complete terms 1, 2 and 3 before enrolling in term 4 courses.

Select 1 Course from Option 3

GRPH453	Printing Methods Capstone	Opt3	4
GRPH455	Digital Publishing Capstone	Opt3	4
GRPH431	Electronic Prepress II		4
GRPH458	Graphic Internship		3
AAS Core Social & Behavioral Sciences/Humanities			3
MGMT203 or PSCH106 Recommended			

Select 1 Course from Option 4

BSEN306	E-Commerce Website I	Opt4	3
BTEC356	Advanced Computer Applications	Opt4	3
CART462	Computer Graphics II	Opt4	3
MGMT101	Supervisory Management	Opt4	3
MKTG102	Principles of Marketing	Opt4	3
MKTG103	Principles of Selling	Opt4	3
MKTG104	Advertising/Sales Promotion	Opt4	3
PHOT105	Principles of Photography	Opt4	3
PHOT107	Principles of Digital Photography	Opt4	3
Total credits required to complete the AAS degree			**64**

Graphic Sales & Customer Service Certificate
(see Certificate Section page 80)

Greenhouse Production (see Certificate Section page 80)

Heating, AC, Refrigeration Technology

The Heating, Air Conditioning, Refrigeration Technology program provides the theory, knowledge and skills of refrigeration, air conditioning, heating and ventilation equipment for systems in residential and light commercial structures. Students in air conditioning and refrigeration are taught in the classroom and laboratory on models and equipment to prepare the student for satisfactory entrance and advancement in the HVAC-R field.

By completing the first three terms a student can receive a diploma. An AAS degree will be awarded upon completion of all five terms.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Obtain a satisfactory score on a math proficiency assessment. Students start fall term.

Graduation Requirements

To earn a Heating, Air Conditioning, Refrigeration Technology diploma or AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1

HACR451	Fundamentals of Refrigeration	5
HACR452	Trade Skills I	3
HACR453	Electricity	5
MATH410	Mathematics for Technicians I	3

Term 2—Select 1 Course from Option 1

HACR454	Residential Heating and AC		5
HACR455	Electrical Controls and Circuits		5
HACR456	Trade Skills II		3
ENGL117	Composition I	Opt1	3
ENGL410	Communication Skills	Opt1	3

Term 3

HACR457	Applied Heating and AC	5
HACR458	HVAC Internship	4
Total credits required to complete the diploma		**41**

Term 4

HACR459	Advanced Heating and AC	5
HACR461	Air Distribution	3
HACR465	Blueprint Reading	3
PHYL401	Physics for Technicians	3

Term 5—Select 1 Course from Option 2

HACR462	Commercial HVAC and Refrigeration		5
HACR463	Computer Load Calculations		2
HACR464	Environmental Controls		5
MGMT203	Human Relations in Business	Opt2	3
PSCH101	General Psychology	Opt2	3
SOCY101	Introduction to Sociology	Opt2	3
SOCY102	Social Issues	Opt2	3
Total credits required to complete the AAS degree			**70**

Hospitality Business

The Hospitality Business program prepares students to enter either the food service field or lodging industry at an entry level position.

Students who have completed the program will have taken courses in subject areas including sanitation, dining room fundamentals, business math, food preparation, career-seeking skills and marketing. Positions that are filled by graduates include guest services clerk, night auditor and cooks.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall or spring term.

Graduation Requirements

To earn a Hospitality Business diploma, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1

ENGL410	Communication Skills	3
HRMT315	Sanitation and Equipment	2
HRMT321	Dining Room Fundamentals	2
HRMT330	Intro to Hospitality Industry	2
MGMT203	Human Relations in Business	3
BTEC324	Office Calculators	1
BTEC329	Keyboarding I	1

Term 2

BSAD223	Business/Financial Math	3
HRMT316	Food Preparation I	3
HRMT319	Sanitation and Equipment Lab	1
HRMT320	Food Preparation I Lab	3
MKTG103	Principles of Selling	3
BTEC355	Computer Applications	3

Term 3—Students seeking a restaurant management emphasis should select the option 1 courses. Students seeking a hotel management emphasis should select the option 2 course.

COOP220	Career-Seeking Skills		2
HRMT347	Work Experience		3
HRMT326	Food Preparation II	Opt1	2
HRMT328	Food Preparation II Lab	Opt1	2
MKTG102	Principles of Marketing	Opt2	3
Total minimum credits required to complete this program			**38**

Programs Available

Hotel and Restaurant Management

The Hotel and Restaurant Management program prepares students for a career in the hospitality field. Most graduates will enter the industry either in cooking positions or line management positions with hotels, restaurants and clubs.

Students who complete the program will have taken courses in sanitation, dining room fundamentals, business math, food preparation, marketing, purchasing, hotel services, menu planning and hotel administration. These courses are management designed and offer the student practical knowledge of either the restaurant management industry or the hotel management industry, depending on the students' chosen emphasis.

Terms 1, 2 & 3 must be completed before entry is allowed into terms 4 & 5 to receive the AAS degree. Students planning on transferring to a four-year college should see an advisor or the program chair before registration.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration sessions. Students start fall or spring term.

Graduation Requirements

To earn a Hotel and Restaurant Management AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Program Requirements

Required Courses

Term 1–Select 1 Course from Option 1

HRMT315	Sanitation and Equipment		2
HRMT321	Dining Room Fundamentals		2
HRMT330	Intro to Hospitality Industry		2
MGMT203	Human Relations in Business		3
BTEC324	Office Calculators		1
BTEC329	Keyboarding I		1
ENGL410	Communication Skills	Opt1	3
Any ENGL course designated as Core		Opt1	3

Term 2–Select 1 Course from Option 2

HRMT316	Food Preparation I		3
HRMT319	Sanitation and Equipment Lab		1
HRMT320	Food Preparation I Lab		3
MKTG103	Principles of Selling		3
BTEC355	Computer Applications		3
BSAD223	Business/Financial Math	Opt2	3
Any MATH course designated as Core		Opt2	3

Term 3–

COOP220	Career-Seeking Skills		2
HRMT347	Work Experience		3

•Students seeking a restaurant management emphasis should select the option 3 courses.

HRMT326	Food Preparation II	Opt3	2
HRMT328	Food Preparation II Lab	Opt3	2

•Students seeking a hotel management emphasis should select the option 4 course.

MKTG102	Principles of Marketing	Opt4	3

Term 4-

•Terms 1,2,3 must be completed before enrolling in terms 4 & 5.

•All students must take the following three courses

ACCT301	Accounting Fundamentals		3
BSEN229	Small Business Management		3
HRMT348	Food Service Purchasing		2

•Students seeking a restaurant management emphasis should select the option 5 courses.

HRMT335	Restaurant Management	Opt5	2
HRMT357	Culinary Skill Development	Opt5	3

•Students seeking a hotel management emphasis should select option 6 courses.

HRMT366	Hotel Services Internship	Opt6	5
HRMT368	Hotel Services	Opt6	2

Term 5–

•All students must take the following two courses

HRMT350	Nutrition		2
HRMT351	Menu Planning		2

•All students must select one course from option 7

SPCH110	Fundamentals of Speech	Opt7	3
Any SPCH course designated as Core		Opt7	3

•Students seeking a restaurant management emphasis should select the option 8 course

HRMT367	Beverage Seminar	Opt8	2

•Students seeking a hotel management emphasis should select the option 9 course

HRMT364	Hotel Administration	Opt9	2

•All students must select one course from the option 10 courses

BSAD150	Intro to Business	Opt10	3
BUSL101	Business Law I	Opt10	3
MGMT101	Supervisory Management	Opt10	3
MGMT102	Introduction to Management	Opt10	3

Total minimum credits required to complete this program   64

Human Services

The Human Services program prepares students for entry level jobs or for transfer to a four-year degree program. By the end of the program students will be able to interact effectively with clients in a human services agency.

The program emphasizes skills needed in working with clients such as interviewing, determining eligibility for services, making appropriate referrals and assisting with counseling. A supervised field experience allows students to apply their skills in a work setting.

Specializations are offered in chemical dependency counseling, mental health, psychosocial rehabilitation and social services.

When the program is completed, students may find employment in a wide variety of settings, including public and private social services agencies, treatment centers, group homes, institutions, hospitals, supported living and work programs and state or county departments of social services.

Locations: Ankeny, Urban

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements

To earn a Human Services AS degree, a student must complete the standard core requirements for the degree, plus the Human Services required courses and options and maintain a 2.0 grade point average.

Required Courses

HUMS101	Introduction to Human Services	3
HUMS104	Community Organization	3
HUMS109	Survey Mental Health Treatment	3
HUMS202	Interviewing/Interpersonal Relations	3
HUMS205	Intervention Theories/Practice I	3
HUMS206	Intervention Theories/Practice II	3
HUMS208	Field Experience	3
PSCH103	Developmental Psychology	3
PSCH104	Abnormal Psychology	3

Programs Available

Option Courses–Select 3 Courses From Option 1 And 1 Course From Option 2

ANTH120	Introduction to Anthropology	Opt1	3
PHIL112	Ethical Problems	Opt1	3
PLSC112	State & Local Government	Opt1	3
HUMS210	Counseling Techniques	Opt1	3
HUMS211	Counseling with Women	Opt1	3
HUMS213	Pract: Chemical Depend Counseling I	Opt1	6
HUMS214	Pract: Chemical Depend Counseling II	Opt1	3
HUMS216	Survey of Addictive Disease	Opt1	3
HUMS217	Psychosocial Rehabilitation	Opt1	3
SOCY103	Courtship, Marriage and Family	Opt1	3
SOCY105	Race, Ethnic and Gender Relations	Opt1	3
SOCY106	Juvenile Delinquency	Opt1	3
SOCY107	Criminology	Opt1	3
SOCY204	Social Gerontology/Applications	Opt1	4
PSCH101	General Psychology	Opt1	3
PSCH105	Social Psychology	Opt1	3
PSCH106	Psychology of Human Relations & Adjustment	Opt1	3
PSCH107	Principles of Behavior Modification	Opt1	3
PSCH108	Human Sexuality and Gender Roles	Opt1	3
PSCH109	Educational Psychology	Opt1	3
SOCY101	Introduction to Sociology	Opt2	3
SOCY102	Social Issues	Opt2	3

Complete Remaining AS Degree Core Requirements	28
Total minimum credits required to complete this program	**64**

Industrial Electro-Mechanical Technology

The Industrial Electro-Mechanical Technology program prepares students for a career as a maintenance technician in industrial manufacturing. At the completion of the program students should be able to troubleshoot and repair industrial equipment ranging from basic mechanical equipment and electrical motor controls to the more complex systems used in manufacturing environments.

Locations: Ankeny, Newton

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall term.

Graduation Requirements

To earn an Industrial Electro-Mechanical Technology AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1

MATH410	Mathematics for Technicians I	3
TOOL480	Blueprint Reading I	2
COMS181	Introduction to Computer Literacy	3
TOOL460	Hand Tools & Basic Machine Tools	1
BLDG453	Care and Use of Power Tools	1
ELEM325	Basic Electricity	3

Term 2-Select 1 Course from Option 1

MATH411	Mathematics for Technicians II	3
ENGL410	Communication Skills	3
BPQI400	Total Quality Management	3
HTPC371	Mechanical Power Transmission I	3
HTPC358	Motor Controls	3

Term 3

HTPC372	Mechanical Power Transmission II	4
TOOL461	Lathe Operations I	1
TOOL462	Lathe Operations Lab I	2
TOOL463	Milling Operations I	1
TOOL464	Milling Operations Lab I	2

Term 4

HTPC368	Advanced Motor Controls	3
BLDM330	Industrial Plumbing and Pipefitting	3
HTPC359	Programmable Logic Controllers	3
HTPC351	Hydraulics and Pneumatics	3
HTPC352	Hydraulics and Pneumatics Lab	2

Term 5

HTPC370	Pump Overhaul and Repair	4
WELD460	Related Welding-Industrial Maintenance	3
BPQI420	Preventative Maint & Diagnosing Mech/Elec Systems	3
MGMT203	Human Relations in Business	3
CADD401	Intro to Computer Aided Drafting	3

Total minimum credits required to complete this program	**68**

Information Processing Support
(see Certificate Section page 81)

Information Technology/ Network Administrator

The ITNA program will provide students with a foundation in the basic technologies of computer networking, both as an objective and measurable skill set, as well as a preface to certification. Students may choose to specialize in either Microsoft MCSE or NOVELL CNE. In addition, students may also earn CISCO certification by choosing to take the two CISCO courses listed in Option 2. The modular design of the ITNA core/certification integration is designed to allow the future addition of other professional certifications.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

1. Complete an application.
2. Satisfy the assessment requirement and attend any required information/registration sessions.
3. Complete the required departmental algebra requirement by:
   a. completing department entrance exam obtaining a satisfactory score of 17 or higher, or
   b. submitting ACT scores with a math sub score of 19 or higher, or
   c. submit official high school transcripts showing successful completion of high school algebra II or higher within the last 5 years, or
   d. successful completion of MATH094 or ELHT313, or an equivalent course with a grade of "C" or better.

Students start fall term.

Graduation Requirements

To earn an Information Technology Network Administration AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

All students take the first three terms.

Term 1–Select 1 Course From Option 1

ELHT323	Technical Math II		3
ITNA302	Digital & Computer Electronics		3
ITNA304	Digital & Computer Electronics Lab		3
ELHT346	Microcomputer Operating Systems		3
MGMT203	Human Relations in Business	Opt1	3
PSCH106	Psychology of Human Relations & Adjustment	Opt1	3

Term 2–Select 1 Course From Option 2

HTCT364	Microcomputer Systems		4
ITNA310	Intro to CISCO Networking I		4
ECON101	Principles of Macroeconomics		3
ELHT324	Computer Programming		3
ENGL117	Composition I	Opt2	3
ENGL410	Communication Skills	Opt2	3

Programs Available

Term 3

ITNA320	Advanced CISCO Networking II	4
ITNA330	Network Applications	4
ITNA332	Network Applications Lab	2

Note: For Terms 4 & 5

Remaining Program Requirements: Students must declare a Microsoft, Linux or Novell specialization. An average of at least 13 credits per semester is recommended.

For MCSE Specialization students must complete the following courses: A minimum of 15 credits of option course work must be completed during Terms 4 and 5.

Term 4

Required Courses:

MCSE305	Implementing Network Infrastructure	3
MCSE310	MS Windows Professional/Server	5
MCSE320	Implementing Directory Services	3
Courses from the Option Course List		2-4

Term 5

Courses from the Option List		13-15

For Novell Specialization students must complete the following courses. A minimum of 16 credits of option course work must be completed during Terms 4 and 5.

Term 4

Required Courses:

NECP351	Novell Administration	3
NECP352	Novell Advanced Administration	3
Courses from the Option Course List		7-9

Term 5

Required Courses

NECP344	Novell System Administration	2
NECP346	Novell System Programming	2
Courses from the Option Course List		9-11

For Linux Specialization students must complete the following courses. A minimum of 14 credits of option course work must be completed during Terms 4 and 5.

Term 4

Required Courses

ITNA351	Linux Network Administration	3
ITNA352	Linux System Administration	3
ITNA354	Network Security	3
Courses from the Option Course List		4-6

Term 5

Required Courses

ITNA353	Linux System Programming	3
Courses from the Option Course List		10-12

Option Courses

Course prerequisties must be met before enrolling in the option courses. It is the student's responsibility to ensure that all prerequisite requirements have been fulfilled prior to enrolling. Please consult with an academic advisor or the program chair if you would like assistance in chossing approriate courses.

NOTE: A course cannot be used to meet both specialization and option requirements. (For example, MCSE305 cannot be used as an option in the MCSE Specialization. However, MCSE305 could be an option course in either the Novell or Linux Specialization.

By selecting CSCO340 and CSCO350, the student will be prepared to complete testing for CISCO certification.

Typically Offered Term 4

CSCO340	CISCO Networking III	4
MCSE305	Implmenting Network Infrastructure	3
MCSE310	MS Windows Professional/Server	5
MCSE320	Implementing Directory Servicess	3
MCSE346	Supporting MS Windows XP	4
ITNA351	Linux Network Administration	3
ITNA356	Linux Programming for Admin.	3
NECP351	Novell Administration	3
NECP352	Novell Advanced Administration	3
ITNA345	Web Development I	3
ITNA365	Java Programming I	2
ITNA366	Java Programming II	2

Typically Offered Term 5

CSCO350	CISCO Networking IV	4
MCSE312	Designing MS Directory Services	2
MCSE314	Designing Security for MS Net	2
MCSE315	Managing MS Windows Network Environment	4
MCSE316	Designing MS Net Infrastructure	2
MCSE375	Implementing an SQL Database	3
ITNA346	Web Development II	3
ITNA352	Linux System Administration	3
ITNA353	Linux System Programming	3
ITNA354	Network Security	3
ITNA355	Linux Systems and Certification	3
ITNA357	Linux Network Programming	3
NECP344	Novell System Adminstration	2
NECP346	Novell System Programming	2

Minimum number of credits required to complete this degree–

MCSE, NOVELL or Linux specialization	**68**

Interior Design Consultant
(see Certificate Section page 81)

Land Surveying

The Land Surveying program is designed to provide a two-year AAS degree that will provide necessary training for future licensure as a land surveyor in Iowa. The program consists of topics including: field surveying techniques, surveying laws and ethics, Global Positioning Systems, Land Information Systems, safety and drafting. Career opportunities are with consulting firms; construction companies; federal, state and local government agencies; and large, land-owning companies. Many licensed surveyors own and operate their own surveying firms.

Location: Boone

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. This program is designed to begin in the fall semester. Students who desire to start other terms may be accepted, but may not graduate in four semesters due to the sequencing of course work. If starting other than fall, please contact the Civil Engineering Technology/Land Surveying department.

Graduation Requirements

To earn a Land Surveying AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

CET-315	Fundamentals of Civil Engineering	3
CET-320	Survey I	3
CET-325	Survey II	4
CET-390	Automated Design I	4
CET-422	Survey III	4
ENGL117	Composition I	3
ENGL119	Technical and Business Writing	3
SPCH110	Fundamentals of Speech	3

Programs Available

MATH123	Trigonometry		3
SURV310	Survey Drafting		3
SURV320	U.S. Public Lands Survey System		5
SURV430	Land Subdivision		3
SURV425	Surveying Ethics		2
SURV420	Boundary Surveying		3
SURV440	Boundary Law		4
SURV435	Intro to Geodesy		5
SURV415	Intro to Land Information Systems		2
SURV410	Safety in the Work Environment		1

Option Courses – Select 1 Course From Option 1 and 2 and 9 Credits from Option 3

MGMT203	Human Relations in Business	Opt1	3
PSCH106	Psychology of Human Relations & Adj	Opt1	3
ACCT101	Principles of Accounting I	Opt2	4
ACCT301	Accounting Fundamentals	Opt2	3
BSEN229	Small Business Management	Opt3	3
BUSL101	Business Law I	Opt3	3
BUSL102	Business Law II	Opt3	3
HIST126	Iowa History	Opt3	3

Total credits required to complete AAS degree   **73**

Landscape Design
(see Certificate Section page 81)

Legal Assistant

Legal Assistants perform a variety of legal tasks under the supervision of an attorney. Legal Assistants are also known as Paralegals. They work for attorneys in private practice, state agencies and public service organizations. Legal assistants work with the attorney in virtually every area of legal practice. They do not give advice or represent clients since that would be the actual practice of law.

Our objective is to educate students to become legal assistants who are capable of performing a variety of legal tasks. Graduates of the program should be able to provide a broad spectrum of services needed by attorneys. This objective is met by providing intensive and practical instruction by attorneys with experience and expertise in their fields of instruction. This program is approved by the American Bar Association.

Students in the program complete general education core requirements and legal specialty courses. Course offerings include torts and litigation, family law, business law, probate and income tax. All students complete an internship, under the supervision of an attorney, during which they use the skills and apply the knowledge gained in the classroom. Interested applicants who hold a prior college degree may seek the Legal Assistant Certificate.

A program chairperson and a program counselor are available to assist students with educational and career planning.

Graduates of the Legal Assistant program are employed in private law firms, the courts, public agencies and legal departments of large companies. Additionally, some students work in law related jobs such as investigation, collections and bank trust departments.

Location: Urban

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students may start any term.

Important Note: Students entering the program need satisfactory computer skills. BTEC355 Computer Applications is highly recommended as a developmental course. (BTEC355 will not satisfy program requirements.)

Graduation Requirements

To earn a Legal Assistant AS degree, a student must complete the standard core requirements for the degree, plus the Legal Assistant required courses and options, maintain a 2.0 grade point average and receive a grade of "C" or above in all LEGA course work.

Required Courses

Complete AS Degree Core Requirements			28
LEGA240	Introduction to Law		3
LEGA242	Torts & Litigation I		3
LEGA246	Business & Corporate Law I		3
LEGA250	Legal Internship & Ethics		4
LEGA260	Legal Research and Writing I		3
LEGA261	Legal Research and Writing II		3

Option Courses–Select 15 Credits From Option 1

LEGA243	Torts & Litigation II	Opt1	3
LEGA244	Family Law	Opt1	3
LEGA247	Business & Corporate Law II	Opt1	3
LEGA248	Real Estate Law	Opt1	3
LEGA249	Probate Procedure	Opt1	3
LEGA251	Wills, Estate Planning & Taxation	Opt1	3
LEGA252	Administrative Practice	Opt1	3
LEGA254	Evidence: Theory and Practice	Opt1	3
LEGA256	Debtor/Creditor Law	Opt1	3
LEGA258	Computerized Legal Research	Opt1	1
LEGA259	Advanced Legal Research and Writing	Opt1	3
LEGA265	Mediation	Opt1	3
ACCT206	Income Tax	Opt1	3
COMS181	Intro to Computer Literacy	Opt1	3
CRIM104	Criminal Law	Opt1	3
CRIM105	Constitutional Law	Opt1	3
HUMS202	Interviewing/Interpersonal Relations	Opt1	3

Elective Courses

Electives	2

Total credits required to complete this program   **64**

Legal Assistant Certificate
(see Certificate Section page 81)

Long Term Care Administrator
(see Certificate Section page 81)

Machinist Technology (See Tool & Diemaking)

Management

The Management program will prepare you with people skills and organizational systems knowledge to succeed and earn promotions in the company or institutional environment of your choice. Experience and leadership skills are gained through on-the-job training and participation in a local, state and national management development association.

Course work in the management program includes: communications and human relations, management and supervision, information processing, problem solving and computer applications, team building and leadership development and organizational and human resource development.

Graduates of the program have found positions as general managers, supervisors, assistant personnel managers, office managers, manufacturing and distribution managers, production supervisors, parts and inventory managers, business owners, customer service representatives, training coordinators, sales managers, buyers and purchasing agents. Advanced management positions are available to those who enter the work force and demonstrate strong, individual skills and knowledge.

The Management program emphasizes career development along with transfer options for students planning on attending a four-year college. Contact a DMACC Management instructor, counselor or advisor for transfer planning assistance.

Location: Ankeny, Newton

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Programs Available

Graduation Requirements

To earn a Management AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

MGMT101	Supervisory Management		3
MGMT102	Introduction to Management		3
MGMT103	Sales Management		3
MGMT104	Organizational Behavior		3
MGMT242	Human Resource Management		3
MGMT244	Leadership Development		3
MGMT344	Field Experience I Seminar		2
MGMT345	Field Experience I		6
MGMT406	Relationship Strategies in Business		2
MKTG102	Principles of Marketing		3
MKTG103	Principles of Selling		3
BPQI400	Total Quality Management		3
COOP220	Career-Seeking Skills		2

Option Courses—Select 1 Course From Options 1-6 and 3 Courses From Option 7

COMS181	Intro to Computer Literacy	Opt1	3
DKTP401	Intro to Desktop Publishing	Opt1	3
BTEC355	Computer Applications	Opt1	3
ENGL117	Composition I	Opt2	3
ENGL410	Communication Skills	Opt2	3
ACCT101	Principles of Accounting I	Opt3	4
ACCT301	Accounting Fundamentals	Opt3	3
SPCH110	Fundamentals of Speech	Opt4	3
SPCH111	Public Communication	Opt4	3
SPCH117	Interpersonal & Small Group Comm	Opt4	3
MGMT203	Human Relations in Business	Opt5	3
PSCH101	General Psychology	Opt5	3
BSAD223	Business/Financial Math	Opt6	3
MATH115	Finite Mathematics	Opt6	4
BSAD150	Intro to Business	Opt7	3
BSEN305	E-Commerce on the Web	Opt7	3
BSEN229	Small Business Management	Opt7	3
MGMT243	Management of Information	Opt7	3
MKTG321	Retail Management I	Opt7	3
BUSL101	Business Law I	Opt7	3
ECON101	Principles of Macroeconomics	Opt7	3
ACCT102	Principles of Accounting II	Opt7	4

Elective Courses

Electives		3-4
Total minimum credits required to complete this program		**69**

Management Certificate

(see Certificate Section page 82)

Management Information Systems (MIS)

The Management Information Systems (MIS) program is designed to allow students to transfer to a four-year program and additionally qualifies the students for positions as programmers and programmer analysts. The program emphasizes business applications programming. The student studies several programming languages, various levels of operating systems, various types of computer systems, and the peripheral equipment available in the field.

Location: Urban

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration sessions. Submit evidence of grade "C" or better in one year of high school Algebra or equivalent (DMACC Academic Achievement Center Algebra I & II or MATH 092). Students start any term.

Graduation Requirements

To earn a Management Information Systems (MIS) AS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1

COMS111	Computers and Program Logic		3
COMS181	Intro to Computer Literacy		3
ACCT101	Principles of Accounting I		4
ENGL117	Composition I		3
Any AA/AS Degree Core BIOL, CHEM or PHYL course			4

Term 2

COMS112	Computers and Programming II		3
COMS125	Business Programming COBOL I		3
ACCT102	Principles of Accounting II		4
ENGL118	Composition II		3
SPCH110	Fundamentals of Speech		3

Term 3—Select 1 Course From Option 1

DATA382	Systems Analysis		4
DATA103	Visual BASIC Programming		3
DATA341	Introduction to Databases		3
ECON101	Principles of Macroeconomics		3
MATH115	Finite Mathematics	Opt1	4
BSAD152	Business Statistics	Opt1	4

Term 4—Select 2 Courses From Option 2

COMS160	Computational Structures		3
ECON102	Principles of Microeconomics		3
AA/AS Degree Core Humanities course			3
AA/AS Degree Core Distributed course			4
COMS126	Business Programming COBOL II	Opt2	3
COMS365	Computer Organization	Opt2	3
COMS302	Advanced Java Programming	Opt2	3
COMS303	E-Commerce Scripting Languages	Opt2	3
DATA104	Advanced Visual BASIC	Opt2	3
DATA343	Introduction to SQL	Opt2	3
DATA349	Advanced PL/SQL Program Units	Opt2	3
Total minimum credits required to complete this program			**69**

Manufacturing Technology

The DMACC Manufacturing Technology program prepares applicants for a wide variety of manufacturing tasks in the industry. Successful applicants will learn the basic elements of welding, automation, computer numerical controlled machine operation, computer-aided drafting and design, machining and workplace skills. Manufacturers in Iowa report that they will require more than 1,000 workers who have these skills by 2005. Graduates will be positioned for employment by a wide variety of manufacturers throughout the state and nation.

At completion of this two year Associate of Applied Science degree program, graduates will be prepared for a large number of skilled careers in the manufacturing industry. Opportunities exist in many different types of manufacturing.

To apply for this program, call 515-964-6277 during business hours to request information.

Location: Ankeny, Newton

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration sessions. Students start fall term.

Graduation Requirements

To earn a Manufacturing Technology AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Programs Available

Term 1

BPQI412	Controlling Mfg. Business Costs	2
ENGL410	Communication Skills	3
MATH410	Mathematics for Technicians I	3
MFGT475	Manufacturing Welding I	2
TOOL480	Blueprint Reading I	2
TOOL482	Machine Shop Measurements I	3

Term 2

TOOL461	Lathe Operations I	1
TOOL462	Lathe Operations Lab I	2
TOOL463	Mill Operations I	1
TOOL464	Mill Operations Lab I	2
TOOL481	Blueprint Reading II	3
TOOL494	CNC Lathe Operations	1
TOOL495	CNC Lathe Operations Lab	2
TOOL496	CNC Mill Operations	1
TOOL499	CNC Mill Operations Lab	2

Term 3

MFGT418	IMT Internship	5
MFGT482	Related Welding Blueprint-Mfg. Technology	1
WELD483	Gas Metal Arc Welding	2

Term 4–Select 1 Course from Option 1

BPQI400	Total Quality Management		3
CADD401	Intro Computer Aided Drafting/CADD		3
CIM-404	Robotics		2
ELEM325	General Electricity		3
MGMT203	Human Relations in Business	Opt1	3
PSCH106	Psychology of Human Relations & Adj.	Opt1	3

Term 5

BPQI411	Measuring Devices - SPC	1
CADD402	Intermediate CADD-Mechanical	3
CADD405	Introduction to CAD/CAM	3
HTPC382	Control System Overview	2
MATH411	Mathematics for Technicians II	3
MFGT301	Introduction to Safety Science	3

Total minimum credits required to complete the AAS degree   67

Marketing

Looking for a growth-oriented career...something fast paced, ever changing and challenging, with opportunities for advancement and pay to match? Today a career in Marketing offers all this and more. You could be working for some of the fastest growing companies and brightest leaders in business today. By using your skills and creativity you will become part of the future in American business.

Course work is designed with the help of successful marketers who know what it takes to succeed. Classroom instruction is based on lectures, labs, speakers, internships and study tours. Major areas of study include marketing, sales, advertising, promotion and understanding buyer behavior in small business, retail and business marketing environments. The Marketing Program also offers many opportunities to develop and demonstrate leadership skills.

Many graduates of the Marketing Program have gone on to become marketing managers, regional marketing supervisors, professional sales and customer service representatives. Some have gone on to own their own businesses and others have found careers as managers, merchandisers and buyers in the retail community. Graduates from the Marketing Program are responsible for creating and/or executing marketing strategies, hiring, training and supervising employees. They are also responsible for buying and selling product offerings and planning promotions and advertising campaigns. Careers in marketing are listed as one of the fastest growing areas for the foreseeable future. Research indicates that about one third of the labor force is now employed in marketing. Marketing careers offer flexibility, mobility and pay to match your ability.

The Marketing Program emphasizes career development along with transfer options for students planning on attending a four-year college. Contact a DMACC Marketing instructor, counselor or advisor for transfer planning assistance.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements

To earn a Marketing AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

MKTG102	Principles of Marketing	3
MKTG103	Principles of Selling	3
MKTG104	Advertising/Sales Promotion	3
MKTG232	Advanced Selling Strategies	3
MKTG321	Retail Management I	3
MKTG323	Visual Merchandising/Design	2
MGMT101	Supervisory Management	3
MGMT244	Leadership Development	3
MGMT341	Business Internship I	6
MGMT342	Internship Seminar I	2
MGMT353	Business Internship II	4
MGMT358	Internship Seminar II	1
MGMT406	Relationship Strategies in Business	2
SPCH110	Fundamentals of Speech	3
COOP220	Career-Seeking Skills	2

Option Courses –Select 1 Course From Each Option

COMS181	Intro to Computer Literacy	Opt1	3
DKTP401	Intro to Desktop Publishing	Opt1	3
BTEC355	Computer Applications	Opt1	3
BSAD223	Business/Financial Math	Opt2	3
MATH115	Finite Mathematics	Opt2	4
ENGL117	Composition I	Opt3	3
ENGL410	Communication Skills	Opt3	3
ACCT101	Principles of Accounting I	Opt4	4
ACCT301	Accounting Fundamentals	Opt4	3
BSAD150	Introduction to Business	Opt5	3
MKTG322	Retail Management II	Opt5	3
ECON101	Principles of Macroeconomics	Opt5	3
MGMT102	Introduction to Management	Opt5	3
MGMT203	Human Relations in Business	Opt6	3
PSCH101	General Psychology	Opt6	3
ACCT102	Principles of Accounting II	Opt7	4
BSEN229	Small Business Management	Opt7	3
BSEN305	E-Commerce on the Web	Opt7	3
MKTG306	Sports/Entertainment Marketing	Opt7	3
MKTG211	Business Marketing	Opt8	3
MKTG305	Internet Marketing	Opt8	3

Elective Courses

Electives		3-4

Total minimum credits required to complete this program   70

Programs Available

Medical Administrative Assistant

The Medical Administrative Assistant program is designed to prepare the student to work in a variety of medical settings, including hospitals/medical centers, clinics, physician offices, health insurance companies and other health-related businesses.

In addition to detailed office duties, the medical administrative assistant acts as a liaison between the physician and the patient and is an important person in building and maintaining good relations with those people who are seeking medical assistance.

The medical administrative assistant has a variety of responsibilities such as receptionist, transcriptionist, insurance claims specialist and/or bookkeeper.

Upon successful completion of Terms 1, 2 and 3 of the Medical Administrative Assistant curriculum, a student may receive a diploma. Upon completion of the diploma program and Term 4, a student may receive an AAS Degree.

Location: Ankeny

Selected courses in this program are offered at other campuses.

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Submit evidence of typing skill of 40 WPM with no errors or enroll in Keyboarding I (BTEC 329) first term. Students start fall term.

Graduation Requirements

To earn a Medical Administrative Assistant diploma or AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1

MGMT203	Human Relations in Business		3
BTEC205	Business English		3
BTEC221	Medical Terminology I		3
BTEC325	Medical Computer Applications		3
BTEC355	Computer Applications		3
BTEC430	Medical Transcription I		3

Term 2

COOP220	Career-Seeking Skills		2
BTEC222	Medical Terminology II		3
BTEC306	Word Processing Skill Development II		3
BTEC324	Office Calculators		1
BTEC326	Medical Insurance		3
BTEC405	Professional Development		3
BTEC431	Medical Transcription II		3

Term 3

BSAD223	Business/Financial Math		3
BTEC223	Medical Transcription III		3
BTEC320	Human Body-Health and Disease		3
BTEC433	Medical Techniques		3
Total credits required to complete the diploma			**48**

Term 4–Select 1 Course From Option 1

ACCT301	Accounting Fundamentals		3
BTEC206	Business Correspondence Techniques		3
BTEC328	Internship for Medical Secretaries		4
BTEC356	Advanced Computer Applications		3
SPCH110	Fundamentals of Speech	Opt1	3
SPCH117	Interpersonal & Small Group Comm	Opt1	3
Total minimum credits required to complete AAS degree			**64**

Medical Assistant

The Medical Assistant program is designed to prepare students to be employed in a private physician's office, a clinic, hospital, or laboratory. As multi-skilled health professionals, medical assistants perform a variety of clinical procedures and administrative functions in these settings.

Students gain a basic knowledge of anatomy and physiology, laboratory procedures, administrative procedures and patient care techniques. These subjects are presented in the classroom, through laboratory experience and in a 10-week supervised clinical experience in the field. The students will not receive pay during the clinical rotation.

The DMACC Medical Assistant program is accredited by the Commission of Accreditation of Allied Health Education Programs (CAAHEP), on recommendation of the Curriculum Review Board of the American Association of Medical Assistants' Endowment (AAMAE). DMACC graduates are eligible to take the certification examination given by the certifying board of the American Association of Medical Assistants and the State of Iowa Limited Radiographer examination upon completion of the program.

Criminal background checks will be completed on each student. Criminal convictions or documented history of abuse may delay or prevent students from participating in clinical education experiences. Students unable to participate in clinical education will be unable to complete the Medical Assistant program. A felony conviction may prevent applicants from being eligible for the AAMA Certified Medical Assistant examination.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration sessions. Submit evidence of grade "C" or better in one year of high school biology or equivalent (DMACC Academic Achievement Center Biology I & II or BIOL 127). Must also submit evidence of typing/word processing skill of 35 WPM with 5 errors or less. Submit proof of high school graduation or GED prior to enrollment. Students start fall term.

Graduation Requirements

To earn a Medical Assistant diploma, a student must complete all course work as prescribed and maintain a 2.0 grade point average. A grade of 2.0 (C) or better is required in all MEDA courses. A student must receive a grade of "C" or better in the first course of a sequential course offering before enrolling in the second level course of the sequence. Sequential courses include MEDA 461 & MEDA 471; MEDA 464 & MEDA 474; MEDA 465 & MEDA 475; MEDA 466 & MEDA 473; MEDA 472 & MEDA 482; and MEDA 473 & MEDA 483. Several courses have corequisites as listed in the catalog.

Term 1–Select 1 Course from Option 1

MEDA461	Human Body-Health and Disease I		4
MEDA462	Medical Terminology		1
MEDA464	Medical Laboratory Procedures I		4
MEDA465	Medical Office Procedures I		3
MEDA466	Medical Office Management I		2
MEDA467	Professional Development I		3
ENGL117	Composition I	Opt 1	3
ENGL410	Communication Skills	Opt 1	3

Term 2

MEDA471	Human Body-Health and Disease II	4
MEDA472	Diagnostic Radiography I	2
MEDA473	Medical Office Management II	4
MEDA474	Medical Laboratory Procedures II	3
MEDA475	Medical Office Procedures II	3
PSCH101	General Psychology	3

Term 3

MEDA480	Professional Development III	1
MEDA482	Diagnostic Radiography II	2
MEDA483	Medical Office Management III	1
MEDA485	Practicum	5
Total credits required to complete this program		**48**

Programs Available

Medical Laboratory Technology

The Medical Laboratory Technology program prepares the student to perform complex laboratory procedures with a limited amount of supervision. This training includes a six-month hospital laboratory assignment.

The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 8410 West Bryn Mawr Avenue, Ste. 670, Chicago, IL 60631-3415, info@naacls.org, www.naacls.org.

Graduates are eligible to take national certification examinations. Job opportunities are found in hospitals, clinics, doctors' offices, public health laboratories, veterinarians' offices and industrial laboratories.

Background checks for criminal history may be done by clinical affiliates. This may prevent placement for clinical/practicum courses, which will affect successful program completion.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Submit evidence of grade "C" or better in one year high school biology, algebra and chemistry or equivalent (DMACC Academic Achievement Center Biology I & II or BIOL 127; Academic Achievement Center Algebra I & II or MATH 092 and Academic Achievement Center Chemistry I & II). The following criteria is recommended: minimum of a high school diploma (GPA of 2.5) or equivalent (GED of 55), grade of 'C' or better in high school level Algebra II, ACT score of 19 or above, COMPASS scores (writing 70, reading 81, algebra 49). Students start fall term.

Graduation Requirements

To earn a Medical Laboratory Technology AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average. A grade of "C" or better is required in all MLTS courses.

Term 1

BIOL154	General Anatomy and Physiology	5
CHEM131	Intro to General Chemistry	4
MLTS401	Lab Fundamentals & Urinalysis	2
MLTS402	Beginning Hematology	2
MLTS403	Principles of Phlebotomy	2
PSCH101	General Psychology	3

Term 2

BIOL132	Health Science Microbiology	4
CHEM132	Intro to Organic/Biochemistry	4
ENGL117	Composition I	3
MLTS415	Advanced Hematology & Coagulation	5

Term 3

MLTS442	Immunohematology	5
MLTS440	Immunology & Serology	2
SPCH110	Fundamentals of Speech	3

Term 4

MLTS422	Clinical Chemistry	8
MLTS431	Clinical Microbiology	6

Term 5

MLTS455	Clinical Laboratory Practicum	12
MLTS465	Clinical Seminar and Review	2

Total credits required to complete this program   72

Medical Transcriptionist
(see Certificate Section page 82)

Microcomputers
(see Certificate Section page 82)

Mortuary Science - Advanced Standing

The Mortuary Science program will prepare students who have earned a minimum of an Associate Degree to work within the funeral service profession. The Mortuary Science program is a field of human and community services that prepares an individual to become a mortuary science practitioner, funeral director, and embalmer.

The Mortuary Science Program at Des Moines Area Community College is accredited by the American Board of Funeral Service Education (ABFSE, 38 Florida Ave., Portland, Maine 04103, 207-878-6530).

The Aims and Purposes of the Mortuary Science program at DMACC are:
1. To enlarge the background and knowledge of students about the funeral service profession.
2. To educate students in every phase of funeral service, and to help enable them to develop the proficiency and skills necessary of the profession.
3. To educate students concerning the responsibilities of the funeral service profession to the community at large.
4. To emphasize high standards of ethical conduct.
5. To provide a curriculum at the post secondary level of instruction.
6. To encourage research in the field of funeral service.
7. To provide students the business and legal knowledge, philosophical/ethical principles, and specific techniques and skills to enable them to be successful within the funeral service profession.
8. To educate and prepare individuals for active contribution to the service and welfare of their communities.

State licensure requirements vary from state to state. Applicants must meet all state requirements. For complete licensure requirements, contact the State Board of Professional Licensure in the state you intend to practice. In Iowa, call 515-281-4287.

Location: Ankeny

Program Entry Requirements
1. Complete a DMACC Application.
2. Satisfy DMACC's general assessment requirement and attend any required information/registration sessions.
3. a. Submit a transcript of all completed college work that indicates the awarding of a minimum of an Associate Degree (AA, AS, AAS, AGS) or
   b. show evidence of having earned a minimum of 64 credits from a regionally accredited college or university with a grade average of "C" or above and submit documentation of a high school diploma or equivalent.
   In either case, a minimum of 15 of the credits earned must be in general education that includes one communications course, one mathematics course, and one social and behavioral science course.

Classes start fall term only. Students will attend the program full-time for three consecutive terms and graduate at the end of summer term.

DMACC has applied for approval from the U.S. Department of Education for federal financial aid for students enrolled in the Mortuary Science program.   As of press time for this catalog (June 30, 2005), we have not yet received the decision of the agency.   For an update, check with the program chairperson or on the web site at http://funeral.dmacc.edu/msnews.asp.

Graduation Requirements

To earn a Mortuary Science - Advanced Standing diploma, a student must complete all course work as prescribed and maintain a 2.0 grade point average, and earn a grade of "C" or

Programs Available

above in BIOL133 or BIOL154 and all MORS courses.

During MORS355 - Funeral Service Practicum, each student is required to take the National Board Exam as a graduation requirement.

To prevent delays in the scheduling of courses and graduation, students should complete a required biology course (BIOL133 or BIOL154) and the required business courses (ACCT301 and BUSL101) prior to beginning the MORS courses.

Required Courses...Select 1 Course from Option 1

ACCT301	Accounting Fundamentals		3
BUSL101	Business Law I		3
BIOL133	Health Science Anatomy	Opt1	3
BIOL154	General Anatamoy & Physiology	Opt1	3
MORS305	History of Funeral Service		2
MORS310	Pathology for Mortuary Science		3
MORS315	Funeral Law		3
MORS320	Thanatology		3
MORS325	Funeral Directing		3
MORS330	Funeral Merchandising		3
MORS335	Embalming I		3
MORS336	Embalming I Clinical		1
MORS340	Embalming II		3
MORS341	Embalming II Clinical		1
MORS345	Restorative Art		3
MORS346	Restorative Art Lab		1
MORS350	Funeral Home Operations		2
MORS355	Funeral Services Practicum		4
MORS360	Thanatochemistry		2
MORS365	Survey of Infectious Disease		2

Total minimum credits required to complete this program   48

Nurse Aide
(see Certificate Section page 82)

Nursing - Advanced Standing

This program offers the opportunity for current Iowa Licensed Practical Nurses to complete an Associate Degree in Nursing. Applicants with the equivalent of the first two terms of the Nursing Program are also eligible for admission. Students enter the third term of the Associate Degree Nursing curriculum. Upon successful completion of Terms 3, 4, and 5, students are eligible to take the NCLEX exam for Registered Nurse Licensure (NCLEX-RN). The program is approved by the Iowa Board of Nursing and accredited by the National League for Nursing Accrediting Commission (NLNAC), 61 Broadway - 33rd Floor, New York City, NY 10006, 212-363-5555.

Locations: Ankeny, Boone
   Ankeny, Boone - Summer and Fall Term
   Part-time option may be available on select campuses. Selected liberal arts courses in this program are offered at other campuses.

Program Entry Requirements

1. Complete an application

2. Attend required information session, registration meeting and a nursing program orientation.

3. Provide proof of completion of an approved Practical Nursing Program with a cumulative GPA of 2.0 or above.

4. Provide a copy of current Iowa LPN licensure (or other state licensure, recognized by Iowa pursuant to the Nurse Licensure Compact).

5. Complete required COMPASS testing obtaining satisfactory scores in reading (81 or above) and math (44 or above) or ACT of 19 or above.

6. Completion of the following courses with a grade of C (not C-) or above in each:

   BIOL133 Health Science Anatomy

   BIOL134 Health Science Physiology
   ENGL117 Composition I
   PSCH101 General Psychology
   PSCH103 Developmental Psychology

7. Provide proof of high school graduation or GED completion.

Graduation Requirements

To earn an Associate Degree Nursing AAS degree, a student must complete all course work as prescribed and have a grade of "C" or above in all ASDN and support courses in the curriculum.

In both the Practical and Associate Degree levels of the nursing program, all nursing and liberal arts support courses must be successfully completed with a grade of "C" or above. In order to progress to the next term, courses must be successfully completed in the term identified or a previous term.

Prerequisites:

BIOL133	Health Science Anatomy	3
BIOL134	Health Science Physiology	3
ENGL117	Composition I	3
PSCH101	General Psychology	3
PSCH103	Developmental Psychology	3

Term 3-Select 1 Course from Option 1

NURS232	Passport to ADN Nursing		2
SPCH117	Interpersonal & Small Group Comm		3
BIOL132	Health Science Microbiology	Opt1	4
BIOL149	General Microbiology	Opt1	4

Term 4

ASDN251	Professional Nursing Practice	2
ASDN252	Family Health Nursing	5
ASDN253	Mental Health Nursing	5
SOCY101	Introduction to Sociology	3

Term 5–Select 1 Course From Option 2

ASDN254	Adult Nursing		7
ASDN255	Nursing Seminar		3
HUMN131	Humanities Through the Arts	Opt2	3
LITR120	Introduction to Literature	Opt2	3
PHIL110	Introduction to Philosophy	Opt2	3
PHIL111	Introduction to Logic	Opt2	3
PHIL112	Ethical Problems	Opt2	3
PHIL113	Comparative Religions	Opt2	3

Total additional credits required to complete this program   52

Nursing Program

Practical Nursing
Associate Degree Nursing

The Nursing Program is designed as a career ladder program. The first two semesters provide a common core of nursing theory and skills for both the Practical Nursing and Associate Degree Nursing students.

The student who completes two terms is prepared to become a **Licensed Practical Nurse (LPN)**. LPNs provide nursing care under the supervision of a Registered Nurse or a physician. The LPN is prepared to provide basic therapeutic, rehabilitative and pre-ventative care for individuals of all ages, primarily in a structured care setting such as hospitals, long-term facilities or clinics.

Upon successful completion of Terms 1 and 2, the student will be eligible to take the National Council Licensure Exam for Practical Nurse Licensure (NCLEX - PN).

An **Associate Degree in Nursing** and a career as a Registered Nurse are available to students who continue in the program and successfully complete Terms 3, 4 and 5. As

Programs Available

members of the nursing profession, registered nurses are accountable for their own nursing practice. The Associate Degree Nurse utilizes more complex nursing knowledge and skills to assess, plan, provide, evaluate and manage nursing care for patients in hospitals, long-term care facilities and a variety of community based health care settings.

Upon successful completion of Terms 1 - 5 of the nursing curriculum, the student is eligible to take the National Council Licensure Exam for Registered Nurse Licensure (NCLEX - RN).

Program Locations: Ankeny, Boone, Carroll

Part-time option may be available on select campuses

Selected liberal arts courses in this program are offered at other campuses.

The Nursing Program is approved by the Iowa Board of Nursing and accredited by the National League for Nursing Accrediting Commission (NLNAC), 61 Broadway - 33rd Floor, New York City, NY 10006, 212-363-5555.

Program Entry Requirements

1. Complete an application.
2. Attend required information session, registration meetings, and a nursing program orientation.
3. Successful completion of NRA0301 or an equivalent 75 hour (or more) Certified Nurse Assistant course from an approved program - January 1992 or after.
4. Completion of the following courses with a grade of C (not C-) or better in each:
   BIOL133 Health Science Anatomy
   PSCH101 General Psychology
5. Complete required COMPASS testing obtaining satisfactory scores in reading (81 or above) and math (44 or above) or ACT of 19 or above.
6. Proof of high school graduation or GED completion.

Practical Nursing starts:

Ankeny, Boone - Fall and Spring Terms

Carroll - Fall Term Only

Associate Degree Nursing starts:

Ankeny, Boone - Summer, Fall Terms

Carroll - Summer Term Only

In both the Practical and Associate Degree levels of the program, all nursing and liberal arts support courses must be successfully completed with a grade of "C" or above. In order to progress to the next term, these courses must be successfully completed in the term identified or a previous term.

Continuation in the Associate Degree program requires successful completion of Terms 1 and 2 of the Practical Nursing curriculum.

Graduation Requirements

To earn a Practical Nursing diploma, a student must complete all course work as prescribed in Terms 1 & 2 and have "C" or above in all Nursing and support courses in the curriculum.

To earn an Associate Degree Nursing AAS degree, a student must complete all course work as prescribed in Terms 1-5 and have a grade of "C" or above in all NURS, ASDN and support courses in the curriculum.

Practical Nursing

Students should take required liberal arts support courses in advance when possible.

In both the Practical and Associate Degree levels of the program, all nursing and liberal arts support courses must be successfully completed with a grade of "C" or above. In order to progress to the next term, these courses must be successfully completed in the term identified or a previous term.

Continuation in the Associate Degree program requires successful completion of Terms 1 and 2 of the Practical Nursing curriculum.

Prerequisite:

BIOL133	Health Science Anatomy		3
PSCH101	General Psychology		3

Term 1

BIOL134	Health Science Physiology		3
NURS241	Fundamentals of Nursing		4
NURS242	Nursing Practice I		4
NURS243	Success in Nursing		2
PSCH103	Developmental Psychology		3

Term 2

ENGL117	Composition I		3
NURS244	Nursing Practice II		5
NURS245	Nursing Practice III		5
NURS246	Practical Nursing Roles		1
Total credits required to complete the diploma			**36**

Associate Degree Nursing

Students should take required liberal arts support courses in advance when possible.

In both the Practical and Associate Degree levels of the program, all nursing and liberal arts support courses must be successfully completed with a grade of "C" or above. In order to progress to the next term, these courses must be successfully completed in the term identified or a previous term.

Continuation in the Associate Degree program requires successful completion of Terms 1 and 2 of the Practical Nursing curriculum.

Students must complete terms 1 & 2 prior to enrolling in ASDN courses

Term 3–Select 1 Course from Option 1

SPCH117	Interpersonal and Small Group Comm.		3
BIOL132	Health Science Microbiology	Opt1	4
BIOL149	General Microbiology	Opt1	4

Term 4

ASDN251	Professional Nursing Practice		2
ASDN252	Family Health Nursing		5
ASDN253	Mental Health Nursing		5
SOCY101	Introduction to Sociology		3

Term 5–Select 1 Course From Option 2

ASDN254	Adult Nursing		7
ASDN255	Nursing Seminar		3
HUMN131	Humanities Through the Arts	Opt2	3
LITR120	Introduction to Literature	Opt2	3
PHIL110	Introduction to Philosophy	Opt2	3
PHIL111	Introduction to Logic	Opt2	3
PHIL112	Ethical Problems	Opt2	3
PHIL113	Comparative Religions	Opt2	3
Total credits required to complete the AAS degree			**71**

Office Assistant

The Office Assistant diploma curriculum is for individuals who want to develop or refresh their office skills in order to qualify for general office work.

Students gain a basic knowledge of English, math, computer applications and human relations skills. By selecting an emphasis during Term 2, students are able to customize their curriculum and gain specialized skills.

Locations: Ankeny, Boone, Carroll, Urban

Selected courses in this program are offered at other campuses

Programs Available

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements

To earn an Office Assistant diploma, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1

BSAD223	Business/Financial Math	3
MGMT203	Human Relations in Business	3
BTEC205	Business English	3
BTEC305	Word Processing Skill Development I	4
BTEC324	Office Calculators	1
BTEC355	Computer Applications	3

Term 2

COOP220	Career-Seeking Skills	2
BTEC204	Office Procedures	3
BTEC206	Business Correspondence Techniques	3
BTEC405	Professional Development	3

In addition to the required courses in Term 2, students are required to select one of the following Emphasis Options:

Professional Emphasis Option

BTEC306	Word Processing Skill Dev II	3
BTEC410	Office Internship	2
BTEC411	Office Seminar	1

Information Processing Emphasis Option

BTEC306	Word Processing Skill Dev II	3
BTEC356	Advanced Computer Applications	3

Office Management Emphasis Option

DATA110	Computer Network Literacy	3
MGMT153	Office Management	3

Bookkeeping Emphasis Option

ACCT301	Accounting Fundamentals	3
BTEC356	Advanced Computer Applications	3

Legal Emphasis Option

BUSL101	Business Law	3
BTEC331	Legal Terminology	3

Data Entry Emphasis Option

BTEC312	Data Entry	3
BTEC356	Advanced Computer Applications	3
Total credits required to complete the diploma		**34**

Office Specialist
(see Certificate Section page 83)

Phlebotomy
(see Certificate Section page 83)

Printing Technologies (see Certificate Section page 79)

Production Art
(see Certificate Section page 83)

Residential Care Facility Administrator
(see Certificate Section page 83)

Respiratory Therapy

The Respiratory Therapy program provides students the opportunity to learn the dynamic profession of respiratory care. Respiratory care is an allied medical specialty involved in the diagnosis, treatment and prevention of diseases and conditions which affect the respiratory and cardiovascular systems. Respiratory therapists work closely with physicians to plan, provide and evaluate direct care to persons with pulmonary and cardiovascular diseases.

The curriculum includes a variety of supervised clinical practicum experience in local health care facilities. Graduates will acquire the knowledge, skills and attitudes needed to begin successful careers in respiratory care.

Graduates of the program receive an Associate of Applied Science (AAS) degree. The program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) and graduates are eligible for all credentialing examinations currently offered by the National Board of Respiratory Care (NBRC) and licensure by the Iowa Department of Public Health.

Employment opportunities are found in hospitals, clinics, physicians' offices, home health care agencies, equipment and supply sales and rehabilitation and continuing care.

Criminal background checks will be done and results shared with cooperating agencies who may delay or deny placement for clinical/practicum courses. This will affect successful program completion.

Location: Ankeny
Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Meet with a Respiratory Therapy faculty advisor. Students must also:

- Submit to Admissions office evidence of high school graduation or GED prior to enrollment.
- Submit to Admissions office evidence of grade "C" or above in two semesters of high school Algebra II or the equivalent (Academic Achievement Center Algebra III & IV or MATH094 Intermediate Algebra.)
- Submit to Admissions office evidence of grade "C" or above in two semesters of high school Chemistry or equivalent (Academic Achievement Center Chemistry I & II or CHEM131 Introduction to General Chemistry.)
- Submit to Admissions office evidence of grade of "C" or above in BIOL133 Health Science Anatomy or BIOL154 General Anatomy and Physiology or equivalent courses.

Students start fall term.

Graduation Requirements

To earn a Respiratory Therapy AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average. A minimum of grade "C" or above is required in all RESP courses.

Term 1

RESP300	Fundamentals of Respiratory Therapy		3
RESP302	Gas, Humidity and Aerosol Therapy		4
RESP304	Cardiopulmonary Therapeutics		4
CHEM131	Introduction to General Chemistry		4

Term 2

RESP310	Cardiopulmonary Renal Pathophysiology		5
RESP315	Respiratory Therapy Pharmacology		3
RESP352	Respiratory Therapy Practicum I		4
BIOL134	Health Science Physiology		3

Term 3-Select 1 Course From Option 1

RESP325	Neonatal/Pediatric Respiratory Therapy		3
RESP362	Respiratory Therapy Practicum II		5
ENGL117	Composition I	Opt1	3
ENGL410	Communication Skills	Opt1	3

Programs Available

Term 4

RESP320	Advanced Respiratory Therapy		5
RESP372	Respiratory Therapy Practicum III		6
BIOL132	Health Science Microbiology		4

Term 5–Select 1 Course From Option 2

RESP330	Cardiopulmonary Diagnostics		3
RESP382	Respiratory Therapy Practicum IV		6
MGMT203	Human Relations in Business	Opt2	3
PSCH101	General Psychology	Opt2	3
PSCH106	Psychology of Human Relations & Adjustment	Opt2	3
SOCY101	Introduction to Sociology	Opt2	3

Term 6

RESP335	Respiratory Therapy Mgmt & Ethics		3
RESP392	Respiratory Therapy Practicum V		5
Total credits required to complete this program			**76**

Retailing

Retail organizations are constantly recruiting individuals with training in the areas of retailing, sales, store management and customer relations. Retailing provides a dynamic and exciting work environment that rewards high performance with rapid job promotions and pay increases to match.

Retailing is a growth industry with almost an endless number of career opportunities available to graduates of the program. Past graduates are now in careers that include: store managers, department managers, visual merchandisers, chain store supervisors, professional sales of automotive, home improvement and computer products and owners of their own businesses.

Personal, professional and leadership development is provided through lectures, study tours, labs and speakers. Practical experience is gained through a paid internship with leading retail companies.

Students completing the Retailing program can transfer all their credits into any of DMACC's two-year Marketing or Management programs.

Location: Ankeny
Selected courses in this program are offered at other campuses.
Program Entry Requirements
Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.
Graduation Requirements
To earn a Retailing diploma, a student must complete all course work as prescribed and maintain a 2.0 grade point average.
Required Courses

MKTG103	Principles of Selling		3
MKTG104	Advertising/Sales Promotion		3
MKTG321	Retail Management I		3
MKTG322	Retail Management II		3
MKTG323	Visual Merchandising/Design		2
MGMT244	Leadership Development		3
MGMT341	Business Internship I		6
MGMT342	Internship Seminar I		2
MGMT406	Relationship Strategies in Business		2
COOP220	Career-Seeking Skills		2

Option Courses–Select 1 Course From Each Option

ENGL117	Composition I	Opt1	3
ENGL410	Communication Skills	Opt1	3
BSAD150	Intro to Business	Opt2	3
BSEN229	Small Business Management	Opt2	3
MKTG102	Principles of Marketing	Opt2	3
MKTG305	Internet Marketing	Opt2	3
MGMT203	Human Relations in Business	Opt3	3
PSCH101	General Psychology	Opt3	3
BSAD223	Business/Financial Math	Opt4	3
MATH115	Finite Math	Opt4	4
Total credits required to complete this program			**41**

Retailing Certificate (see Certificate Section page 83)

Long Term Care Administrator
(see Certificate Section page 81)

Sales
(see Certificate Section page 83)

Sales and Management

The Sales and Management program offers sales and management skill development. Many opportunities exist for the highly-motivated, people-oriented, goal-setting individual who wants to quickly move into a sales or management industry-sponsored training program.

Specific benefits of the program include rapid development of sales and management skills, total transferability into any of DMACC's two-year Marketing and Management AAS degree programs and the satisfaction of gaining self-confidence as marketing skills are acquired.

Students will have the opportunity to enroll in the program for either day or evening classes at the beginning of each term. In addition, the program offers: opportunities to earn as you learn through on-the-job training, opportunities to gain advanced standing with prior occupational experience (after evaluation by the program chairperson) and leadership training at local, state and national levels through involvement in the Sales and Management Club.

Location: Ankeny
Selected courses in this program are offered at other campuses.

Program Entry Requirements
Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start any term.

Graduation Requirements
To earn a Sales and Management diploma, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

MGMT244	Leadership Development		3
MGMT344	Field Experience I Seminar		2
MGMT345	Field Experience I		6
MGMT406	Relationship Strategies in Business		2
MKTG103	Principles of Selling		3
MKTG232	Advanced Selling Strategies		3
COOP220	Career-Seeking Skills		2

Option Courses–Select 1 Course From Each Option

COMS181	Intro to Computer Literacy	Opt1	3
DKTP401	Intro To Desktop Publishing	Opt1	3
BTEC355	Computer Applications	Opt1	3
MGMT101	Supervisory Management	Opt2	3
MGMT102	Introduction to Management	Opt2	3
MGMT103	Sales Management	Opt2	3
ENGL117	Composition I	Opt3	3
ENGL410	Communication Skills	Opt3	3
BSAD150	Intro to Business	Opt4	3
BSEN305	E-Commerce on the Web	Opt4	3
MKTG102	Principles of Marketing	Opt4	3
BSAD223	Business/Financial Math	Opt5	3
MATH115	Finite Math	Opt5	4
MGMT203	Human Relations in Business	Opt6	3
PSCH101	General Psychology	Opt6	3
Total credits required to complete this program			**39**

Programs Available

Degrees and Diplomas

Security and Safety Specialist
(see Certificate Section page 83)

Supervision
(see Certificate Section page 84)

Technical Management
(see Certificate Section page 84)

Telecommunications Technology

The Telecommunications Technology program begins with areas that are most familiar to the student and progresses to the new technologies that are the driving force of the information age. The program provides a blend of lecture and hands-on training courses that gradually introduce students to a variety of areas within the field of telecommunications. Graduates may pursue a career in several different areas of telecommunications.

Location: West

Selected courses in this program are offered at other campuses.

Program Entry Requirements
1. Complete an application
2. Attend any required information/registration session including a Telecom program orientation.
3. Complete required COMPASS testing obtaining a satisfactory score in MATH (40 or above) or ACT score of 19 or above.
4. Proof of high school graduation or GED completion.

Students start fall term.

Graduation Requirements

To earn a Telecommunications Technology AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Term 1

ELEM450	Related Math	3
ELEM451	DC and AC Fundamentals	3
ELEM452	DC and AC Fundamentals Lab	3
TELE410	Introduction to Telephony	3
TELE413	Introduction to Telephony Lab	3

Term 2

COMS181	Intro to Computer Literacy	3
BTEC329	Keyboarding I	1
TELE420	Telecom Transport Technology	4
TELE423	Telecom Transport Lab	3
TELE432	Data Communications	3

Term 3

COOP212	Coop Career Seminar	1
COOP226	Coop Career Experience	6

Term 4

ENGL410	Communications Skills	3
TELE430	Advanced Topics in Telecom	4
TELE433	Advanced Topics in Telecom Lab	3
Select 1 course from Option 1		3

Term 5

BSAD150	Intro to Business	3
TELE440	Telecommunications Management	3
TELE443	Internetworking Lab	3
Select 1 course from Option 1		3
Select 1 course from Option 2		3

Students may choose from the option course categories listed below. Students must meet with their Telecom instructor for guidance and recommendation regarding appropriate option courses. Course prerequisites must be fulfilled prior to enrolling in Option courses.

Option 1 Courses

Any COMS course	
Any DATA course	
Any ELHT course	
Any ITNA course	

Option 2 Courses

MGMT203	Human Relations in Business	
PSCH101	General Psychology	
PSCH106	Psychology of Human Relations & Adjustment	
SOCY101	Introduction to Sociology	

Total credits required to complete this program	**64**

Telecommunications Certificate
(see Certificate Section on page 84)

Tool & Diemaking

The Tool and Diemaking program prepares students to meet the demands for qualified personnel in either conventionally controlled or computer numerical controlled (CNC) tooling industry.

There are two separate diploma options available: Machinist Technology or Diemaking. Machinist Technology graduates should have the skills required to work in a general machine shop. Diemaking graduates should have the skills necessary to work as tool planners, tool makers, die makers, etc. By completing the core courses required for all students plus the courses in the two diploma options, students may receive a Tool & Diemaking AAS degree.

Location: Ankeny

Machinist Technology diploma is also available at Newton

Program Entry Requirements

Machinist Technology Diploma

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall term.

Diemaking

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Submit proof of Machinist Technology Diploma or equivalent. Students start fall term.

Graduation Requirements

To earn a Machinist Technology or Diemaking diploma, or a Tool and Diemaking AAS degree, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

All Students Must Complete the Following Vocational General Education Requirements:

Required Courses

MATH410	Mathematics for Technicians I	3
MATH411	Mathematics for Technicians II	3

Option Courses—Select 1 Course From Each Option

ENGL410	Communication Skills	Opt1	3
ENGL117	Composition I	Opt1	3
MGMT203	Human Relations in Business	Opt2	3
PSCH101	General Psychology	Opt2	3
PSCH106	Psychology of Human Relations & Adjustment	Opt2	3
SOCY101	Introduction to Sociology	Opt2	3

Programs Available

Machinist Technology Diploma

Students Who Choose the Machinist Technology Diploma Option

Must Complete the Following Courses:

TOOL460	Hand Tools & Basic Machine Tools	1
TOOL461	Lathe Operations I	1
TOOL462	Lathe Operations Lab I	2
TOOL463	Mill Operations I	1
TOOL464	Mill Operations Lab I	2
TOOL470	Lathe Operations II	2
TOOL471	Lathe Operations Lab II	3
TOOL472	Mill Operations II	2
TOOL473	Mill Operations Lab II	3
TOOL480	Blueprint Reading I	2
TOOL481	Blueprint Reading II	3
TOOL482	Machine Shop Measurements I	3
TOOL489	Heat Treatment of Materials	1
TOOL492	Grinding Procedures	1
TOOL493	Grinding Procedures Lab	3
TOOL494	CNC Lathe Operations	1
TOOL495	CNC Lathe Operations Lab	2
TOOL496	CNC Mill Operations	1
TOOL499	CNC Mill Operations Lab	2

Plus Vocational General Education Requirements   **12**

Total credits required to complete the Machinist Technology diploma   **48**

Diemaking Diploma

Students must complete the Machinist Technology diploma or equivalent prior to enrolling in the Diemaking diploma.

Students Who Choose the Diemaking Diploma Option Must Complete the Following Courses:

Required Courses

CADD401	Intro to Computer Aided Drafting	3
CADD405	Intro to CAD/CAM	3
DIEM400	Basic Diemaking	4
DIEM401	Basic Diemaking Lab	6
DIEM403	Progressive Die Design	3
DIEM404	Advanced Diemaking	4
DIEM405	Advanced Diemaking Lab	6
DIEM407	Plastic Moldmaking	3
DIEM413	Electrical Discharge Machining	3
TOOL437	Geometric Dimensioning and Tolerance	1

Plus Vocational General Education Requirements   **12**

Total credits required to complete Diemaking diploma   **48**

Tool and Diemaking AAS Degree

To Earn the Tool and Diemaking AAS Degree

Students Must Complete the Vocational General Education Requirements   **12**

Plus the Requirements for Both Diplomas   **72**

Total credits required to complete the Tool and Diemaking AAS degree   **84**

Turf Maintenance

Veterinary Technology

Veterinary technicians provide professional technical support to veterinarians, biomedical researchers and other scientists. As a veterinary technician, you will care for hospitalized animal patients; assist the doctor in surgery; perform physical exams, lab work and technical procedures (blood draws, IV placement); take health histories and X-rays; give and monitor anesthesia; provide client education; and perform reception duties. There will be opportunities to work with a variety of animals including dogs, cats, horses, cows, pigs, sheep, birds, snakes, guinea pigs, hamsters and rats.

Most Veterinary Technician graduates find work in small, mixed or large animal practices. Other opportunities exist in humane societies, animal shelters, zoos, specialty veterinary practices, pet shops, biological research labs, animal control agencies, veterinary teaching hospitals, and state and federal agencies.

An Associate of Applied Science (AAS) degree will be awarded to those students who successfully complete the program. The Veterinary Technology program at Des Moines Area Community College was accredited by the American Veterinary Medical Association (AVMA) in March, 2005.

In order to sit for the Veterinary Technician National Examination to become a Registered Veterinary Technician (RVT) students must graduate from an accredited program. Students interested in the national examination should contact the program chairperson for additional information.

Location: Ankeny

Program Entry Requirements

1. Complete an application, satisfy the assessment requirement and attend any required information/registration session.

2. COMPASS Exam: DMACC requires assessment of all new full-time students (12 credit hours or more Fall and Spring semesters, 8 credit hours or more Summer semester.) This assessment provides information about students' academic skills in reading, writing, and mathematics. Assessment information is then used in course selection and schedule planning.

    ACT scores or transferred composition course work from another institution may be submitted in lieu of the COMPASS placement exam. If you choose this route, make sure an original transcript is sent from your previous institution to the Credentials Office at Des Moines Area Community College.

3. Biology Competency Exam: All applicants must take this exam and receive a minimum score of 30 out of 50 on the exam to qualify for a seat in the starting fall class. **This score does not guarantee that a seat is available to you.** Your biology score and the application date as processed by the college admissions office will determine the 30 students who will receive an invitation for the program interview, orientation and registration.

    At the time that the college formally processes your admission application, you will receive additional information regarding all required assessments for this program.

4. Program Conferences: Applicants as determined by biology scores and admission dates will be invited to a program conference with the Veterinary Technology Program Chair or the Chairperson of the Agriculture and Natural Resources Department.

Students start fall term.

Graduation Requirements

To earn a Veterinary Technology AAS degree a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

AGRI201	Feeding and Nutrition I	3
AGRI340	Veterinary Medical Terminology	1
AGRI341	Intro to Veterinary Pharmacology	1
AGRI342	Intro to Veterinary Technology	1
AGRI343	Veterinary Anatomy & Physiology	3
AGRI344	Anesthesia & Surgical Assistance	3
AGRI345	Veterinary Clinic Pathology I	3
AGRI346	Adv. Veterinary Anatomy & Physiology II	3
AGRI347	Veterinary Clinical Pathology II	3
AGRI348	Veterinary Nursing Care	3
AGRI349	Introduction to Animal Diseases	1
AGRI350	Clinical Mgmt of Domestic Species	2
AGRI351	Clinical Mgmt of Lab & Exotic species	2
AGRI352	Advanced Veterinary Pharmacology	1
AGRI353	Large Animal Medicine and Surgery	3
AGRI354	Veterinary Radiology	2
AGRI431	Veterinary Assistant Internship	1
AGRI432	Veterinary Technician Internship	3
ECON101	Principles of Macroeconomics	3
SPCH110	Fundamentals of Speech	3
BTEC204	Office Procedures	3
BTEC305	Word Processing Skills Development I	4

Programs Available

Option Courses–Select 1 Course From Each Option

BIOL127	Human Biology	Opt1	3
BIOL141	Principles of Biology I	Opt1	4
CHEM120	Survey of Chemistry	Opt2	3
CHEM131	Intro to General Chemistry	Opt2	4
ENGL117	Composition I	Opt3	3
ENGL410	Communication Skills	Opt3	3
Any AAS degree Core MATH course		Opt4	3-5
MATH410	Mathematics for Technicians	Opt4	3
BIOL132	Health Science Microbiology	Opt5	4
BIOL149	General Microbiology	Opt5	4
Total credits required to complete this program			**68**

Welding

Welding is the term used to describe numerous methods of joining metals. Students are provided with entry level welding skills and knowledge essential for employment in the industrial manufacturing, job shop and pipe welding industries.

Ferrous and non-ferrous metals are joined using the oxy-acetylene, shielded metal arc, gas tungsten arc and gas shielded arc welding processes. Freehand and machine flame cutting are also taught.

Classroom theory, blueprint reading and technical math are part of the instructional program. The listed sequence of course offerings may be altered.

The Welding program offers open entry and open exit courses. Students will be allowed to enroll in these open entry/open exit courses as long as there is space available.

Location: Ankeny

Program Entry Requirements

Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students must meet with the program chair before admission to the program can be confirmed. Students start any term.

Graduation Requirements

To earn a Welding diploma, a student must complete all course work as prescribed and maintain a 2.0 grade point average.

Required Courses

ENGL410	Communication Skills	3
MATH410	Mathematics for Technicians I	3
WELD473	Oxygen-Acetylene Welding/Cutting	2
WELD474	Shielded Metal Arc Welding I	2
WELD478	Shielded Metal Arc Welding II	3
WELD479	Shielded Metal Arc Welding III	2
WELD481	Blueprint Reading	3
WELD486	Shielded Metal Arc Welding IV	3
WELD487	Shielded Metal Arc Welding V	3
WELD488	Shielded Metal Arc Welding VI	2
WELD483	Gas Metal Arc Welding	2
WELD493	Gas Tungsten Arc Welding	2
Total credits required to complete this program		**30**

Welding Certificates are available: Blueprint Reading, Gas Metal Arc, Gas Tungsten Arc, Oxy-acetylene, Pipewelding, Shielded Metal Arc and Structural Welding (see Certificate Section page 85)

Woodworking

(see For more informations see Architectural Millwork page 65)

Certificates of Specialization

Accounting Certificate I

The Accounting Certificate I prepares the student for an entry level position in the field of accounting. Upon completion, the successful candidate will be able to distinguish, analyze, summarize, communicate and record business transactions.

Employment opportunities are currently found in commercial businesses, government offices, public accounting firms and similar enterprises.

Required Courses

ACCT101	Principles of Accounting I	4
ACCT102	Principles of Accounting II	4
ACCT351	Financial Accounting/Computers	3
BSAD223	Business/Financial Math	3
COMS181	Intro to Computer Literacy	3
BTEC324	Office Calculators	1

Option Courses–Select 1 Course From Option 1

ACCT206	Income Tax	Opt1	3
ACCT411	Payroll Accounting	Opt1	3
Total credits required to complete this certificate			**21**

These credits are applicable to the AAS degree in Accounting Specialist. The majority of these credits are also applicable to the AS degree in Accounting Paraprofessional and the Accounting and Bookkeeping diploma.

Accounting Certificate II

The Accounting Certificate II prepares the student for an entry-level position in the field of accounting and bookkeeping. Upon completion, the successful candidate will be able to distinguish, analyze, summarize, communicate and record business transactions.

Technical courses in intermediate accounting, computers and cost accounting allow students to seek advanced level placement in some cases.

Employment opportunities are currently found in commercial businesses, government offices and public accounting firms.

Required Courses

ACCT101	Principles of Accounting I	4
ACCT102	Principles of Accounting II	4
ACCT103	Intermediate Accounting I	4
ACCT203	Cost Accounting	4
ACCT351	Financial Accounting/Computers	3
ACCT352	Excel - Accounting Principles	3
BSAD223	Business/Financial Math	3
COMS181	Intro to Computer Literacy	3
BTEC324	Office Calculators	1

Option Courses–Select 1 Course From Each Option

ENGL117	Composition I	Opt1	3
BTEC205	Business English	Opt1	3
ENGL118	Composition II	Opt2	3
ENGL119	Technical and Business Writing	Opt2	3
ENGL410	Communication Skills	Opt2	3
ACCT104	Intermediate Accounting II	Opt3	4
ACCT105	Nonprofit Accounting	Opt3	3
ACCT308	Managerial Acct for Non-Accountants	Opt4	3
ACCT206	Income Tax	Opt4	3
ACCT411	Payroll Accounting	Opt4	3
Total credits required to complete this certificate			**41**

These credits are applicable to the AAS degree in Accounting Specialist. The majority of these credits are also applicable to the AS degree in Accounting Paraprofessional and the Accounting and Bookkeeping diploma.

Adult Services

Students in the Adult Services Specialist Certificate program have the opportunity to increase their knowledge of the older adult and the agencies that provide services for this expanding population. No prior degree is required to enroll in this program.

IMPORTANT NOTE:

Students are strongly advised to contact one of the staff members of Aging Services Management in Bldg. 9, Room 3 on the Ankeny Campus or call 515-964-6262 or 515-964-6814 for additional important information.

Required Courses

ASM278	Management in Senior Care Services	3
ASM279	Health Care Human Resources	3
ASM280	Health Care Delivery Systems	2

Programs Available

ASM282	Aging Services in the Continuum/Care		2
ASM283	Aging Policies and Government Programs		2
SOCY204	Social Gerontology/Applications		4
SOCY205	Issues in Aging		2
ASM257	Capstone		2
ASM256	Agency Experience		2
ASM239	Information Systems in Health Care		2
ASM274	Law and Ethics in Health Care		3

Option Courses–Select 1 Course from Option 1

ACCT301	Accounting Fundamentals	Opt1	3
ACCT101	Principles of Accounting I	Opt1	4
Total credits required to complete this certificate			**30**

These credits are applicable to the AS degree in Aging Services Management

Agri-Business - Agronomy

The Agronomy certificate prepares the student for an entry-level position in the agronomic field. Upon completion, the successful candidate will be able to formulate fertilizers, identify weeds, insects and soil nutrient deficiencies. Marketing skills will be enhanced through the application of enterprise analysis and current commodity management tools.

The course work within this certificate will serve as a strong preparatory base for the "Certified Crop Advisor" (CCA) program.

Required Courses

AGRI202	Crop Scouting	3
AGRI206	Crop Management	3
AGRI209	Soils Laboratory	1
AGRI216	Commodity Marketing	3
AGRI217	Precision Agriculture Applications	3
AGRI219	Soils and Fertilizers	3
AGRI306	Advanced Crop Management	3

Option Courses–Select 1 Course from Option 1

AGRI421	Chemical Technology	Opt1	3
AGRI430	Agribusiness Internship I	Opt1	2
AGRI436	Grain Management	Opt1	2
Total credits required to complete this certificate			**21**

These credits are applicable to the AAS degree in Agri-Business.

Agri-Business - Animal Science

The Animal Science certificate prepares the student for an entry-level position in the livestock industry. Upon completion, the successful candidate will be able to formulate livestock rations, identify common diseases and select appropriate facilities for livestock handling. Marketing skills will be enhanced through the application of enterprise analysis and current commodity management tools.

Required Courses

AGRI201	Feeding and Animal Nutrition I	3
AGRI203	Feeding and Animal Nutrition II	3
AGRI204	Animal Science	3
AGRI207	Livestock Disease Prevention	3
AGRI216	Commodity Marketing	3
AGRI430	Agribusiness Internship I	2

Option Courses–Select 1 Course from Option 1

AGRI304	Swine Production and Management	Opt1	3
AGRI305	Beef Production and Management	Opt1	3
Total credits required to complete this certificate			**20**

These credits are applicable to the AAS degree in Agri-Business.

Agri-Business - Farm Management

The Farm Management certificate prepares the student for an entry-level position in farm management. Upon completion, the successful candidate will be able to operate an entrepreneurial enterprise in the crop or livestock industry. Marketing skills will be enhanced through the application of enterprise analysis and current commodity management tools.

Required Courses

AGRI202	Crop Scouting	3
AGRI204	Animal Science	3
AGRI206	Crop Management	3
AGRI216	Commodity Marketing	3
AGRI323	Farm Management	3
AGRI411	Agricultural Economics	3

Option Courses–Select 1 Course from Option 1

ACCT301	Accounting Fundamentals	Opt1	3
AGRI430	Agribusiness Internship I	Opt1	2
BUSL101	Business Law	Opt1	3
COMS181	Introduction to Computer Literacy	Opt1	3
Total credits required to complete this certificate			**20**

These credits are applicable to the AAS degree in Agri-Business.

Agri-Business - Sales/Service

The Sales/Service certificate prepares the student for an entry-level position in the agricultural sales and service industry. Upon completion, the successful candidate will be able to utilize a general knowledge of the industry to more effectively serve the customers within the sales and service sector. Marketing skills will be enhanced through the application of enterprise analysis and management tools.

Required Courses

AGRI204	Animal Science	3
AGRI206	Crop Management	3
AGRI216	Commodity Marketing	3
AGRI322	Agribusiness Management	3
AGRI411	Agricultural Economics	3
MKTG103	Principles of Selling	3

Option Courses– Select 1 Course from Option 1

AGRI430	Agribusiness Internship I	Opt1	2
BUSL101	Business Law	Opt1	3
COMS181	Introduction to Computer Literacy	Opt1	3
MGMT203	Human Relations in Business	Opt1	3
PSCH101	General Psychology	Opt1	3
SOCY101	Introduction to Sociology	Opt1	3
Total credits required to complete this certificate			**20**

These credits are applicable to the AAS degree in Agri-Business.

Airbrush Art

The purpose of the Airbrush Art certificate is to provide design theory and practice in the techniques of airbrush regardless of the specialized application.

Airbrush is used in practically every phase of the commercial art field—in illustration, such as figure, mechanical, advertising, architectural and technical illustration; and in design, such as textile, plastic products, greeting cards and posters.

Required Courses

CART449	Airbrush I	4
CART451	Airbrush II	4
Total credits required to complete this certificate		**8**

These credits are applicable to the AAS degree in Commercial Art.

Building Maintenance

The Building Maintenance certificate is a series of job related courses which provide a person with an understanding of how to keep a commercial or industrial type of building operating efficiently and effectively. Skill training enables a maintenance specialist to do the job from the first day of employment.

Required Courses

BLDM325	Boiler Room Maintenance	1
ELEM325	General Electricity	3

Programs Available

<div align="right">

Certificates of Specialization

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Option Courses–Select 3 Credits From Option 1

BLDM326	Steam Plant Operations	Opt1	2
BLDM329	Basic Plumbing	Opt1	2
HLCR314	Emergency Care	Opt1	1

Total credits required to complete this certificate **7**

Chemical Dependency Counseling

This one year certificate is offered cooperatively with Powell Chemical Dependency Center (Powell CDC) at Iowa Lutheran Hospital.

This certificate is designed for individuals with a Bachelor's Degree, Graduate Degree or Associate in Arts or Associate in Science degree who wish to update or develop skills in chemical dependency counseling. For those who do not have a degree, this certificate may be completed as a part of the two-year Associate in Science degree in Human Services.

Please Note: A limited number of practicum/field experience spaces are available at Powell CDC. Powell CDC reserves the right to establish admissions procedures and select their practicum/field experience students. Powell CDC charges a fee for their practicum training. This is in addition to the usual tuition and fees paid to DMACC for the required credit course work.

For information about and admission procedures for the practicum phase, contact Training Coordinator, Powell CDC, Iowa Lutheran Hospital, 700 East University, Des Moines, Iowa 50316-2392.

Required Courses

ENGL117	Composition I	3
HUMS109	Survey Mental Health Treatment	3
HUMS202	Interviewing/Interpersonal Relations	3
HUMS205	Intervention Theories/Practice I	3
HUMS206	Intervention Theories/Practice II	3
HUMS208	Field Experience	3
HUMS213	Practicum: Chemical Dependency Counsel I	6
HUMS214	Practicum: Chemical Dependency Counsel II	3
HUMS216	Survey of Addictive Disease	3

Option Courses–Select 1 Course From Each Option

BIOL127	Human Biology	Opt1	3
PSCH103	Developmental Psychology	Opt1	3
PSCH104	Abnormal Psychology	Opt1	3
SOCY102	Social Issues	Opt1	3
SPCH110	Fundamentals of Speech	Opt1	3
PSCH103	Developmental Psychology	Opt2	3
PSCH104	Abnormal Psychology	Opt2	3

Total credits required to complete this certificate **36**
These credits are applicable to the AAS degree in Human Services.

Computer Applications

The Computer Applications certificate provides students with a basic understanding of the computer applications that may be performed in an office. A student will be able to use the following applications: word processing, data base, desktop publishing, graphics, presentation, spreadsheet, e-mail, internet and operating systems.

Required Courses

BTEC305	Word Processing Skill Dev I	4
BTEC306	Word Processing Skill Dev II	3
BTEC355	Computer Applications	3
BTEC356	Advanced Computer Applications	3
DATA110	Computer Network Literacy	3

Total credits required to complete this certificate **16**
These credits are also applicable to the diploma in Office Assistant and the AAS degree in Administrative Assistant.

Computer Languages

The purpose of the Computer Languages certificate is to provide the student who is **presently employed** in computer operations or who has strong business computer applications experience in word processing, spreadsheets and databases with the knowledge of how to design, write and execute computer programs to solve specific business problems.

Required Courses

ACCT101	Principles of Accounting I	4
COMS111	Computers and Program Logic	3
COMS125	Business Programming COBOL I	3
COMS181	Intro to Computer Literacy	3
DATA306	COBOL-Intermediate	4
DATA382	Systems Analysis	4

Option Courses–Select a Minimum of 6 Credits

DATA103	Visual BASIC Programming	Opt1	3
DATA104	Advanced Visual BASIC	Opt1	3
DATA106	Microcomputers in Business	Opt1	3
DATA110	Computer Network Literacy	Opt1	3
DATA301	DOS Job Control	Opt1	4
DATA308	COBOL - Advanced	Opt1	3
DATA309	COBOL on the World Wide Web	Opt1	3
DATA318	Intro to C++ Programming	Opt1	3
DATA319	Assembler Beginning	Opt1	4
DATA320	Advanced C++	Opt1	3
DATA321	Assembler Intermediate	Opt1	4
DATA327	Advanced Assembler	Opt1	4
DATA341	Introduction to Databases	Opt1	3
DATA343	Introduction to SQL	Opt1	3
DATA349	Advanced PL/SQL Program Units	Opt1	3
DATA350	Relational Database Design	Opt1	3

Total credits required to complete this certificate **27**
These credits are applicable to the AAS degree in Computer Programming

Data Entry I

The purpose of the Data Entry I certificate is to provide classroom and simulated office experience in preparation for entry-level employment for data entry operators.

Graduates of the Data Entry I program locate employment in public and private organizations and agencies of all sizes and missions. Beyond entry-level positions as operators, one may advance to department supervisor.

Required Courses

COOP220	Career-Seeking Skills	2
MGMT203	Human Relations in Business	3
BTEC312	Data Entry	3

Total credits required to complete this certificate **8**

Database Specialist

The purpose of the Database Specialist certificate is to add to the specialization of study at DMACC. This certificate can also assist the student to prepare for Oracle certification as an Oracle Application Developer which is desirable for positions in the database area.

Many of the courses used in this certificate curriculum are also optional courses in the Computer Programming AAS degree. This certificate will allow the student to better select the focus of study and compliment the AAS Computer Programming degree.

Required Courses

COMS111	Computers and Program Logic	3
COMS125	Business Programming - COBOL I	3
COMS181	Intro to Computer Literacy	3
DATA341	Introduction to Databases	3
DATA343	Introduction to SQL	3
DATA349	Advanced PL/SQL Program Units	3
DATA350	Relational Database Design	3

Total credits required to complete this certificate **21**
The majority of these courses are applicable to the AAS degree in Computer Programming

Programs Available

Certificates of Specialization

Dietary Manager Specialist

The Dietary Manager is responsible for the management of food operations in a dietary department. This includes the management of food service personnel, food/kitchen supplies and the routine nutritional aspects of food service. Working with a consultant dietician, the dietary manager assists in providing quality nutritional care services in food service departments, hospitals and health care facilities. All students must attend a Dietary Manager Specialist program orientation.

Required Courses

DMAS350	Health Field	1
DMAS351	Food Preparation	1
DMAS352	Sanitation/Meal Service	2
DMAS353	Nutrition Life Cycle	1
DMAS354	Modified Diets	1
DMAS355	Food Production Management	1
DMAS356	Food Service Management	2
DMAS361	Food Prep Field Experience	1
DMAS362	Sanitation/Meal Service Field Experience	1
DMAS363	Nutrition Life Cycle Field Experience	1
DMAS364	Modified Diet/Field Experience	1
DMAS365	Food Production Field Experience	1
DMAS366	Food Service Mgmt Field Experience	1

Total credits required to complete this certificate   **15**

E-Commerce Design

This certificate allows students to combine computer oriented graphic skills with E-Commerce concepts and web page development skills. The student will be able to design and develop web pages for E-Commerce applications. This includes the ability to create, enhance and manipulate a variety of graphic elements to take advantage of delivery using the Internet. Students will have exposure to a variety of web development tools and graphic application tools including FrontPage, Dreamweaverm Photoshop, Fireworks and Flash.

Required Courses

BSEN305	E-Commerce on the Web	3
DKTP401	Intro to Desktop Publishing	3
BSEN306	E-Commerce Website I	3
CART403	Communication Design I	3
CART463	Electronic Photo Editing	3
BSEN307	E-Commerce Website II	3
CART462	Computer Graphics II	3

Total credits required to complete this certificate   **21**

Emergency Medical Technician - Basic

The Emergency Medical Technician-Basic certificate is designed to provide an introductory learning experience for persons interested in the field of emergency medicine. This course includes practical and written testing in the classroom as well as clinical experience in the area hospitals. National Registry Certification tests will be administered at course completion in both the written and skill areas. Area ambulance units utilize EMT-B's.

Required Course

HLCR307	Emergency Medical Tech Basic	6

Prerequisite: Proof of successful and current completion of either American Heart Association Health Care Provider CPR or Red Cross Professional Rescuer CPR training.

Entrepreneurship

The Entrepreneurship certificate introduces the student to creative and tested ways to start and operate a small business. Innovative marketing strategies, creative financing methods and employee development skills are emphasized in the program. Both day and evening courses are offered and all course work transfers into the one- year Entrepreneurship program.

Required Courses

BSEN303	Small Business Marketing	3
BSEN304	Small Business Start-Up	3
BSEN229	Small Business Management	3
BSEN255	Introduction to International Business	3

Option Courses–Select 1 Course From Each Option

ACCT101	Principles of Accounting I	Opt1	4
ACCT301	Accounting Fundamentals	Opt1	3
BSEN302	Small Business Management Strategies	Opt2	3
BUSL310	Basic Law for the Entrepreneur	Opt2	2
ACCT351	Financial Accounting/Computers	Opt3	3
BSAD256	Virtual Business Firm	Opt3	3
BSEN305	E-Commerce on the Web	Opt3	3

Total credits required to complete this certificate   **20**

Fashion

The purpose of the Fashion certificate is to provide an individual either currently employed in or wanting to enter the apparel and accessories field with specialized skills to enhance his/her knowledge of retailing and selling as well as develop fashion awareness.

Required Courses

MKTG231	Fashion Analysis & Design	3
MKTG323	Visual Merchandising/Design	2
MKTG332	Textiles	3
MKTG321	Retail Management I	3
MKTG103	Principles of Selling	3

Total credits required to complete this certificate   **14**

These credits are applicable to the AAS degree in Fashion/Design.

Fire Specialist

The Fire Specialist certificate provides basic technical knowledge for people working in the fire protection field.

Course work covers the scientific principles that affect fire, its causes and behavior and the means of minimizing its destructive effects through design, detection, suppression and prevention.

Required Courses

FIRE241	Fire Behavior and Investigation	3
FIRE242	Property Insurance and Fraud Investigation	3
FIRE243	Building Construction	3
FIRE244	Fire Protection Systems	3
FIRE245	Hazardous Materials	3
FIRE247	Planning for Fire Protection	3
FIRE248	Emergency Scene Management	3

Total credits required to complete this certificate   **21**

These credits are applicable to the AS degree in Fire Science Technology.

Graphic Sales & Customer Service

The Graphic Sales & Customer Service certificate is designed for students in the Graphic Technologies or Marketing programs who wish to specialize in their degree, or for individuals with prior experience who are looking to update their skills or are seeking advancement in the area of marketing or graphic communications. The program will provide up-to-date technical information regarding printing methods, cost estimating, sales and marketing.

The curriculum and instruction are geared to provide both lecture and laboratory settings that will build upon the individual's prior knowledge and experience. Instruction and practical experience will be provided in the areas of printing methods, cost estimating, sales and marketing.

Required Courses

GRPH400	Intro to Printing Methods	4
GRPH401	Intro to Graphic Communications	3
GRPH409	Project Planning & Management	3
MKTG102	Principles of Marketing	3
MKTG103	Principles of Selling	3
MKTG104	Advertising/Sales Promotion	3

Total credits required to complete this certificate   **19**

These credits are applicable to the AAS degree in Graphic Technologies.

Programs Available

<div align="right">

Certificates of Specialization

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Greenhouse Production

The Greenhouse Production certificate will allow students to earn recognition for work completed in the area of greenhouse production. This certificate will provide students with the opportunity to develop specific skills related to horticulture chemicals, botany and greenhouse production techniques.

Required Courses

AGRI209	Soils Laboratory	1
AGRI219	Soils & Fertilizers	3
COMH410	Intro to Greenhouse	3
COMH411	Horticulture Chemical Techniques	2
COMH450	Botany	3
COMH478	Plant Propagation I	3
COMH490	Greenhouse Production Techniques	3
MATH410	Mathematics for Technicians I	3

Total credits required to complete this certificate   21

These credits are applicable to the AAS degree in Commercial Horticulture

Information Processing Support

The Information Processing Support certificate prepares students for an entry-level position in an office emphasizing information support. This curriculum includes business English and written communications. Students receive training on computers using office software applications with an emphasis on word processing.

Required Courses

BTEC205	Business English	3
BTEC206	Business Correspondence Techniques	3
BTEC305	Word Processing Skill Development I	4
BTEC306	Word Processing Skill Development II	3
BTEC355	Computer Applications	3
BTEC356	Advanced Computer Applications	3

Total credits required to complete this certificate   19

These credits are applicable to the diploma in Office Assistant and the AAS degree in Administrative Assistant.

Interior Design Consultant

The Interior Design Consultant certificate is designed for currently employed individuals who have an interest in adding specialized training in interior home products to their credentials. The focus of the Interior Design Consultant certificate is to provide training needed at the wholesale or retail levels in interior home product sales, marketing or customer service.

Required Courses

MKTG102	Principles of Marketing	3
MKTG103	Principles of Selling	3
MKTG234	Interior Design Analysis	3
MKTG235	Interior Design Planning	3
MKTG323	Visual Merchandising/Design	2
MKTG332	Textiles	3

Total credits required to complete this certificate   17

These credits are applicable to the Fashion diploma or the AAS degree in Fashion/Design

Landscape Design

The Landscape Design certificate will allow students to earn recognition for work completed in the area of landscape design. This certificate will provide students with the opportunity to develop specific skills related to plant materials, construction techniques and design.

Required Courses

AGRI209	Soils Laboratory	1
AGRI219	Soils & Fertilizers	3
COMH440	Landscape Design I	3
COMH441	Landscape Drafting	1
COMH450	Botany	3
COMH453	Landscape Design II	2

COMH486	Construction, Safety & Maintenance	2
COMH488	Woody Plant Materials	3
COMH489	Herbaceous Plant Materials	3

Total credits required to complete this certificate   21

The majority of these credits are applicable to the AAS degree in Commercial Horticulture .

Legal Assistant

The Legal Assistant certificate is for students with a Bachelor's Degree, Associate in Science, or Associate of Arts Degree who wish to work as a legal assistant. A legal assistant performs a variety of legal tasks and provides a broad spectrum of services for attorneys in private practice, state agencies and public service organizations. The legal assistant works with the attorney in virtually every aspect of the legal profession except giving advice or representing clients in court (the actual practice of law). To earn a Legal Assistant certificate, a student must submit proof of having earned a prior degree. Students must receive a grade of "C" or above in all LEGA course work.

Required Courses

LEGA240	Introduction to Law	3
LEGA242	Torts & Litigation I	3
LEGA246	Business & Corporate Law I	3
LEGA250	Legal Internship & Ethics	4
LEGA260	Legal Research & Writing I	3
LEGA261	Legal Research & Writing II	3

Option Courses–Select 15 Credits From Option 1

LEGA243	Torts & Litigation II	Opt1	3
LEGA244	Family Law	Opt1	3
LEGA247	Business & Corporate Law II	Opt1	3
LEGA248	Real Estate Law	Opt1	3
LEGA249	Probate Procedure	Opt1	3
LEGA251	Wills, Estate Planning & Taxation	Opt1	3
LEGA252	Administrative Practice	Opt1	3
LEGA254	Evidence: Theory & Practice	Opt1	3
LEGA256	Debtor/Creditor Law	Opt1	3
LEGA258	Computerized Legal Research	Opt1	1
LEGA259	Advanced Legal Research & Writing	Opt1	3
LEGA265	Mediation	Opt1	3
ACCT206	Income Tax	Opt1	3
COMS181	Intro to Computer Literacy	Opt1	3
CRIM104	Criminal Law	Opt1	3
CRIM105	Constitutional Law	Opt1	3
HUMS202	Interviewing/Interpersonal Relations	Opt1	3

Total credits required to complete this certificate   34

These credits are applicable to the AS degree in Legal Assistant.

Long Term Care Administrator

The Long Term Care Administrator Specialist certificate is for students with a prior degree who desire eligibility to sit for Nursing Home Administrator Licensure. The student must also meet the Iowa Board of Examiners for Nursing Home Administrator equivalency requirements which includes verification of a four-year degree and submission of transcripts.

IMPORTANT NOTE: Students are strongly advised to contact one of the staff members of Aging Services Management in Bldg. 9, Room 3 on the Ankeny Campus or call 515-964-6262 or 515-964-6814 for additional important information.

Required Courses

ASM278	Management in Senior Care Services	3
ASM279	Health Care Human Resources	3
ASM280	Health Care Delivery Systems	2
ASM282	Aging Services in the Continuum/Care	2
ASM283	Aging Policies and Government Programs	2
SOCY204	Social Gerontology/Applications	4
SOCY205	Issues in Aging	2

Practicum:

ASM251	Governance of NF/SNF	2
ASM252	Governance of Assisted Living	2
ASM253	LTC Practicum: Psychosocial Needs	2

Programs Available

ASM254	LTC Practicum: Physical Needs		2
ASM255	LTC Practicum: Administration		2
ASM257	Capstone		2

Option Courses - Select 10 Credits from Option 1

ACCT301	Accounting Fundamentals	Opt1	3
ACCT101	Principles of Accounting I	Opt1	4
ASM238	Financial Management in AS	Opt1	3
ASM239	Information Systems in Health Care	Opt1	2
ASM274	Law and Ethics in Health Care	Opt1	3

Total credits required to complete this certificate   40

These credits are applicable to the AS degree in Aging Services Management.

Management

The purpose of the Management certificate is to provide the currently employed person in business with broad knowledge of the principles of management and business functions. Human relations and communication skills necessary for recognition and appointment to successive levels of management are also provided. This certificate is also beneficial to people currently employed in management who wish to upgrade and improve chances for further promotion.

Required Courses

MGMT101	Supervisory Management		3
MGMT102	Introduction to Management		3
BSAD150	Intro to Business		3
BUSL101	Business Law I		3
COMS181	Intro to Computer Literacy		3

Option Courses–Select 1 Course From Each Option

BSEN305	E-commerce on the Web	Opt1	3
MGMT103	Sales Management	Opt1	3
MGMT153	Office Management	Opt1	3
MGMT241	Production Management	Opt1	3
MGMT250	Fundamentals of Purchasing Mgmt	Opt1	3
MKTG211	Business Marketing	Opt1	3
MKTG321	Retail Management I	Opt1	3
BSEN229	Small Business Management	Opt1	3
ACCT101	Principles of Accounting I	Opt2	4
ACCT301	Accounting Fundamentals	Opt2	3
ENGL117	Composition I	Opt3	3
ENGL410	Communication Skills	Opt3	3
MGMT203	Human Relations in Business	Opt4	3
PSCH101	General Psychology	Opt4	3
BSAD223	Business/Financial Math	Opt5	3
MATH115	Finite Math	Opt5	4

Total credits required to complete this certificate   30

These credits are also applicable to the AAS degree in Management and the AAS degree in Marketing.

Medical Transcriptionist

The purpose of the Medical Transcriptionist certificate is to provide a course of study for medical administrative assistant students to specialize in the area of medical transcription. Employment opportunities are numerous in a variety of settings: hospitals and medical centers, clinic and group practices, radiology and pathology offices, government facilities, private and temporary agencies and in home offices. In addition to a choice of work settings, the medical transcriptionist can usually choose part-time or full-time employment and frequently, flexible scheduling. Students should start fall term.

Required Courses

BTEC349	WORD	1
BTEC221	Medical Terminology I	3
BTEC430	Medical Transcription I	3
BTEC222	Medical Terminology II	3
BTEC431	Medical Transcription II	3
BTEC320	Human Body-Health and Disease	3
BTEC223	Medical Transcription III	3

Total credits required to complete this certificate   19

The majority of these credits are also applicable to the AAS degree in Medical Administrative Assistant.

Microcomputers

This certificate is designed for people who desire to learn about operating and networking systems and who have strong business computer applications skills in word processing, spreadsheets and databases. It is most appropriate for people employed in small businesses where the employer wants employees to upgrade their business computer applications skills and assume responsibility for a network.

Required Courses

BSAD150	Intro to Business	3
COMS111	Computers and Program Logic	3
COMS125	Business COBOL I	3
COMS181	Intro to Computer Literacy	3
DATA110	Computer Network Literacy	3

Option Courses - Select a Minimum of 6 Credits

ACCT101	Principles of Accounting I	Opt1	4
ACCT102	Principles of Accounting II	Opt1	4
ACCT351	Financial Accounting/Computers	Opt1	3
ACCT352	Excel-Accounting Principles	Opt1	3
COMS126	Business Programming COBOL II	Opt1	4
DATA103	Visual BASIC Programming	Opt1	3
DATA104	Advanced Visual BASIC	Opt1	3
DATA318	C++ Programming	Opt1	3
DATA320	Advanced C++	Opt1	3
DATA341	Introduction to Databases	Opt1	3
DATA343	Introduction to SQL	Opt1	3
DATA349	Advanced PL/SQL Program Units	Opt1	3
DATA350	Relational Database Design	Opt1	3

Total credits required to complete this certificate   21

The majority of these credits are applicable to the AS degree in Accounting Information Systems and the Business Information Systems programs.

Nurse Aide

The Nursing Assistant Specialist Certificate is designed for individuals seeking employment in any health care setting. The skills and knowledge learned will meet the requirements of many job titles from Psychology Tech to Emergency Department Tech. You will earn from $7.00-$12.00 per hour. You will be drug free and have no criminal or felony record. You will need to be flexible and be able to take direction and be a team member. A uniform is required.

Required Courses

HLCR314	Emergency Care		1
	And *The following two courses:*		
NRAO301	Nurse Aide 75 Hours		3
NRAO333	Advanced Nurse Aide		3

Option Courses–Select 1 Course From Option 1

NRAO310	CCDI Dementia Illness Training	Opt1	1
MEDA462	Medical Terminology	Opt1	1

Total credits required to complete this certificate   8

Office Specialist

The Office Specialist certificate provides students with basic entry-level skills for office support positions. These skills include computer operations, business English, human relations and office calculators. Students who complete all courses will qualify for a variety of entry-level clerical positions.

Required Courses

BSAD223	Business/Financial Math	3
MGMT203	Human Relations in Business	3
BTEC205	Business English	3
BTEC305	Word Processing Skill Dev I	4
BTEC324	Office Calculators	1
BTEC355	Computer Applications	3

Total credits required to complete this certificate   17

These credits are applicable to the AAS degree in Administrative Assistant and the diploma in Office Assistant.

Programs Available

Phlebotomy

A phlebotomist draws blood from patients for diagnostic medical tests. Most phlebotomists are employed in hospitals. The program runs approximately 9 weeks and is offered fall and spring term.

Background checks for criminal history will be done and results will be shared with cooperating agencies which may prevent placement for clinical practicum. This will affect successful program completion.

NOTE: Proof of immunizations required prior to beginning of clinical rotation.

Required Course

MLTS403	Principles of Phlebotomy	2
PHLE320	Phlebotomy Clinical	2

Production Art

The purpose of the Production Art certificate is to provide training for entry-level positions as production artists in large printing and publishing companies and companies with small publications departments.

Required Courses

CART407	Production Art I	3
CART415	Production Art II	3
Total credits required to complete this certificate		**6**

These credits are applicable to the AAS degree in Commercial Art.

Retailing

The Retailing certificate offers skills for entering the world of retail marketing and merchandising and for those already employed who wish to move to higher levels of responsibility.

A growing number of job openings exist for those who want a career that is both challenging and rewarding.

Required Courses

MKTG321	Retail Management I	3
MKTG103	Principles of Selling	3
MKTG323	Visual Merchandising/Design	2
MGMT244	Leadership Development	3
Total credits required to complete this certificate		**11**

These credits are also applicable to the AAS degree in Marketing and the AAS degree in Fashion/Design.

Sales

The purpose of the Sales certificate is to provide persons with knowledge of the basic principles of selling and marketing and the elements of human relations and communication required to enter the field of selling. This program is offered both during the evening and the day.

Required Courses

MKTG103	Principles of Selling		3
MKTG102	Principles of Marketing		3
MGMT406	Relationship Strategies in Business		2
MGMT244	Leadership Development		3

Option Courses–Select 1 Course From Each Option

ENGL117	Composition I	Opt1	3
ENGL410	Communication Skills	Opt1	3
MGMT203	Human Relations in Business	Opt2	3
PSCH101	General Psychology	Opt2	3
Total credits required to complete this certificate			**17**

These credits are also applicable to the diploma in Sales & Management, the diploma in Fashion/Design, the AAS degree in Management, the AAS degree in Marketing and the AAS degree in Fashion/Design.

Security and Safety Specialist

The Security & Safety Specialist certificate prepares the student for a career in the field of security and/or safety. Upon graduation, the student will understand the basic principles and practices of physical security, defense systems and fire safety. Fire behavior and devices and systems installed and utilized to support fire service as well as regulatory standards governing the field of security will be discussed. The interdisciplinary courses of safety, fire and criminal justice will give the student a more marketable background.

Required Courses

CRIM105	Constitutional Law	3
FIRE241	Fire Behavior and Investigation	3
FIRE244	Fire Protection Systems	3
FIRE248	Emergency Scene Management	3
SFTY302	Accident Investigation & Worker Comp.	3
SFTY310	Regulatory Safety Standards & Req.	3
CRIM273	Introduction to Security	3
Total credits required to complete this certificate		**21**

Selected credits are applicable to the AS degree in Fire Science Technology.

Supervision

The purpose of the Supervision certificate is to provide the person currently employed in business with knowledge of the principles of supervising others and the elements of human relations and communication needed for promotion and success in first line supervision. The certificate is also beneficial to people currently working as supervisors who wish to upgrade their credentials.

Required Courses

MGMT101	Supervisory Management		3
MGMT102	Introduction to Management		3

Option Courses–Select 6 Credits From Option 1 And 1 Course From Option 2 and 3

BSAD150	Intro to Business	Opt1	3
BSEN229	Small Business Management	Opt1	3
BSEN305	E-commerce on the Web	Opt1	3
MGMT103	Sales Management	Opt1	3
MGMT153	Office Management	Opt1	3
MGMT341	Business Internship I	Opt1	6
MKTG103	Principles of Selling	Opt1	3
MKTG211	Business Marketing	Opt1	3
MGMT250	Fundamentals of Purchasing Mgmt	Opt1	3
MKTG321	Retail Management I	Opt1	3
ENGL117	Composition I	Opt2	3
ENGL410	Communication Skills	Opt2	3
MGMT203	Human Relations in Business	Opt3	3
PSCH101	General Psychology	Opt3	3
Total credits required to complete this certificate			**18**

These credits are applicable to the diploma in Sales & Management, the AAS degree in Management and the AAS degree in Marketing.

Technical Management

The Technical Management certificate is designed for employed workers who seek skills in a manufacturing environment. The emphasis in the program is on course work which is directly related to supervisory, financial, quantitative and marketing functions which impact the manufacturing supervisor. The program is responsive to requests from industrial training directors.

Required Courses

ACCT101	Principles of Accounting I	4
ACCT102	Principles of Accounting II	4
BSAD152	Business Statistics	4
BSAD243	Quantitative Methods	4
COMS181	Intro to Computer Literacy	3
MGMT102	Introduction to Management	3
MGMT240	Principles of Managerial Finance	3
MGMT241	Production Management	3
MGMT101	Supervisory Management	3
MKTG102	Principles of Marketing	3
Total credits required to complete this certificate		**34**

Programs Available

Telecommunications

This certificate program prepares the student for working in the telecommunications outside plant field. The course work prepares students to work on local installations of communication services in both business and residential settings. Training includes: installation and repair, line troubleshooting, working aloft and pole climbing, and basic business communication system programming and repair.

Required Courses

ELEM451	ACDC Fundamentals	3
ELEM452	ACDC Fundamentals Lab	3
TELE410	Introduction to Telephony	3
TELE413	Introduction to Telephony Lab	3
COMS181	Intro to Computer Literacy	3
BTEC329	Keyboarding I	1
TELE420	Telecom Transport Technology	4
TELE422	Telecommunications Outside Plant	4
TELE423	Telecom Transport Lab	3

Total credits required to complete this certificate   27

These credits are applicable to the AAS degree in Telecommunications Technology.

Turf Maintenance

The Turf Maintenance certificate will allow students to earn recognition for work completed in the area of turf maintenance. This certificate will provide students with the opportunity to develop specific skills related to the maintenance of such turf grass areas as lawns, parks, sports fields and golf courses.

Required Courses

AGRI209	Soils Laboratory	1
AGRI219	Soils and Fertilizers	3
COMH411	Horticulture Chemical Technology	2
COMH433	Irrigation Systems	2
COMH435	Sports Turf	2
COMH437	Turf I	2
COMH455	Turf II	3
MATH410	Mathematics for Technicians I	3

Option Courses—Select 1 Course from Option 1

BIOL118	Environmental Conservation	Opt1	3
COMH450	Botany	Opt1	3

Total credits required to complete this certificate   21

The majority of these credits are applicable to the AAS degree in Commercial Horticulture.

Welding

In an effort to meet the needs of interested students and local industry, the Welding program is offering open entry and open exit courses designed for the inexperienced as well as the more advanced and experienced welders. This flexibility allows students to take only those portions of the program they need at any given time. Students will be allowed to enroll as long as there is space available. Emphasis is placed on skill and knowledge that is required for the student to enter employment in the welding field, or for the student's own personal gain.

Oxy-acetylene Welding

WELD473	Oxygen-Acetylene Welding/Cutting	2

These credits are applicable to the diploma in Welding

Shielded Metal Arc Welding

WELD474	Shielded Metal Arc Welding I	2
WELD478	Shielded Metal Arc Welding II	3
WELD479	Shielded Metal Arc Welding III	2
WELD486	Shielded Metal Arc Welding IV	3
WELD487	Shielded Metal Arc Welding V	3
WELD488	Shielded Metal Arc Welding VI	2

Total credits required for Shielded Metal Arc Welding   15

These credits are applicable to the diploma in Welding

Gas Metal Arc Welding

WELD483	Gas Metal Arc Welding	2

These credits are applicable to the diploma in Welding

Gas Tungsten Arc Welding

WELD493	Gas Tungsten Arc Welding	2

These credits are applicable to the diploma in Welding

Blueprint Reading

WELD481	Blueprint Reading	3

These credits are applicable to the diploma in Welding

Structural Welding

WELD497	Advanced Shielded Metal Arc Welding I	2
WELD498	Advanced Shielded Metal Arc Welding II	3

Pipe Welding

WELD499	Intro-Shielded Metal Arc Pipe Welding	3

Certificate of Completion

Transportation Institute Commercial Vehicle

Commercial Vehicle Operator Program

The Transportation Institute commercial vehicle operator program is one of approximately 50 in the U.S., which has been certified by the Professional Truck Drivers Institute of America. The 320-hour, non-credit program uses the U.S. Department of Transportation Model Curriculum. Students may complete the program in the daytime in 6 weeks or during the evenings and Saturdays in 12 weeks.

The Institute provides customized programs and services to individuals and companies including: remediation and evaluation services, advanced driver programs, Defensive Driving Course (DDC), driver/dispatcher relationships and driver retention programs. It also offers a 24-hour Train the Trainer Program that allows transportation carriers to qualify their drivers to become certified driver finishers.

RV Safety and Education Program

RV Safety and Education Program Students become confident when traveling in situations they may encounter in the RV lifestyle after receiving training in all phases of driving, maneuvering and backing a recreational vehicle. The RV program is a total of 16 hours, 8 hours in the classroom and 8 hours hands-on driving. Additional driving time and private lessons are available. The program specializes in safety, respect, patience and confidence in a variety of vehicles of all sizes from class A, B, & C motor homes, to fifth-wheel trailers to travel trailers. For students who do not own their own equipment, most varieties are available.

We also have RV (Recreation Vehicle) training and educational programs aimed at present and prospective RV drivers to provide the best information and training possible about RVs and the RV lifestyle. DMACC is the 2nd school nationwide to offer this RV training.

Features

1. Placement with companies prior to beginning of training.
2. Extensive in-truck training with two students per truck ratio.
3. Student loan availability for most students.
4. Graduation with a Commercial Drivers License (CDL)
5. Earning potential - $25,000 - $35,000 first year.
6. Excellent career opportunities within the industry.

Required Courses	Contact Hours
Basic Operations	112.00
Safe Operational Practices	112.75
Advanced Operating Procedures	22.00
Vehicle Maintenance	26.00
Non-Vehicle Activities	47.25

Course Descriptions

How to read our Course Descriptions

The following are standard, approved subjects. Availability of any subject depends on the scheduling, program and student needs at the time. **The receiving college or university determines the transferability of courses.**

Course —
Course Name —
Course Description —

ACCT203
Cost Accounting   Open
4 4 0 0 0

Credits
Lecture Hours
Lab Hours
Practicum Hours
Course Type

An introduction to accounting concepts of product costing systems. Topics include: classification of costs, process costing, job order costing, joint and by-product costs and standard cost systems, with variable analysis.
PREREQUISITE: ACCT102 ——— Pre- or Corequisites*

ADJUNCT
Adjunct courses may be temporary or experimental and may be used to fulfill elective credit in programs that lead to a degree or diploma. Adjunct courses may not be used to fulfill or substitute for required or option courses in any degree or program.

GENERAL
Non-core courses identified as freshman-sophomore courses.

OPEN
Occupationally specific courses corresponding to courses in certain professional programs at four-year institutions.

VOC/TECH
Occupationally specific courses

CORE
Traditional liberal arts courses in the first two years of a baccalaureate degree.

COLLEGE PREPARATORY
College preparatory and skill building courses. College Preparatory courses cannot be used to fulfill degree requirements.

(P/F)
Indicates courses taken pass/fail.

PREREQUISITES
Successful completion of a course or other criterion necessary for a student to succeed in a higher level course.

COREQUISITES
A course that must be taken concurrently with or prior to the course.

*An instructor may deny enrollment in or drop a student from a specific course if the course prerequisite has not been met.

Adjunct Courses cannot be used to fulfill or substitute for required or option courses in any degree or diploma program

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ACCT101   4 4 0 0 0
Principles of Accounting I   General
Introduces the student to the principles of accounting with emphasis placed on the users and uses of accounting information. The double-entry bookkeeping system is presented with a focus on the end result of the accounting cycle, the financial statement.

ACCT102   4 4 0 0 0
Principles of Accounting II   General
A continuation of Principles of Accounting I. Introduces accounting procedures related to corporations, manufacturing and branch operations. The course also includes an introduction to capital budgeting, analysis of financial statements and decision-making by managers. *Prerequisite: ACCT101*

ACCT103   4 4 0 0 0
Intermediate Accounting I   Open
Emphasis on theory, standards and principles—the "why" of accounting. The framework goes beyond the procedural level to the conceptual level. Topics include: preparation of income statements, balance sheets and related footnotes. Applicable FASB pronouncements are presented.
Prerequisite: ACCT102

ACCT104   4 4 0 0 0
Intermediate Accounting II   Open
Continuation of Intermediate Accounting I. Topics include: long-term debt, investments, equity, pensions, leases, accounting changes, earnings per share and accounting for inflation. *Prerequisite: ACCT103*

ACCT105   3 3 0 0 0
Nonprofit Accounting   Open
An introduction to the accounting and reporting principles, standards and procedures applicable to federal, state and local government. Also includes nonprofit institutions such as hospitals and universities. *Prerequisite: ACCT101*

ACCT203   4 4 0 0 0
Cost Accounting   Open
An introduction to accounting concepts of product costing systems. Topics include: classification of costs, process costing, job order costing, joint and by-product costs and standard cost systems with variable analysis. *Prerequisite: ACCT102*

ACCT206   3 3 0 0 0
Income Tax   Open
An introduction to personal income tax. Emphasizes computation of federal and state income taxes and preparation of tax forms. *Prerequisite: ACCT101 or ACCT301*

ACCT208 - Adjunct   3 2 2 0 0
Tax Assistance Institute   Voc/Tech
An opportunity to participate in a Volunteer Income Tax Assistance Program by applying classroom skills to actual experience. Includes training to provide community service of free tax assistance and preparation of basic tax returns for older, handicapped and low income taxpayers. *(P/F) Prerequisite: ACCT206*

ACCT301   3 3 0 0 0
Accounting Fundamentals   Open
An introductory course in accounting fundamentals and procedures. Includes capturing and analyzing business data and financial statement preparation.

ACCT308 - Adjunct   3 3 0 0 0
Managerial Accounting for Non-Accts   Voc/Tech
Managerial Accounting for Non-Accountants is a course designed to provide managers and supervisors with the basic skills essential for interpreting financial statements and financial performance measures. It also covers how the cost of a product or service is determined and the development and use of budgets.

ACCT309 - Adjunct   1 0 2 0 0
Computerized Personal Finance   Voc/Tech
Hands-on instruction using Quicken. Special features include check writing, balancing statements, preparing financial reports, tracking payments and trying "what if" scenarios with retirement, investments, etc.

ACCT310   3 3 0 0 0
Internal Auditing   Voc/Tech
Introduces the activities performed by auditors who function within an organization. Acquaints students with the methods, tools and techniques used by internal staff to evaluate the effectiveness and efficiency of operations. Special attention is given to internal control systems. *Prerequisite: ACCT102*

ACCT312   4 4 0 0 0
Accounting Information Systems   Voc/Tech
Identifies the information required by accountants as it relates to financial and managerial accounting. It provides an overview of systems design and development process. *Prerequisite: ACCT102, COMS181*

ACCT314 - Adjunct   3 3 0 0 0
Business Tax   Voc/Tech
This course provides an overview of the forms of business organization and the fundamentals of taxation for sole proprietorship, C corporations, S corporations, limited liability companies and partnerships. *Prerequisite: ACCT101*

ACCT315   3 3 0 0 0
Financial Analysis   Voc/Tech
An analytical study of accounting information and financial statements. The course focuses on financial ratio analysis that is used to interpret data and reports for financial decision making. *Prerequisite: ACCT101*

ACCT351   3 2 2 0 0
Financial Accounting/Computers   Voc/Tech
Emphasizes application of computerized financial software used in business. Topics include setting up a company, receivables, payables, inventory control, payroll, time tracking and job estimating. *Prerequisite: ACCT101 or ACCT301*

ACCT352   3 2 2 0 0
Excel for Accounting Principles   Voc/Tech
Microcomputer operations with an emphasis on financial and managerial uses. Includes topics in spreadsheet modeling, spreadsheet commands. *Prerequisite: ACCT101, COMS181*

ACCT390 - Adjunct   3 3 0 0 0
Auditing   Voc/Tech
An introduction to auditing concepts, internal control procedures, preparation of audit programs and working papers, application of methods and procedures for conducting an audit. The legal and ethical responsibilities of auditors. Preparation of audit reports. *Prerequisite: ACCT103*

ACCT395 - Adjunct   3 3 0 0 0
Treasury & Cash Management   Voc/Tech
Introduces the requisite skills and knowledge for entry-level positions in the treasury and cash management operation. Utilizes case studies and articles relevant to treasury management practice. Relates directly to accounting and financial management topics.

ACCT402   4 0 0 0 16
Accounting Internship   Voc/Tech
An opportunity to gain practical experience through on-the-job training in an approved business or governmental office. (P/F) *Prerequisite: Successful completion of 11 hours of ACCT courses Corequisite: ACCT404*

ACCT403   3 0 0 0 12
Accounting Internship   Open
An opportunity to gain practical experience through on-the-job training in an approved business or governmental office. (P/F) *Prerequisite: Successful completion of 11 hours of ACCT courses. Corequisite: ACCT404*

ACCT404   1 1 0 0 0
Accounting Career Seminar   Voc/Tech
Designed to provide in-depth discussion of accounting/bookkeeping/accounting technician work experiences. Prerequisite: Successful completion of 11 hours of ACCT credit courses; permission of the department and demonstrable job readiness with computer literacy. *Corequisite: ACCT403*

Course Descriptions

ACCT408   3 3 0 0 0
Accounting Professionalism   Voc/Tech
Covers all aspects of accounting career goal setting, developing prospective accounting employer lists, resume writing, job application forms, employment tests, personal appearance, interviewing, and follow-up. Instructs in meeting protocol according to Roberts Rules of Order. Covers meeting presentation skills and report writing. Discusses the duties of an accounting professional to the community. Reviews office etiquette and common professional courtesy. *(P/F)*

ACCT411   3 3 0 0 0
Payroll Accounting   Voc/Tech
Covers payroll laws, state and federal withholding taxes, state and federal forms, salary deductions including cafeteria insurance plans and pension plans and computerized payroll software packages.
Prerequisite: ACCT101 or ACCT301

ACCT430   4 3 2 0 0
Accounting Procedures/Mgmt   Voc/Tech
A project approach to accounting systems and records management. Includes topics in receivables, payables, banking records, planning and organizing; leadership, human relations and communications. *Prerequisite: ACCT101, BSAD223, BTEC324*

AGRI201   3 3 0 0 0
Feeding & Animal Nutrition I   Voc/Tech
The identification and study of feed ingredients, nutrients and additives. Determine feed requirements of various livestock classes. Ration balancing and feed formulation are computed.

AGRI202   3 2 2 0 0
Crop Scouting   Voc/Tech
The course develops an understanding of the factors which affect plant growth. Plant nutrients are considered as students gain experience in identifying major and micro nutrient deficiency symptoms in plants by means of soil tests, plant tests and observations.

AGRI203   3 3 0 0 0
Feeding & Animal Nutrition II   Voc/Tech
The practical application of feeding principles. An in-depth study of the various nutrients, their requirements and uses. An analysis of research feeding trials, research procedures and manufacturing terminology.
Prerequisite: AGRI201

AGRI204   3 3 0 0 0
Animal Science   Voc/Tech
An analysis of the livestock industry with emphasis on reproduction, inheritance, performance testing, selection and marketing.

AGRI206   3 3 0 0 0
Crop Management   Voc/Tech
An introductory course in the general principles of crop production and management. Major areas of study are food production, crop classification, plant growth factors, seed production and variety selection.

AGRI207   3 3 0 0 0
Livestock Disease Prevention   Voc/Tech
A survey of diseases of large domestic animals, including discussion of causes, transmission, prevention and control.

AGRI209   1 0 2 0 0
Soils Laboratory   Voc/Tech
An introductory course in soils and nutrients. A study of the physical, chemical and biological properties of soils. Also includes the study of nutrients, land measurement and environmental concerns and soil management.
Corequisite: AGRI219

AGRI216   3 3 0 0 0
Commodity Marketing   Voc/Tech
Focus on the futures market and how it can be used as a marketing tool. Major areas of study include hedging, speculation, price forecasting, spreading, technical and fundamental analysis. The use of options as an economical marketing tool will be covered.

AGRI217   3 2 2 0 0
Precision Agriculture Applications   Voc/Tech
This course is an introduction to the general principles of Precision Agriculture. Major topic areas will include Global Positioning Systems (GPS), yield mapping, Geographic Information Systems (GIS) and remote sensing equipment.

AGRI219   3 3 0 0 0
Soils & Fertilizers   Voc/Tech
An extended course in soils and fertilizers. A study of the physical, chemical and biological properties of soils. Also includes the study of fertilizers, their composition, manufacture and use. *Corequisite: AGRI209*

AGRI222   3 2 2 0 0
Survey of Aquaculture   Voc/Tech
A study of the ecology and management of aquaculture systems with emphasis on fish production. A focus on environmental issues relating to water quality will be implemented through laboratory exercises.

AGRI304   3 3 0 0 0
Swine Production & Management   Voc/Tech
The practical application of technical information to life-cycle swine production including production systems, breeding and genetics, herd health, housing, marketing, management and nutrition. *Prerequisite: Permission of instructor or AGRI201, 204*

AGRI305   3 3 0 0 0
Beef Production & Management   Voc/Tech
The practical application of technical information to life-cycle beef production with emphasis on cow-calf production and feedlot management. *Prerequisite: Permission of instructor or AGRI201, 204*

AGRI306   3 3 0 0 0
Advanced Crop Management   Voc/Tech
An advanced course using the problem solving approach to crop management. Principles and practices of agronomic science are used in the discussion of management problems related to corn, soybeans, forage, small grain, sorghum and alternative crops.
Prerequisite: Permission of instructor or AGRI202, 206, 219

AGRI322   3 3 0 0 0
Agri-Business Management   Voc/Tech
A study of the role and organization of several aspects of agribusiness including financial management and control, marketing, operation and resource management in agribusiness.

AGRI323   3 3 0 0 0
Farm Management   Voc/Tech
Includes management problem identification and solution using business and economic principles, enterprise and total farm budgeting, adjusting to uncertainty, investment decisions, farm business organization, farm records and business analysis.

AGRI333   3 3 0 0 0
Petroleum Products in Agriculture   Voc/Tech
Designed to acquaint students with the petroleum industry and its terminology. Major areas of study will be fuels and lubricants with emphasis on applications and selection, equipment operations, storage and handling procedures and federal regulations.

AGRI340   1 1 0 0 0
Veterinary Medical Terminology   Voc/Tech
This course covers the origins of common medical terms used in the veterinary field. Using analysis of the word parts, the students will be able to determine the definition of medical terminology. *Prerequisite: Instructor approval for program admission*

AGRI341   1 1 0 0 0
Intro to Veterinary Pharmacology   Voc/Tech
This course covers the laws regarding medication use in the United States and discusses the basic groups of pharmaceuticals and their use in veterinary medicine. This includes dosage calculations, proper labeling, storage, inventory control, record-keeping and dispensing of medications. *Prerequisite: AGRI340*

AGRI342   1 1 0 0 0
Intro to Veterinary Technology   Voc/Tech
This course introduces the basics of animal identification, husbandry, behavior, safety and health care to the student. Career opportunities in animal related fields are explored. The student will also complete the American Red Cross Animal First Aid and CPR certification. *Prerequisite: AGRI340*

AGRI343   3 2 2 0 0
Veterinary Anatomy and Physiology   Voc/Tech
Beginning anatomy and physiology with veterinary clinical emphasis. Provides the basis for study of conformation, production and pathological processes of diseases of dogs, cats, horses, sheep, cattle, swine and laboratory animals. *Corequisite: AGRI340*

AGRI344   3 2 2 0 0
Anesthesia and Surgical Assistance   Voc/Tech
This course is designed to introduce the student to the common surgical procedures performed in the veterinary clinic. Emphasis is placed on sanitation, patient observation, surgical preparation, assisting in anesthesia and post operative patient management. *Prerequisite: AGRI340*

AGRI345   3 2 2 0 0
Veterinary Clinic Pathology I   Voc/Tech
This course covers parasite identification and testing and various sample collections, procedures and interpretation for common diagnostic testing performed in the veterinary laboratory. *Prerequisite: AGRI340*

AGRI346   3 2 2 0 0
Adv Veterinary Anatomy Physiology   Voc/Tech
Studies anatomy and physiologic principles of domestic animals. Continuation of physiological principles of Animal Anatomy and Physiology. *Prerequisite: AGRI343*

AGRI347   3 2 2 0 0
Veterinary Clinical Pathology II   Voc/Tech
This course is designed to further the processes learned in the introductory class with introduction to advanced procedures.
Prerequisite: AGRI345

AGRI348   3 2 2 0 0
Veterinary Nursing Care   Voc/Tech
This course is designed to provide practice for the principles covered in prerequisite classes and to introduce advanced techniques and emergency handling. *Prerequisite: AGRI344*

AGRI349   1 1 0 0 0
Introduction to Animal Diseases   Voc/Tech
This course covers the disease processes, primary and contributing causes, treatments and prevention of common medical and surgical diseases in domestic animals.
Corequisite: AGRI340

AGRI350   2 1 2 0 0
Clinical Mgmt of Domestic Species   Voc/Tech
This course covers the management and husbandry of animals housed in a hospital or shelter situation. Proper kennel cleaning and disinfection, record keeping, monitoring of health parameters, nutrition, bathing, administration of common medications and diagnostic sampling. *Prerequisite: AGRI340*

AGRI351   2 1 2 0 0
Clinical Mgmt of Lab & Exotic Species   Voc/Tech
This course is designed to introduce the common species, husbandry procedures and basic nutrition, restraint and handling, common diseases, diagnostic procedures and medications used in various laboratory and exotic pet settings. *Prerequisite: AGRI340*

AGRI352   1 1 0 0 0
Advanced Veterinary Pharmacology   Voc/Tech
This course is designed to provide advanced knowledge in specific medication classification, usage and effects. *Prerequisite: AGRI341*

AGRI353   3 2 2 0 0
Large Animal Medicine and Surgery   Voc/Tech
This course is designed to introduce common species, husbandry and management procedures, proper restraint and handling, common procedures, medication administration and surgical concerns for common species of domestic large animals.
Prerequisite: AGRI344

AGRI354   2 2 0 0 0
Veterinary Radiology   Voc/Tech
This course is designed to introduce the student to radiologic imaging. Topics include safety, patient positioning, processing of film, proper machine use and quality control.
Prerequisite: AGRI353

AGRI411   3 3 0 0 0
Agricultural Economics   Voc/Tech
A study of economic principles and the application of these principles to the distribution of agricultural supplies.

Course Descriptions

AGRI421   3 3 0 0 0
Chemical Technology   Voc/Tech
Common features of pests, methods of control, how pesticides work, pesticide labels, application equipment, calibration, laws and regulation governing pesticide use.

AGRI430   2 0 0 0 8
Agribusiness Internship I   Voc/Tech
Students will have the opportunity to experience an agricultural career through participation in an internship experience. The internship will provide career exploration through a structured evaluation. *Prerequisite: AGRI204 or AGRI206*

AGRI431   1 0 0 0 4
Veterinary Assistant Internship   Voc/Tech
Students will have the opportunity to experience through participation an internship in a veterinarian related business. *Prerequisite: AGRI340, 341*

AGRI432   3 0 0 0 12
Veterinary Technician Internship   Voc/Tech
Internship experience within a veterinarian related business with emphasis on animal care procedures. *Prerequisite: AGRI348, 431*

AGRI436   2 2 0 0 0
Grain Management   Voc/Tech
Designed to acquaint the student with the complete cycle of grain from the farm to the country elevator. Major areas of study are the management of facilities, equipment, personnel and finances, warehouse requirements, grain grading, grain conditioning and grain inventory management.

AGRI455   2 0 0 0 8
Agribusiness Internship II   Voc/Tech
Students will have the opportunity to participate in an internship within the agribusiness industry. The internship may provide experiences within the agronomic, animal science, management, sales and service sectors that affect the food, fiber and environmental sciences. *Prerequisite: AGRI430*

ANTH120   3 3 0 0 0
Introduction to Anthropology   Core
This course is an introduction to the comparative study of humankind from biological and cultural perspectives. It surveys anthropological theory, methods and major findings regarding human origins and variations, cultural development and change, cultural systems and cross-cultural comparisons of people throughout the world.

ANTH121   3 3 0 0 0
Cultural Anthropology   Core
The application of anthropological theory and perspective to the comparison of different types of cultures throughout the world and to the analysis of contemporary human problems. Using ethnographic techniques, students conduct research on selected cultural aspects of the surrounding community.

ANTH126 - Adjunct   3 3 0 0 0
Faces of Culture   General
A television course in cultural anthropology which presents culture as the expression of human values, behavior and social organization existing in unique and varied forms throughout the world. The course focuses on culture as an adaptive mechanism which provides for the survival of the species.

ARCH410   2 2 0 0 0
Architectural Drafting I   Voc/Tech
An introduction to drafting and related equipment, along with a preliminary look at construction drawings and building codes.

ARCH420   2 2 0 0 0
Architectural Drafting II   Voc/Tech
Complete sets of residential working drawings involving plans, elevations, sections, details and schedules will be developed.
Prerequisite: ARCH410, ARCH460, CADD401

ARCH460   3 0 6 0 0
Architectural Drafting Lab I   Voc/Tech
Practical application of the basic skills of drafting involving the mechanics and the necessary thought process in developing a set of residential drawings.

ARCH461   3 0 6 0 0
Architectural Drafting Lab II   Voc/Tech
Practical application of architectural CAD techniques necessary to develop a set of residential drawings. *Prerequisite: ARCH410, ARCH460, CADD401*

ARCH462   2 2 0 0 0
Architectural Drafting III   Voc/Tech
Commercial building drawings will be developed in CAD. *Prerequisite: ARCH420*

ARCH463   3 0 6 0 0
Architectural Drafting Lab III   Voc/Tech
Involvement in the practical drawing of commercial buildings using architectural CAD techniques. *Prerequisite: ARCH461*

ARCH464   2 2 0 0 0
Construction Techniques I   Voc/Tech
An introduction to building materials through the Construction Specification Institutes' accounting and management systems.

ARCH465   2 2 0 0 0
Building Assemblies II   Voc/Tech
This course is a continuation of ARCH473 as an introduction to building assemblies and the relationship of materials within those assemblies. This course continues the focus on the assemblage of materials and is intended to expound upon the material investigation of ARCH470 and ARCH471.
Prerequisite: ARCH473

ARCH470   2 2 0 0 0
Construction Techniques II   Voc/Tech
An ongoing look into the Construction Specification Institute's system of categorizing building materials. *Prerequisite: ARCH464*

ARCH471   3 3 0 0 0
Construction Techniques III   Voc/Tech
Complete the Construction Specification Institute's uniform system of design.
Prerequisite: ARCH470

ARCH472   2 2 0 0 0
Construction Estimating   Voc/Tech
An orderly process of accounting for the items involved in the construction project.

ARCH473   2 2 0 0 0
Building Assemblies I   Voc/Tech
Introduction to building assemblies and the relationship of materials within those assemblies. This course focuses on the assemblage of materials and is intended to expand upon the material investigation of ARCH 464 and ARCH470.

ARCH475   2 2 0 0 0
Technical Report & Specs   Voc/Tech
A look into the building codes and contracts used in architecture as well as the technical section called specifications. Study material will include aspects for certification as C.S.I. Construction Document Technologist.

ARTS101   3 3 0 0 0
Art Appreciation   Core
A general survey course which explores in chronological sequence many artists, their lives, styles and media. The student will use art to recognize global cultural diversity and connect to universal human experience as expressed through art.

ARTS102   3 0 6 0 0
Fundamentals of Drawing   General
Lab study of tools and techniques necessary for entry level visual arts in drawing. Emphasis on still life using gesture, contour, shape, plane, volume and value/tonal techniques. Basic drawing skills with pencil, charcoal and eraser are explored.

ARTS103   3 0 6 0 0
Life Drawing   General
Drawing and painting a live model. Emphasis on structure, movement and expression.

ARTS104   3 0 6 0 0
Fundamentals of Painting   General
Acrylic painting with emphasis on still life, landscape and individual composition.

ARTS105   3 2 2 0 0
Art in the Elementary School   General
Designed for students in Education and Recreation to assist them with design, construction and planning of multi-art forms and materials for instructional situations.

ARTS109   3 3 0 0 0
Design: Exploring Art Media   General
An introduction to basic techniques in media such as papermaking, clay, fibers and soft sculptures. Students will explore variety of traditional approaches to express a contemporary vision.

ARTS111 - Adjunct   3 0 6 0 0
Landscape Painting   General
Landscape painting using any water based media. Study of the elements of art to aid in composition and development of a personal painting style. Field trips will be required.

ARTS112 - Adjunct   3 0 6 0 0
Introduction to Ceramics   General
Comprehensive "hands-on" introductory experience working clay. The discovery "process" of finding one's unique sense of touch is stressed. Fundamental techniques demonstrated in handbuilding and wheel-throwing. Concepts in ceramic art discussed, connecting cultures, artists and contemporary objects.

ARTS113 - Adjunct   3 0 6 0 0
Intermediate Ceramics   General
Series of forms, individual help from a professional artist. Topics in ceramics: the "figure," large-scale works, architectural terra-cotta restoration, outdoor claybodies, building slide portfolio, photographing work, shows and galleries. Kiln firing. Prerequisite: Instructor permission.

ARTS114 - Adjunct   3 0 6 0 0
Tilemaking   General
Design and fabricate tiles for specific applications, while emphasizing critical process of working with clay. Transforms 2-dimensional drawings to pieces in three dimensions. Study new theories in "Visual Communication".

ASDN228   5 3 0 6 0
Adult and Older Adult Health   Open
Focuses on holistic nursing care using the nursing process. Conditions affecting the health of adults and older adults and their influences on family are examined. Pathophysiology, collaborative care and the nursing roles of advocate and teacher are emphasized. The student practices in a variety of health care settings. *Prerequisite: BIOL132, 134, ENGL117, NURS224, 225, SPCH117,*

ASDN230   3 1 0 6 0
Nursing Management   Open
Allows the student to discuss issues then apply theoretical concepts of management with a group of clients, peers and subordinates. Communications within organizational structures, principles of conflict resolution, delegation, advocacy and collaboration with health care professionals will be emphasized. *Prerequisite: ASDN228, SOCY101*

ASDN231   3 1 0 6 0
Nursing Seminar   Open
Professional practice is emphasized through the study of professional issues and role development. Includes exposure to research and licensure issues. This course culminates in clinical preceptor and community based experiences which assist the student to formulate a philosophy of practice. *Prerequisite: ASDN228, SOCY101*

ASDN251   2 1 2 0 0
Professional Nursing Practice   Open
Introduces the role of the professional registered nurse, including comprehensive planning, client care management, collaborative relationships and performances of complex skills. *Prerequisite: NURS244, 245, 246, ENGL117, SPCH117, BIOL132 or BIOL149*

ASDN252   5 3 0 6 0
Family Health Nursing   Open
Provides an in-depth study of family health nursing, including childbearing, parenting, and illnesses of children and adolescents. Concepts of acute and chronic illness, disability and dying are included. *Prerequisite: NURS244, 245, 246; ENGL117, SPCH117, BIOL132 or BIOL149; Corequisite: ASDN251*

ASDN253   5 3 0 6 0
Mental Health Nursing   Open
Provides an in-depth study of mental health nursing, including mental health needs, mental illness, and addictive disorders. Communication and principles of group process are emphasized. *Prerequisite: NURS244, 245, 246, ENGL117, SPCH117, BIOL132 or BIOL149; Corequisite: ASDN251*

ASDN254   7 4 0 9 0
Adult Nursing   Open
Provides an in-depth study of nursing care and therapeutic interventions for adults with complex health problems. The student applies management, collaboration, and clinical decision making skills. *Prerequisite: ASDN251, 252, 253, SOCY101*

Course Descriptions

ASDN255   3 1 0 6 0
Nursing Seminar   **Open**
Emphasizes the transition from nursing student to entry-level professional nurse. Clinical preceptorship occurs in a variety of health care settings. *Prerequisite: ASDN254*

ASEP312   4 3 2 0 0
Specialized Electronics Training   **Voc/Tech**
A study of the electrical and electronics systems used in General Motors vehicles. The instruction includes fundamentals of electricity, series and parallel circuits, schematics, wire repair, diodes, transistors and microprocessors. *Prerequisite: Admission to Automotive Service Educational Program*

ASEP317   3 2 2 0 0
GM Shop Fund & Minor Service   **Voc/Tech**
A study of dealership organizational structure as it relates to the technician. Use of service manuals, electronic troubleshooting manuals and service bulletins are practiced. Also provides entry level automotive task competencies. *Prerequisite: Admission to Automotive Service Educational Program*

ASEP318   4 3 2 0 0
GM Steering/Suspension/Brakes   **Voc/Tech**
Instruction in the theory of operation and service procedures used in the maintenance and repair of General Motors steering, suspension and brake systems. *Prerequisite: Admission to Automotive Service Educational Program*

ASEP320   3 0 0 0 18
Technical Internship I   **Voc/Tech**
The technician will work in a participating dealership. The work will be full-time approximately 40 hours per week. The tasks will be consistent with the technician's ability and previous course work. A task list will be issued to each dealer. *Prerequisite: ASEP312, 317, 318*

ASEP326   3 2 2 0 0
GM Auto Air Conditioning Systems   **Voc/Tech**
Theory of operation of General Motors air conditioning systems leading to the diagnosis, service and repair of current models of GM vehicles. *Prerequisite: ASEP312, 317*

ASEP327   3 2 2 0 0
Minor Service/Repair-GM Engines   **Voc/Tech**
Principles of operation of General Motors engines. Minor service procedures and engine component repair or replacement will be emphasized. Will also include diagnostic procedures. *Prerequisite: ASEP317, AUTO464*

ASEP328   3 2 2 0 0
Diagnosis/Repair-GM Electrical Sys   **Voc/Tech**
Instruction in the diagnosis, repair and service of electrical and electronic components and accessories used on current GM vehicles. *Prerequisite: ASEP312, 317*

ASEP330   3 0 0 0 18
Technical Internship II   **Voc/Tech**
Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous course work. *Prerequisite: ASEP320, 328*

ASEP333   3 2 2 0 0
Major Service Procedures/GM Engines   **Voc/Tech**
Evaluating, reconditioning and replacing of major components of GM engines. Instruction will also include diagnostic routines. *Prerequisite: ASEP327*

ASEP336   3 2 2 0 0
GM Carb & Fuel Induction Sys   **Voc/Tech**
Theory of carburetion principles and current model fuel delivery systems to include diesel fuel systems, electromechanical carburetors and gasoline fuel injection. *Prerequisite: ASEP328*

ASEP337   4 3 2 0 0
GM Tune-Up Proc & Emission Con   **Voc/Tech**
Diagnosis and service of microprocessor controlled fuel and ignition systems. Oscilloscopes, engine analyzers, digital meters and other high technology instruments will be used. *Prerequisite: ASEP336*

ASEP340   3 0 0 0 18
Technical Internship III   **Voc/Tech**
Work experience at a sponsoring dealership. Tasks will be consistent with the technician's ability and previous course work. *Prerequisite: ASEP330, 344, 345*

ASEP344   4 2 4 0 0
GM Manual Drivetrains   **Voc/Tech**
Provides an understanding of the principles of operation in manual power trains including manual transmissions and transaxles, front and rear differentials, driveshafts and transfer cases. Proper diagnosis, service and repair procedures of these systems are studied and practiced. *Prerequisite: ASEP317, AUTO464*

ASEP345   4 2 4 0 0
GM Automatic Drivetrains   **Voc/Tech**
Provides an understanding of the principles of operation in automatic transmissions and transaxles, proper diagnosis, service and repair procedures of these systems are studied and practiced. *Prerequisite: ASEP317, AUTO464*

ASEP350   3 0 0 0 18
Technical Internship IV   **Voc/Tech**
Work experience at a participating dealership. Tasks will be consistent with the technician's ability and previous course work. *Prerequisite: ASEP340*

ASEP354   5 3 4 0 0
Advanced GM Motors Systems   **Voc/Tech**
Instruction in techniques and procedures required to diagnose and service current vehicles. New systems developed by GM will be included. *Prerequisite: ASEP350*

ASL-101   4 2 4 0 0
American Sign Language I   **Core**
This course is designed for students who have no knowledge of American Sign Language. Topics to be introduced include: ASL Linguistic features, cultural protocols and core vocabulary enabling students to function in basic ASL conversation: asking/answering questions, introductions and exchanging personal information, discussing family, friends and surroundings.

ASL-102   4 2 4 0 0
American Sign Language II   **Core**
This course expands the basic principles presented in ASL I. ASL II teaches students to use linguistic features, cultural protocols, and core lexical items to function in basic ASL conversations that include ASL grammar for giving directions, describing, making requests, talking about family, occupations and routines, and attributing qualities to others. *Prerequisite: ASL-101 or permission of instructor*

ASL-103   4 2 4 0 0
American Sign Language III   **Core**
This course expands the basic principles presented in ASL II. ASL III focuses on features of time, subject/object, classifiers, non-manual behaviors and fingerspelling (including numbers and loan signs). In addition, ASL semantics and syntax (including conversational regulators) will be introduced. *Prerequisite: ASL-102 or permission of instructor*

ASL-104   4 2 4 0 0
American Sign Language IV   **Core**
This course expands the principles presented in ASL III. This course focuses on different registers of ASL discourse and the use of space in discourse. Most of the work in this course will involve students' production of appropriate, accurate ASL discourse. Areas of vocabulary development include: contextually sensitive vocabulary (ex. human sexuality, AIDS), national and world events, politics. *Prerequisite: ASL-103 or permission of instructor*

ASM238   3 3 0 0 0
Financial Management in Aging Serv   **Open**
Emphasis on financial practices in organizations that provide health services to seniors. Review cost and labor hour controls, Excel spreadsheets, evaluation of profit/loss and fiscal reports will be addressed. It is suggested that students take ACCT101 or ACCT301 prior to this course.

ASM239   2 2 0 0 0
Information Systems in Health Care   **Open**
Emphasis will be placed on the analysis of health care information needs and the development of methods to meet these needs. Fundamental components of computers and computer systems will be examined, including specialized information management systems in health care.

ASM251   2 2 0 0 0
Governance of NF/SNF   **Open**
Emphasis on the changing dynamics of long-term care and the regulatory system. Special attention will focus on the federal and state regulations which govern the long-term health care services. This will include the agencies which originate, implement and monitor the regulations.

ASM252   2 2 0 0 0
Governance of Assisted Living   **Open**
An introduction to the assisted living facility mission, tenant care issues, management, staffing and organization. Includes topics in legislative changes and updates, governance, funding, grant writing landlord/tenant law, and licensure exam preparation.

ASM253   2 0 0 0 9
LTC Practicum: Psychosocial Needs   **Open**
During this practical experience, the student will investigate the policies, procedures, and techniques used to meet the psychosocial needs of clients residing in nursing care facilities. Special emphasis will be placed on the role and responsibilities of the administrator in assuring client psychosocial needs are met.

ASM254   2 0 0 0 9
LTC Practicum: Physical Needs   **Open**
During this practical experience, the student will investigate the policies, procedures, and techniques used to meet the physical and environmental needs of clients residing in nursing care facilities. Special emphasis will be placed on the role and responsibilities of the administrator in assuring client physical and environmental needs are met.

ASM255   2 0 0 0 9
LTC Practicum: Administration   **Open**
During this practical experience, the student will investigate the policies, procedures, and techniques used to meet the administrative and business needs of nursing care facilities. Special emphasis will be placed on the administrative style used by the administrator to carry out his/her rules and responsibilities.

ASM256   2 0 0 0 9
Agency Experience   **Open**
During this practical experience, the student will investigate a senior services agency. The student will identify the purpose of the business, client needs, funding, and techniques to evaluate the service delivery system. In addition, the student will pay special attention to the role and responsibilities of the administrator or manager in the operation of the agency.

ASM257   2 1 0 3 0
ASM Capstone   **Open**
A capstone is a culminating project that incorporates a student's learning from both classroom and practical experiences. The capstone should include a project of substantial administrative focus and be adapted to meet the student's own learning needs. Student will investigate potential capstone projects with instructor. This class is to be taken in the last semester of the program.

ASM274   3 3 0 0 0
Law & Ethics in Health Care   **Open**
An introduction to law and its relationship to health care services. The course is designed to provide a basic background in law and ethics by defining the law, the court structure and its procedures and exploring various legal and ethical issues relating to long term health care services.

ASM278   3 3 0 0 0
Management in Senior Care Services   **Open**
Relates fundamental management principles in the senior care setting. Focuses on management processes and organizational behavior in senior care organizations, healthcare facilities and other senior health servicesagencies.

ASM279   3 3 0 0 0
Health Care Human Resources   **Open**
Study of the policies, procedures and the processes in human resource planning. This would include securing, developing and maintaining human resources, labor laws and employee/management rights in health care services settings.

ASM280   2 2 0 0 0
Health Care Delivery Systems   **Open**
Provides a comprehensive overview of the health care delivery systems and services. Includes studies in access and financing health care services and evaluating the delivery of care.

Course Descriptions

Course Descriptions

ASM282   2 2 0 0 0
Aging Services   Open
Relates physical, psychological, and sociological needs of seniors to services provided in the continuum of care setting. Includes the services in a therapeutic milieu creating a home environment that includes: nursing, dietary, environmental, activities, and social services.

ASM283   2 2 0 0 0
Aging Policies & Gov Programs   Open
Class examines aging policies and government programs at the federal and state levels. Various agencies, advocacy groups, and funding sources are investigated.

ASM292   4 4 0 0 0
Activities in Long-Term Care   Open
This course is designed to prepare persons to work as activity coordinators in long-term care facilities. The course includes the knowledge and skills necessary to determine facility and resident needs and plan an activity program that will meet these needs. The course has been approved by the Iowa Dept. of Inspections and Appeals.

ASM295   3 3 0 0 0
Death and Dying   Open
An examination of death and the dynamics relating to the grief process, its foundational components, its varied characteristics and its impact upon the bereaved, with special emphases upon appropriate resolution and adjustment.

ASST312   5 3 4 0 0
Ford Automotive Electronics   Voc/Tech
A study of the electrical and electronics systems used in Ford Motor Company vehicles. The instruction will include fundamentals of electricity, series and parallel circuits, schematics, wire repair, diodes, transistors, microprocessors and digital displays. *Prerequisite: Admission to Automotive Student Service Ed Training*

ASST317   3 2 2 0 0
Ford Shop Fund & Minor Service   Voc/Tech
A study of dealership organizational structure as it relates to the technician. Use of service manuals, electronic troubleshooting manuals and service bulletins are practiced. Also provides entry level automotive task competencies. *Prerequisite: Admission to Automotive Student Service Ed Training*

ASST318   6 2 8 0 0
Ford Steering/Suspension/Brakes   Voc/Tech
Instruction in the theory of operation and service procedures used in the maintenance and repair of Ford Motor Company steering, suspension and brake systems. *Prerequisite: Admission to Automotive Student Service Ed Training, ASST328*

ASST320   3 0 0 0 18
Technical Internship I   Voc/Tech
Work experience at a sponsoring dealership. The tasks will be consistent with the technician's ability and previous course work. *Prerequisite: Admission to Automotive Student Service Ed Training, ASST312, 317*

ASST326   3 2 2 0 0
Ford Auto Air Conditioning Systems   Voc/Tech
Theory and operation of Ford Motor Company air conditioning systems leading to the diagnosis, service and repair of current models of vehicles. *Prerequisite: Admission to Automotive Student Service Ed Training, ASST328*

ASST328   5 3 4 0 0
Diagnosis/Repair Ford Elec System   Voc/Tech
Instruction in the diagnosis, repair and service of electrical and electronic components and accessories used on current Ford Motor Company vehicles. *Prerequisite: Admission to Automotive Student Service Ed Training, ASST312*

ASST330   3 0 0 0 18
Technical Internship II   Voc/Tech
Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous course work. *Prerequisite: Admission to Automotive Student Service Ed Training, ASST318, 320, 328*

ASST333   4 2 4 0 0
Ford Engine Diagnosis/Repair   Voc/Tech
Evaluating, reconditioning and replacing of major components of Ford Motor Company engines. Will include instruction in machining operations performed in Ford Motor Company dealerships. *Prerequisite: Admission to Automotive Student Service Ed Training, ASST317*

ASST336   3 2 2 0 0
Ford Fuel Systems and Injection   Voc/Tech
Theory of carburization principles and current model fuel delivery systems to include diesel fuel systems, feedback carburetors, gasoline fuel injection, electronic engine controls and Ford EEC specialist certification. *Prerequisite: Admission to Automotive Student Service Ed Training; ASST328; Corequisite: ASST337*

ASST337   4 3 2 0 0
Ford Tune-Up Proc & Emission Con   Voc/Tech
Diagnosis and service of microprocessor controlled fuel and ignition systems. Oscilloscopes, engine analyzers, digital meters and other high technology instruments will be used. *Prerequisite: Admission to Automotive Student Service Ed Training; ASST328; Corequisite: ASST336*

ASST340   3 0 0 0 18
Technical Internship III   Voc/Tech
Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous course work. *Prerequisite: Admission to Automotive Student Service Ed Training; ASST330, 326, 336, 337, PHYL401*

ASST344   2 1 2 0 0
Ford Driveline and 4X4 Diag/Repair   Voc/Tech
Students will study rear axle and differential design and operation, driveshaft construction, transfer case design and operation. Students will also perform diagnosis and repair operation of each. *Prerequisite: Admission to Automotive Student Service Ed Training*

ASST345   2 1 2 0 0
Ford Manual Transmissions   Voc/Tech
This course is the study of Ford manual transmissions design and operation and clutch systems. It will include diagnosis and repair of clutches and transmissions. *Prerequisite: Admission to Automotive Student Service Ed Training*

ASST346   4 3 2 0 0
Ford Transmissions & Transaxles   Voc/Tech
Standard and automatic transmissions and transaxles including all components in front and rear drive power trains and 4-wheel drive vehicles. *Prerequisite: Admission to Automotive Student Service Ed Training;*

ASST350   3 0 0 0 18
Technical Internship IV   Voc/Tech
Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous course work. *Prerequisite: Admission to Automotive Student Service Ed Training; ASST333*

ASST354   5 3 4 0 0
Ford Adv Engine Controls, Elect   Voc/Tech
Instruction in techniques and procedures required to diagnose and service current vehicles. New systems developed by Ford Motor Company will be included. *Prerequisite: Admission to Automotive Student Service Ed Training; ASST333, 343*

ATHL101   1 0 2 0 0
Varsity Men's Basketball   Open
Provides experience and instruction in Men's Basketball. Course is designed for the varsity athlete in terms of conditioning, practice, game preparation, and weight training. Limit of 1 credit per year, with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport. *Prerequisite: Permission of Head Coach*

ATHL102   1 0 2 0 0
Varsity Women's Basketball   Open
Provides experience and instruction in Women's Basketball. Course is designed for the varsity athlete in terms of conditioning, practice, game preparation, and weight training. Limit of 1 credit per year, with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport. *Prerequisite: Permission of Head Coach*

ATHL103   1 0 2 0 0
Varsity Men's Baseball   Open
Provides experience and instruction in Men's Baseball. Course is designed for the varsity athlete in terms of conditioning, practice, game preparation, and weight training. Limit of 1 credit per year, with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport. *Prerequisite: Permission of Head Coach*

ATHL104   1 0 2 0 0
Varsity Women's Volleyball   Open
Provides experience and instruction in Women's Volleyball. Course is designed for the varsity athlete in terms of conditioning, practice, game preparation, and weight training. Limit of 1 credit per year, with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport. *Prerequisite: Permission of Head Coach*

ATHL105   1 0 2 0 0
Varsity Women's Golf   Open
Provides experience and instruction in Women's Golf. Course is designed for the varsity athlete in terms of conditioning, practice, game preparation, and weight training. Limit of 1 credit per year, with a maximum of 2 credits total. Credit for a sport course may not be applied toward graduation if credit is also received for any skill technique course in the same sport. *Prerequisite: Permission of Head Coach*

AUTC403   1 1 0 0 0
Basic Shop Safety   Voc/Tech
A course designed to acquaint the student with the hazards in an auto collision facility. Emphasis on EPA regulations, OSHA guidelines and personal health and safety in the shop area.

AUTC405   5 2 6 0 0
Basic Shop Operations/Metal   Voc/Tech
Automobile design, the materials used in construction, collision and corrective forces and procedures for repair and services are analyzed through class and lab study. *Prerequisite: WELD468 must be taken concurrently with or prior to this course.*

AUTC408   5 3 4 0 0
Basic Shop Operations/Paint   Voc/Tech
This course will give the student an overall understanding of the complexities of today's auto refinishing. Developing industry standard preparation habits and spray painting skills with various chemicals will be studied.

AUTC410   2 1 2 0 0
Basic Estimating   Voc/Tech
Vehicle damage estimating skills are needed to provide a written report. This report can then be used as a repair guide, a legal document, an analysis report and for business evaluation. Ability to use estimating guides and write estimates accurately will be emphasized.

AUTC412   7 3 8 0 0
Get Ready for Paint   Voc/Tech
This course covers the application techniques and equipment used in auto collision repair shops for refinishing and will deal with potential problems with chemicals. Sheet metal and plastic parts repair and replacement in preparation for painting will also be studied in the lab. Shop and personal safety will be emphasized. *Prerequisite: AUTC408*

AUTC413   3 2 2 0 0
Plastic Repair & Refinishing   Voc/Tech
The wide variety of solid plastics, flexible panels, plastic compounds and fiberglass reinforced plastic panels now used in automobile manufacturing require separate repair procedures. Repair, replacement and refinishing of the substrates will be studied in classroom and lab. *Prerequisite: AUTC408*

Course Descriptions

AUTC414 2 1 2 0 0
Collision Analysis/Measuring Voc/Tech
Unibody design and construction has created a need for methods of damage analysis, gauging, measuring and sequencing total collision repair. This course emphasizes these new technologies.

AUTC420 6 3 6 0 0
Advanced Refinishing Voc/Tech
Industry application of colors and clear coats require the latest information on repair and re-finishing of today's vehicles. This course covers the latest manufacturer's preferred methods for repair using current colors and chemicals. Color matching will be emphasized. *Prerequisite: AUTC412, 413*

AUTC421 2 2 0 0 0
Adv Estimating/Ownership/Mgt Voc/Tech
Estimating, customer relations and service selling are all important skills of ownership and managership. Hand and computer estimates will be written. Labor, parts and material cost and profits will be studied. Customer and employee relations will be studied. *Prerequisite: AUTC410*

AUTC440 5 1 8 0 0
Frame/Unibody Structural Repair Voc/Tech
This course builds upon the knowledge and skill in previous auto collision courses to prepare the student to diagnose and repair conventional frame and unibody structural components. The theory and operating principles of unibody structural components will be emphasized. Lab instruction on late model vehicles will be included. *Prerequisite: AUTC414, WELD468*

AUTO464 3 2 2 0 0
Auto Measurement & Tools Voc/Tech
This course provides instruction in the correct selection and use of mechanic's tools and precision measuring devices. Shop safety will be emphasized.

AUTO466 4 2 4 0 0
Fuel Systems Voc/Tech
A course designed to acquaint the student with basic fuel system principles. Instruction will be offered in the theory, cleaning, repair and adjustment of automotive fuel systems.

AUTO469 3 1 4 0 0
Basic Automotive Electricity Voc/Tech
Provides instruction in theory and operation of automotive electrical circuits. Safety, meters and services information will be emphasized.

AUTO470 3 1 4 0 0
Advanced Automotive Electricity Voc/Tech
Provides instruction in the diagnosis, repair and service of electrical and electronic components found on current vehicles. *Prerequisite: AUTO469*

AUTO472 4 2 4 0 0
Auto AC & Heating Voc/Tech
Provides instruction in the theory of operation of auto air conditioning and heating systems as well as diagnosing and servicing automotive air conditioning and heating systems.

AUTO474 3 2 2 0 0
Automotive Engine Fundamentals Voc/Tech
A course to provide instruction in the theory and operation of the four stroke automotive engine. Emphasis will be placed on cylinder head service and repair. *Prerequisite: AUTO464*

AUTO476 6 3 6 0 0
Electronic Engine Controls Voc/Tech
This course builds upon the knowledge and skills in previous automotive courses to prepare the student to service electronically controlled vehicles. The theory and operating principles of automotive computers, sensors and control devices will be emphasized. Lab instruction on late model cars will be included. *Prerequisite: AUTO466*

AUTO478 4 2 4 0 0
Advanced Tune-Up Voc/Tech
Provides instruction in testing, diagnosis and repair of the automobile's ignition, electrical and fuel systems. Modern test equipment, procedures and technology are utilized. *Prerequisite: AUTO476*

AUTO479 2 1 2 0 0
Service Management Voc/Tech
Provides instruction in customer relations, service sales, shop management and business practices in the automotive shop.

AUTO482 3 1 4 0 0
Advanced Engines Voc/Tech
Provides instruction in proper diagnosis of engine malfunctions and repair or replacement of defective components and assemblies. Diagnosis procedures, repair and adjustment will be emphasized. *Prerequisite: AUTO474*

AUTO484 6 3 6 0 0
Basic Power Train Voc/Tech
Principles of operation and construction of automotive power trains. Includes instruction in the theory of hydraulic and mechanical systems used in automatic transmissions.

AUTO486 3 2 2 0 0
Basic Brakes Voc/Tech
Instruction in the theory of operation and service procedures of automotive brakes.

AUTO488 4 2 4 0 0
Basic Suspension/Alignment Voc/Tech
Instruction in the theory of operation and service procedures of automotive alignment and suspension systems.

AUTO490 6 2 8 0 0
Advanced Power Train Voc/Tech
The student will study power train and drive line systems. Proper diagnosis procedures, service and repair will be emphasized through hands-on experience. *Prerequisite: AUTO484*

AUTO492 5 2 6 0 0
Advanced Brakes & Alignment Voc/Tech
The student will study advanced brakes and alignment theory, practice proper diagnosis, service and repair procedures through hands-on experience. *Prerequisite: AUTO486, 488*

The following adjunct AVIA (aviation) courses are offered in a partnership with Des Moines Public Schools at their facility.

AVIA301 - Adjunct 2 1 2 0 0
Aircraft Materials and Processes Voc/Tech
This course involves basic materials and processes associated with aircraft. Areas of study will include precision measurement, testing of materials, inspection performance, heat treating, identification and installation of aircraft materials.

AVIA302 - Adjunct 2 1 2 0 0
Aircraft Drawings Voc/Tech
A course to develop understanding of aircraft drawings, symbols and system schematics. Blueprint information, graphing, charting and drawing will be topics covered as they relate to aircraft.

AVIA303 - Adjunct 3 1 4 0 0
Hydraulic & Pneumatic Power System Voc/Tech
This course will involve a complete study of the hydraulic and pneumatic systems contained within an aircraft. Components of each area will be covered to include identification, installation, repair, inspection, troubleshooting and replacement of the systems.

AVIA304 - Adjunct 5 3 4 0 0
Aircraft Structure & Repair Voc/Tech
A course for students in aviation which covers materials associated with the structure of the aircraft. Utilization of proper materials, repair, replacement, testing, finishing of metal and non-metal materials will be included in this course.

AVIA305 - Adjunct 1 0 2 0 0
Aircraft Welding Voc/Tech
This course covers applicable welding procedures associated with materials used to construct aircraft. Proper welding methods for various types of materials will be covered during the course.

AVIA306 - Adjunct 1 0 2 0 0
Engine Lubrication Systems Voc/Tech
This course covers engine lubrication systems associated with aircraft. Students will study lubrication systems while performing inspections, service, troubleshooting and repair of the system. System components will be repaired and serviced according to FAA regulations.

AVIA307 - Adjunct 2 1 2 0 0
Engine Fuel Metering Voc/Tech
A course designed to cover the fuel metering system of aircrafts. Topics include inspection service, troubleshooting, repair, replacement of various types of fuel metering systems.

AVIA308 - Adjunct 2 0 4 0 0
Airframe Fuel Systems Voc/Tech
This course covers fueling systems throughout the airframe of the aircraft. Topics include inspection, service, troubleshooting, repair and replacement of the system components.

AVIA309 - Adjunct 2 1 2 0 0
Landing Gear & Brake Systems Voc/Tech
This course involves a complete study of the landing gear and brake systems associated with aircraft. Areas of study include inspection, service, repair, troubleshooting and replacement of various types of landing gear and brake systems.

AVIA310 - Adjunct 1 0 2 0 0
Cleaning/Corrosion control Voc/Tech
This course encompasses cleaning and prevention of corrosion on the aircraft. Units of instruction will include identifying and selecting materials, inspecting, removing aircraft corrosion and performing aircraft cleaning.

AVIA311 - Adjunct 1 0 2 0 0
Induction Cooling Exhaust Voc/Tech
This course introduces students to the induction system and engine airflow systems of aircraft. Inspecting, troubleshooting, servicing and repairing engine ice and rain control systems will be covered. Heat exchangers, superchargers, turbine airflow and temperature control systems will also be covered with carburetors and manifolds.

AVIA312 - Adjunct 2 1 2 0 0
Airframe/Power Plant Inspection Voc/Tech
This course covers inspections related to aircraft engines and airframes. Airframe and engine conformity and airworthiness inspections will be units of instruction.

AVIA313 - Adjunct 3 1 4 0 0
Aircraft Assembly & Rigging Voc/Tech
This course will involve the study of aircraft components to include the following: Aircraft wing configuration flight theory, landing gear, aircraft maneuvers, structure alignments, assembly components, rigging, primary flight control surfaces, secondary flight control surfaces and aircraft jacking.

AVIA314 - Adjunct 1 0 2 0 0
Weight & Balances Voc/Tech
The student will be given instruction concerning aircraft specifications, aircraft weight and balance records, reading scales, recording weights, nomenclature and algebraic signs.

AVIA315 - Adjunct 1 1 0 0 0
Weather & Warning Systems Voc/Tech
This course will cover systems associated with positioning, warning and weather control. Topics covered will include: inspection, servicing, configuration, electrical brakes, antiskid systems, landing gear indicators and warning systems and airframe ice and rain control systems.

AVIA316 - Adjunct 1 0 2 0 0
Cabin Control Systems Voc/Tech
This course covers heating, cooling, pressurization, air cycling and oxygen systems.

AVIA317 - Adjunct 4 2 4 0 0
Aircraft Electrical Systems Voc/Tech
Electrical systems of aircraft will be covered in this course. Areas of study will include servicing of wire, controls, switches, indicators, protective devices, AC/DC electrical systems, constant speed and integrated speed drive generators, crimping, wiring inspection, repairing pins and sockets of aircraft connectors.

AVIA318 - Adjunct 3 1 4 0 0
Aircraft Ignition & Starting Voc/Tech
This course will provide a foundation in aircraft ignition systems and aircraft starting systems. Units will cover the magneto, ignition harness, reciprocating ignition systems and turbine ignition systems. *Prerequisite: AVIA 317*

AVIA319 - Adjunct 4 2 4 0 0
Aircraft Turbine Engines Voc/Tech
Course covers turbine engine overhaul, repair of turbine engines, installation of turbine engines, troubleshooting of turbine engines.

Course Descriptions

AVIA320 - Adjunct   2 0 4 0 0
Engine Electrical Systems   Voc/Tech
This course is a study of electrical systems of the aircraft engine. Units to be covered include troubleshooting, wiring, controls, switches, indicators, protective devices and component repair.

AVIA321 - Adjunct   8 2 12 0 0
Aircraft Engines Reciprocating   Voc/Tech
Aircraft engines which are reciprocating will be covered extensively. Units of instruction will include inspection and repairing of a radial engine, overhauling a reciprocating engine, service and repair of a reciprocating engine, engine installations, troubleshooting and removing reciprocating engines.

AVIA322 - Adjunct   2 1 2 0 0
Communication & Navigation Sys   Voc/Tech
Basic units will involve study of autopilot systems, servos system, approach coupling systems, navigation systems, electronic communication systems, antenna systems, static pressure systems, flight instrument systems and all position indicating systems.

AVIA323 - Adjunct   1 1 0 0 0
Fluid Lines & Fittings   Voc/Tech
Aircraft fluid lines and fittings will be covered in this course. Units of instruction will include rigid and flexible lines, fittings and their fabrication and installation.

AVIA324 - Adjunct   2 1 2 0 0
Regulations & Publications   Voc/Tech
Aircraft maintenance forms and records will be units of instruction. Additional units will include manual utilization. FAA regulations, airworthiness directives and mechanic privileges and limitations.

AVIA325 - Adjunct   1 0 2 0 0
Instruments Fire Protection   Voc/Tech
This course will cover aircraft instrument systems, engine fire protection systems and smoke and carbon monoxide detection systems.

AVIA326- Adjunct   3 1 4 0 0
Aircraft Propellers   Voc/Tech
Aircraft propellers will be the topic of the course. Units will include repair, types of propellers, governing systems, installation, removal, troubleshooting, repairing, synchronizing, lubricating, ice control systems and control system components.

AVIA327 - Adjunct   1 0 2 0 0
Ground Operations and Servicing   Voc/Tech
This course will cover aircraft ground operation and servicing. Units of instruction will include fuel selection, ground operation, servicing and securing aircraft.

BIOL111   1 1 0 0 0
Opportunities in Biology   General
An exploration of careers and advanced educational opportunities in the biological sciences at the local, state and national levels.

BIOL118   3 3 0 0 0
Environmental Conservation   Core
This course combines the basic principles of ecology with current environmental issues. Includes energy, land use, pesticides and pollution. Wildlife, fisheries, forestry, soil and water conservation practices are emphasized. Designed for the non-science major.

BIOL119   1 0 2 0 0
Environmental Conservation Lab   Core
Lab supplements discussion course BIOL 118. Lab includes measurement of soil nutrients and water pollutants. Selected field trips deal with soil conservation, wildlife management, wastewater treatment and other aspects of environmental conservation.
Prerequisite: Enrollment in or prior completion of BIOL118 or equivalent

BIOL126   3 2 2 0 0
Field Biology   Core
Field and laboratory studies of native plants and animals of Iowa. Emphasis is placed on ecological relationships. Selected field trips are conducted to forest, prairie, marsh and riparian habitats in the local area.

BIOL127   3 2 2 0 0
Human Biology   Core
A study of biology which emphasizes the human body. Topics such as the cell, basic chemistry, basic genetics and human ecology are included. Designed for the non-science and inadequately prepared health science major.

BIOL132   4 3 2 0 0
Health Science Microbiology   Open
Basic concepts and applications of medical microbiology. Topics include morphology and physiology of microorganisms, pathology, epidemiology and immunology. Designed for the health science major.
It is recommended that high school chemistry be taken prior to this course.
Prerequisite: H.S. biology or equivalent

BIOL133   3 2 2 0 0
Health Science Anatomy   Open
Offers the student basic concepts in human anatomical structure with relation to body functions. The course covers all major body systems with emphasis on structure. The accompanying lab will reinforce lecture with cat dissection. *Prerequisite: H.S. biology and chemistry or equivalent*

BIOL134   3 2 2 0 0
Health Science Physiology   Open
Detailed human physiology of the nervous, circulatory, respiratory, digestive, urinary and endocrine systems. Designed for the health science major. *Prerequisite: BIOL133 OR 154 or equivalent*

BIOL140   3 2 2 0 0
Introductory Biology   Core
Introduction to basic concepts in biology. Topics include biochemistry, cell structure and function, metabolism and energetics, classical and molecular genetics and the diversity of life at the organismal level. Biology, as an experimental science and biotechnology will be explored through laboratory experience.

BIOL141   4 3 2 0 0
Principles of Biology I   Core
First semester of biology for majors. Topics covered include: chemistry of life, cells, bioenergetics, genetics, evolution, viruses, prokaryotes and protists. *Prerequisite: H.S. biology and H.S. chemistry or equivalent*

BIOL142   4 3 2 0 0
Principles of Biology II   Core
Second semester of biology for majors. Topics covered include: fungi, plants, animals and ecology. It is recommended that BIOL141 be taken prior to this course. *Prerequisite: H.S. biology and H.S. chemistry or equivalent*

BIOL149   4 2 4 0 0
General Microbiology   Core
A general microbiology course with laboratory designed for the science major. Emphasis is placed on microbial morphology, physiology and genetics as well as virology and basic immunology. *Prerequisite: one semester of any college-level biology course*

BIOL150   1 0 2 0 0
Ecology Field Experience   General
This course involves an extended field trip to study unique natural ecosystems. Topics may include field studies of forest, prairie, wetland and wildlife ecology. May be taken twice for credit with permission of instructor.

BIOL154   5 3 4 0 0
General Anatomy & Physiology   Core
A classic integration of human anatomy and physiology at the cellular level and organ/system level. Includes cat dissection.
Prerequisite: H.S. biology and H.S. chemistry or equivalent

BIOL155   3 3 0 0 0
Ecology of Iowa   General
Surveys the major landforms of Iowa including the Mississippi River Valley, northern prairie lakes region, loess hills and southern hills area. Landforms are emphasized from the standpoint of climate, soils, geology, water resources, forestry, wildlife and environmental concerns. One Saturday field trip.

BIOL162   5 2 6 0 0
Cell and Molecular Biology   Open
Cell and Molecular Biology for Biotechnology majors. Topics covered include: immunochemistry; recombinant DNA methods and principles; the human genome project; protein analysis and characterization; and chromatography principles and methods. *Prerequisite: BIOL140, 141, 142, 149*

BIOL163   1 1 0 0 0
Topics in Biotechnology   Open
An exploration of recent advancements in biotechnology as well as current practices in research and development, manufacturing, quality control/quality assurance and safety. *Prerequisite: BIOL162*

BIOL165   3 3 0 0 0
Genetics   Open
An introductory genetics course for Biology and Biotechnology majors. Topics covered include: DNA and chromosome structure and function; Mendelian genetics; molecular genetics in eucaryotes, prokaryotes and viruses; recombinant DNA technology; gene expression; and the genetic basis of immunology. *Prerequisite: BIOL141 or BIOL149*

BIOL167   3 0 0 0 12
Biotechnology Internship   Open
This internship is the final requirement for completion of the Biotechnology AS degree requirements. It will be conducted in cooperation with potential employers. During this period, students will be expected to demonstrate their technical skills and practicum competencies in a professional manner, showing progressive independence, greater efficiency and confidence. *Prerequisite: permission of instructor*

BIOL172- Adjunct   3 2 2 0 0
Restoring Plant Communities   General
Introduction to restoration of native plant communities in Iowa. Identification of common native prairie, savanna, forest and wetland communities-common plants and animals. Identification of invasive plants. Field techniques for reestablishment and maintenance of native plant communities. Supervised field work at actual restoration sites. *Prerequisite: BIOL118, 119, 126 or instructor permission.*

BIOL260   3 3 0 0 0
Biology of Aging   General
This course is designed for individuals planning to work with the elderly population. The course describes changes that occur in body systems due to the normal aging process as well as some of the most common dysfunctions and diseases associated with aging. Furthermore, environmental factors, effects of diet and exercise in the aging process will be discussed.

BLDG451   5 5 0 0 0
Materials/Construction Theory   Voc/Tech
An introduction to the materials used in the construction industry and the methods involved in the application of these building materials.

BLDG452   7 0 15 0 0
Construction Techniques   Voc/Tech
A practical "hands-on" introductory experience that covers the construction process including rough and finish carpentry.

BLDG453   1 0 2 0 0
Care/Use of Hand/Power Tools   Voc/Tech
Proper care, use and selection of hand and power tools with an emphasis on maintenance and safety.

BLDG455   1 0 2 0 0
Construction Blueprint Reading   Voc/Tech
Fundamentals of blueprint reading designed to allow the student to translate plans into practical job experiences.

BLDG456   1 0 2 0 0
Materials Takeoff   Voc/Tech
A study of the techniques needed to create a materials list by reading a blueprint. Prerequisite: BLDG455 should be taken concurrently with or prior to this course.

BLDG461   4 1 6 0 0
Concrete Systems & Forming   Voc/Tech
An introduction to concrete as a material; concrete design, placement and finish. Identification and application of forming systems will be studied in the classroom and applied in the lab. *Prerequisite: BLDG453*

BLDG462   2 1 2 0 0
Construction Drafting & Design   Voc/Tech
An introduction to the fundamentals of design and basic drafting methods. Includes the preparation of the blueprint used to construct the student built project. *Prerequisite: BLDG455*

Course Descriptions

BLDG464   3 0 7 0 0
Interior Trim Practices   Voc/Tech
Advanced lab experience that emphasizes complex finish skills. The student will be able to demonstrate the skills and work habits necessary to complete tasks in a safe manner and to adapt previously learned skills to complete more complex building tasks. *Prerequisite: BLDG452*

BLDG480   5 0 10 0 0
Const. Procedure/Application I   Voc/Tech
This course includes footings, drainage, foundation, basement insulation and decking. (5 week session). *Prerequisite: BLDG451, 461, 464*

BLDG481   5 0 10 0 0
Const Procedure/Application II   Voc/Tech
Course includes exterior wall construction, interior wall construction, ceiling joist framing, rafter framing, exterior trim, window installation and roofing. (5 week session) *Prerequisite: BLDG480*

BLDG482   5 0 10 0 0
Const Procedure/Application III   Voc/Tech
Course includes concrete flatwork, insulation, drywall application, cabinet work and interior trim. (5 week session). *Prerequisite: BLDG481*

BLDM325   1 1 0 0 0
Boiler Room Maintenance   Voc/Tech
Boiler accessories, fittings, controls, water treatment and fundamentals for beginners.

BLDM326   2 2 0 0 0
Steam Plant Operations   Voc/Tech
High-pressure steam boilers, operation, controls, burning equipment instruments. *Prerequisite: BLDM325*

BLDM329   2 2 0 0 0
Basic Plumbing   Voc/Tech
Plumbing, plumbing components, plumbing codes and reading blueprints.

BLDM330   3 2 2 0 0
Industrial Plumbing and Pipefitting   Voc/Tech
A course in fundamental plumbing and pipefitting. Topics covered include the properties of torque, the use of torque and the application of torque; the development and use of piping schematics; elementary pipe layout and joint construction with various materials; the purpose, use, construction and operation of valves and process control equipment used in manufacturing.

BPQI400   3 3 0 0 0
Total Quality Management   Voc/Tech
The basis of this course is to provide an understanding of the principles and concepts of continuous improvement and the ability to apply them to an organization. Team concepts and the tools of SPC are also discussed.

BPQI401   3 3 0 0 0
Intro to Statistical Process Control   Voc/Tech
Introduction to the concepts of variability and statistical process control. The student will develop the ability to utilize the basic SPC tools, monitor and interpret charts and exercise statistical methods for continuous improvement.

BPQI402   3 3 0 0 0
Applications of Statistical Methods   Voc/Tech
An in-depth study in applying the concepts of BPQI 401. Additional areas of concentration include sampling plan theory, FMEA study, alpha and beta calculations, reliability values and applying these concepts in case studies. *Prerequisite: BPQI401*

BPQI403   3 3 0 0 0
Practices-Continuous Improvement   Voc/Tech
Course provides understanding of the theories, methods and concepts of continuous improvement. Includes detailed, in-depth study of current theories and practices used in business and provides the student with the knowledge to implement these techniques. *Prerequisite: BPQI400*

BPQI407   3 3 0 0 0
Teams & Teamwork   Voc/Tech
Study of the concepts of teams, teamwork, participation and work teams. The participant will develop the knowledge and ability to work in and develop a team and team environment. *Prerequisite: BPQI400, 401*

BPQI408   3 3 0 0 0
Intro to Quality Control Management Voc/Tech
This course provides the student with an in-depth knowledge of the skills, tools and management techniques unique to supervising and managing a quality function within an organization. *Prerequisite: BPQI401, 403*

BPQI411   1 1 0 0 0
Measuring Devices, SPC   Voc/Tech
An introduction to quality-control measuring devices, their use and application of data in Statistical Process Control.

BPQI412   2 2 0 0 0
Controlling Mfg. Business Costs   Voc/Tech
The purpose of this course is to provide an understanding of the principles and concepts of production and work costs, the cost impact of shop floor activities and the various contributions company employees have on costs and profitability. Emphasis is placed on the effect individuals have on costs on a day to day basis.

BPQI420   3 3 0 0 0
PM & Diagnosing Mech & Elec Sys Voc/Tech
Provide understanding in the concepts and methods of preventative maintenance. Includes the development of a maintenance and documentation system. Provide fundamental troubleshooting methods and concepts.

BSAD125   2 2 0 0 0
Statistical Business Applications   Open
This is the second course in the statistics sequence. Course content includes application and interpretation of probability and statistics as applied to business situations by using sampling, confidence intervals, control charges, simple linear regression analysis, multiple regression analysis, correction analysis, data analysis, time series analysis, hypothesis testing and computer analysis. Same content as MATH125, credit will not be granted for both BSAD125 and MATH125. *Prerequisite: BSAD152 or MATH121*

BSAD150   3 3 0 0 0
Intro to Business   General
An overview of the ever-changing world of business. Provides information in the areas of ownership, management, marketing, insurance, economic systems and finance as well as the role of government.

BSAD151   3 3 0 0 0
Personal Finance   Open
This course emphasizes family financial planning including financial statements, budgeting, taxes, risk management and retirement.

BSAD152   4 4 0 0 0
Business Statistics   Core
Tabular and graphical presentation, measures of central tendency and variability, standard elementary procedures involving the binomial, normal, student's t's, chi-squares and f distributions, correlation, regression, analysis of variance and several nonparametric procedures. Same content as MATH121, credit will not be granted credit for both BSAD152 and MATH121. *Prerequisite: 2 years of H.S. algebra or MATH094 or dept permission*

BSAD201   3 3 0 0 0
Principles of Banking   Open
This course surveys the banking functions. It provides a comprehensive introduction to the diversified services offered by the banking industry today.

BSAD223   3 3 0 0 0
Business/Financial Math   Open
Mathematical computations are reviewed and strengthened with emphasis on facility and accuracy. Includes topics in the mathematics of buying and selling, banking, payroll, markups and markdowns, discounts, interest, consumer math and other related business applications.

BSAD224   3 3 0 0 0
Introduction To Investments   Open
Provides basic information to familiarize students with various investments including securities, options, commodities, tax shelters and other investment alternatives. Topics include analyzing investment opportunities, review of risks and returns, averages and indexes and analyzing securities.

BSAD225   3 3 0 0 0
Principles of Insurance   Open
An introduction to managing risks and making the best use of insurance. Various forms of personal and property insurance coverages are introduced. Insurance coverages as they relate to both business operations and personal situations are discussed.

BSAD226   3 3 0 0 0
Principles of Real Estate   Open
Fundamental principles, economics, law, working concepts and terminology. Focuses on real estate law and assists those preparing for the apprentice salesperson examination.

BSAD243   4 4 0 0 0
Quantitative Methods   General
An introduction to management research methods which are used in business. Topics include probability, break-even analysis, inventory control, statistics and transportation models. *Prerequisite: MATH094*

BSAD255   3 3 0 0 0
Intro to International Business   Open
The International Business course is designed for students to understand the dynamics of global trade. This course examines the cultural, economic, legal, political, social and technological environment of international business. The course also provides an overview of marketing, management, distribution and job opportunities available for business students.

BSAD256   3 14 0 0
Virtual Business Firm   Open
The Virtual Business Firm is a virtual enterprise, set up and run by students to prepare them to work in a real-world business environment. With the instructor playing the role of facilitator, students determine the nature of their business incorporating all of the elements of a business plan, including company description, management and organizational structure, products and/or services, marketing and sales strategies, and financials within a global context. Students engage in daily operations running the virtual business, as if it were a real business, via a closed worldwide network of virtual business firms. *Prerequisite: All Business Administration or Entrepreneurship program required courses or instructor permission*

BSAD265   1 1 0 0 0
Investing in Financial Assets   Open
This course explores personal investment in financial assets. Investing in stocks, bonds and mutual funds is the focus of investigation. Concepts, techniques and strategies related to realizing financial goals with these types of assets are considered.

BSAD266   1 1 0 0 0
Investing in Real Assets   Open
Course analyzes procedures in residential real estate purchases. An evaluation of residential home, mobile home and condominium purchasing versus renting is discussed. Additional topics include investments in REITs, commercial property, undeveloped land, limited partnership, collectibles and gold.

BSAD267   1 1 0 0 0
Estate Planning   Open
The goal of this course is to establish a desirable and efficient dissolution of one's assets and liabilities at death. Course includes identifying goals for estate planning, both pre death and postmortem. Estate tax and gift tax issues are examined.

BSAD268   1 1 0 0 0
Long Range Financial Planning   Open
This course is designed to increase awareness of the need for identifying a desired retirement life-style within the context of the anticipated financial retirement inflows. Assessment will be made of retirement resources from employee, business and government sources. Individual retirement resource strategies are investigated. Health care and housing issues are examined.

BSEN229   3 3 0 0 0
Small Business Management   Open
Examines introductory business applications and strategies needed to start and operate a small business. Topics include: entrepreneurship preparation, idea feasibility, business plan content, introductory marketing, management and finance concepts for small business.

BSEN302   3 3 0 0 0
Small Business Management Strat   Voc/Tech
Emphasizes human resource concepts and their applications to small business operations. Leadership development, management styles and decision making strategies are stressed.

Course Descriptions

BSEN303   3 3 0 0 0
Small Business Marketing   Voc/Tech
Discussions and focus is on marketing applications. Workshops and strategies such as: market research, product development, pricing, distribution, promotion, marketing campaigns and budgets.

BSEN304   3 3 0 0 0
Small Business Start-Up   Voc/Tech
This course includes information, examples, forms and activities needed for business start-up and for development of a successful business operation. Topics include: market research and assessment; naming your business; finding a location; determining asset needs and forecasting sales; identifying job tasks and determining human resource needs; and writing a business plan.

BSEN305   3 3 0 0 0
E-Commerce on the Web   Voc/Tech
This course will introduce the student to the basic elements of electronic commerce. It will focus on business and technical issues faced by a company that enters into the e-commerce marketplace. Topics include products, advertising, resource requirements, third party options, technical and operational issues.

BSEN306   3 2 2 0 0
E-Commerce Website I   Voc/Tech
This course introduces the student to basic concepts, languages and tools used in the development of an e-commerce website. Student will identify effective design concepts and characteristics of successful websites. They will use current tools and techniques to design and create e-commerce website. *Prerequisite: COMS181 or BTEC355*

BSEN307   3 3 0 0 0
E-Commerce Website II   Voc/Tech
Introduces Dynamic HTML, cascading style sheets and XML, work with advanced features of Frontpage and will introduce another website development tool. P*rerequisite: BSEN306*

BSEP405   4 2 4 0 0
Basic GM Shop Operations/Metal   Voc/Tech
Automobile design, the materials in construction, collision and corrective forces and procedures for repair and services are analyzed through class and lab studies on GM vehicles. *Corequisites: AUTC403, HLCR314, WELD468*

BSEP408   3 2 2 0 0
Basic GM Shop Operations/Paint   Voc/Tech
Course will give an overall understanding of complexities of today's auto refinishing. Industry-standard preparation habits and spray painting skills with various chemicals used to refinish GM vehicles will be studied. *Prerequisite: AUTC403*

BSEP412   4 2 4 0 0
GM Refinishing Techniques   Voc/Tech
Course covers application techniques and equipment used in today's auto collision repair shops and deals with potential problems with chemicals when refinishing GM vehicles. Shop and personal safety emphasized. *Prerequisite: BSEP408*

BSEP413   2 1 2 0 0
GM Plastic Repair/Refinishing   Voc/Tech
This course covers the wide variety of solid plastics, flexible panels, plastic compounds and fiberglass reinforced plastic panels now used in manufacturing GM vehicles. Repair, replacement and refinishing of the substrates will be studied in the classroom and lab.

BSEP420   5 2 6 0 0
Advanced GM Refinishing   Voc/Tech
This course covers the latest preferred methods for repair and refinishing using current colors and chemicals. Color matching, mixing and blending will be emphasized. *Prerequisite: BSEP413*

BSEP421   2 2 0 0 0
Adv. GM Estimating/Managership   Voc/Tech
This course covers estimating skills, customer and employee relations and service selling techniques for business ownership and management. Labor, parts, material cost and profits will be studied. Hand and computer estimates will be written. *Prerequisite: AUTC410*

BSEP440   5 2 6 0 0
GM Unibody Structural Repair   Voc/Tech
This course builds upon the knowledge and skills developed in previous auto collision courses to prepare the student to diagnose and repair unibody structural components. The theory and operating principles of unibody structural components will be emphasized. Lab instruction on late model GM vehicles will be included. *Prerequisite: AUTC414, BSEP405, WELD468*

BSEP450   3 0 0 0 18
Internship I   Voc/Tech
Work experience at a participating dealership or body shop. *Prerequisite: AUTC403, 410, BSEP405, 408, HLCR314, UPHL433, WELD468*

BSEP460   3 0 0 0 18
Internship II   Voc/Tech
Work experience at a participating dealership or body shop. *Prerequisite: BSEP412, 413*

BSEP470   3 0 0 0 18
Internship III   Voc/Tech
Work experience at a participating dealership or body shop. *Prerequisite: BSEP420, 421*

BSEP472   4 3 2 0 0
A/C & Heating Systems   Voc/Tech
This course provides instruction in the theory of operation of auto air conditioning and heating systems as well as diagnosing and servicing automotive air conditioning and heating systems.

BSEP480   3 0 0 0 18
Internship IV   Voc/Tech
Work experience in a participating dealership or body shop. *Prerequisite: AUTC414, BSEP440*

BTEC204   3 2 2 0 0
Office Procedures   Voc/Tech
Office Procedures is the integration of knowledge and skills needed to function in an office environment. Topics include telecommunication techniques, components of customer relations and various responsibilities of the administrative assistant. *Prerequisite: BTEC205, 305*

BTEC205   3 3 0 0 0
Business English   Voc/Tech
The fundamentals of proofreading grammar, spelling, punctuation, word usage, capitalization, abbreviations and number usage.

BTEC206   3 3 0 0 0
Business Correspondence Tech   Voc/Tech
Principles and procedures of effective business communication. The student is required to be computer literate as computer software programs are used to develop communication skills for office correspondence and presentations. Recommend keyboarding skills of at least 25 NWPM. *Prerequisite: BTEC205, 355*

BTEC207   3 2 2 0 0
Administrative Office Applications   Voc/Tech
This course incorporates simulated office activities into realistic workplace integration. Students use integrated software to complete specialized tasks. Workplace basic skills including interpersonal skills, communication, teamwork, creative thinking and problem solving will be developed.
Prerequisite: BTEC204, 356

BTEC221   3 3 0 0 0
Medical Terminology I   Voc/Tech
Builds a medical vocabulary through an understanding of anatomic roots for words denoting body structures, prefixes, suffixes and body functions.

BTEC222   3 3 0 0 0
Medical Terminology II   Voc/Tech
Continues to build a medical language vocabulary by studying body systems such as musculoskeletal, endocrine, nervous and integumentary systems. *Prerequisite: BTEC221*

BTEC223   3 2 2 0 0
Medical Transcription III   Voc/Tech
A continuation of Medical Transcription II. Concentrates on transcription of case histories and physicals, discharge summaries and operative reports with a variety of dictating styles. *Prerequisite: BTEC431*

BTEC305   4 2 4 0 0
Word Processing Skill Dev I   Voc/Tech
Review of alphabetic and numeric keyboard reaches using a computer. Develop a strong keyboarding foundation using the touch method while utilizing correct techniques. Introduces fundamental word processing functions. Instruction covers word processing concepts, terminology, features and other related skills. Must key at least 25 NWPM for 3 minutes

BTEC306   3 2 2 0 0
Word Processing Skill Dev II   Voc/Tech
Emphasis on developing speed, accuracy and proofreading techniques in preparation of business documents using word processing software. Students develop a broader understanding of software capabilities as they continue to study concepts, vocabulary and additional features. Continued development of speed and accuracy is emphasized.
Prerequisite: BTEC305 or 325

BTEC312   3 0 6 0 0
Data Entry   Voc/Tech
Competency based course to give students an introduction to current practices, equipment and various job related applications in data entry. The main focus is on speed and accuracy in entering data in a terminal. Recommend keyboarding skills of at least 30 NWPM

BTEC320   3 3 0 0 0
Human Body-Health and Disease   Voc/Tech
Designed to provide specialized knowledge of the human body relating to disease processes and possible methods of treatment. Includes CPR training. Drug terminology is added, as well as basic knowledge of symbols and abbreviations. *Prerequisite: BTEC221*

BTEC324   1 0 2 0 0
Office Calculators   Voc/Tech
Electronic calculator operations. Emphasis on speed and accuracy. Includes topics in addition, subtraction, multiplication and division; also the use of constants, chain computations and prorations.

BTEC325   3 2 2 0 0
Medical Computer Applications   Voc/Tech
This course presents basic word processing, computer language and applications, including medical management software required in various medical settings. Theory and hands-on experience will be included.

BTEC326   3 3 0 0 0
Medical Insurance   Voc/Tech
Course provides a practical approach in medical insurance billing. Emphasis placed on current procedural codes (CPT-4) and international classification of diseases codes (ICD-9-CM) used to facilitate proper coding in submitting claims. Pertinent billing tips will be offered for each type of insurance.
Prerequisite: BTEC221

BTEC328   4 0 0 0 16
Internship for Medical Secretaries   Voc/Tech
Work in a medical facility to learn the many office procedures and policies as they exist in a job situation. *(P/F) Prerequisite: BTEC222, 320, 431, 433*

BTEC329   1 0 2 0 0
Keyboarding I   Voc/Tech
Basic instruction on a personal computer to learn the touch system for the alphabetic keyboard, number keyboard and ten-key numeric pad.

BTEC331   3 3 0 0 0
Legal Terminology   Voc/Tech
Provides training in spelling, defining and pronouncing terms common in the legal field.

BTEC335   1 0 2 0 0
Excel-An introduction   Voc/Tech
Orientation to Excel. Topics include spreadsheet layout and terminology, charting, enhancing a worksheet and chart. Designed for beginning users of Excel.

BTEC349   1 0 2 0 0
WORD   Voc/Tech
Hands-on instruction using Word in the Windows environment. Special features include working with windows, speller , Thesaurus, merge and sort.

Course Descriptions

BTEC350   1 0 2 0 0
PowerPoint   Voc/Tech
Introduction to presentation software. Topics include creating, enhancing, embellishing and illustrating a presentation with charts, graphs, special effects; converting existing material, printing presentations, speaker's notes and handouts.

BTEC351   1 0 2 0 0
Access   Voc/Tech
Introduction to Access database management system. Topics include creating, editing, querying, using forms, reports, customizing and managing data and files.

BTEC352   1 1 0 0 0
CPS Review Sec. I-Economics & Law Voc/Tech
Section I assists students to pass part one of the Certified Professional Secretary Examination by reviewing economic, accounting and business law fundamentals. In addition to 1 hour of credit, students will be awarded 1.5 CEUs.

BTEC353   1 1 0 0 0
CPS Review Sec. II - Office Systems Voc/Tech
Section II assists students to pass part two of the Certified Professional Secretary Examination by reviewing office technology, administration and communications. In addition to 1 hour of credit, students will be awarded 1.5 CEUs.

BTEC354   1 1 0 0 0
CPS Review Sec. III - Management   Voc/Tech
Section III assists students to pass part three of the Certified Professional Secretary Examination by reviewing behavioral science in business and human resource management. In addition to 1 hour of credit, students will be awarded 1.5 CEUs.

BTEC355   3 2 2 0 0
Computer Applications   Voc/Tech
The focus of this course is to use computer hardware and software as business productivity tools. Training includes a hands-on introduction to computer applications vital in today's business and industry. Course covers operating system, e-mail, internet, word processing, spreadsheet, database and presentation applications.

BTEC356   3 2 2 0 0
Advanced Computer Applications   Voc/Tech
Develop a proficiency in decision-making using computer software applications. Producing final documents for real business applications such as file integration, on-line forms, linked spreadsheets and desktop publishing are emphasized. *Prerequisite: BTEC355 or COMS181*

BTEC357   3 3 0 0 0
Emerging Technologies   Voc/Tech
Students will explore changing trends in peripheral equipment and software, review technology within the framework of today's business environment and analyze the future of hardware and software usage in various business fields.

BTEC358   3 2 2 0 0
PC Desktop Publishing Principles   Voc/Tech
In a PC environment, use image enhancement software such as Adobe Photoshop to manipulate photo and graphic files. Apply principles of desktop publishing in the development of publications using software such as Microsoft Publisher. Convert files into web-ready format. *Prerequisite: BTEC355 or COMS181*

BTEC359   2 2 0 0 0
Project Management Basics   Voc/Tech
This class teaches basic project management theory using project management software. The student will learn to use software to create projects, organize schedules, customize reports, plus work with calendars, multiple projects, evaluate and adjust resources, costs and time factors.

BTEC360   3 2 2 0 0
Post Adv. Computer Applications   Voc/Tech
Covers post-advanced applications using Microsoft Office. Working with master documents, creating index and table of contents from long reports, creating online forms, learning to use auditing and data validation tools, customizing forms and administrating a database, and creating complex presentations are emphasized. *Prerequisite: BTEC356*

BTEC405   3 3 0 0 0
Professional Development   Voc/Tech
Designed to make students aware of their personal strengths and identify areas for improvement. Concentrates on helping students develop marketable personal and professional skills. Presents strategies to assist students in maintaining employment and in demonstrating a professional image and work behavior.

BTEC410   2 0 0 0 8
Office Internship   Voc/Tech
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills and knowledge. *(P/F) Prerequisite: BTEC205, 305, 355; Corequisite: BTEC411*

BTEC411   1 1 0 0 0
Office Seminar   Voc/Tech
An examination of topics relevant to the office internship experience, sharing work place problems encountered and the solutions found to those problems. *Prerequisite: BTEC205, 305, 355; Corequisite: BTEC410*

BTEC430   3 2 2 0 0
Medical Transcription I   Voc/Tech
Designed to prepare the student to transcribe from physician dictation. The course covers the various medical specialities and introduces the student to a variety of formats for medical materials. *Prerequisite: BTEC205, 221, 325 and 329 must be taken concurrently with or prior to this course.*

BTEC431   3 2 2 0 0
Medical Transcription II   Voc/Tech
A continuation of Medical Transcription I. *Prerequisite: BTEC430*

BTEC433   3 3 0 0 0
Medical Techniques   Voc/Tech
A study of medical science, ethics and medical law. Various management duties and responsibilities, such as filing, insurance processing, mail schedules, computerized accounting and telephone procedures. *Prerequisite: BTEC221, 306*

BTEC434   3 3 0 0 0
Building Customer Service Skills   Voc/Tech
Designed to make students aware of the value and reliance that a company places on their Customer Service Representative. Emphasis is placed on developing skills that enable students to effectively work with external as well as internal customers. Self-management techniques are also included to enhance the retention of a positive attitude in the workplace.

BUSL101   3 3 0 0 0
Business Law I   General
Provides introductory overview of the sources of law of the American legal system, the structure of the court systems, torts, contract law and sales law.

BUSL102   3 3 0 0 0
Business Law II   General
Provides an overview of negotiable instruments, debtor/creditor law (collecting judgments,) secured transactions, agency relationships and selecting the right business formation. *Prerequisite: BUSL101*

BUSL301 - Adjunct   3 3 0 0 0
Legal Aspects of Management   Voc/Tech
Provides an overview of the history, structure and principles of our legal environment with special emphasis on managerial issues such as product liability, discrimination law, employment law and environmental law.

BUSL310   2 2 0 0 0
Basic Law for the Entrepreneur   Voc/Tech
This course is designed to acquaint business students and those currently involved in operating small businesses with the general areas of law that may be problematic for the entrepreneur and create risks resulting in lawsuits.

BUSL312   3 3 0 0 0
Law of Purchasing & Sales   Voc/Tech
This course covers U.C.C. Article 2, Sales of Goods: relationship of agents and employers, creation of sales-purchase contracts and the performance and remedies of buyer and seller. *Prerequisite: BUSL101*

BUSL345 - Adjunct   1 0 2 0 0
Legal Study Tour   Voc/Tech
The student will participate in a supervised study tour in which time will be spent touring a government center to view how the government runs, including the history of this country to current legal policies and procedures. *Prerequisite: BUSL101*

CADD401   3 2 2 0 0
Intro to Computer Aided Drafting   Voc/Tech
This course will introduce the student to computer-aided drafting and design. Basic computer hardware, software and operating systems will be discussed. Basic two-dimensional CADD drawing creation and editing techniques will be covered. Drawings will be created and plotted. *Prerequisite: Basic computer literacy*

CADD402   3 2 2 0 0
Intermediate CADD-Mechanical   Voc/Tech
This course will introduce the student to advanced computer-aided drafting and design applications. Program customization, file manipulation/translation and library creation/usage will be covered. Three-dimensional concepts will be discussed. *Prerequisite: CADD401*

CADD403   3 2 2 0 0
Intermediate CADD-Architectural   Voc/Tech
This course will apply architectural drafting practices to the CADD environment. Two-dimensional plans (including plumbing, HVAC, electrical, etc.) will be developed. Site plans and presentation are some of the topics that will be discussed. *Prerequisite: CADD401*

CADD404   3 2 2 0 0
Computer Aided Design/Analysis   Voc/Tech
This course will introduce the student to analysis of simple structures. Basic statics will be taught. Analysis will be taught and then verified using analysis software in conjunction with CAD. *Prerequisite: CADD402*

CADD405   3 2 2 0 0
Introduction to CAD/CAM   Voc/Tech
The objectives of this course will be to apply Computer Aided Design software and Computer Aided Manufacturing software for the purpose of generating computer assisted part programs for computer numerically controlled (CNC) machine tools .

CADD410 - Adjunct   3 2 2 0 0
Introduction to Multimedia   Voc/Tech
Basic three dimensional concepts and applications are covered. Rendering, animating and application of basic color manipulation are discussed and used. *Prerequisite: CADD401*

CADT406   3 2 2 0 0
Networking Systems Involving CAD Voc/Tech
Network system key features and functionality will be covered. System file management will be addressed. Operating systems and hardware will be examined. Relationships between computer hardware and software will be taught.

CADT410   6 4 4 0 0
CAD Graphics I   Voc/Tech
Drawing formats, geometric construction and lettering will be taught on computer-aided drafting (CAD) software. Drafting standards will be covered. CAD operations and commands will be addressed. Sketching and fundamentals of orthographic projection are stressed. Prints will be prepared. *Prerequisite: COMS181 or Equivalent*

CADT411   6 4 4 0 0
CAD Graphics II   Voc/Tech
Advanced geometric description applicable to all fields of drafting will be emphasized. Auxiliary views will be created. Descriptive geometry principles will be examined. Intermediate and advanced dimensioning techniques will be covered including dimensional tolerance analysis. CAD applications will be taught. *Prerequisite: CADT410, MATH410*

Course Descriptions

CADT412   **3 2 2 0 0**
CAD Applications I   **Voc/Tech**
Mechanical components and processes that are used in product design will be covered. Geometric dimensioning and tolerancing will be taught. Preparation of welding drawings will be presented with the emphasis on proper usage of American Welding Society symbols. Precision bending of sheet metal will be covered. *Prerequisite: CADT411, MATH411*

CADT415   **3 2 2 0 0**
Engineering Disciplines & Practices   Voc/Tech
Types of engineering disciplines and their application of drawings will be examined. Drawing styles, engineering units and professional standards (ANSI, ASME, etc.) will be covered. *Prerequisite: CADT405, 410*

CADT420   **3 2 2 0 0**
MicroStation CAD   **Voc/Tech**
This course will introduce the student to MicroStation CAD software. Basic two-dimensional CAD drawings will be taught. Drawings will be created and plotted. *Prerequisite: CADT406, CADT410*

CADT425   **3 2 2 0 0**
Applied Materials and Processes   Voc/Tech
Standard industrial raw materials and forming processes will be examined. Students will see various machining, forming and welding operations. Field trips to industry will be offered.

CADT426   **3 2 2 0 0**
Parametric CAD I   **Voc/Tech**
Parametric solid model CAD basics will be taught. Parametric concepts with design intent will be covered. Solid CAD models will be built and edited. Mechanical assemblies will be created. Part and assembly drawings with part lists will be created and plotted. *Prerequisite: CADT411, 425, MATH411*

CADT428   **3 2 2 0 0**
Intro to Finite Elementary Analysis   Voc/Tech
This course will introduce CAD students to analysis of simple structures. Analysis shall be examined then verified using computer analysis software in conjunction with CAD. Basic engineering statics will be taught. *Prerequisite: CADT411, 412, 426, MATH411*

CADT431   **3 2 2 0 0**
Manufacturing Interfaces   **Voc/Tech**
Computer interfaces between manufacturing and engineering will be the primary focus of the class. File exchange formats, data compilation and machining interpretation of the model file will be addressed. Tool path generation and robotic controls will be discussed. Manufacturing system integration will be covered. *Prerequisite: CADT405, MATH410*

CADT432   **3 2 2 0 0**
CAD Applications II   **Voc/Tech**
Precision bending of sheet metal will be covered. Students will gain knowledge of heating, ventilation and air conditioning (HVAC) applications and HVAC CAD symbology. Hydraulic systems and applications will be addressed. Hydraulic symbology will be covered. Mechanical power transmission will be a subject of study. Bearings, bearing seals and sealing systems will be addressed. *Prerequisite: CADT412, MATH411*

CADT451   **3 2 2 0 0**
Mechanical Systems   **Voc/Tech**
Standard and non-standard fastening systems will be examined. CAD part libraries and applications will be covered. Basics of power train/mechanical components will be introduced. Mechanical bearings and hydraulic/pneumatic sealing systems will be addressed. *Prerequisite: CADT411, MATH411*

CADT461   **4 2 4 0 0**
Design Project I   **Voc/Tech**
Detailing individual parts, types of assembly drawings and parts lists will be covered on an individual basis. The design process and procedures will be discussed. The student shall conform to industry standards for their design project. *Prerequisite: CADT411, 415, 425, MATH411*

CADT462   **3 2 2 0 0**
Parametric CAD II   **Voc/Tech**
Parametric solid model CAD intermediate commands will be taught. Parametric concepts with design intent will be covered. Solid CAD models will be built and edited. Mechanical assemblies will be created. Part and assembly drawings with part lists will be created and plotted. *Prerequisite: CADT412, 461, MATH411*

CADT463   **5 2 6 0 0**
Design Project II   **Voc/Tech**
Continuation of CADT461, Design Project I. Detailing individual parts, types of assembly drawings, and parts lists will be covered on an individual basis. Design process and procedures will be discussed. The student shall conform to industry standards for their design project. *Prerequisite: CADT412, 451, 461*

CAP-312   **4 2 4 0 0**
Chrysler Electrical/Electronics **Voc/Tech**
A study of the electrical and electronics systems used in Chrysler vehicles. The instruction will include fundamentals of electricity, magnetism, series, parallel, series-parallel circuits, service information, wire repair, diodes, transistors and microprocessors. *Prerequisite: Admission to CAP- (Chrysler Automotive Program)*

CAP-317   **4 3 2 0 0**
Shop Fundamentals & Minor Service Voc/Tech
A study of dealership organizational structure as it relates to the technician. Use of service manuals, electronic troubleshooting manuals and service bulletins are practiced. Also provides entry level maintenance related to automotive task competencies. *Prerequisite: Admission to CAP- (Chrysler Automotive Program)*

CAP-318   **4 3 2 0 0**
Basic Brakes   **Voc/Tech**
Instruction in the theory of operation and service procedures of Chrysler brakes. *Prerequisite: Admission to CAP- (Chrysler Automotive Program)*

CAP-320   **3 0 0 0 18**
Technical Internship I   **Voc/Tech**
The technician will work in a participating dealership. The work will be full-time approximately 40 hours per week. The tasks will be consistent with the technicians ability and previous course work. A task list will be issued to each dealer. CAP-328 and CAP-329 are required the same semester.

CAP-328   **4 3 2 0 0**
Chrysler Electrical Systems Repair **Voc/Tech**
Instruction in the diagnosis, repair and service of electrical and electronic components and accessories used on current Chrysler vehicles. *Prerequisite: CAP-312, MATH410*

CAP-329   **3 1 4 0 0**
Chrysler Steering & Suspension   **Voc/Tech**
Instruction in the theory of operation and service procedures of Chrysler steering and suspension systems. *Prerequisite: CAP-317, CAP-318*

CAP-330   **3 0 0 0 18**
Technical Internship II   **Voc/Tech**
Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous course work. *Prerequisite: CAP-328, 329*

CAP-335   **5 3 4 0 0**
Service/Repair Chrysler Engines **Voc/Tech**
Principles and operation of Chrysler engines. Service procedures and engine component repair or replacement will be emphasized. Diagnosis of engine problems will also be covered. *Prerequisite: CAP-317*

CAP-336   **3 1 4 0 0**
Chrysler Fuel systems   **Voc/Tech**
A course designed to acquaint the student with basic fuel system principles. Instruction will be offered in the theory, service, repair and adjustment of automotive fuel systems. *Prerequisite: CAP-328*

CAP-340   **3 0 0 0 18**
Technical Internship III   **Voc/Tech**
Work experience at a sponsoring dealership. The tasks will be consistent with the technician's ability and previous course work. *Prerequisite: CAP-335*

CAP-346   **5 3 4 0 0**
Chrysler Engine Performance   **Voc/Tech**
Diagnosis and service of microprocessor controlled fuel and injection systems. Oscilloscopes, engine analyzers, digital meters and other high technology instruments will be used. *Prerequisite: CAP-335, 336*

CAP-347   **3 1 4 0 0**
Chrysler Heating and A/C   **Voc/Tech**
Theory and operation of Chrysler air conditioning systems leading to the diagnosis, service and repair of current models of Chrysler vehicles. *Prerequisite: CAP-312, 317*

CAP-350   **3 0 0 0 18**
Technical Internship IV   **Voc/Tech**
Work experience at a participating dealership. Tasks will be consistent with the technician's ability and previous course work. *Prerequisite: CAP-340*

CAP-354   **4 2 4 0 0**
Chrysler Manual Drivetrains   **Voc/Tech**
Provides an understanding of the principles of operation in manual drivetrains including manual transmissions, transaxles, front and rear differentials, driveshafts and transfer cases. Proper diagnosis, service and repair procedures of these systems are studied and practiced. *Prerequisite: CAP-340*

CAP-355   **4 2 4 0 0**
Chrysler Automatic Drivetrains   **Voc/Tech**
Provides an understanding of the principles of operation in automatic transmissions and transaxles including electronic controls. Proper diagnosis, service and repair procedures of these systems are studied and practiced. *Prerequisite: CAP-317, 346*

CAP-356   **5 3 4 0 0**
Advanced Chrysler Systems   **Voc/Tech**
Instruction in techniques and procedures required to diagnose and service current vehicles. New systems developed by Chrysler will be included. *Prerequisite: CAP-346*

CAP-360   **2 0 0 0 12**
Technical Internship V   **Voc/Tech**
Work experience at a participating dealership. Tasks will be consistent with the technicians ability and previous course work. *Prerequisite: CAP-350*

CART363 - Adjunct   **2 1 2 0 0**
Electronic Photo Editing   **Voc/Tech**
Electronic photo manipulation, scanning and editing. Class covers projects dealing with line art, gray-scale, half tone and full color photographs. *Prerequisite: DKTP401*

CART401   **3 3 0 0 0**
Commercial Art Orientation   **Voc/Tech**
A prerequisite for all commercial art courses. Commercial art terminology, tools and techniques are practiced.

CART403   **3 2 2 0 0**
Communication Design I   **Voc/Tech**
This course will create awareness of design use. Topics of lecture and lab study will include design fundamentals, the creative process, principles of design and basic advertising design formats with application of design theories in simple design projects.

CART404   **3 2 2 0 0**
Typography II   **Voc/Tech**
Typography course including the principles and basic skills in typographic design on computer. *Prerequisite: CART405*

CART405   **3 2 2 0 0**
Typography I   **Voc/Tech**
A study of the history of typography as it relates to advertising design. Includes emphasis on use of copyfitting and the use of typography in design.

CART407   **3 2 2 0 0**
Production Art I   **Voc/Tech**
First of a two-part course which will enable the student to seek an entry-level position in production art. Problems and solutions in the preparation of camera ready art for printing are studied.

CART410   **3 2 2 0 0**
Illustration I   **Voc/Tech**
Lab and lecture study of tools and skills necessary for entry level visual communication in a graphic arts studio environment. Emphasis on line art, marker rendering, perspective concepts and basic drawings skills.

CART411   **3 2 2 0 0**
Communication Design II   **Voc/Tech**
Lab and lecture study will develop a solid base in technical and creative skills necessary in the field of graphic design. Emphasis on packaging design, continuous page layout and grid design. *Prerequisite: CART403*

Course Descriptions

CART414   3 2 2 0 0
Illustration II   Voc/Tech
Lab and lecture study of tools and skills necessary to create color marker illustrations. Study includes a variety of surfaces and products as well as the human figure. The illustrations will be conceived within the context of publication advertisements.

CART415   3 2 2 0 0
Production Art II   Voc/Tech
This will add to the student's qualifications from taking Production Art I by emphasizing two-color & advance camera-ready art for printing. *Prerequisite: CART407*

CART419   2 0 4 0 0
Lettering & Sign Art   Voc/Tech
The study of traditional letter forms, typography, hand lettering skills and design principles for the production of posters, signs, logos and other graphic images.

CART421   2 2 0 0 0
Internship Preparation   Voc/Tech
Students seeking an internship will be required to develop job interviewing techniques and a presentation portfolio. The student develops a knowledge of human relations in the profession through use of goal setting, interpersonal and group skills.

CART424   3 1 0 0 8
Commercial Art Internship I   Voc/Tech
On-the-job training for commercial art students. Included is a weekly seminar for exchange of information, review and evaluation. *Prerequisite: CART421*

CART425   3 1 0 0 8
Commercial Art Internship II   Voc/Tech
Second semester elective on-the-job training for commercial art students. Included is a weekly seminar for the exchange of advanced techniques and skills learned on the job. *Prerequisite: CART424*

CART426   3 2 2 0 0
Communication Design III   Voc/Tech
An advanced course using skills and understanding developed in Communication Design I and II. Emphasis is on image generation, integration of type and design, development of a direct mail advertising campaign and outdoor advertising. *Prerequisite: CART411*

CART428   3 2 2 0 0
Illustration III   Voc/Tech
Lab and lecture study of color theory and various media. Emphasis on creative solutions to specific communication projects. *Prerequisite: CART414*

CART430   3 2 2 0 0
Production Art III   Voc/Tech
Computer technology is used in the preparation of material to be printed. Included are lectures and experiences in the production of printed portfolio samples. *Prerequisite: CART415*

CART436   3 3 0 0 0
Portfolio Preparation I   Voc/Tech
A student seeking employment must have a well prepared portfolio. Such a portfolio will be developed and reviewed by the Commercial Art Advisory Committee in this course. *Prerequisite: CART424*

CART437   3 2 2 0 0
Communication Design IV   Voc/Tech
Lab and lecture study of advanced design problems with emphasis on the development of professional quality portfolio pieces. Projects will include development of multipage publication, corporate identity package and newspaper advertising. *Prerequisite: CART426*

CART440   3 2 2 0 0
Production Art IV   Voc/Tech
To complete the study of production art, emphasis will be on the development of portfolio projects. *Prerequisite: CART430*

CART444   3 3 0 0 0
Portfolio Preparation II   Voc/Tech
"Portfolio Night" is the highlight of completing this course. The student will be required to present a completed portfolio to commercial art professionals and prospective employers at the annual event. *Prerequisite: CART436*

CART449   4 2 4 0 0
Airbrush I   Voc/Tech
The fundamental principles of airbrush techniques and application to advertising design and use of airbrush as an illustrative tool.

CART451   4 2 4 0 0
Airbrush II   Voc/Tech
Advanced course in airbrush techniques as necessary for portfolio samples. Emphasis in utilization of advanced skills learned in Airbrush I. *Prerequisite: CART449*

CART459   3 2 2 0 0
Computer Graphics I   Voc/Tech
Use of Adobe Illustrator to produce electronic drawings in 2-D in full color. Includes study of typeface as a design and illustration element with all creative projects produced electronically.

CART462   3 1 4 0 0
Computer Graphics II   Voc/Tech
Use of Adobe Illustrator and Adobe Dimensions. Advanced study of electronic drawing programs including graph creation, introduction to color separation and creation of full color art from electronic scanner sources. *Prerequisite: CART459*

CART463   3 2 2 0 0
Electronic Photo Editing   Voc/Tech
Introduction to using Adobe Photoshop. The student will learn how to electronically merge and edit color images such as scanning, color separation, combining photos, using channels and working with type will be covered. *Prerequisite: DKTP401*

CDEV100 and CDEV101 (listed below) are wonderful opportunities to assist with transition to college. These courses provide numerous strategies to create success in and out of the classroom.

CDEV100   1 1 0 0 0
Orientation to College   Open
This course is designed to introduce students to college resources, services and expectations and to assist them in gaining maximum benefit from their college experience.

CDEV101   2 2 0 0 0
Study Strategies   Open
Provides students with study/reading strategies for independent learning and academic success. An examination of college policies and procedures is also included.

CDEV110   1 1 0 0 0
Career Planning   Open
Provides help in choosing a career goal. Emphasis will be placed on how to access labor market information, interests, abilities and values, explore options and make decisions that will lead to career satisfaction and success.

CET-315   3 3 0 0 0
Fundamentals of Civil Engineering   Voc/Tech
Introduces concepts of the civil engineering technician career. Topics include civil engineering technician disciplines and career structures; construction and civil engineering industry; introduction to basic engineering principles; layout of civil plans; introduction to design methods; standards and equipment used in design and manual drafting.

CET-320   3 3 0 0 0
Survey I   Voc/Tech
This course will develop a working knowledge of surveying fundamentals. Topics will include an introduction to: surveying instruments and equipment; measurement of distances and angles; determining elevation; note keeping, traversing, triangulation, mapping, researching of monuments and benchmarks, cross sections and earthwork; introduction to right of way and property plats. *Prerequisite: CET-315 or department approval*

CET-325   4 3 2 0 0
Survey II   Voc/Tech
A continuation of Survey I. Topics will include: control surveys; topographic survey, construction survey, coordinate systems (i.e. state plane); spheres; watersheds; aerial photography; photogrammetry; legal descriptions; right of way; electronic data collection and global positioning will be utilized; data downloading and editing. Legal principles of land boundaries, public domain survey systems. *Prerequisite: CET-320 or department approval*

CET-330   4 4 0 0 0
Highway Design I   Voc/Tech
This course will develop a working knowledge of civil design plans and design principles. Topics will include: design criteria and standards; typical roadway sections; traffic data; cross sections; earthworks; survey data, historical project information, bid items, design manuals, geometric design, hydrology, staging, records management, vertical profile design, environmental project information. GEOPAK will be utilized. *Prerequisite: CET-315 or department approval*

CET-340   3 3 0 0 0
Construction I   Voc/Tech
This course will develop a working knowledge of construction inspection fundamentals. Topics will include introduction to: construction reviews, pre-construction planning, permits process, embankment construction, drainage solutions, stabilization methods, equipment used in construction, placement work, paving procedures, estimating of time and materials. *Prerequisite: CET-315 or department approval*

CET-350   4 3 2 0 0
Materials I   Voc/Tech
Students will develop a working knowledge of soils and materials used in the construction industry. Topics will include: soil types, foundations and aggregates; subsurface explorations; engineering property of soils and aggregates, such as moisture content, compaction, permeability; soils plan creation; soil borings; concrete properties; concrete mixes; asphalt properties; sampling methods (J); testing of materials; testing equipment; calibration of equipment. *Prerequisite: CET-315 or department approval*

CET-360   3 3 0 0 0
Soils and Foundations   Voc/Tech
This course will develop a working knowledge of soil mechanics and soil relationship to roadway construction. Topics include: definitions, types, properties, classifications and distributions of soil. This course will examine how to transfer soils mechanics principles to roadway construction. The application of differing soil types and properties and how soil materials are incorporated into the design will be presented. *Prerequisite: CET-315 or department approval*

CET-380   3 3 0 0 0
Statics   Voc/Tech
Designed to develop and present basic structural concepts. Emphasis is placed on the use of tree-body diagrams in understanding the forces acting on a structural member. Topics presented will be demonstrated in model form to reinforce the ideas through visual images. *Prerequisite: MATH411 or department approval*

CET-390   4 4 0 0 0
Automated Design I   Voc/Tech
This course will introduce the student to Micro Station CAD software. Basic two-dimensional CAD drawings will be taught. Drawings will be created and plotted. Drawing formats, geometric construction and lettering will be taught on computer-aided drafting (CAD) software. Drafting standards will be covered. Sketching and fundamentals of orthographic projection are stressed. *Prerequisite: CET-315 or department approval*

CET-405   5 0 0 0 20
Field Coop   Voc/Tech
Practical experience through on-the-job training in an approved civil engineering technician setting. Tasks will be consistent with student's career objectives, skills and knowledge. *Prerequisite: Successful completion of 32 credit hours of CET- credit courses and/or departmental approval*

CET-406   2 0 0 0 8
Advanced Field Coop   Voc/Tech
Practical experience through on-the-job training in an approved civil engineering technician setting. Tasks will be consistent with student's career objectives, skills and knowledge. *Prerequisite: CET-405*

CET-407   2 2 0 0 0
Field Orientation   Voc/Tech
This course will acquaint a student with field operations. The role of the superintendent and project manager will be discussed, as well as the relationship between the contractor and owner. Visits will be made to local project to observe construction procedures *Prerequisite: Written permission from CET faculty to substitute this course for CET-405*

Course Descriptions

CET-422   4 3 2 0 0
Survey III   Voc/Tech
This course illustrates the application of survey concepts to a highway survey. Topics will include: legal description research, route surveying, horizontal and vertical curve layout, closed and open loop survey, bench level circuits; subdivision surveying, construction surveying; electronic data collection and global positioning will be utilized.
Prerequisite: CET-325 or department approval

CET-430   4 4 0 0 0
Highway Design II   Voc/Tech
Application of design concepts and standards to a highway design project. A complete project design is required with a written and oral presentation. The finished project will be created utilizing GEOPAK that includes: determining design criteria; determining horizontal and vertical alignment layout; intersection and interchange design, selection of typical, standard notes and design standards; hydrology; generating and analyzing cross sections; determining right of way needs; earthwork to include quantities, a mass diagram and mass ordinates; detailed material list and cost estimates (preliminary and final). The presentation will include a three-dimensional drive through of the project. *Prerequisite: CET-330 or department approval*

CET-440   3 3 0 0 0
Construction II   Voc/Tech
This course will involve the definition, interpretation and utilization of drawings, specifications, agreements, bidding forms, general considerations, bonds, subcontracts, shop drawings, material approvals and related documents, record keeping and materials measurement as building plans. *Prerequisite: CET-340 or department approval*

CET-450   3 2 2 0 0
Materials II   Voc/Tech
This course will develop a working knowledge of soils and materials used in the construction industry. Topics will include: soil types; aggregates; subsurface explorations, engineering property of soils and aggregates such as moisture content, compaction, permeability; soils plan creation; soil borings; concrete properties; concrete mixes; asphalt properties; sampling methods; testing of materials; testing equipment; calibration of equipment. *Prerequisite: CET-350 or department approval*

CET-470   3 3 0 0 0
Structural Design and Construction   Voc/Tech
This course is an introduction to the understanding of load and resistance factor design (LRFD) method. Topics considered include material properties, tension, compression, bending, beam columns, simple connections, base plates, bearing plates, open web steel joists, steel roof decks, concrete structures, mixes, placement, precast and prestressed. *Prerequisite: CET-315 or department approval*

CET-490   4 4 0 0 0
Automated Design II   Voc/Tech
This course will introduce the student to intermediate MicroStation CAD commands. Advanced two-dimensional CAD drawing and editing techniques will be taught. Basic three-dimensional applications and editing will be introduced. Drawings will be created and plotted. GEOPAK fundamentals will be taught to include: project manager, horizontal alignment, vertical alignment, point manipulation, chains, existing cross section creation, proposed cross section creation, quantity outputs and criteria. *Prerequisite: CET-390 or department approval*

CHEM120   3 2 2 0 0
Survey of Chemistry   Core
An introduction to chemical topics with little mathematics. Topics include energy, food chemistry, air and water pollution, agricultural chemicals, detergents, and drugs. For students who need one semester of laboratory science.

CHEM131   4 3 2 0 0
Introduction to General Chemistry   Core
A study of the concepts of general chemistry including atomic structure, bonding, reactions, stoichiometry, gas laws, solutions, acids and bases, equilibrium, nuclear chemistry and an introduction to organic chemistry. Problem solving is emphasized. For non-science majors and students in health related programs. *Prerequisite: 1 year H.S. algebra or MATH092*

CHEM132   4 3 2 0 0
Intro to Organic and Biochemistry   Core
A continuation of the study of organic chemistry and a study of biochemistry. Organic topics include the structure of organic molecules, the nature and reactions of functional groups and stereochemistry. Biochemistry topics include carbohydrates, proteins, lipids, nucleic acids, enzymes and metabolism. *Prerequisite: CHEM131 or equivalent*

CHEM151   4 3 3 0 0
General/Inorganic Chemistry I   Core
A thorough treatment of general chemistry including atomic structure, stoichiometry, chemical bonding, states of matter, solutions, acids and bases, reaction rates, equilibrium, thermodynamics and electrochemistry. This course is intended for science, engineering, pre-vet, pre-med, pre-dental and pre-optometry majors. *Prerequisite: 1 yr. H.S. chemistry or CHEM 131 & 2 yrs. H.S. algebra or MATH094*

CHEM152   4 3 3 0 0
General/Inorganic Chemistry II   Core
A continuation of General and Inorganic Chemistry I. *Prerequisite: CHEM151 or equivalent*

CHEM161   5 3 4 0 0
Organic Chemistry I   Core
A study of the principles of organic chemistry including the nomenclature and chemistry of the various organic functional groups. Structure, bonding, synthesis, reaction mechanisms and spectroscopy are emphasized. The sequence is designed to satisfy the one year of organic chemistry required by most medical schools.   *Prerequisite: CHEM132 or 152 or 1 year college level general chemistry.*

CHEM162   5 3 4 0 0
Organic Chemistry II   Core
A continuation of Organic Chemistry I. *Prerequisite: CHEM161 or equivalent*

CHIN101   4 4 0 0 0
Elementary Chinese I   Core
Development of the basic skills of understanding, speaking, reading and writing Chinese. Grammar analysis, classroom conversational practice and some exploration of the Chinese culture.

CHIN102   4 4 0 0 0
Elementary Chinese II   Core
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. *Prerequisite: CHIN101 or instructor permission*

CHIN103   4 4 0 0 0
Intermediate Chinese I Core
Review of essential grammatical construction emphasizing major areas of difficulty for English speakers. Use of Chinese cultural and literary materials to develop conversational skills. *Prerequisite: CHIN102 or instructor permission*

CHIN104   4 4 0 0 0
Intermediate Chinese II Core
Continued review of grammatical constructions using chinese cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events. *Prerequisite: CHIN103 or instructor permission*

CHLD110   3 3 0 0 0
Early Child Development Open
Course covers typical and atypical development of children from birth through eight years of age in the areas of physical/motor, language/cognitive and social/emotional growth. Emphasis is placed on the effects of interactions between child, family and society within a variety of cultural contexts.

CHLD210   1 1 0 0 0
Intro to Early Childhood Education   Open
Course prepares students for employment in the field of early childhood education. State of Iowa child care center licensing/day care home registration requirements are reviewed. Basic job skills are discussed. Training requirements for universal precautions/infectious disease control and mandatory reporting of child abuse are met.

CHLD211   2 2 0 0 0
Guidance Techniques - Young Children   Open
Course covers various philosophies of and techniques for the application of developmentally and individually appropriate guidance for typically and atypically developing young children.

CHLD212   1 1 0 0 0
Assess & Planning for Young Children   Open
Course presents students with individually and developmentally appropriate assessment and planning skills for the care and early education of children in a variety of inclusive settings. Curriculum planning approached through the use of emergent curriculum concepts, thematic approaches, webbing, curriculum strands and individual education plans and individual family service plans.

CHLD213   2 2 0 0 0
Group Experience for EC Programs   Open
Topics include assessment, planning and presentation of individually and developmentally appropriate small and large group activities for an inclusive program for preschool age children. Areas of focus include language, music, movement and literature.

CHLD214   3 3 0 0 0
Curriculum for Preschool Children   Open
Planning of developmentally and individually appropriate activities for children 3 through 5 years of age. Planning of activities to enhance development in the curricular areas of art, sensory, dramatic play, science, math, literacy, motor and cognitive skills.

CHLD215   3 3 0 0 0
Child Health, Safety & Nutrition   Open
Provision of a safe and healthy environment for young children in a group setting. Specifically covered are nutrition analysis, menu planning, indoor and outdoor safety principles and assessments, health assessments and policies and the care of children with chronic health problems.

CHLD216   3 3 0 0 0
Infant & Toddler Care & Education   Open
Course focuses on best practices for care and education of children birth through two years of age in an integrated setting. Health and safety issues as well as presentation of developmentally appropriate activities are covered.

CHLD217   2 2 0 0 0
Professional Relationships   Open
Course designed to give students an overview of expected professional behaviors and responsibilities as a member of an early childhood team. Focus on relationships with parents, communication skills with parents and co-workers, job-seeking skills, job performance and professional associations and educational opportunities.

CHLD220   3 3 0 0 0
Administration Programs-Young Child Open
Course covers basic principles involved in setting up and administering an early childhood program. Emphasis placed on licensing regulations, bookkeeping, insurance, enrollment and record keeping. Designed for second year students and persons interested in becoming a center director.

CHLD240   1 1 0 0 0
Emergency Care   Open
Cardiopulmonary resuscitation according to Iowa Heart Guidelines. Childhood diseases, immunization laws and environmental safety for children are discussed. Designed for day care personnel. Certificate for first aid and CPR awarded upon successful completion. Course may be repeated for a maximum of 3 credits.

CHLD250- Adjunct*   1 1 0 0 0
Parenting Today   Open
Course covers a wide variety of parenting topics through class discussion and reading from current literature. Topics included are child development principles, guidance, developmentally appropriate activities and expectations, health, safety and nutrition principles.

Course Descriptions

CHLD364   1 1 0 0 0
Activities-School-age Children   Open
Course focuses on ideas for working with children ages 6-12 years. Includes a variety of activities that are designed to enhance children's day after school.

CHLD410   3 0 0 9 0
Student Participation I   Open
Participation with children in the inclusive day care center on campus under the supervision of a lead teacher. Students have limited responsibilities for curriculum planning. Daily student-teacher conferences are held. *Prerequisite: enrollment in or completion of a minimum of 8 credits of early childhood education or permission of instructor.*

CHLD411   3 0 0 9 0
Student Participation II   Open
A continuation of Student Participation I in which students assume full responsibility for assessment, planning, lead teaching and parent communications in the inclusive day care center on campus under the supervision of a lead teacher. *Prerequisite: completion of 10 credits in early childhood education including CHLD410 (minimum of a 2.0 GPA in CHLD 410) or permission of instructor.*

CHLD420   2 0 0 0 8
Early Childhood Education Practicum Open
Placement in a community-based program for typically or atypically developing young children in an inclusive setting. Emphasis is on the development of competencies necessary for employment in a similar setting. *Prerequisite: completion of 10 credits in Early Childhood Education courses with a minimum of a 2.0 GPA or permission of instructor.*

CHLD421   3 0 0 0 12
Early Childhood Ed Associate Practicum   Open
Placement for the associate degree student in a community-based program for typically and atypically developing young children in an inclusive setting. The practicum is designed to further build competencies necessary for employment and to develop competencies in the area of program administration. *Prerequisite: cumulative GPA of 2.0 in all early childhood courses , enrollment in or completion of CHLD220. Prerequisite: CHLD420*

CIM-404   2 1 2 0 0
Robotics   Voc/Tech
Course provides an introduction to robotic fundamentals. The student will examine parameters of robot operation and program robots for various applications.

CIM-413   2 1 2 0 0
Flexible Manufacturing Systems   Voc/Tech
This course introduces the student to the aspects of a flexible manufacturing and robotic cell operation. It will familiarize the student with cell setup, configuration, programming and troubleshooting. The course work includes labs on setting up and running various robotic equipment. *Prerequisite: HTPC358, 359 or instructor permission*

CIM-420 - Adjunct   3 3 0 0 0
Systems and Technology   Voc/Tech
This course covers topics related to the implementation of management systems and technologies designed to enhance the competitive position of a firm. It will address the topics of overall corporate strategy, infrastructure considerations, role of quality and the interface of production of control systems. This is also an APICS certification review course.

CIM-421 - Adjunct   3 3 0 0 0
Motor Control   Voc/Tech
Troubleshoot electro-mechanical motor controls, gain an understanding of ladder diagrams. Students should have a general knowledge of electricity to take this course.

COMH410   3 2 2 0 0
Introduction to Greenhouse   Voc/Tech
An introduction to greenhouse structures, heating and environmental control systems and watering. Winter and spring commercial pot plants, cut flowers and bedding plant crops will be explored vocationally in the college greenhouses. *Prerequisite: COMH450, AGRI209, 219*

COMH411   2 2 0 0 0
Horticulture Chemical Techniques   Voc/Tech
Types of chemicals will be identified and how to use and apply them properly will be studied. The safe handling of chemicals and calibration of spray equipment will be covered. Includes study of core manual and category for commercial pesticide license.

COMH433   2 1 2 0 0
Irrigation Systems   Voc/Tech
A study of the design, installation, use, maintenance and repair of the different types of irrigation systems used in the production of a wide variety of horticulture crops. Irrigation system components, materials and estimates of installation, maintenance and operation costs will be addressed. *Prerequisite: AGRI209, 219, COMH437*

COMH435   2 1 2 0 0
Sports Turf   Voc/Tech
Introduction to the variety of sports contests played on turfgrass fields. Students will study the sport, site selection and preparation, turfgrass species selection, establishment and maintenance of the field, Pre-competition practices of field layout along with post-competition practices of repair and field recovery will be discussed. *Prerequisite: AGRI209, 219, COMH437*

COMH437   2 2 0 0 0
Turf I   Voc/Tech
The study of soil and turf relationships as to planning, seed bed preparation, seed selection, fertilization, sowing and establishing of turf and lawn. The student receives practical experience in starting and maintaining new lawn areas. *Prerequisite: COMH450, AGRI209, 219*

COMH440   3 1 4 0 0
Landscape Design I   Voc/Tech
Fundamentals of landscape design for homes presented. Introduction to principles of landscaping as they apply to residential landscaping. Student is given the opportunity to draw basic residential landscape plans. *Prerequisite or Corequisite: COMH441, 488 must be taken concurrently with or prior to this course*

COMH441   1 1 0 0 0
Landscape Drafting   Voc/Tech
Introduction to landscape drafting and associated drafting equipment and materials. *Corequisite: COMH488*

COMH450   3 3 0 0 0
Botany   Voc/Tech
A course designed to introduce the student to the principles of botany that are basic to plant life. Topics covered include plant cell chemistry, cell structure, functions, photosynthesis, transpiration.

COMH452   3 2 2 0 0
Arboriculture   Voc/Tech
A study of tree culture with emphasis on propagation, pruning, transplanting, pest control, urban environmental concerns and recognition of hazards and liabilities. Methods of evaluation of values also studied. *Prerequisite: COMH450, AGRI209, 219*

COMH453   2 1 2 0 0
Landscape Design II   Voc/Tech
Course will include design of residential, commercial, public areas and annual and perennial flower beds. Use of landscape construction materials in design and materials and labor estimates will be developed. *Prerequisite/Corequisite: COMH440, 441, 488 must be taken concurrently with or prior to this course Corequisite: COMH489*

COMH454   2 0 0 0 10
Horticulture Internship I   Voc/Tech
Experience in a business setting related to the student's career objective. Taken over a five week period. (P/F) *Prerequisite: COMH410, 437, 488*

COMH455   3 2 2 0 0
Turf II   Voc/Tech
Turf management practices on golf and recreation areas with practical experience in maintaining turf on outdoor campus facilities. *Prerequisite: COMH437*

COMH457   3 2 2 0 0
Fruit & Vegetable Science   Voc/Tech
A study of tree fruits, small fruits and vegetable culture, including varietal selection, planting, pruning, fertilizing, disease and insect control programs. *Prerequisite: COMH450, AGRI209, 219*

COMH458   2 2 0 0 0
Insects & Diseases   Voc/Tech
Identification of diseases and insects which frequently infest horticultural crops and plant materials. Structures, functions and life cycles of those pests will be studied with environmental conditions favoring development. Chemical, organic, biological and mechanical control methods will be presented. A collection will aid I.D. process.

COMH469   3 3 0 0 0
Garden Center Management   Voc/Tech
Display, promotion and merchandising in the modern garden center will be stressed. Problems of distribution functions of marketing and their costs will be studied. Management's role in organizing a business and financial planning will be discussed.

COMH478   3 2 2 0 0
Plant Propagation I   Voc/Tech
An introduction to plant propagation with emphasis on grafting, herbaceous and hardwood cuttings and greenhouse and nursery seeds. Propagation schedules, equipment, structures and growth regulators will be discussed. *Prerequisite: COMH450, AGRI209, 219*

COMH479   3 2 2 0 0
Nursery Production I   Voc/Tech
Introduces the student to site selection, equipment and supplies with an introduction to field production, harvesting and marketing. Basic nursery and landscape skills will be developed on and off campus. *Prerequisite: COMH450, AGRI209, 219*

COMH483   1 0 2 0 0
Plant Propagation II   Voc/Tech
Summer methods of plant propagation including softwood and semi-hardwood cuttings, budding, layering, divisions and an overview of apical meristem culture. *Prerequisite: COMH478*

COMH485   1 0 2 0 0
Floral Design II   Voc/Tech
An advanced class in commercial floral design, flower shop organization and management. Advanced wedding work, funeral work and commercial flower arrangements will be taught. *Prerequisite: COMH497*

COMH486   2 1 2 0 0
Construction, Safety & Maintenance   Voc/Tech
A practical course in the proper care and use of hand and power tools and larger equipment, utilized by the horticulture industry. Familiarity of equipment use will be gained from construction projects on campus.

COMH488   3 1 4 0 0
Woody Plant Materials   Voc/Tech
The identification, morphology, landscape use and culture of native and non-native woody plants of the upper midwest. First 10 weeks emphasis is on deciduous plants, last 5 weeks emphasis is on evergreens. *Corequisite: COMH441*

COMH489   3 2 2 0 0
Herbaceous Plant Materials   Voc/Tech
The identification, morphology, landscape use and culture of native and non-native plants of the upper midwest. Emphasis on early mid-season perennials and annuals. *Prerequisite: COMH488 must be taken concurrently with or prior to this course, Corequisite: COMH453*

COMH490   3 2 2 0 0
Greenhouse Prod Techniques   Voc/Tech
Greenhouse maintenance, nutrition, watering, cooling systems and pest control shall be developed further in college greenhouse facilities. Summer and fall crops will be grown by students. *Prerequisite: COMH410*

COMH497   1 0 2 0 0
Floral Design I   Voc/Tech
Construction and mechanics of merchandising flowers and plants at retail.

Course Descriptions

COMH498   2 0 0 0 10
Horticulture Internship II   Voc/Tech
A final opportunity for the student to gain employment experience in their specialization. In many instances they will continue as full time employees upon completion of the program. Taken over a five week period. *(P/F)*
Prerequisite: COMH454

COMS111   3 3 0 0 0
Computers and Program Logic   Open
This course provides students with a firm foundation in problem solving methods in computer programming and facilitates the development of good, structured programming skills for solving business problems. Students will define and analyze problems, design computer solution algorithms and prove the correctness of the solutions.

COMS112   3 3 0 0 0
Computers and Program Logic II   Open
An object oriented language will be used to introduce commonly used data structures. Programs using these data structures will be developed, written, tested and debugged.
Prerequisite: COMS111 or equivalent

COMS125   3 3 0 0 0
Business Programming COBOL I   Open
Introduces the programming language COBOL. Topics include move, logical testing, control & page breaks, totals and others. Emphasis is given to business applications.

COMS126   4 4 0 0 0
Business Programming COBOL II   Open
Introduces advanced COBOL programming techniques. Emphasis is given to the SORT verb, multiple level tables and ISAM file access techniques. *Prerequisite: COMS125*

COMS160   3 3 0 0 0
Computational Structures   Open
Relates mathematics as a tool and language to the computer. An object oriented language will be used to acquaint students with application areas in computer science.
Prerequisite: COMS111

COMS172   2 2 0 0 0
Computer Programming-FORTRAN   Open
For students desiring an introductory background in the programming language of FORTRAN. Included are FORTRAN structures, i/d statements, arrays, subscripting, control statements, data storage and retrieval.
Prerequisite: MATH129, COMS111

COMS174   3 3 0 0 0
Applied Programming I Pascal   Open
Introduction to structured programming using a blocked structured language. Emphasis will be on an algorithmic approach to program development. Programs will be developed, written, tested and debugged.
Prerequisite: MATH115, 123

COMS176   4 4 0 0 0
Applied Programming II   Open
Data structures as related to computer programming will be emphasized. Programs using these data structures will be developed, written, tested and debugged. The programs written will also be business application oriented.
Prerequisite: COMS174

COMS181   3 2 2 0 0
Intro to Computer Literacy   Open
Presents the basic concepts of computers and the effect that computers are having and will continue to have, in the future. Incorporates theory as well as hands-on practice. Includes an introduction to Windows, Word, Excel, Access and the Internet.

COMS301   3 3 0 0 0
Java Programming   Voc/Tech
Students will learn the basic features of the Java programming language and explore the concepts of object-oriented programming, event handling, user interface programming and graphics techniques. Students will gain practical experience creating and modifying Java applications and applets and embedding Java applets in web pages. *Prerequisite: COMS111 or equivalent*

COMS302   3 3 0 0 0
Advanced Java   Voc/Tech
Students will learn server side features of the Java programming language and explore the concepts of enterprise development. Gain practical experience creating and modifying Java servlets. Java Server Pages (JSP) and Enterprise Java Beans (EJB). Database connectivity will also be examined.
Prerequisite: COMS111

COMS303   3 3 0 0 0
E-Commerce Scripting Languages   Voc/Tech
This course focuses on current website programming languages such as Javascript, VB Script and CGI-Perl. Make web pages interactive, add special functions and special handling. Cookies and shopping carts will be created. *Prerequisite: BSEN306 or DATA110*

COMS310   3 3 0 0 0
C# Programming   Voc/Tech
This course is an introduction to the C# language. Object-oriented programs will be developed by the students. *Prerequisite: COMS111*

COMS340   3 3 0 0 0
Intro Website Development   Voc/Tech
Introduces HTML and DHTML concepts and technologies. Includes HTML, XHTML, CSS, Javascript and the Document Object Model (DOM). Students will use a variety of current software development tools to build and publish business oriented website applications.
Prerequisite: COMS181

COMS345   3 3 0 0 0
Intro XML   Voc/Tech
Introduces XML concepts and coding requirements. Students will create, display, transform and transfer data in XML format as part of an Internet based application. Course includes XML, XHTML, XSL, and XSLT. *Prerequisite: COMS181*

COMS360   3 3 0 0 0
Help Desk Operations   Voc/Tech
The purpose of this course is to provide students with a comprehensive understanding of the helpdesk environment and the knowledge, skills, and abilities necessary to work in the user support industry. Students will learn problem solving and communication skills that are very valuable when providing user support. Through hands-on exercises and case projects, students will learn how to apply their knowledge and develop their ideas and skills. They will also learn how to work individually and in teams which will prepare them for a team-oriented work environment. *Prerequisite: COMS181*

COMS365   3 3 0 0 0
Computer Organization   Voc/Tech
This course focuses on the relationship between computing hardware and machine language instruction sets. Computer system and microprocessors will be examined along with supporting hardware and the organization of their instruction sets. Programming in assembly language is studied in detail. *Prerequisite: COMS111, 160*

COOP212   1 1 0 0 0
Coop Career Seminar   Voc/Tech
Examination of topics relevant to the internship experience, sharing workplace problems encountered and the solutions found to those problems. This course may be repeated for a maximum of 4 credits. *Corequisite: COOP221 or 222 or 223 or 224 or 225 or 226*

COOP220   2 2 0 0 0
Career-Seeking Skills   Voc/Tech
Covers all aspects of professional job placement procedures including career goal setting, developing prospective employer lists, resume writing, job application forms, employment tests, personal appearance, interviewing and follow-up.

COOP221   1 0 0 0 4
Coop Career Experience   Voc/Tech
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills and knowledge. *(P/F)*
Corequisite: COOP212

COOP222   2 0 0 0 8
Coop Career Experience   Voc/Tech
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills and knowledge. *(P/F)*
Corequisite: COOP212

COOP223   3 0 0 0 12
Coop Career Experience   Voc/Tech
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills and knowledge. *(P/F)*
Corequisite: COOP212

COOP224   4 0 0 0 16
Coop Career Experience   Voc/Tech
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills and knowledge. *(P/F)*
Corequisite: COOP212

COOP225   5 0 0 0 20
Coop Career Experience   Voc/Tech
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills and knowledge. *(P/F)*
Corequisite: COOP212

COOP226   6 0 0 0 24
Coop Career Experience   Voc/Tech
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with student's career objectives, skills and knowledge. *(P/F)*
Corequisite: COOP212

COOP301   1 1 0 0 0
Building a Professional Portfolio   Voc/Tech
This course provides the writing and research skills necessary to compile a professional portfolio highlighting abilities, experiences and accomplishments. The portfolio will include a resume, reference letters, certificates, sample demonstrations of work performance, documentation that shows knowledge of subject area and other applicable items.

CRIM101   3 3 0 0 0
Intro to Criminal Justice   General
An in-depth examination of the three components of the criminal justice system and the roles they play in society.

CRIM103   3 3 0 0 0
Community Relations   Open
Examination of the role of criminal justice personnel in a democratic society; emphasis on ethical uses of discretion, analysis of officer stress and the popular perceptions of the criminal justice system.

CRIM104   3 3 0 0 0
Criminal Law   General
An examination of the elements of offenses and the procedural safeguards in the criminal process.

CRIM105   3 3 0 0 0
Constitutional Law   General
A study of the application of constitutional principles to social and political questions including the powers of the national government versus state government through focus on the incorporation issue, examination of the evolution of civil liberties guarantees.

CRIM106   3 3 0 0 0
Juvenile Law   General
The social and legal aspects of juvenile delinquency, examination of procedures, legislation, juvenile court and prevention programs.

CRIM107   3 3 0 0 0
Theories of Interviewing   Open
The process of gathering information from others: the interviewee, the setting, types of questions, non verbal communication, deception and theories of communication.

CRIM110   3 3 0 0 0
Penology   Open
Social organization and goals of correctional programs. Principles of institutional corrections and the social structure within institutions. Examination of non-institutional alternatives include probation and parole.

CRIM211   3 3 0 0 0
Correctional Treatment   Open
Institutional options for preventing recidivism. Introduction to therapeutic techniques. Comparison of punishment, freudian treatments and behavior modification systems. Student presentation required.

CRIM212   3 3 0 0 0
Correctional Law   Open
Law in the field of corrections: procedural and substantive rights of both convicts and the state, "good time" detainers, multiple sentences and double jeopardy. Emphasis on sentencing and classification; efforts to reduce sentencing disparity.

Course Descriptions

CRIM214   3 3 0 0 0
Criminal Investigation I   Open
Rudiments of criminal investigation: techniques, principles, problems, sources of information and evidentiary processes.

CRIM235   3 2 2 0 0
Survey/Criminal Justice Agencies   Open
Study of the criminal justice system through an examination of actual agencies, focusing on theoretical versus real roles and functions of the agencies. Includes on-site visits. *Prerequisite: 24 hours of CRIM courses or instructor permission*

CRIM236   3 0 0 0 12
Internship   Open
Involves one-hundred fifty hours of active internship for students in an agency other than one in which they may be employed. Synthesis paper required. *(P/F) Prerequisite: 24 hrs of CRIM courses with minimum grade of C in each, CRIM235*

CRIM255   3 3 0 0 0
Criminal Investigation II   Open
An in-depth study of investigative techniques as applied to specific offenses. Court room presentation will also be emphasized.

CRIM273   3 3 0 0 0
Introduction to Security   Open
Fundamental principles and practices of physical security, internal security, defense systems and fire safety are discussed in detail. Specific problems in hospital, transportation, retail and computer security are analyzed.

CRIM275   3 3 0 0 0
Scientific Investigation   Open
An introduction to investigative techniques which stresses the identification and examination of physical evidence from the time of its discovery until a final disposition by the courts.

CRIM285   3 3 0 0 0
Criminal Justice Ethics   Open
Focuses on philosophical and theoretical issues and analyzes research findings to determine their implications for future practice. The student will learn how to identify and confront difficult ethical decisions they are likely to face in their daily routines.

CRIM410 - Adjunct   3 3 0 0 0
Orientation to Public Safety   Voc/Tech
An introduction to the three areas of public safety; law enforcement, corrections and firefighting. This course covers the internal organization culture, the changing external culture and public safety work requirements. The course involves observing and riding with police officers, community corrections officers, visiting a correctional facility and touring a firefighter's work area.

CSCO340   4 2 4 0 0
CISCO Networking III   Voc/Tech
CISCO training includes learning the basics of setting up, configuring and maintaining a switch, bridge and router. Additional areas cover layer 1, 2 & 3 network design, IP addressing scheme, VLANS, IPX compatibility, access lists, TCS and TBC design. *Prerequisite: ITNA320*

CSCO350   4 2 4 0 0
CISCO Networking IV   Voc/Tech
CISCO training involves WAN design, point-to-point protocol, ISDN, frame relay and network management. Part of this course is involved with extensive review of semester one through semester four material in preparation for the CCNA. *Prerequisite: CSCO340*

CULA340   2 0 4 0 0
Baking   Voc/Tech
Course offers instruction in baking fundamentals and procedures as applied to bread, rolls, cakes, pastries and cake decorating. Practical experiences in sanitation, safety and the use of large equipment is also emphasized in this course. *Prerequisite: HRMT316, HRMT 320 or instructor permission*

CULA349   3 0 6 0 0
International Cuisine Lab II   Voc/Tech
Application of gourmet cooking through actual quantity preparation of eight course international dinners. Four evening gourmet dinners will be prepared and served during the semester. *Prerequisite: CULA446, 456*

CULA365   2 0 4 0 0
Advanced Baking/Buffet Decorating   Voc/Tech
Advanced principles and procedures of producing baked goods, decorative work and display pieces. *Prerequisite: CULA340, 386*

CULA386   2 0 4 0 0
Garde Manger   Voc/Tech
Application of techniques used in preparation of hot and cold hors d'oeuvres, decorative food displays and ice carvings. Emphasis is placed on aspics, galantines and buffet presentations. *Prerequisite: HRMT316, 320*

CULA446   3 0 6 0 0
International Cuisine Lab I   Voc/Tech
Application of gourmet cooking through actual quantity preparation of eight course international dinners. Four evening gourmet dinners will be prepared and served during the semester. *Prerequisite: HRMT326, 328 Corequisite: CULA456*

CULA451   4 0 8 0 0
Culinary Cuisine Lab   Voc/Tech
Preparation of intricate and difficult classical cuisine dishes. Students will rotate through the cooking stations of the traditional brigade kitchen and then prepare food for service to the public. A la carte preparation is emphasized. *Prerequisite: HRMT357 Corequisite: CULA452*

CULA452   2 2 0 0 0
Advanced Culinary Cuisine   Voc/Tech
Discussion of the more intricate and difficult cooking principles and techniques of classical cuisine and planning for advanced culinary cuisine. *Prerequisite: HRMT357 Corequisite: CULA451*

CULA456   2 2 0 0 0
International Cuisine   Voc/Tech
Students research and plan international dinners. Emphasis is on menu and production planning for eight course gourmet dinners. The lecture will also focus on the pronunciation and definition of French terms. *Prerequisite: HRMT326, 328 Corequisite: CULA446*

DATA102   3 3 0 0 0
New Literacy/Intro to Computers   Voc/Tech
A television course giving a comprehensive introduction to computer principles and presenting a broad overview of data processing concepts.

DATA103   3 3 0 0 0
Visual BASIC Programming   Voc/Tech
An elementary course in the use of the visual BASIC programming language. The various commands will be presented; and students design, code and test several programs. *Prerequisite: COMS111 or equivalent*

DATA104   3 3 0 0 0
Advanced Visual BASIC   General
"Applications" approach developed around data file programming. Manipulation of string variables, data entry, formats, error checking routines and database files. *Prerequisite: DATA103*

DATA106   3 2 2 0 0
Microcomputers in Business   General
This course provides the person already familiar with microcomputer usage, additional skill development in the areas of the operating system (DOS/Windows), word processing, spreadsheets and database management software. Course features extensive hands-on usage combined with lecture and discussion. *Prerequisite: COMS181*

DATA110   3 2 2 0 0
Computer Network Literacy   Voc/Tech
This course is an introduction to basic concepts and terminology in computer networks and data communications. Topics include data communications equipment and media network basics and the Internet. Student will develop a personal web page. *Prerequisite: COMS181*

DATA231   3 3 0 0 0
RPG/II   General
Study of basic steps of programming. Students design, code and debug various problems written in report program generator language. *Prerequisite: COMS181*

DATA301   4 3 2 0 0
DOS Job Control   Voc/Tech
Provides an individual with a working knowledge of disk operating systems/virtual storage extended (DOS/VSE) job control language. *Prerequisite: COMS125*

DATA306   4 3 2 0 0
COBOL - Intermediate   Voc/Tech
COBOL VSE structured programming involving sequential disk, table processing and file update processing, using IBM ICCF text editor, VSE/ESA JCL on an IBM ES/900 Mainframe. *Prerequisite: COMS125*

DATA308   3 2 2 0 0
COBOL - Advanced   Voc/Tech
ANS COBOL involving advanced editing programs, table processing, VSAM file process, programs linkage and report writer. *Prerequisite: DATA301 and 306*

DATA309   3 3 0 0 0
COBOL on the World Wide Web   Voc/Tech
Apply COBOL to the WWW using Net Express. Topics include CGI programs, data access on the server, GUI development for HTML based sites. *Prerequisite: COMS125*

DATA318   3 3 0 0 0
C++ Programming   Voc/Tech
Students will examine the structure of typical C++ programs, explore the concepts of object oriented programming and design eight small to medium sized programs in C++. *Prerequisite: COMS111*

DATA319   4 3 2 0 0
Assembler - Beginning   Voc/Tech
An introductory course in the syntax rules of assembler language programming. Business problems are analyzed and programmed. *Prerequisite: COMS125*

DATA320   3 3 0 0 0
Advanced C++   Voc/Tech
Review and extend the concepts of class hierarchies, encapsulation, inheritance and polymorphism. Explore class libraries, templates, streamable classes and exception handling. Develop code for both DOS and windows applications. *Prerequisite: DATA318*

DATA321   4 3 2 0 0
Assembler - Intermediate   Voc/Tech
An intermediate course in the concepts and techniques of using assembler language, including machine language and table processing. *Prerequisite: DATA319, 301*

DATA327   4 4 0 0 0
Assembler - Advanced   Voc/Tech
An advanced course in the more complex concepts of assembler type instructions, including VSAM and macro processing with inter-program linkage. *Prerequisite: DATA321.*

DATA334   6 4 4 0 0
Applications Programming   Voc/Tech
Individual projects are assigned which require the student to apply the programming knowledge gained in prerequisite courses to the design and implementation of assigned business applications. *Prerequisite: DATA352*

DATA341   3 3 0 0 0
Introduction to Databases   Voc/Tech
This course provides a comprehensive foundation that enables students to understand and use commercially available relational DBMS products effectively. *Prerequisite: COMS181, COMS111, COMS125*

DATA343   3 2 2 0 0
Introduction to SQL   Voc/Tech
This course is an introduction to SQL as a database programming language to those already familiar with basic relational database concepts. Students will write executable SQL statements to create and maintain database objects. *Prerequisite: DATA341*

DATA346   2 1 2 0 0
Advanced Spreadsheets   Voc/Tech
Advanced topic within spreadsheets, including macros, graphics and menu driven systems. *Prerequisite: DATA345*

DATA349   3 2 2 0 0
Advanced PC/SQL Program Units   Voc/Tech
An advanced study of P.C. database concentrating on programs that are menu driven; screen generation and file manipulation. *Prerequisite: DATA330*

Course Descriptions

DATA350   3 3 0 0 0
Relational Database Design   Voc/Tech
Students learn a systematic approach to
database development using entity-relationship
models, normalization and relational database
design. Students will use this approach to
identify and define business information
requirements, create entity-relationship models
and transform the requirements into an initial
database design.
Prerequisite: DATA341

DATA352   4 4 0 0 0
Telecommunications/CICS Prog   Voc/Tech
Provides theory and working knowledge of
telecommunication programming. Students
will code programs using CICS. *Prerequisite:
DATA308, 321*

DATA382   4 4 0 0 0
Systems Analysis   Voc/Tech
Designed to acquaint the student with the
various considerations in the design of a
system. The course considers project initiation,
fact gathering, procedures, forms, system
implementation and evaluation.
Prerequisite: COMS181, COMS125

DENA302   4 4 0 0 0
Dental Science I   Voc/Tech
Introduction to the various sciences necessary
for the dental assistant. Microbiology and oral
pathology are covered. *Prerequisite: DENA304
must be taken concurrently with or prior to this
course*

DENA304   2 2 0 0 0
Dental Anatomy   Voc/Tech
The study of head, neck and dental anatomy is
combined to give the student background in-
formation for application in dental assisting
courses.

DENA305   2 1 2 0 0
Dental Radiography II   Voc/Tech
A continuation of Dental Radiography I.
Weekly seminars for basic interpretation of
radiographs and laboratory experience to
develop student competence in making oral
radiographic surveys. *Prerequisite: DENA302,
304, 320, DENH257*

DENA309   1 1 0 0 0
Dental Assisting Seminar   Voc/Tech
Discussion and problem solving from clinical
practice. Provides an awareness of types of
office situations and discussion of clinical
aspects of dental assisting and dentistry. Oral
reports and weekly evaluations are required.
*Prerequisite: DENA302, 304, 320, 325,
DENH201, 257 Corequisite: DENA310*

DENA310   3 0 0 0 12
Dental Assisting Clinical   Voc/Tech
Application of knowledge and skills as students
rotate through dental offices, clinics and
hospital clinics. General and specialty practices
are included in rotations.
*Prerequisite: Current CPR certification
DENA302, 304, 320, 325, DENH201, 257
Corequisite: DENA309*

DENA312   2 2 0 0 0
Dental Science II   Voc/Tech
A continuation of Dental Science I. Emphasis
on effects of drugs and emergency procedures.
Prerequisite: CPR certification DENA302, 304

DENA316   1 1 0 0 0
Ethics & Clinical Seminar   Voc/Tech
Continuation of DENA 309. Also includes the
study of the ethics and legal responsibilities of
the dental profession, as well as the functions
and jurisprudence of the auxiliary personnel.
*Prerequisite: Second semester standing in Dental
Assisting program. Corequisite: DENA318*

DENA318   4 0 0 0 16
Dental Assisting Clinical II   Voc/Tech
Continuation of DENA310. *Corequisite:
DENA316*

DENA320   6 4 4 0 0
Preclinical Dental Assisting   Voc/Tech
Basic concepts of chairside assisting are covered
with emphasis on the role of the team in
delivery systems. Terminology, instruments,
equipment and basic procedures are covered.
*Prerequisite: DENA302, 304, 325 and DENH201
must be taken concurrently with or prior to this
course*

DENA322   5 3 4 0 0
Clinical Dental Assisting   Voc/Tech
A continuation of Preclinical Dental Assisting
(DENA 320) with emphasis on operative
dentistry, dental specialties and advanced
functions. The laboratory phase develops
students' competencies in clinical assisting.
*Prerequisite: DENA302, 304, 320, 325,
DENH201, 257*

DENA323   2 2 0 0 0
Dental Business Office Procedure   Voc/Tech
Covers the business aspects of the dental office:
patient relations, appointment book
management, financial records, telephone
communications, credits and collections, dental
insurance, tax records, supply and inventory
systems. *Prerequisite: 35 wpm keyboard skills and
computer literacy*

DENA325   1 0 2 0 0
Dental Materials Lab   Voc/Tech
Through laboratory experience the student
learns techniques in preparation and utilization
of dental materials. *Prerequisite: DENA304*

DENH201   2 2 0 0 0
Dental Materials   Open
A study of materials used in the dental office
and laboratory as well as those used in a variety
of restorations requiring maintenance.
*Corequisite: DENA304 and DENA325 or
DENH230 and DENH203*

DENH203   1 0 2 0 0
Dental Materials Lab   Open
Through laboratory experience the student
relates dental materials science to the clinical
practice of dental hygiene. *Corequisite:
DENH201*

DENH208   2 2 0 0 0
Principles of Dental Hygiene   Open
Principles of the dental hygiene process of care
are introduced including the theory and
techniques of instrumentation. *Prerequisite:
BIOL154, CHEM131 Corequisite: DENH209*

DENH209   3 0 6 0 0
Principles of Dental Hygiene Practicum   Open
Introduction to the clinical practice of dental
hygiene. *Prerequisite: BIOL154, CHEM131
Corequisite: DENH208*

DENH210   2 2 0 0 0
Oral Histology & Embryology   Open
General and oral histology begins with an
overview of oral embryology which is followed
by a study of the fundamentals of cytology and
the normal microscopic anatomy of oral
tissues. *Prerequisite: BIOL154*

DENH227   3 2 2 0 0
Dental Health Education   Open
Instruction includes the role of the dental
hygienist as a dental health educator in
community and public health settings.
Prevention programs are presented to instill self
awareness, positive attitudes and enhance
knowledge and skills to prevent dental disease.
Prerequisite: DENH208, 209

DENH228   2 2 0 0 0
Dental Hygiene I   Open
A continuation of the dental hygiene process of
care. Emphasis is placed on patient assessment
and principles of patient education in chairside
instruction. Topics also include dependent
adult and child abuse. *Prerequisite: DENH208,
209 Corequisite: DENH229*

DENH229   4 0 8 0 0
Dental Hygiene I Practicum   Open
Implementation of evidence-based dental
hygiene care. *Prerequisite: DENH208, 209
Corequisite: DENH228, 259*

DENH230   4 4 0 0 0
Dental Anatomy   Open
The dental anatomy course includes
development, morphology and functions of the
teeth, dental charting and the anatomy and
physiology of the head and neck including
mastication. *Prerequisite: BIOL154*

DENH240   4 4 0 0 0
Nutrition/Preventative Dentistry   Open
Lecture-discussion course relating the nutrients
and their effects on general and oral health
throughout the life cycle. An introduction to
the principles of counseling and instruction in
preventive dentistry necessary to maintain
optimum oral health.
Prerequisite: BIOL154, CHEM132

DENH241   1 1 0 0 0
Nutrition/Dental Counseling   Open
A combined teaching, learning and practice
course emphasizing the identification and
analysis of diet as it relates to dental health.
Students will evaluate caries and periodontal
disease risk levels and perform counseling and
instruction in elements of nutrition as they
relate to the prevention of dental disease.
Prerequisite: BIOL154, CHEM132, HRMT334

DENH257   3 2 2 0 0
Dental Radiography I   Open
Lecture includes radiation physics, biological
effects, radiation safety and protection,
properties of x-ray film and techniques of
exposing, processing, mounting and evaluating
film. Laboratory experiences develop
competence in exposing, processing, mounting
and evaluating radiographs. *Corequisite:
DENA304 and DENA320 or DENH230*

DENH259   2 1 2 0 0
Dental Radiography II   Open
A continuation of Dental Radiography I.
Laboratory experience to develop continued
competence in exposing radiographs and weekly
seminars for interpretation of radiographs.
Prerequisite: DENH257 Corequisite: DENH229

DENH278   2 2 0 0 0
Dental Hygiene II   Open
A continuation of the dental hygiene process of
care. Further emphasis is placed on initial
periodontal therapy and evidence-based
treatment. Topics also include smoking
cessation. *Prerequisite: DENH228, 229
Corequisite: DENH279*

DENH279   2 0 0 6 0
Dental Hygiene II Practicum   Open
Implementation of evidence-based dental
hygiene care. *Prerequisite: DENH228, 229
Corequisite: DENH278*

DENH280   2 2 0 0 0
Periodontology   Open
The fundamental principles of periodontics are
presented including, anatomy of periodontal
structures, periodontal pathology, etiology,
epidemiology, classification and risk factor
assessment for periodontal diseases. Patient
assessment, treatment modalities and
prevention of periodontal diseases is
emphasized. *Prerequisite: DENH210, 228, 229
Corequisite: DENH279*

DENH281   5 0 0 15 0
Dental Hygiene III Practicum   Open
Implementation of evidence-based dental
hygiene care. *Prerequisite: DENH278, 279
Corequisite: DENH288*

DENH282   3 3 0 0 0
Dental Pharmacology   Open
The study of drugs and their use as an aid in
diagnosis, treatment and prevention of disease
with emphasis on the oral implications of drug
therapies and abuse. *Prerequisite: CHEM132,
DENH230, 228, 229*

DENH288   2 2 0 0 0
Dental Hygiene III   Open
A continuation of the dental hygiene process of
care. Topics include dental hygiene diagnoses:
their definitions, possible etiologies. defining
characteristics and interventions. Emphasis is
placed on care planning and case studies for
individuals with special needs. Appropriate
dental procedure codes from the current
version of *Code on Dental Procedures and
Nomenclature* are presented to assist with
documenting and filing for dental insurance
benefits. *Prerequisite: DENH278, 279
Corequisite: DENH281*

DENH290   3 2 2 0 0
Community Dentistry   Open
Core public health functions and essential
public health services are defined through
examples of public health problems and
solutions. *Healthy People* oral health objectives
are discussed as the framework for planning,
implementation and evaluation phases of
program development at local, state and
national levels. *Prerequisite: DENH227*

DENH291   5 0 0 15 0
Dental Hygiene IV Practicum   Open
Implementation of evidence-based dental
hygiene care. *Prerequisite: DENH281, 288
Corequisite: DENH298*

DENH293   3 3 0 0 0
General & Oral Pathology   Open
The recognition, treatment and prevention of
oral diseases. Topics also include the
recognition of degenerative changes and
developmental anomalies. *Prerequisite:
BIOL154, DENH210, 230*

Course Descriptions

DENH298   2 2 0 0 0
Dental Hygiene IV   **Open**
Legal, ethical and management aspects of the dental care system are presented. Career alternatives are investigated and job seeking skills are developed. *Prerequisite: DENH281, 288 Corequisite: DENH291*

DEVS072   3 3 0 0 0
Thinking Skills   **College Prep**
To increase awareness of thinking as a skill which can be improved. Students will develop the ability to identify and improve the use of basic patterns of cognition. Activities will include personal, academic and career applications. *College Preparatory courses cannot be used to fulfill degree requirement.*

DIEM400   4 4 0 0 0
Basic Diemaking   **Voc/Tech**
Introduction to diemaking principles covering die sets, die components, cutting and forming applications and material utilization. Experienced individuals may contact the instructor to gain admittance to this course. *Prerequisite: TOOL492, 493, 494, 495, 496, 499; Corequisite: DIEM401*

DIEM401   6 012 0 0
Basic Diemaking Lab   **Voc/Tech**
Introducing the student to basic diemaking procedures as they construct a blank die, piercing die and a forming die. *Prerequisite: DIEM492, 493, 494, 495, 496, 499; Corequisite: DIEM400*

DIEM403   3 1 4 0 0
Progressive Die Design   **Voc/Tech**
Hands-on drafting experience in the design, drawing and detailing of a progressive die using Computer Aided Design (CAD). *Prerequisite: CADD401; Corequisite: DIEM404*

DIEM404   4 4 0 0 0
Advanced Diemaking   **Voc/Tech**
Complex die making procedures, including CAM actuated dies and exposure to cost estimating and quoting. *Prerequisite: DIEM400*

DIEM405   6 012 0 0
Advanced Diemaking Lab   **Voc/Tech**
Constructing a more complex stamping die, including a progressive die that has been partially designed and detailed by the student. *Prerequisite: DIEM401, DIEM404 must be taken concurrently with or prior to this course*

DIEM407   3 2 2 0 0
Plastic Moldmaking   **Voc/Tech**
The student is presented with the basic fundamental of plastic mold construction and molding processes. Experienced individuals may contact the instructor to gain admittance to this course. *Prerequisite: DIEM400 and DIEM401*

DIEM413   3 2 2 0 0
Electrical Discharge Machining   **Voc/Tech**
Operation of both conventional and wire EDM machines. Construction of EDM electrodes.

DISL401   6 110 0 0
Diesel Engines I   **Voc/Tech**
Instruction provided in the technical and non-technical aspects of diesel engines. This information will give the students the basic understanding needed to continue in the Diesel Mechanic program.

DISL402   6 110 0 0
Diesel Engines II   **Voc/Tech**
Instruction in diagnosing problems and the nature of repairs needed. Information on preventative measures to eliminate failures. *Prerequisite: DISL401*

DISL404   6 2 8 0 0
Power Trains I   **Voc/Tech**
Class and lab activities in the design and operation of drive train components including clutches, manual transmissions, drive lines, rear axles and wheel bearings.

DISL405   5 1 8 0 0
Power Trains II   **Voc/Tech**
Instruction will include the basics of automatic transmissions, power shift transmissions, final drives and hydrostat drives. Experienced individuals may contact the instructor to gain admittance to this course. *Prerequisite: DISL404, 406*

DISL406   5 1 8 0 0
Hydraulics & Brakes   **Voc/Tech**
The study of basic mobile hydraulics. Introduces principles, components, fluid systems and circuits of hydraulic systems. Vehicle braking includes study of hydraulic and air brake systems.

DISL407   6 110 0 0
Diesel Fuel Systems   **Voc/Tech**
The student will be introduced to basic fuel systems principles and operational theory of some commonly used systems as well as general repair and diagnostic procedures. Experienced individuals may contact the instructor to gain admittance to this course. *Prerequisite: DISL402*

DISL408   5 1 8 0 0
Basic Electricity   **Voc/Tech**
An introduction to basic electricity and electronic principles that apply to diesel powered equipment. Systems and components covered include starting, charging, lighting and accessories.

DISL409   5 2 6 0 0
Diesel Electronics   **Voc/Tech**
A study of electronic fundamentals, lab work with electronic components and testing equipment. Diesel engines which are computer controlled are used in lab to demonstrate applications of electronics on diesel power which meet demands of the future. Experienced individuals may contact the instructor to gain admittance to this course. *Prerequisite: DISL408*

DISL417   5 1 8 0 0
Heavy Equipment Repair   **Voc/Tech**
Instruction in the repair and service of equipment relating to the heavy equipment industry. This includes all phases normally done in a general repair shop. Instruction is given under structured lab and field conditions. Experienced individuals may contact the instructor to gain admittance to this course. *Prerequisite: DISL402, 404, 406, 408*

DISL418   5 1 8 0 0
Truck Repair   **Voc/Tech**
Instruction in the repair and service of equipment relating to the trucking industry. This includes all phases normally done in a general repair shop. Instruction is given under structured lab and field conditions. Experienced individuals may contact the instructor to gain admittance to this course. *Prerequisite: DISL402, 404, 406, 408*

DISL420   3 1 4 0 0
Air Conditioning   **Voc/Tech**
A course on basic air conditioning theory and design. Emphasis will be placed on various system controls and on service operations.

DISL428   5 1 8 0 0
Operation & Maintenance   **Voc/Tech**
Instruction in the proper methods of maintaining all equipment. Safety will be emphasized.

DISL430   4 2 4 0 0
Caterpillar Fuel Systems   **Voc/Tech**
The student will be introduced to basic Caterpillar fuel system principles and theory for mechanical and electronic engines. General repair and diagnostic procedures will also be covered. Experienced individuals may contact the instructor to gain admittance to this course. *Prerequisite: DISL402, 404, 406, 408*

DISL431   2 1 2 0 0
Caterpillar Failure Analysis   **Voc/Tech**
The student will determine the root cause of failure, how to properly prepare the parts for inspection and determine what is normal and abnormal wear. Experienced individuals may contact the instructor to gain admittance to this course. *Prerequisite: DISL402, 404, 406*

DISL432   2 1 2 0 0
Caterpillar LS/PC - Hydraulics   **Voc/Tech**
This course will cover the design and theory of LS/PC hydraulic systems. This course will cover the function, operation and diagnosis of LS/PC hydraulics. Experienced individuals may contact the instructor to gain admittance to this course. *Prerequisite: DISL406, 408*

DISL433   2 2 0 0 0
Caterpillar Service Information Sys   **Voc/Tech**
Instruction covers basic computer skills related to Caterpillar computer systems. Students will learn how to operate SIS, Parts Integrator, DBS Parts orders and work orders.

DISL434   4 0 0 0 16
Caterpillar Internship   **Voc/Tech**
Work experience at a local Caterpillar dealership. The work experience will be compatible with the student's ability and previous course work. *Prerequisite: DISL402, 404, 406, 408*

DISL435   2 0 4 0 0
Caterpillar Multi-Media   **Voc/Tech**
The student will complete Caterpillar computerized tests and review modules. *Prerequisite: DISL402, 404, 406, 408*

DISL470   4 1 6 0 0
Advanced Electricity   **Voc/Tech**
The electrical circuitry on diesel powered equipment is covered. Included are troubleshooting, diagnosing and repair procedures. Experienced individuals may contact the instructor to gain admittance to this course. *Prerequisite: DISL408*

DKTP401   3 1 4 0 0
Intro To Desktop Publishing   **Voc/Tech**
Course introduces student to operating system of the Macintosh computer. Industry standard electronic layout program is used to introduce the student to the field of electronic desktop publishing.

DMAS350   1 1 0 0 0
Health Field   **Voc/Tech**
Roles of dietary personnel in health facilities, state and federal guidelines. Explore managerial aspects within facilities.

DMAS351   1 0 2 0 0
Food Preparation   **Voc/Tech**
Basic principles and development of techniques as they apply to preparation of each food group, criterion for evaluating product quality, laboratory experience.

DMAS352   2 2 0 0 0
Sanitation/Meal Service   **Voc/Tech**
Methods of efficiently serving safe, pleasing food. An awareness of sanitation will be created for all areas of food service.

DMAS353   1 1 0 0 0
Nutrition Life Cycle   **Voc/Tech**
An in-depth study (social, physiological and psychological need) of residents from infancy to geriatric. Explore the therapeutic role of food.

DMAS354   1 1 0 0 0
Modified Diets   **Voc/Tech**
Assessment of special diets, using approved diet manual, a review of food guidelines and hints for making modified diets more appetizing.

DMAS355   1 1 0 0 0
Food Production Management   **Voc/Tech**
Total production needs, equipment layout, work methods, food storage, food preparation, service, sanitation and use of computers in food service.

DMAS356   2 2 0 0 0
Food Service Management   **Voc/Tech**
The management functions required to organize and maintain an efficient quality dietary department are developed.

DMAS361   1 0 0 0 4
Food Prep Field Experience   **Voc/Tech**
Application and evaluation of food preparation in health care facility. Practical experience in selected health care facility supervised by a registered dietitian. (P/F)

DMAS362   1 0 0 0 4
Sanitation/Meal Service Field Exp   **Voc/Tech**
Application/evaluation of sanitation and meal service in health care facility. Practical experience in selected health care facility supervised by a registered dietitian. (P/F)

DMAS363   1 0 0 0 4
Nutrition Life Cycle Field Experience   **Voc/Tech**
Application/evaluation of nutritional aspects in health care facility. Practical experience in selected health care facility supervised by a registered dietitian. (P/F)

DMAS364   1 0 0 0 4
Modified Diet/Field Experience   **Voc/Tech**
Application/evaluation of modified diets in health care facility. Practical experience in selected health care facility supervised by a registered dietitian. (P/F)

Course Descriptions

DMAS365   1 0 0 0 4
Food Production Field Experience   Voc/Tech
Application/evaluation of food production in health care facility. Practical experience in selected health care facility supervised by a registered dietitian. (P/F)

DMAS366   1 0 0 0 4
Food Service Mgmt Field Experience Voc/Tech
Application/evaluation of food service management in health care facility. Practical experience in selected health care facility supervised by a registered dietitian. (P/F)

DRAM110   3 3 0 0 0
Introduction to Theatre   Core
A survey of the elements and techniques of theatre with emphasis on acting, directing and playwriting. Attendance at dramatic production encouraged.

DRAM111   3 3 0 0 0
Techniques of Acting   General
Training of the body, voice and mind as acting instruments. Course includes acting exercises, scene analysis and performance.

DRAM113   3 3 0 0 0
Creative Drama School/Rec   General
Elements of improvisational acting. Students will learn approaches for participating in as well as leading creative drama activities.

DRAM114   2 0 4 0 0
Theatre Production   General
Practical experience in acting, directing and stage design. Students will be involved in all stages of production, from auditions to final performance. May be repeated for up to eight semester hours of credit.

DRAM115   3 0 6 0 0
Theatre Production   General
See DRAM114

DRAM116   4 0 8 0 0
Theatre Production   General
See DRAM114

ECON101   3 3 0 0 0
Principles of Macroeconomics   Core
This course is an introduction to basic macroeconomic concepts and principles. It deals with the problems of resource allocation, supply and demand, national income, employment, price levels, fiscal and monetary policy, money and banking systems and elements of global finance. ECON101 is not a prerequisite for ECON102.

ECON102   3 3 0 0 0
Principles of Microeconomics   Core
This course covers a survey of demand and supply conditions, cost structure, market structure and how these elements affect individual households, business firms, government and global trade. ECON101 is not a prerequisite for ECON102.

EDCR101   3 3 0 0 0
Intro to Education   Open
Presents a broad overview of the field of education including foundations of American education, roles of teachers and students, history and philosophy and curriculum. Students will complete a 40 hour practicum at the elementary, middle, or high school level. Recommended for students who plan to major in education.

EDCR107-Adjunct   1 1 0 0 0
Issues in Education: Theory/Practice   Open
Presents a broad overview of the field of education including foundations of American education, roles of teachers and students, history and philosophy and curriculum. Students will complete a 40 hour practicum at the elementary, middle, or high school level. Recommended for students who plan to major in education.

EDCR165   3 3 0 0 0
Education of Exceptional Learners   Open
A survey of exceptional learners in the classroom will be explored. History, philosophy, current issues, trends and mainstreaming will be discussed.

EDCR207   2 0 0 0 8
Internship Teaching Experiences   Open
Provides opportunity to assist in the school as a teacher aide or to assess one's potential and interest in teaching as a career. *Prerequisite: EDCR101*

ELCT400   3 3 0 0 0
NEC Residential   Voc/Tech
The basic principles of the NEC for layout and construction for residential wiring systems. Apply code rules to house wiring installations. Discuss security systems, fire and smoke detectors, low-voltage, and remote controls.

ELCT405   3 0 6 0 0
NEC Residential Lab   Voc/Tech
Utilize the basic principles of the NEC for layout and residential electrical wiring systems. Apply code rules, using hands on approach for residential electrical installations from simplistic to complicated circuit wiring.

ELCT410   3 3 0 0 0
NEC Commercial/Industrial   Voc/Tech
The basic principles of the NEC for layout and construction for commercial wiring and industrial wiring systems. Apply basics of wiring into the planning of typical commercial and industrial installations. Configure how load requirements are converted into branch circuits then into feeders, and into main electrical services.

ELCT415   4 1 6 0 0
NEC Commercial/Industrial Lab   Voc/Tech
Utilize the basic principles of the NEC for layout of commercial and industrial wiring systems. Apply code rules, using hands on approach for commerical and industrial electrical installations from simplistic to complicated circuit wiring.

ELCT420   2 2 0 0 0
Electrical Grounding   Voc/Tech
The understanding of grounding and eliminating the misconceptions when dealing with NEC requirements for installation.

ELEM325   3 2 2 0 0
General Electricity   Voc/Tech
For beginners, theory, controlling electricity, voltage, amps, resistance, wattage, series and parallel circuits, DC and AC, batteries, electric lighting, generators and motors.

ELEM450   3 3 0 0 0
Related Math   Voc/Tech
Mathematics related to basic electronics. It includes basic algebra, right triangle trigonometry, scientific notation, with applications to DC and AC circuitry.

ELEM451   3 3 0 0 0
DC & AC Fundamentals   Voc/Tech
An introductory course in DC and AC fundamentals. Subject matter includes Ohm's law, series and parallel circuits and measuring instruments.

ELEM452   3 0 6 0 0
DC & AC Fundamentals Lab   Voc/Tech
This laboratory will enable the student to analyze basic L-C-R circuitry. Basic test equipment usage will also be presented. *Prerequisite: ELEM451 must be taken concurrently with or prior to this course.*

ELEM462   3 3 0 0 0
Digital Electronics   Voc/Tech
An introduction to the principles of basic TTL and CMOS digital circuits. Included are basic gates, counters, registers and multiplexer configurations.

ELEM463   3 0 6 0 0
Digital Electronics Lab   Voc/Tech
This laboratory consists of experiments on basic TTL and CMOS circuits. Included are gates, counters, registers and multiplexer configurations. *Prerequisite: ELEM462 must be taken concurrently with or prior to this course.*

ELHT313   3 3 0 0 0
Technical Math I   Voc/Tech
Introduction to mathematical skills needed by electronics technician with emphasis on algebra and its application to electronics. Topics include algebra, conversion of units, powers of 10, using electronic calculators and solving equations.

ELHT314   5 5 0 0 0
Circuit Analysis I   Voc/Tech
An analytical introduction to direct and alternating current fundamentals essential in all phases of electricity and electronics. Topics covered include , Ohm's law, Kirchoff's law, Thevenin-Norton and Superposition theorems, impedance, resonance, series and parallel circuits, resistors, capacitors, inductors, batteries and meters. *Corequisite: ELHT316*

ELHT315   3 1 4 0 0
Fabrication Techniques   Voc/Tech
Rendering of isometric and orthographic projection drawings. Also soldering techniques, fabrication of sheet metal enclosures, production of printed circuit boards using photographic and etching methods.

ELHT316   3 0 6 0 0
Circuit Analysis I Lab   Voc/Tech
Basic experiments in AC & DC circuit analysis including familiarization with basic test instruments, series and parallel circuits (using resistors, capacitors, inductors, batteries and power supplies) and applications of electrical laws and theorems. *Corequisite: ELHT314*

ELHT323   3 3 0 0 0
Technical Math II   Voc/Tech
Continuation of Technical Math I. Topics include exponents, radicals, quadratic equations, simultaneous equations, trigonometry, graphing, phasor algebra and logarithms.

ELHT324   3 3 0 0 0
Computer Programming   Voc/Tech
Basic programming techniques such as writing algorithms, drawing of flow charts and developing programs that include loops and subroutines.

ELHT330   2 2 0 0 0
Digital Circuits   Voc/Tech
An analysis of those circuits which form basic building blocks for a digital system to include logical gates, such as OR, NOR and NAND, storage registers and counters.
Corequisite: ELHT362

ELHT331   3 3 0 0 0
Circuit Analysis II   Voc/Tech
Deals with principles and electrical properties of semi-conductor diodes, transistors, integrated circuits and integrated circuit amplifiers complete with mathematical analysis of equivalent circuits and their evaluation.
Prerequisite: ELHT314, 316; Corequisite: ELHT363

ELHT332   3 3 0 0 0
Digital Electronics   Voc/Tech
An analysis of those circuits which form basic building blocks for a digital system, to include logical gates, such as OR, NOR and NAND, storage registers, counters and microprocessors.
Corequisite: ELHT364

ELHT340   3 3 0 0 0
Microprocessors   Voc/Tech
This course covers two major areas of microcomputers and microprocessors. The first is an investigation of the specific architecture of microprocessors and fundamental microcomputer hardware. The second area is software and studies specific assembly language instructions for common routines and program structures.
Prerequisite: ELHT330, 362, Corequisite: ELHT341

ELHT341   5 0 10 0 0
Microprocessors Lab   Voc/Tech
Includes experiments which exercise microprocessor instruction sets and microcomputer central processing units, memory, and I/O devices. Routines and subroutines are written in assembly language, assembled, downloaded and tested. Students will participate in a minimum of four 2-hour job-shadowing experiences which may take place outside of regular class time.
Prerequisite: ELHT330, 362, Corequisite: ELHT340

ELHT345   2 2 0 0 0
Operating Systems   Voc/Tech
An introduction to the disk operating system and Windows. Objectives are to enable the user to load and execute programs, maintain an orderly system of files on the disk and to coordinate input or output devices.

ELHT346   3 3 0 0 0
Microcomputer Operating Systems   Voc/Tech
This course is a user's introduction to the Windows, MS, DOS and UNIX Operating Systems. Objectives are to enable the user to load and execute programs, create and modify files and maintain an orderly file system.

ELHT362   2 0 4 0 0
Digital Circuits Lab   Voc/Tech
Laboratory evaluation of small-scale integrated circuits and medium-scale integrated circuits. In addition to basic and/or gates, it includes decoders, encoders, counters and multiplexers.
Corequisite: ELHT330

Course Descriptions

ELHT363   3 0 6 0 0
Circuit Analysis II Lab   Voc/Tech
Analysis of solid state circuitry. Includes transistor and integrated circuit experiments. Linear amplifiers and active filters are evaluated. Students will attend a minimum of three industrial tours which may take place outside of regular class time. *Prerequisite: ELHT314, 316; Corequisite: ELHT331*

ELHT364   3 0 6 0 0
Digital Electronics Lab   Voc/Tech
Laboratory evaluation of small-scale integrated circuits and medium-scale integrated circuits. In addition to basic and/or gates, it includes comparators, decoders, encoders, counters, multiplexers and microprocessors. *Corequisite: ELHT332*

ENGL082- Adjunct   3 2 2 0 0
ESL Listening/Conversation Skills I   College Prep
For intermediate-level students to improve the accuracy of their pronunciation and to develop the listening and speaking skills needed to communicate in diverse settings. Classroom activities are supplemented by individualized listening and pronunciation exercises. *College Preparatory courses cannot be used to fulfill degree requirement.*

ENGL083- Adjunct   3 2 2 0 0
ESL Listening/Conversation Skills II   College Prep
For advanced students to develop fluency in English and to improve the listening and conversation skills needed for careers and academic study. Classroom activities are supplemented by individualized listening and pronunciation exercises. *College Preparatory courses cannot be used to fulfill degree requirements.*

ENGL084   3 2 2 0 0
Communicative Grammar for ESL   College Prep
This course provides nonnative speakers of English with intensive practice in advanced English grammar while promoting the development of communicative skills. Areas of instruction include tenses, passive voice, reported speech, conditions, etc. *Prerequisite: Minimum scores on the TOEFL or Michigan Test. College Preparatory courses cannot be used to fulfill degree requirements.*

ENGL085   3 2 2 0 0
Read English as a Second Language   College Prep
This course is designed for nonnative speakers of English. Reading comprehension skills are developed through vocabulary work, guided reading activities and discussion. Reading material is intellectually stimulating but not beyond the student's level of comprehension. *Prerequisite: Minimum scores on the TOEFL or Michigan Test. College Preparatory courses cannot be used to fulfill degree requirements.*

ENGL089- Adjunct   3 3 0 0 0
Introduction to Writing Skills-ESL   College Prep
An introduction to the mechanics of word order and sentence patterns of English. Writing skills are designed to meet the needs of ESL students preparing to take basic writing. *College Preparatory courses cannot be used to fulfill degree requirements.*

ENGL090   3 3 0 0 0
College Preparatory Writing I   College Prep
Introduces students to writing at the basic sentence and paragraph levels including grammar, punctuation, spelling and editing techniques. Students then compose 3-4 essays. Preparation for ENGL091 and ENGL117. *College Preparatory courses cannot be used to fulfill degree requirements.*

ENGL091   3 3 0 0 0
College Preparatory Writing II   College Prep
Prepares students for college-level writing while reviewing sentence and paragraph patterns, mechanics and essay development. Explores writing purposes, audience and editing based on assignment criteria. Students write 4-6 essays. For students who have taken ENGL090 or meet that course's objectives. Preparation for ENGL117. *College Preparatory courses cannot be used to fulfill degree requirements.*

ENGL116-Adjunct   1 1 0 0 0
The Writing Studio   General
This course is a supplemental course to ENGL117, Composition I. Online resources, evaluation of information validity, collaborative learning groups, peer group tutoring, organizational skills, revision skills, sentence structure and the standard rules of punctuation will be covered. This course must be taken concurrently with ENGL117 and is intended for students with weak writing skills as identified by diagnostic testing.

ENGL117   3 3 0 0 0
Composition I   Core
Designed to help students read and write effectively. Exploration of the relationship of audience to writer and material. Emphasis on developing concrete detail to support main ideas. *Prerequisite: Satisfactory writing skills*

ENGL118   3 3 0 0 0
Composition II   Core
Expository and persuasive writing developed through critical reading. The course explores structure, style, research and documentation. *Prerequisite: ENGL117*

ENGL119   3 3 0 0 0
Technical & Business Writing   Core
A study of technical/business communication with emphasis on writing in the workplace. Course material includes written and oral communication to a variety of audiences in different situations. There will be special focus on individual career goals. *Prerequisite: ENGL117*

ENGL121   3 3 0 0 0
Creative Writing   General
An introduction to the techniques of writing poetry and fiction. Students will read the works of professional writers and apply the principles of imaginative writing to their own work.

ENGL124 - Adjunct   3 3 0 0 0
Fiction Writing   General
A course devoted to the advanced study and writing of fiction, emphasizing the development of narrative techniques and an expanded understanding of contemporary fiction writers and their work.

ENGL125 - Adjunct   3 3 0 0 0
Poetry Writing   General
A course devoted to the advanced study and writing of poetry, emphasizing the development of poetic techniques and an expanded understanding of contemporary poets and their work.

ENGL410   3 3 0 0 0
Communication Skills   Voc/Tech
Reading, writing, speaking and listening are studied as methods of exploring and evaluating technological advances in trades and industry. Adapting communication for different audiences, evaluating industry-related literature and basic business writing are emphasized.

ENGR155   2 2 0 0 0
Engineering Computations   Open
This course includes the organization, solution and presentation of engineering problems. Topics include S.I. units and selected engineering topics. *Prerequisite: MATH123 must be taken concurrently with or prior to this course.*

ENGR160   2 2 0 0 0
Engineering FORTRAN   Open
The FORTRAN language in batch and interactive modes with an emphasis on solutions to engineering problems. *Prerequisite: MATH123 must be taken concurrently with or prior to this course.*

ENGR161   2 2 0 0 0
Engineering C/C++   Open
Learn to solve engineering problems by computer using the C/C++ language. Emphasis is placed on program logic, organization and numerical methods. *Prerequisite: MATH123 must be taken concurrently with or prior to this course.*

ENGR165   4 2 4 0 0
Engr Graphics/Conceptual Design   Open
An integration of conceptual design, engineering graphics and computer aided design. This course includes orthographic projection applied to three dimensional geometry and engineering drawing. Instrument and free hand application to an open ended project that includes a formal engineering report. *Prerequisite: MATH123 must be taken concurrently with or prior to this course.*

ENGR175   3 3 0 0 0
Engineering Statics   Open
This course includes the vector and scalar analysis of coplanar and non-coplanar force systems, equilibrium concepts, friction, centroids, moments and products of inertia. Mohr's circle, radius of gyration, internal forces, shear and bending moment diagram. *Prerequisite: PHYL121; Corequisite: MATH130 must be taken concurrently with or prior to this course*

ESST375   4 2 4 0 0
Computer Repair and Networking   Voc/Tech
This course is designed for the student that is already proficient with computers and electronic circuitry. The course follows the recommendations of CompTia on the subject and materials to assist the student in learning about computer hardware and functions needed to pass the A Plus exam. A detailed study and hands-on lab component give the student the opportunity to install and troubleshoot computer and networking hardware. *Prerequisite: ELHT331*

ESST376   2 2 0 0 0
Electro-Mechanical Systems   Voc/Tech
The basic theories, concepts and principles of electromechanical devices such as relays, contactors and DC/AC motors will be covered, as well as the basic principles of mechanical relationships including gears, pulleys, belt drives, wheel and axle, inclined plane, screw, wedge and levers. Pneumatic devices such as compressors, motors, valves and actuators are covered. Basic sensors will also be covered. *Prerequisite: ELHT331, 363 Corequisite: ESST377*

ESST377   2 0 4 0 0
Electro-Mechanical Systems Lab   Voc/Tech
Application of the basic theories, concepts and principles of electromechanical devices. Projects are applications of principles used in business machines, security systems and medical electronics systems including construction of various examples of compound machines using wheel and axle, gears, levers and belt drives. Projects using basic sensors, pneumatic valves, cylinders and actuators will be constructed. Students will participate in a minimum of four 2-hour job-shadowing experiences which may take place outside of regular class time. *Prerequisite: ELHT331, 363 Corequisite: ESST376*

ESST378   3 3 0 0 0
Basic Imaging Devices   Voc/Tech
Analysis of various imaging systems, including laser printers, copiers, fax machines, scanners and accessories such as document feeders and sorters, monitors, cameras, LCD displays. *Prerequisite: ELHT331, 363 Corequisite: ESST379*

ESST379   3 0 6 0 0
Basic Imaging Devices Lab   Voc/Tech
Experience in troubleshooting, service and repair of copiers, laser printers, fax machines, scanners, peripherals, monitors, cameras, and LCD displays. *Prerequisite: ELHT331, 363 Corequisite: ESST378*

ESST380   3 3 0 0 0
Communications Systems   Voc/Tech
The analysis of communications systems including transmission and reception of AM and FM radio, television, satellite and microwave including antenna and transmission line theory. *Prerequisite: ELHT331, 363 Corequisite: ESST381*

ESST381   3 0 6 0 0
Communications Systems Lab   Voc/Tech
Laboratory experiments in radio, television, satellite and microwave systems including the construction and alignment of a broadcast radio receiver. *Prerequisite: ELHT331, 363 Corequisite: ESST380*

ESST382-   3 3 0 0 0
Security Systems   Voc/Tech
Analysis of video monitoring systems, fire and intruder alarm systems, climate control systems. *Prerequisite: ESST376, 377 Corequisite: ESST383*

ESST383   4 0 8 0 0
Security Systems Lab   Voc/Tech
Installation, maintenance and troubleshooting of various security systems. *Prerequisite: ESST376, 377 Corequisite: ESST382*

Course Descriptions

Course Descriptions

ESST384   3 3 0 0 0
Medical Electronics Systems   Voc/Tech
This course trains the student in electrical safety testing and the repair, calibration and preventative maintenance of patient monitoring equipment such as ECG, blood pressure, defibrillators, ICU, CCU central station monitoring systems and the respiratory instrumentation. Included will be a self-paced study of medical terminology.
Prerequisite: ESST376, 377 Corequisite: ESST385

ESST385   3 0 6 0 0
Medical Electronic Systems Lab   Voc/Tech
Repair calibration and preventative maintenance of critical care, diagnostic, life support equipment in a "hands-on" environment. *Prerequisite: ESST376, 377 Corequisite: ESST384*

ESST386   2 2 0 0 0
Systems Troubleshooting   Voc/Tech
A study of electronic systems troubleshooting theory, methods and techniques.
Prerequisite: ESST378, 379, 380, 381, 382, 383 Corequisite: ESST387

ESST387   3 0 6 0 0
System Troubleshooting Lab   Voc/Tech
A "hands-on" experience troubleshooting and repairing a variety of electronic equipment such as copiers, security monitors and cameras, radio, television and satellite systems.
Prerequisite: ESST378, 379, 380, 381, 382, 383 Corequisite: ESST386

ESST388   5 0 0 0 20
Internship   Voc/Tech
A semi-structured experience in the student's chosen field working as an intern with a sponsoring organization. The student has the opportunity to network with professionals and employers in his field. The student will write a resume suitable for employment applications.
Prerequisite: A grade of "C" or higher in courses pertaining to the the student's chosen internship area. The courses pertaining to the internship areas are: ESST380 and 381; or 382 and 383; or 378 and 379; or 384 and 385.

EXSP145   2 2 0 0 0
First Aid   General
Discussion and application of the basic techniques in administering first aid will be covered in this course. Cardiopulmonary resuscitation will be covered and other emergency situations will be discussed. Red Cross certification will be awarded to those who qualify.

EXSP220   2 2 0 0 0
Physical Fitness & Conditioning   Open
Development of personal fitness using a variety of conditioning and exercise techniques, including weight training, aerobics and aquatic fitness. Instruction on acute and chronic responses to exercise and the role of exercise in health promotion and weight management.

EXSP221   2 2 0 0 0
Leadership Tech for Fitness Programs   Open
This course covers the development of exercise leadership skills for a variety of activities. Includes the planning and promotion, as well as the teaching techniques for developing fitness in others using a variety of exercise modalities. Aerobics, weight training and aquatic fitness are included.
Prerequisite: EXSP220

EXSP270   3 3 0 0 0
Principles of Sports Management   Open
The foundation and principles of sports management. Theory, ethics, and practice of management are discussed in relation to the fitness and sports industries.

EXSP271   2 0 0 0 8
Field Experience   Open
Supervised experience in a fitness or sports management facility. The student will be able to apply their own knowledge and skills in a professional setting.

FIRE241   3 3 0 0 0
Fire Behavior & Investigation   Open
Covers the behavior of fire in confined structures and the methods used to determine point of origin, cause and travel of fire within a structure.

FIRE242   3 3 0 0 0
Property Insurance & Fraud Investigation   Open
Covers principles of property insurance and investigation of incendiary fires with an emphasis on the investigation of insurance fraud fires.

FIRE243   3 3 0 0 0
Building Construction   Open
Study of building materials, components and design features with regard to their reactions under fire conditions. Course also includes interpretation of Life Safety Code and its application to proposed and existing structures.
Prerequisite: FIRE241

FIRE244   3 3 0 0 0
Fire Protection Systems   Open
An examination of devices and systems installed and utilized to support the fire service in the detection and suppression of fire.
Prerequisite: FIRE241

FIRE245   3 3 0 0 0
Hazardous Materials   Open
This course concentrates on principles of response planning for incidents involving the manufacture, transportation, storage and use of hazardous materials, with the objective of minimizing harm to people, property and the environment. *Prerequisite: CHEM131, FIRE241 or SFTY301*

FIRE247   3 3 0 0 0
Planning for Fire Protection   Open
This course is designed to help develop strategic plans for fire protection of an area, community, multiple building complex and single building. Through the use of data collection systems and other management tools, the student will be able to identify and analyze fire problems and develop alternative solutions.

FIRE248   3 3 0 0 0
Emergency Scene Management   Open
Covers emergencies and incident command systems to maintain control in emergencies of fire suppression, mass casualty and hazardous materials. Information, logistics, press, finance, other areas are addressed in incident command system.

FIRE249   3 3 0 0 0
Occup S/H in Emergency Servvices   Open
The fire fighting profession is one of the most dangerous endeavors undertaken in the name of public service. The goal of this course is to enable firefighters to perform assigned tasks in a safe and effective manner, through an understanding of key Occupational Safety & Health Administration (OSHA) regulations and National Fire Protection Association (NFPA) standards.

FIRE250   3 3 0 0 0
Principles of Fire Prevention   Open
This course is a survey of the principles of fire prevention. Students will learn to interpret and apply complex fire prevention regulations. Course covers traditional regulatory aspects and functions associated with fire prevention, the fire code process, plan review, inspections, and fire protection systems testing. The investigation process from the fire scene to the courtroom, and state and federal agencies involved in fire investigation are also covered. Other topics are the importance of fire prevention, records and recordkeeping, personnel, and financial management.
Prerequisite: FIRE241, 244, 247

FIRE251   4 0 0 0 16
Fire Fighter I   Open
This course is a survey of the basic principles of firefighting as they relate to fire fighter professional qualifications. Especially emphasized are the basic skills needed to become accredited as a Fire Fighter I based on the National Fire Protection Association Standard NFPA 1001. Certification requires successful completion of approximately 120 contact hours of Fire Fighter I training, a written exam, a practical (skills performance) exam, and local documentation, all certified by a nationally recognized fire service accreditation agency.

FIRE252   3 0 0 0 12
Fire Fighter II   Open
This course is a survey of the basic principles of firefighting as they relate to fire fighter professional qualifications. Especially emphasized are the basic skills needed to become accredited as a Fire Fighter II based on the National Fire Protection Association Standard NFPA 1001. Certification requires successful completion of approximately 86 contact hours of Fire Fighter II training, a written exam, a practical (skills performance) exam, and local documentation, all certified by a nationally recognized fire service accreditation agency. *Prerequisite: FIRE251*

FREN101   4 4 0 0 0
Elementary French I   Core
An introduction to the basic skills in understanding, speaking, reading and writing French. Grammar analysis, classroom conversational practice and some exploration of French culture.

FREN102   4 4 0 0 0
Elementary French II   Core
Continued practice of the four basic skills and grammar analysis begun in French 101. Introduction to short prose selections with conversational emphasis. *Prerequisite: FREN101 or permission of instructor*

FREN103   4 4 0 0 0
Intermediate French I   Core
Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of cultural and literary materials to develop conversational skills. *Prerequisite: FREN102 or permission of instructor*

FREN104   4 4 0 0 0
Intermediate French II   Core
Continued review of grammatical constructions using cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events. *Prerequisite: FREN103 or permission of instructor*

GEOG141   3 3 0 0 0
Intro to Geography   Core
Course utilizes basic concepts of cultural geography (area, landscape, ecology, diffusion and integration) in a systematic examination of the contemporary world. Course is intended to provide elementary acquaintance with field of geography.

GEOG147   3 3 0 0 0
Developed World   Core
This course systematically surveys the peoples, cultures, resources and problems of the cultural realms commonly designated as the developed world (Anglo-America, Europe, Russia, Japan and Australia).

GEOG148   3 3 0 0 0
Third World   Core
This course systematically surveys the peoples, cultures, resources and problems of the cultural realms commonly designated as the Third World (Latin America, Black Africa, the Islamic World, India and China).

GERM101   4 4 0 0 0
Elementary German I   Core
Development of the basic skills of understanding, speaking and writing German. Grammar analysis, classroom conversational practice and some exploration of the German culture.

GERM102   4 4 0 0 0
Elementary German II   Core
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. *Prerequisite: GERM101 or instructor permission*

GERM103   4 4 0 0 0
Intermediate German I   Core
Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of German cultural and literary materials to develop conversational skills. *Prerequisite: GERM102 or instructor permission*

GERM104   4 4 0 0 0
Intermediate German II   Core
Continued review of grammatical constructions using German cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events. *Prerequisite: GERM103 or instructor permission*

Course Descriptions

GLOS199　　　　2 2 0 0 0
Japan: The Changing Tradition　General
Focuses on history and changing cultural traditions of Japan's modern era and the brief period during which Japan has developed its own distinctive urbanized, industrialized and democratic society.

GLOS200　　　　3 3 0 0 0
Country Study　　General
This course is a single and specific study of a selected country, is culture and people in respect to historical, geographical, economic, political, and social development. The country study course offering is dependent upon instructor selection and student interest. May be repeated for once for a total of 6 credits provided the study is of a different country.

GLOS235　　　　3 3 0 0 0
Intro to International Studies　General
This course provides an introduction to international issues and globalization from the perspective of different continents and countries. The course will cover basic historical, political, cultural, economic, health, human rights, gender, and ethnic issues. Primary emphasis will be on the issues that face real, ordinary people and societal institutions in various countries and communities around the world.

GRPH400　　　　4 2 4 0 0
Intro to Printing Methods　Voc/Tech
A prerequisite for all Graphic Technology courses as an introduction to printing technology. Course will involve lecture and hands-on lab work in the areas of lithography, screen printing and flexography. Bindery and finishing methods will also be covered.

GRPH401　　　　3 3 0 0 0
Intro to Graphic Communication　Voc/Tech
A prerequisite for all Graphic Technology courses. Students will explore the graphic communications industry, technology, terminology and related areas through instructor lecture and student activities.

GRPH406　　　　3 2 2 0 0
Graphic Design I　Voc/Tech
An introduction to graphic design principles and terminology. Through a combination of lecture and hands-on projects, students will focus on the creative process, principles of design, and production techniques. Students will apply these principles and techniques through a series of design projects.

GRPH409　　　　3 3 0 0 0
Project Planning and Management　Voc/Tech
A planning and management course specifically for print communications. Cost estimating, ordering, inventory, quality control, job scheduling and management will be covered. *Prerequisite: GRPH400, 401*

GRPH410　　　　4 2 4 0 0
Printing Methods I　Voc/Tech
In a continuation of Introduction to Printing Methods, students will produce various products using screen, flexography, and offset printing. This course will focus on production techniques of multi-color, multi-panel products. *Prerequisite: GRPH400, 401*

GRPH416　　　　3 2 2 0 0
Desktop Publishing II　Voc/Tech
This intermediate level desktop publishing course will stress creation of complex multiple page documents using industry standard software. Typesetting and graphic formats relative to page layout will be covered as well as proper file preparation for print and Internet publication. *Prerequisite: DKTP401*

GRPH420　　　　4 2 4 0 0
Advanced Printing Methods　Voc/Tech
A specialization course in offset lithography. The student will do advanced work in multi-color printing. This class will also cover all bindery operations from folding, cutting and stitching. *Prerequisite: GRPH400, 401, 409, 410*

GRPH421　　　　4 2 4 0 0
Electronic Prepress I　Voc/Tech
This course is an introduction to electronic prepress. Students will study desktop publishing and electronic prepress systems and procedures and learn to operate electronic prepress equipment. Color science, calibration techniques, digital scanning and halftone imaging will also be studied.
Prerequisite: GRPH400, 401, DKTP401

GRPH425　　　　4 2 4 0 0
Electronic Image Control　Voc/Tech
An intermediate course in digital image enhancement and color control. Students will learn advanced digital image manipulation and colorization skills utilizing industry standard photo editing software. Instruction will focus on image enhancement, restoration and color correction for both print and Internet publication. *Prerequisite: DKTP401, GRPH416, 421*

GRPH426　　　　4 2 4 0 0
Graphic Design II　Voc/Tech
Continuation of Graphic Design I. This course will develop advanced skills in layout and design. Students will use industry standard software applications to create a variety of multiple color projects for print production. *Prerequisite: DKTP401, GRPH406, 416*

GRPH427　　　　4 2 4 0 0
Specialty Printing Methods　Voc/Tech
A course in specialty printing focusing on flexography and screen printing. The students will work in a lab environment to complete multiple color printed projects advancing their skills in both printing technologies.
Prerequisite: GRPH400, 401, 409, 410

GRPH431　　　　4 2 4 0 0
Electronic Prepress II　Voc/Tech
This course is a continuation of electronic Prepress I. Students will study more in-depth principles of electronic prepress including digital workflows, file analysis and repair and digital scanning techniques. Students learn to operate electronic prepress equipment in a workshop setting. *Prerequisite: GRPH421*

GRPH453　　　　4 2 4 0 0
Printing Methods Capstone　Voc/Tech
This course is for students pursuing a Graphic Technologies emphasis in printing technologies. Students work collaboratively to produce a capstone project utilizing their skills in print production. Resume and portfolio preparation are also covered. *Prerequisite: Completion of terms 1 and 2 of the Graphic Technologies program and GRPH420, 427*

GRPH455　　　　4 2 4 0 0
Digital Publishing Capstone　Voc/Tech
This course is for students pursuing an emphasis in digital publishing in Graphic Technologies. Students work collaboratively to produce a capstone project utilizing their skills in digital publishing and print production. Resume and portfolio preparation are also covered. *Prerequisite: Completion of terms 1 and 2 of the Graphic Technologies program and GRPH425, 426*

GRPH458　　　　3 1 0 0 8
Graphic Internship　Voc/Tech
On the job training for Graphic Technologies students. Included is a weekly seminar for the exchange of information, review and evaluation. *Prerequisite: Completion of terms 1, 2 and 3 of the Graphic Technologies program.*

HACR451　　　　5 2 6 0 0
Fundamentals of Refrigeration　Voc/Tech
This course consists of the principles of refrigeration, domestic systems and equipment.

HACR452　　　　3 1 4 0 0
Trade Skills I　Voc/Tech
This course covers all types of soldering and brazing used in the heating, air conditioning, refrigeration industry.

HACR453　　　　5 2 6 0 0
Electricity　Voc/Tech
A study of basic electricity principles including Ohm's law, series and parallel circuits as applied to HVAC and refrigeration. Course also includes hands-on practice with training boards in the lab.

HACR454　　　　5 2 6 0 0
Residential Heating & AC　Voc/Tech
Residential heating and cooling basics. Study of installation and service procedures through class and lab practices. *Prerequisite: HACR451*

HACR455　　　　5 2 6 0 0
Electrical Controls & Circuits　Voc/Tech
The application of control circuits used in the HVAC/R field. These applications include contactors, starters, starting relays, interlocks, relays, thermostats, split phase, shaded pole, capacitor start motors and three-phase motors. *Prerequisite: HACR453*

HACR456　　　　3 1 4 0 0
Trade Skills II　Voc/Tech
This course covers all types of sheet metal fabrications pertaining to the HVAC profession. *Prerequisite: HACR452*

HACR457　　　　5 2 6 0 0
Applied Heating & AC　Voc/Tech
This course covers installation and troubleshooting techniques dealing with residential heating and cooling systems. *Prerequisite: HACR454*

HACR458　　　　4 0 0 0 16
HVAC Internship　Voc/Tech
On the job training for Heating, Air Conditioning, Refrigeration Technology program students who have a "C" average or better in the program. *Prerequisite: Valid driver's license; Prerequisite: HACR454, 455, 456*

HACR459　　　　5 2 6 0 0
Advanced Heating & AC　Voc/Tech
This course covers installation, advanced troubleshooting, maintaining and repairing of geothermal heat pumps, gas, fuel oil and electric heating systems. *Prerequisite: HACR457*

HACR461　　　　3 2 2 0 0
Air Distribution　Voc/Tech
This course involves the study of fans, blowers and dampers; the design of duct systems for proper air delivery; and allows for final system balancing; includes lab practice. *Prerequisite: HACR457*

HACR462　　　　5 2 6 0 0
Commercial HVAC & Refrigeration　Voc/Tech
This course covers basic commercial refrigeration systems, components and their use, applications, methods of installation, maintenance, diagnosis and repairs. *Prerequisite: HACR459, 461*

HACR463　　　　2 1 2 0 0
Computer Load Calculations　Voc/Tech
Course is designed to deliver instruction in the area of heating/cooling load calculations, air flow and air supply/return layout. Extensive use of computers and CAD systems will be incorporated to enhance student productivity. *Prerequisite: HACR461*

HACR464　　　　5 2 6 0 0
Environmental Controls　Voc/Tech
This course covers basic understanding of building environmental and energy management systems, computerized (DDC), pneumatic and electro-mechanical controls. *Prerequisite: HACR451, 455, 461 Corequisite: HACR462*

HACR465　　　　3 2 2 0 0
Blueprint Reading　Voc/Tech
A study of blueprint reading related to the HVAC/R trade. Drafting symbols and terminonology will be covered, along with skills needed to make simple scaled drawings.

HIST121　　　　4 4 0 0 0
Western Civ Beg to 1715　Core
The student surveys the great civilizations from Greece and Rome through the rise of Christianity, to Europe in the Middle Ages, the Renaissance and Reformation, the modern state, the new science and the secular outlook, parliamentary government in England and political absolutism in France and eastern Europe.

HIST122　　　　4 4 0 0 0
Western Civ 1715 to Present　Core
Survey of political, economic, social and intellectual developments from the 18th century to the present. Enlightenment, revolutions and reactions, national unifications, national rivalries, world wars and post-war developments.

HIST124　　　　4 4 0 0 0
American History 1492 To 1877　Core
A survey of main themes of American history from 1492 to 1877 with emphasis on the political, social, economic, religious and intellectual aspects of the pre-settlement, Colonial, Revolutionary, Antebellum Civil War and Reconstruction eras.

Course Descriptions

Course Descriptions

HIST125   4 4 0 0 0
American History 1877 To Present   **Core**
A survey of main themes of American history from 1877 to the present with emphasis on political, social, economic, religious and intellectual aspects of the Gilded Age, the Progressive Era, WWI, the Roaring Twenties, the Great Depression, WWII and post WWII era.

HIST126   3 3 0 0 0
Iowa History   **General**
A broad survey of Iowa history from Indian cultures and pioneer farming through modern agriculture, gradual social changes and long-term political trends.

HIST128-Adjunct**   3 3 0 0 0
Pacific Century   **General**
The Pacific Century explores the tumultuous history of East and Southeast Asia since 1700. The geography, culture, economics, politics, modernization, Western intervention and social and political transformation are emphasized.

HIST139   3 3 0 0 0
African-American History   **General**
A survey of the history of the African-American community with emphasis on the role of individuals, institutions and ideas in the development of the community from its origins in West Africa to the present.

HIST161-Adjunct   3 3 0 0 0
The Civil War   **General**
This telecourse covers the causes, key events, major participants and the long-term impacts of the Civil War using Ken Burns' widely acclaimed TV series. This course vividly captures the entire sweep of America's most significant war.

HLCR301-Adjunct   5 4 0 3 0
Limited Radiography   **Voc/Tech**
IBN#22 State required course for people employed in a clinic to take chest and extremities, sinus or spinal x-rays.

HLCR307   6 4 4 0 0
Emergency Medical Tech Basic   **Voc/Tech**
Prepares rescue personnel for the role and responsibilities of an EMT-B. Includes specific patient assessment and emergency treatment procedures. Students should be 18 years of age prior to course completion. State Health Department Certification Exam after successful course completion.

HLCR308   3 2 2 0 0
First Responder   **Voc/Tech**
A 60 hour emergency care course which emphasizes life threatening emergencies, wounds, fractures, medical and environmental emergencies and other emergency situations as outlined by the U.S. Department of Transportation.

HLCR310- Adjunct   2 1 2 0 0
First Responder   **Voc/Tech**
For people first at the scene of an accident. Emphasis is on patient assessment/emergency care.

HLCR311- Adjunct   1 1 0 0 0
Sign Language-Health Workers   **Voc/Tech**
This course is designed to give insights into the deaf culture, the causes of hearing impairment and the use of basic elements of sign language to assist in the care of the hearing impaired client.

HLCR312- Adjunct   1 1 0 0 0
Graying of America   **Voc/Tech**
This course is to prepare health care workers to proactively respond to the changing demographics that are occurring in America and to be aware of the services provided. IBN#22 1.5 CEUs

HLCR313- Adjunct   2 2 0 0 0
Maximizing Health and Wellness   **Voc/Tech**
This course will define and discuss physical, emotional, psychological and spiritual concepts of health and high level wellness. Participants will explore alternative ways of living, primarily through self-responsibility, to increase their own level of wellness in an ongoing process so they may be role models for clients. IBN#22 3 CEUs

HLCR314   1 1 0 0 0
Emergency Care   **Voc/Tech**
Learn to perform care for medical emergencies: fractures, burns, resuscitation, basic CPR (Cardio-Pulmonary Resuscitation, American Heart Level II standards)

HLCR316- Adjunct   1 1 0 0 0
Home Health Nursing   **Voc/Tech**
This course is designed to give guidance and vision on practice to those nurses choosing to work in home health. IBN#22 1.5 CEUs

HLCR319- Adjunct   1 1 0 0 0
Oncology Nursing   **Voc/Tech**
This course is designed to provide an overview of contemporary oncology nursing. Cancer pathophysiology and epidemiology will serve as a foundation for cancer nursing practice. The focus will be on practical information that will assist nurses to assess, diagnose, plan, implement and evaluate nursing management of the cancer patient and family. IBN#22 1.5 CEUs

HLCR320- Adjunct   2 2 0 0 0
Alternative/Holistic Health   **Voc/Tech**
Introduction to alternative and holistic health care. It is divided into mind/body interventions and professional health care systems. It will introduce the student to alternative modalities available in the community in order to assist patients in making informed choices. IBN#22 3 CEUs

HLCR321- Adjunct   1 1 0 0 0
Supervision/Delegation for RNs   **Voc/Tech**
This course is designed to assist the nurse in developing the knowledge and skill to effect quality care of patients through others. IBN#22 1.5 CEUs

HLCR322 - Adjunct   1 1 0 0 0
Survey of Health Careers   **Voc/Tech**
This course introduces both the variety and requirements for health care careers. Basic core knowledge and professional expectations common to all health careers are explored. Workplace safety and an overview of the health system and current trends are also covered.

HLCR323- Adjunct   1 0 2 0 0
IA Law Enforcement Emergency Care   **Voc/Tech**
Designed to help Iowa Law Enforcement personnel gain the knowledge, skills and attitudes necessary to be a competent, productive and valuable member of the emergency Medical Service team.

HLCR326 - Adjunct   3 0 0 9 0
EMT Intermediate   **Voc/Tech**
Clinical/field experience for the EMT Intermediate which emphasizes the skills, knowledge and theory acquired in HLCR 325, EMT Theory. *Prerequisite: Current certification in EMT Basic.*

HLCR331 - Adjunct   1 1 0 0 0
Home Care Aide   **Voc/Tech**
This training provides practical skills for individuals who are interested in providing in-home services to people who are ill or disabled. The training prepares the home care aide to carry out both homemaking and personal care responsibilities with confidence and competency, under appropriate supervision. *Prerequisite: NRAO301 or HLCR324*

HLCR332 - Adjunct   6 4 4 0 0
EMT Iowa Paramedic I   **Voc/Tech**
An advanced care EMT training program developed by US Dept. of Transportation and approved by the Iowa State Dept. of Public Health. Covers techniques and emergency medical care within the scope of responsibilities of the Iowa EMT Paramedic. *Prerequisite: Current certification by State of Iowa as EMT Basic or EMT Intermediate. High school diploma or GED. Evidence of successful completion of BCLS Health Care Provider CPR.*

HLCR333 - Adjunct   7 5 4 0 0
EMT Iowa Paramedic II   **Voc/Tech**
Continuation of EMT Paramedic I with emphasis on respiratory emergencies, diabetic and allergic reactions, poisonings, environmental, OB/GYN, neonatal and pediatric emergencies. *Prerequisite: Successful completion of HLCR332 and current certification by State of Iowa as EMT Basic or EMT Intermediate. Current CPR Health Care Provider course completion.*

HLCR334 - Adjunct   6 0 0 18 0
EMT Iowa Paramedic III   **Voc/Tech**
Clinical and field experience which emphasizes skills., knowledge and theory acquired in HLCR332 and HLCR333. *Prerequisite: Successful completion of HLCR333 and current certification by State of Iowa as EMT Basic or EMT Intermediate. Current CPR Health Care Provider course completion.*

HLCR335 - Adjunct   4 2 2 3 0
EMT Intermediate   **Voc/Tech**
An advanced EMT training program developed by the Iowa Dept. of Public Health, Bureau of EMS, which covers techniques of emergency medical care within the scope of responsibilities of the Iowa EMT Intermediate. *Prerequisite: Current certification by State of Iowa as EMT Basic, high school diploma or GED and evidence of successful completion of recognized health care provider CPR.*

HLSC202 - Adjunct*   3 3 0 0 0
Introduction to Health Careers   **Voc/Tech**
Students will discover the many options available, including roles and responsibilities, in health career options. This course is designed to provide the student with the information necessary to make their health career choice.

HNRS100   2 2 0 0 0
Honors Seminar   **General**
Discussion seminar whose topics will include a range of subjects determined by students' interest. Students will write in preparation for and response to in-class discussions. May be repeated up to eight semester hours. Admission is by permission of instructor only.

HRMT315   2 2 0 0 0
Sanitation & Equipment   **Voc/Tech**
Principles and methods of sanitation safety and equipment. Equipment selection and facilities planning. Also includes preventive maintenance.

HRMT316   3 3 0 0 0
Food Preparation I   **Voc/Tech**
Introduces the student to the scientific principles used in food preparation. Involves preparation procedures and techniques to be used with fruits, vegetables, starch products, cheese, eggs, meat, poultry and fish. Establishes criteria needed to produce a standard product. *Corequisite: HRMT320*

HRMT319   1 0 2 0 0
Sanitation & Equipment Lab   **Voc/Tech**
The lab consists of sanitation practices. The student will carry out the practice of table service for international cuisine dinners and apply sanitation measures. *(P/F)*

HRMT320   3 0 6 0 0
Food Preparation I Lab   **Voc/Tech**
Preparation of small servings of salads, starch, cheese, egg, meat, poultry and fish products using the techniques studied in lecture. Oral and written evaluation of each product. *Corequisite: HRMT316*

HRMT321   2 0 4 0 0
Dining Room Fundamentals   **Voc/Tech**
A dining room service course in an actual restaurant experience with emphasis on using sound management techniques and quality customer service.

HRMT326   2 2 0 0 0
Food Preparation II   **Voc/Tech**
The study of the principles and procedures of quantity food production as they apply to salads, soups, vegetables, entries and desserts. Emphasis is on organization and recipe standardization. *Prerequisite: HRMT316, 320*

HRMT328   2 0 4 0 0
Food Preparation II Lab   **Voc/Tech**
The production of quick breads, desserts, salads, vegetables, soups and main entries to be sold to the public. Time is spent on an individual recipe production project. *Prerequisite: HRMT316, 320*

HRMT330   2 2 0 0 0
Intro to Hospitality Industry   **Voc/Tech**
Course introduces students to the broad world of hospitality while preparing them for careers in the field. Discussed will be the three primary areas of hospitality - food and beverage, lodging and tourism, along with an introduction to business basics.

HRMT334   3 3 0 0 0
Human Nutrition   **General**
Understanding and implementing present day knowledge of nutrition; the use of food for health and satisfaction of the individual and the family.

HRMT335   2 2 0 0 0
Restaurant Management   **Voc/Tech**
Students will plan menus and meal service in actual restaurant experience. Emphasis is on using sound management techniques for producing high quality food and service to the public. *Prerequisite: HRMT326, 328*

Course Descriptions

HRMT347　　　　　　　**3 0 0 0 12**
Work Experience　　　　**Voc/Tech**
An approved program of experience in one of the many hospitality areas: restaurant, hospital, club, school food service, hotel, or motel. *(P/F)*

HRMT348　　　　　　　**2 2 0 0 0**
Food Service Purchasing　**Voc/Tech**
Principles and methods of food purchasing with emphasis on specifications and grading of various food products. Includes financial procedures and controls used in the food service industry.

HRMT350　　　　　　　**2 2 0 0 0**
Nutrition　　　　　　　**Voc/Tech**
An overview of nutrition-related topics including the psychology of eating and evaluation of food intake.

HRMT351　　　　　　　**2 2 0 0 0**
Menu Planning　　　　　**Voc/Tech**
Course applies the principles of menu planning & layout to the development of menus for a variety of types of facilities and service.

HRMT357　　　　　　　**3 0 6 0 0**
Culinary Skill Development　**Voc/Tech**
Students produce and serve meals for the public in an actual restaurant experience. Emphasis is on the various management functions required to serve quality foods efficiently and intermediate culinary preparation techniques. *Prerequisite: HRMT326, 328*

HRMT364　　　　　　　**2 2 0 0 0**
Hotel Administration　　**Voc/Tech**
A management course which introduces the student to advanced studies of property management, catering, sales, legal aspects, security and maintenance of all departments of the hotel.

HRMT366　　　　　　　**5 0 0 0 20**
Hotel Services Internship　**Voc/Tech**
An approved program of work experience in one of the many hotel/motel properties in the area. *Prerequisite: HRMT330 Corequisite: HRMT368*

HRMT367　　　　　　　**2 2 0 0 0**
Beverage Seminar　　　**Voc/Tech**
Course will familiarize the students with all aspects of beverage service including wine & alcohol laws. Basic mechanics of beverage preparation, sales and promotion will be covered.

HRMT368　　　　　　　**2 2 0 0 0**
Hotel Services　　　　　**Voc/Tech**
An in-depth look at the management and operations of key services within hotel properties. Included are guest services, housekeeping, maintenance & security. Course will examine the intricacies of these services from a management perspective.

HTCT353　　　　　　　**3 3 0 0 0**
Microprocessor Interfacing　**Voc/Tech**
A study of microprocessor/microcomputer interface methods. It includes parallel interfacing using the 8255 PPI and serial interfacing using UART and USARTS. Digital-to Analog and Analog-to-Digital converters are also examined. *Prerequisite: ELHT340, 341, Corequisite: HTCT354*

HTCT354　　　　　　　**4 0 8 0 0**
Microprocessor Interfacing Lab　**Voc/Tech**
An evaluation of microprocessor interface techniques. The experiments include parallel devices such as 8255 Programmable Peripheral Interface chip, UART and USART serial devices, D/A and A/D converters. *Prerequisite: ELHT340, 341, Corequisite: HTCT353*

HTCT355　　　　　　　**2 2 0 0 0**
UNIX Operating System　**Voc/Tech**
Concepts of the UNIX operating system commands. Use of shells, shell scripts, facilities and management commands. *Corequisite: HTCT356*

HTCT356　　　　　　　**1 0 2 0 0**
UNIX Operating System Lab　**Voc/Tech**
Course includes working with UNIX commands. Students will work with shells, write shell scripts, run facilities, work with management commands. *Corequisite: HTCT355*

HTCT360　　　　　　　**4 4 0 0 0**
Network Compatibility Products　**Voc/Tech**
Concepts of the software and hardware used to link various computers and operating systems. *Prerequisite: HTCT355, 356 Corequisite: HTCT363*

HTCT363　　　　　　　**2 0 4 0 0**
Network Compatibility Products Lab　**Voc/Tech**
Installing and configuring compatibility software and hardware. Use of the software to share data between dissimilar system types. *Prerequisite: HTCT355, 356 Corequisite: HTCT360*

HTCT364　　　　　　　**4 2 4 0 0**
Microcomputer Systems　**Voc/Tech**
An evaluation of microcomputer systems. Includes computer diagnostics and repair. Also includes peripheral troubleshooting. *Prerequisite: ELHT346*

HTCT366　　　　　　　**3 3 0 0 0**
TCP/IP Networking　　　**Voc/Tech**
Concepts of the TCP/IP protocol suite. Includes protocol formats, usage and network commands. Concepts of design, installation and management are introduced. *Prerequisite: HTCT355, 356 Corequisite: HTCT367*

HTCT367　　　　　　　**1 0 2 0 0**
TCP/IP Networking Lab　**Voc/Tech**
Hands on command manipulation of a TCP/IP network. Also includes installation and management. *Prerequisite: HTCT355, 356 Corequisite: HTCT366*

HTCT371　　　　　　　**2 2 0 0 0**
Netware 3.x Administration　**Voc/Tech**
Course is designed to prepare students to function competently as a Netware system manager. Topics covered correspond to the responsibilities of a system manager.

HTCT372　　　　　　　**2 2 0 0 0**
Netware 3.1x Adv Administration　**Voc/Tech**
Designed to provide higher-level training for Novell Netware 3.1x system manager. Provides instructions that will enable student to follow basic management strategies, monitor network usage and perform software-oriented maintenance and prevention procedures. *Prerequisite: HTCT371*

HTCT373　　　　　　　**2 2 0 0 0**
Networking Technologies　**Voc/Tech**
Provides a technical level of understanding in the areas of mainframe networking connectivity, data communications concepts and protocol communication concepts.

HTCT374　　　　　　　**2 2 0 0 0**
Netware 4.x Administration　**Voc/Tech**
Course covers the knowledge and skills needed to perform Netware 4.x network administration or system management tasks effectively.

HTCT375　　　　　　　**2 2 0 0 0**
Service & Support　　　**Voc/Tech**
Provides a technical level of competence installing network interface cards, replacing hard drives, installing communications software and hardware and troubleshooting 3.1x and 4.x systems. *Prerequisite: HTCT371 OR 374*

HTPC351　　　　　　　**3 3 0 0 0**
Hydraulics & Pneumatics　**Voc/Tech**
The basic principles of fluid power and the operation and application of fluid power components are introduced. Devices such as valves, linear and rotary actuator are evaluated in the laboratory. In addition, pneumatic position control servomechanisms are evaluated. *Corequisite: HTPC352*

HTPC352　　　　　　　**2 0 4 0 0**
Hydraulics & Pneumatics Lab　**Voc/Tech**
The basic principles of fluid power and the operation and application of fluid power components are introduced. Devices such as valves, linear and rotary activators are evaluated in the lab. *Corequisite: HTPC351*

HTPC355　　　　　　　**3 3 0 0 0**
Process Control Instrumentation　**Voc/Tech**
A comprehensive study of process control characteristics such as elements, modes and stability along with detailed knowledge of measurement technique, control mode implementation and final control element functions. In keeping with modern trends, the digital aspects of process control technology are stressed. *Prerequisite: ELHT340, 341 and 345 or 346; Corequisite: HTPC357*

HTPC357　　　　　　　**2 0 4 0 0**
Process Control Instrumentation Lab Voc/Tech
This lab includes experiments on transducers used in process control as well as experiments on proportional, integral and derivative control. *Prerequisite: ELHT340, 341, 345, Corequisite: HTPC355*

HTPC358　　　　　　　**3 2 2 0 0**
Motor Controls　　　　　**Voc/Tech**
An introduction to industrial motor controls. During this course students will use ladder diagrams and control devices to implement practical control systems.

HTPC359　　　　　　　**3 2 2 0 0**
Programmable Logic Controllers　**Voc/Tech**
This course covers PLC operation and programming techniques to include relay logic, timers, counters, sequencers, discrete I/O, analog I/O, networking, remote I/O, workstations, advanced programming techniques and interfacing with personal computers. *Prerequisite: HTPC358*

HTPC360　　　　　　　**2 2 0 0 0**
Industrial Electronics　　**Voc/Tech**
The devices and circuits used in thyristor control of machines are presented. It includes phase control of DC motors, triac control of AC motors as well as various speed control circuits. *Prerequisite: HTPC358*

HTPC363　　　　　　　**2 2 0 0 0**
Mechanisms　　　　　　**Voc/Tech**
Introductory course covers linear and angular displacement, velocities and accelerations of linkages, gear trains and belt and friction drives. Topics are vectors, simple and complex machines and toggle and intermittent motions mechanisms. *Corequisite: HTPC364*

HTPC364　　　　　　　**2 0 4 0 0**
Mechanisms Lab　　　　**Voc/Tech**
The principles of drives and linkages discussed in HTPC 363 are evaluated using precision components. Major principles evaluated are speed ratios, torque, power and efficiency. Lab projects are applications of principles of process control & robotics interfacing mechanical motion & energy requirements with programmable control concepts. *Corequisite: HTPC363*

HTPC368　　　　　　　**3 2 2 0 0**
Advanced Motor Controls　**Voc/Tech**
Additional topics in industrial motor controls. Course includes wiring of AC & DC motors, power distribution, solid state controls, proximity controls, and frequency drives. *Prerequisite: ELEM325, HTPC358*

HTPC370　　　　　　　**4 3 2 0 0**
Pump Overhaul and Repair　**Voc/Tech**
Overview of internal parts, principles of operation and maintenance of positive displacement and centrifugal pumps.

HTPC371　　　　　　　**3 2 2 0 0**
Mechanical Power Transmission I　**Voc/Tech**
A course in fundamental mechanical power transmission used in manufacturing. Topics covered include the inspection, maintenance and repair of chain and belt drive equipment. This will include the sizing of belts and pulleys, determining speed ratios and the importance of proper sizing for process control.

HTPC372　　　　　　　**4 3 2 0 0**
Mechanical Power Transmission II　**Voc/Tech**
A fundamental course in the principles of mechanical power transmission. Topics include the use of gears to effect speed changes, the identification and use of bearings, clutches, couplings and brakes. *Prerequisite: HTPC371*

HTPC382　　　　　　　**2 2 0 0 0**
Control Systems Overview　**Voc/Tech**
An overview of control systems in an industrial environment including hydraulic, pneumatic and electrical/electronic systems. Topics include valves, actuators, motor starters, relays, timers and programmable controllers.

HUMN115　　　　　　　**3 2 2 0 0**
Introduction to Film　　　**Core**
An introduction to the conventions, scope, purposes and techniques of films. Includes viewing and writing about a variety of films.

Course Descriptions

HUMN131   3 3 0 0 0
Humanities Through Arts   Core
An interdisciplinary course exploring the human condition through literature, painting, sculpture, architecture, music and dance. The course examines the cultural context of individual works and movements, the thematic relationships between the arts and the relevance of the arts in our lives today.

HUMN132 - Adjunct   3 3 0 0 0
Art of Being Human   General
This telecourse explores themes from both Eastern and Western cultures. Themes include aesthetics, myth, morality, love and death which are explored through art, music, literature, philosophy, drama and religion.

HUMN133   3 2 2 0 0
America in the Movies   Core
An interdisciplinary course that combines the insights of history and literature by examining popular American movies. The course explores the social, cultural and ethical questions raised in such films.

HUMN137   3 3 0 0 0
Mythology   General
An introduction to world mythology. The course explores classical, Nordic, Eastern, African and American/British myths.

HUMS101   3 3 0 0 0
Introduction to Human Services   General
History and introduction to the social welfare institution. Theoretical perspectives, concepts, values and intervention strategies are examined. Systems theory is used to explore legislation and services designed to meet client needs.

HUMS104   3 3 0 0 0
Community Organization   Open
A study of various theories, methods and techniques to bring about needed and desirable changes in political, economic, social and bureaucratic structures and processes. Emphasis is placed upon application of learned skills. *Prerequisite: 6 hours of social sciences*

HUMS109   3 3 0 0 0
Survey Mental Health Treatment   Open
Introduction to major counseling theories including psychoanalytic, gestalt, existential, family systems, reality therapy, behavior therapy and person centered therapy. Applications in mental health and social services settings are considered.

HUMS202   3 3 0 0 0
Interviewing/Interpersonal Relations   Open
Study of interviewing theories including roles and relationships between the interviewer and the interviewee. Methodology of developing questions, conducting interviews, recording data and analyzing it and writing assessments and histories are emphasized.

HUMS205   3 3 0 0 0
Intervention Theories/Practice I   Open
Study of several management and planning theories and practices which are used to assess client needs, establish goals, identify resources and make appropriate referrals. Community resources are explored. *Prerequisite: HUMS101, 202*

HUMS206   3 3 0 0 0
Intervention Theories/Practice II   Open
Theories and values of the social sciences, including human services, are used to interpret and respond to client behaviors. Written analysis is emphasized. Evaluation theory and its applications are also stressed. *Prerequisite: HUMS205; Corequisite: HUMS208*

HUMS208   3 0 0 0 13
Field Experience   Open
Supervised experience in a human services agency enables students to apply their skills and knowledge by working directly with clients. *Prerequisite: HUMS205 Corequisite: HUMS206*

HUMS210   3 3 0 0 0
Counseling Techniques   Open
Several counseling models are considered. The theories, methods and applications of client-centered and directive counseling are emphasized. *Prerequisite: HUMS202*

HUMS211   3 3 0 0 0
Counseling with Women   Open
This course explores selected concerns that women are likely to bring into a counseling situation. Topics include sex roles, gender and socialization and their impact on women's lives.

HUMS213   6 0 0 0 27
Pract: Chemical Depend Counsel I   Open
Supervised experience in three of these treatment programs for chemically dependent people: inpatient, outpatient, follow-up care, halfway house and family therapy. *Prerequisite: Admission- Powell CDC at Iowa Lutheran Hospital. Prerequisite: HUMS205*

HUMS214   3 0 0 0 12
Pract: Chemical Depend Counsel II   Open
Supervised experience in one of the following treatment programs for chemically dependent people: inpatient, outpatient, residential, adolescent, or family services. *Prerequisite: Admission - Powell CDC or Iowa Lutheran Hospital. Prerequisite: HUMS205*

HUMS216   3 3 0 0 0
Survey of Addictive Disease   Open
A historical and theoretical background to current concepts of addiction. A variety of addictive behaviors are examined with special focus on psychoactive drug dependency.

HUMS217   3 3 0 0 0
Psychosocial Rehabilitation   Open
The course will emphasize the rehabilitation model, values and techniques for direct service delivery to persons with severe mental disabilities. The student will develop the knowledge and basic skills necessary for rehabilitation goal planning, functional assessment and direct skills teaching along with job development, analysis, matching and retention.

ITAL101   4 4 0 0 0
Elementary Italian I   Core
Development of the basic skills of understanding, speaking, reading and writing Italian. Grammar analysis, classroom conversational practice and some exploration of the Italian culture.

ITAL102   4 4 0 0 0
Elementary Italian II   Core
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. *Prerequisite: ITAL101 or instructor permission*

ITAL103   4 4 0 0 0
Intermediate Italian I   Core
Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of Italian cultural and literary materials to develop conversational skills. *Prerequisite: ITAL102 or instructor permission*

ITAL104   4 4 0 0 0
Intermediate Italian II   Core
Continued review of grammatical constructions using Italian cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events. *Prerequisite: ITAL103 or instructor permission*

ITNA300- Adjunct   4 3 2 0 0
Netplus Certification   Voc/Tech
This course is a comprehensive study for learning, mastering and practicing the concepts required to pass the COMPTIA Netplus Certification Exam. The student will have a significant amount of reading and studying as well as skill building lab time. This course is intended for the student seeking certification.

ITNA302   3 3 0 0 0
Digital and Computer Electronics   Voc/Tech
In the context of today's computer technology, this class studies digital electronic circuits concentrating on gates, counters, registers, and memory. Also included is the study of data communications by bus structure, parallel and serial ports and microprocessors. *Corequisite: ITNA304*

ITNA304   3 0 6 0 0
Digital & Computer Electronics Lab   Voc/Tech
In the context of today's computer technology, this class studies digital electronic circuits concentrating on gates, counters, registers, and memory through lab experiments. Also included is the study of data communications by bus structure, parallel and serial ports and microprocessors. *Corequisite: ITNA302*

ITNA310   4 2 4 0 0
Intro to CISCO Networking I   Voc/Tech
This course provides the student a technical level of understanding in the areas of PC and mainframe networking connectivity, data communications concepts and protocol communication concepts. *Prerequisite: ELHT346*

ITNA320   4 2 4 0 0
Advanced CISCO Networking II   Voc/Tech
Includes network standards, LANs, WANs, OSI models, routers, router programming, ethernet and IP protocol addressing and decision making and problem solving techniques. *Prerequisite: ELHT310*

ITNA330   4 4 0 0 0
Network Applications   Voc/Tech
This course provides the student with an understanding of the software systems and applications which provide network services across differing networks and operating system platforms. *Prerequisite: ITNA310, Corequisite: ITNA332*

ITNA332   2 0 4 0 0
Network Applications Lab   Voc/Tech
This course will provide the student with hands-on experience in installing and configuring the software systems and applications that provide network services across differing networks and operating system platforms. *Prerequisite: ITNA310, Corequisite: ITNA330*

ITNA345   3 3 0 0 0
Web Development I   Voc/Tech
This course is designed to teach students how to install, configure and maintain a Web Server with an emphasis on Web page creation and web site authoring. Students will learn to install a Web Server, a Relational Database, and create dynamic web content containing text, graphics, hyperlinks, tables, forms and frames. *Prerequisite: ITNA320, 330, 332*

ITNA346   3 3 0 0 0
Web Development II   Voc/Tech
This course is designed to teach students how to create a web site where customers can purchase products over the Internet (eCommerce). Students will learn to work with the most widely used server side scripting languages and common gate interfaces including SSI, ASP, JSP, C, Perl and PHP. After completing this course, students will be able to install a web server, a realtional database, and create dynamic web content for eCommerce. *Prerequisite: ITNA345*

ITNA351   3 2 2 0 0
Linux Network Administration   Voc/Tech
This is the first in a series of ITNA Linux courses. This course covers the basic installation and administration of the Linux operating system. *Prerequisite: ITNA330 or instructor permission*

ITNA352   3 2 2 0 0
Linux System Administration   Voc/Tech
This is the second in a series of ITNA Linux courses. This course covers system administration of the Linux operating system. *Prerequisite: ITNA351 or instructor permission*

ITNA353   3 2 2 0 0
Linux System Programming   Voc/Tech
This is the third in a series of ITNA Linux courses. This course covers system programming for the Linux operating system. The final project for the course will be creating your own Packet Sniffer/Intrusion Detection system/Firewall. *Prerequisite: ITNA352 or instructor permission*

ITNA354   3 2 2 0 0
Network Security   Voc/Tech
This is the first in a series of ITNA Security courses. This course details how to protect your network from malicious users and how to choose and configure a Firewall for Microsoft Windows, Novell, Linux and CISCO. *Prerequisite: ITNA330 or instructor permission*

Course Descriptions

ITNA355   3 2 2 0 0
Linux Systems & Certification   Voc/Tech
This course provides the student with a thorough study into the various Linux/Unix systems available, the advantages and disadvantages, installation techniques and management functions. A significant amount of time will be spent loading, operating and contrasting the various operating systems. *Prerequisite: ITNA351, 352 354*

ITNA356   3 2 2 0 0
Linux Programming for Administrators Voc/Tech
This course includes the study of creating and installing bash and perl scripts as well as a detailed study of their uses and power controlling a Linux or Unix environment. The student will also create, compile and link C code and explore the Unix/Linux kernel. *Prerequisite: ITNA353*

ITNA357   3 2 2 0 0
Linux Network Programming   Voc/Tech
The purpose of this class is to familiarize the student with the functions and program skills to successfully support Linux in a network environment. The course will include a major project of programming and installing a successful Linux network service. *Prerequisite: ITNA356*

ITNA360 - Adjunct   3 3 0 0 0
Network Security Issues
This is a survey course for currently employed network managers and/or administrators. This course does not have any lab component. It explains how to protect a network from malicious users and how to choose a Firewall for Microsoft Windows, Novell, Linux and CISCO. *Prerequisite: ITNA330 or 2 years industry experience and instructor permission*

ITNA365   2 2 0 0 0
Java Programming I   Voc/Tech
Learn Java programming techniques related to Information Technology Network Administration. *Prerequisite: ITNA320, 330, 332*

ITNA366   2 2 0 0 0
Java Programming II   Voc/Tech
Learn advanced Java programming techniques related to Information Technology Network Administration. *Prerequisite: ITNA365*

JAPN101   4 4 0 0 0
Elementary Japanese I   Core
Development of the basic skills of understanding, speaking, reading and writing Japanese. Grammar analysis, classroom conversational practice and some exploration of the Japanese culture.

JAPN102   4 4 0 0 0
Elementary Japanese II   Core
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. *Prerequisite: JAPN101 or instructor permission*

JAPN103   4 4 0 0 0
Intermediate Japanese I   Core
Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of Japanese cultural and literary materials to develop conversational skills. *Prerequisite: JAPN102 or instructor permission*

JAPN104   4 4 0 0 0
Intermediate Japanese II   Core
Continued review of grammatical constructions using Japanese cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events. *Prerequisite: JAPN103 or instructor permission*

JNAD120   3 3 0 0 0
Intro to Mass Communication   Open
An introduction to mass communication in a global marketplace. Emphasizes print and electronic media, advertising and public relations, ethics and new technology.

JNAD121   3 3 0 0 0
Basic Reporting Principles   Open
Designed to provide students with experiences in gathering, organizing and writing news stories.

JNAD123   3 1 4 0 0
Publications Production   Open
Special work in journalism. Students will produce a DMACC newspaper, on one of the campuses and will gain experience in writing, copy-editing, layout and design. May be repeated for three additional semesters.

JNAD125   3 3 0 0 0
Principles of Advertising   Open
Course explores advertising as a tool and socio-economic force.

JNAD126 - Adjunct   3 2 2 0 0
Photojournalism   Open
Students will learn basic visual and technical aspects of photojournalism, using a digital camera, while photographing a series of general news, feature, performing arts, sports and community events. A digital camera is required for this class.

JNAD127 - Adjunct   3 3 0 0 0
Advanced Reporting: Politics
Designed to provide experiences in producing news stories on political candidates, campaigns and elections. The role of the news media in American electoral strategy and outcomes and the relationship between reporters and public officials will be examined. Emphasis is placed on the most recent election and its coverage. *Prerequisite: JNAD121; enrollment in PLSC127 concurrently*

LEGA240   3 3 0 0 0
Introduction to Law   Open
A general introduction to the American legal system including case briefing, court structure and civil, criminal and administrative procedure. An examination of ethical and professional practice standards applicable to the legal profession. Understanding of the roles of the judge, jury, attorney and legal assistant.

LEGA242   3 3 0 0 0
Torts & Litigation I   Open
A study of the basic law relating to personal and property damage. Topics include intentional torts, negligence, nuisance, strict liability and automobile law. Principles of trial practice including drafting basic pleadings, gathering and organization of materials for trial. *Prerequisite: instructor permission or LEGA240, 260*

LEGA243   3 3 0 0 0
Torts & Litigation II   Open
A continuation of Torts and Litigation I. Areas of concentration will be premise liability, family torts, defamation, governmental immunity, malpractice and wrongful death. Advanced trial practice including drafting of pleadings and discovery documents. *Prerequisite: LEGA242*

LEGA244   3 3 0 0 0
Family Law   Open
Legal aspects of the family relationship. Rights and duties of the parties in marriage, annulment, divorce, child custody and adoption. The course will emphasize the use of domestic law forms. *Prerequisite: instructor permission or LEGA240, 260*

LEGA246   3 3 0 0 0
Business & Corporate Law I   Open
Study of fundamentals of law of contracts, uniform commercial code and rights of creditors in transactions.

LEGA247   3 3 0 0 0
Business & Corporate Law II   Open
Continuation of Business and Corporate Law I. Survey of rights of debtors and creditors in collections and bankruptcy. Formation of proprietorships, partnerships and corporations and a survey of the law applicable to each. Preparation of documents necessary to the organization and operation of each. *Prerequisite: LEGA246*

LEGA248   3 3 0 0 0
Real Estate Law   Open
Study of law of real property and a survey of more common types of real estate transactions. Emphasis is on the preparation of the instruments necessary to complete various real estate transactions. *Prerequisite: instructor permission or LEGA240, 260*

LEGA249   3 3 0 0 0
Probate Procedure   Open
A study of wills including validity requirements, modification and revocation. Formation of trusts and the characteristics and requirements of each type. Laws of testate and intestate succession. Forms and procedures for probating an estate. *Prerequisite: instructor permission or LEGA240, 260*

LEGA250   4 1 0 0 15
Legal Internship & Ethics   Open
Application of the theoretical knowledge gained in the classroom by interning in a private law office, governmental agency, or private business which utilizes attorneys. Students will participate in seminars concerning their internship experience and legal ethics. Total internship requirement is 225 hours. *(P/F) Prerequisite: Minimum of "C" in all LEGA courses & complete minimum 8 LEGA classes*

LEGA251   3 3 0 0 0
Wills, Estate Planning & Taxation Open
Basic principles of estate planning in order to minimize estate and gift tax consequences. Preparation of federal estate, gift tax returns and Iowa inheritance tax returns. Drafting of wills designed to carry out estate plans. *Prerequisite: LEGA249*

LEGA252   3 3 0 0 0
Administrative Practice   Open
A study of administrative law and procedures for administrative hearings in various governmental agencies. Drafting and researching administrative rules and regulations will be covered. *Prerequisite: instructor permission or LEGA240, 260*

LEGA254   3 3 0 0 0
Evidence: Theory & Practice   Open
Study of substantive and procedural laws of evidence. Introduction to Rules of Evidence. Methods of discovering, preserving and presenting evidence in civil and criminal trials. *Prerequisite: instructor permission or LEGA242*

LEGA256   3 3 0 0 0
Debtor/Creditor Law   Open
Procedures in non-bankruptcy debt collection. Fundamentals of bankruptcy law and bankruptcy procedure. Examination of alternatives to formal bankruptcy proceedings. *Prerequisite: instructor permission or LEGA240, 260*

LEGA258   1 1 0 0 0
Computerized Legal Research   Open
Introduction to computer assisted legal research. Training in legal research search strategies using both the Lexis and Westlaw systems. *Prerequisite: LEGA260*

LEGA259   3 3 0 0 0
Adv Legal Research & Writing   Open
Research and analysis of complex and multiple factual and legal issues. Preparation of legal documents using analysis and application of legal research. Use of specialized research sources. *Prerequisite: LEGA261*

LEGA260   3 3 0 0 0
Legal Research & Writing I   Open
The nature of legal authority and tools and techniques of basic legal research and writing. Emphasis will be on Iowa law. Degree Students: If transcript has not been submitted, you must contact the registration office to register for this course. *Prerequisite: ENGL117*

LEGA261   3 3 0 0 0
Legal Research & Writing II   Open
Advanced application of principles of legal research. Preparation of interoffice memorandums and demand letters. Out-of-state and federal law. *Prerequisite: LEGA240, 260*

LEGA265   3 3 0 0 0
Mediation   Open
Classroom study of mediating legal disputes. Students will study the purposes of mediation using "objective" criteria, impediments to resolution, moving beyond impasse and reaching an agreement. *Prerequisite: LEGA240, 260 and or instructor permission*

LIBS120   1 1 0 0 0
Library Instruction   General
Study of classification systems, use of library resources and the compilation of bibliographies.

LIBS123   1 1 0 0 0
Internet Research Techniques   General
Students will learn how information resources are organized on the Internet, how to reference and evaluate information on particular topics. *Prerequisite: Basic computer literacy*

Course Descriptions

Course Descriptions

LITR120   3 3 0 0 0
Intro to Literature   Core
Introduction to the study and appreciation of poetry, fiction and drama. Basic critical approaches are emphasized and a broad range of authors from a variety of cultural and ethnic groups and a wide span of historical periods is presented.

LITR121   3 3 0 0 0
Major British Writers   Core
Introduction to the study and appreciation of major British writers particularly from the post-Renaissance through the contemporary period. Basic critical approaches are emphasized.

LITR122   3 3 0 0 0
Major American Writers I   Core
Study of works of selected major writers (including Native American) particularly from Puritan times to 1865. Basic critical approaches are emphasized.

LITR123   3 3 0 0 0
Major American Writers II   Core
Examines American literature from early 20th Century through contemporary America. Emphasizes major literary works and their social and cultural contexts.

LITR124   3 3 0 0 0
Children's Literature   General
Study historical, sociocultural contexts surrounding children's literature; examine current trends and issues in the field; analyze and evaluate children's literature; and develop an awareness and appreciation for the variety of literature available.

LITR125   3 3 0 0 0
Contemporary Literature   Core
Introduction to the study and appreciation of significant contemporary writers and literary movements since 1945. The relationship of current literature to society and basic critical approaches are emphasized.

LITR130   3 3 0 0 0
Science Fiction   Core
A survey of speculative fiction from <u>Frankenstein</u> to literature of the 20th Century. Examines major influential works in their literacy, social and cultural contexts. Critical analysis is emphasized.

LITR131   3 3 0 0 0
Detective Fiction   Core
Introduction to the study and appreciation of detective fiction. A literary investigation of the components of detective fiction and basic critical approaches are emphasized.

LITR132   3 3 0 0 0
Humor   Core
Introduction to the study and appreciation of humor as literary genre. An investigation of origins, types, techniques and purposes of humor and basic critical approaches are emphasized.

LITR133   3 3 0 0 0
Black American Literature   Core
Introduction to the study and appreciation of literature written by African-American writers. A broad range of Black American authors will be presented.

LITR134   3 3 0 0 0
Women's Literature   Core
Introduction to the study and appreciation of literature written by women. Examines major works from a variety of historical, social and cultural contexts. Critical analysis is emphasized.

MATH080   1 1 0 0 0
Math Study Skills   College Prep
Provides students with the study techniques necessary for successful completion of their college preparatory or college credit math courses. It also addresses feelings and attitudes that might block math learning and offers strategies and techniques designed to overcome these feelings. *College Preparatory courses cannot be used to fulfill degree requirements.*

MATH088   3 3 0 0 0
Arithmetic   College Prep
A review of the fundamental operations of arithmetic including addition, subtraction, multiplication and division of whole numbers, decimals and fractions. This is a college preparatory course designed for those students who need to review and improve their knowledge of the fundamentals of mathematics. *College Preparatory courses cannot be used to fulfill degree requirements.*

MATH090   4 4 0 0 0
Prealgebra   College Prep
A review of arithmetic and introduction to algebra. This is a college preparatory course designed to strengthen arithmetic skills and introduce basic concepts of algebra in preparation for MATH092. *College Preparatory courses cannot be used to fulfill degree requirements.*

MATH092   4 4 0 0 0
Introductory Algebra   College Prep
A beginning algebra course covering most elementary topics of algebra. This includes the real number system, solving equations and inequalities, polynomials, fractional equations and radical expressions. This is a college preparatory course designed for students with no algebra background or for students who need review. *College Preparatory courses cannot be used to fulfill degree requirements.*

MATH094   4 4 0 0 0
Intermediate Algebra   College Prep
A review of elementary algebra along with the new topics including exponents and radicals, functions and graphs, quadratic equations, inequalities and systems of equations. *Prerequisite: 1 year H.S. algebra, department permission or MATH092. College Preparatory courses cannot be used to fulfill degree requirements.*

MATH115   4 4 0 0 0
Finite Mathematics   Core
General education course in practical mathematics for students not majoring in mathematics or science. Include such topics as set operations and applications, methods of counting, probability, systems of linear equations, matrices, geometric linear programming and an introduction to Markov chains. *Prerequisite: 1 year H.S. algebra or MATH092*

MATH118   4 4 0 0 0
Math for Elementary Educators Core
Provides future elementary teachers a modern approach to mathematics. Sets, relations, number systems, nature of proof, algorithms, elements of algebra and geometry, basic computational skills and problem solving. This course is for students in education fields and is not appropriate for students in other majors. This is not a methods course. *Prerequisite: 1 year H.S, algebra, department permission or MATH092*

MATH119   2 0 4 0 0
Explorations in Elemen Math Educ Open
This course will provide elementary and middle school teachers with laboratory-based experiences designed to teach and reinforce elementary statistics and probability concepts, as well as fractions, decimals, and geometry. Topics will be covered from both a practical and theoretical standpoint, with an emphasis on practical understanding using concrete examples. It will develop the conceptual foundation for elementary mathematics including the basic arithmetic operations, properties of operation, number theory, and basic 2D and 3D geometry. *Prerequisite: MATH118*

MATH120   4 4 0 0 0
College Algebra   General
This course provides an intensified study of algebraic techniques and prepares students for future study in mathematics. The central theme of this course is the concept of a function and its graph. Topics include functions, exponents, logarithms, systems of equations, matrices, polynomials conic sections and probability. *Prerequisite: 2 years H.S. algebra, or MATH094*

MATH121   4 4 0 0 0
Elementary Statistics   Core
Tabular and graphical presentation, measures of central tendency and variability, standard elementary procedures involving the binomial, normal, student's t's, chi-squares and f distributions, correlation, regression, analysis of variance and several nonparametric procedures. Same content as BSAD152, credit will not be granted for both BSAD152 and MATH121. *Prerequisite: 1 year of H.S. algebra or MATH094 or dept permission*

MATH122   4 4 0 0 0
Calculus for Business/Social Science Core
Functions, graphs, differential calculus, integral calculus, introduction to max-min theory for functions of two variables. Emphasis on application of calculus to business problems. Not a substitute for MATH129 and MATH130. *Prerequisite: 2 years H.S. algebra and MATH115, or MATH094 and MATH115*

MATH123   3 3 0 0 0
Trigonometry   Core
Circular functions and their inverses, trigonometric identities, trigonometric equations, solving triangles and graphing. *Prerequisite: 2 years H.S. algebra, department permission or MATH094*

MATH124   5 5 0 0 0
Precalculus   Core
Real and complex number systems, inequalities, exponential and logarithmic functions, mathematical induction, limits, sequences, elementary theory of equations, linear systems, matrices, vectors and topics of analytic geometry. *Prerequisite: MATH 123 or equivalent or department permission*

MATH125   2 2 0 0 0
Statistical Business Applications Open
This is the second course in the statistics sequence. Course content includes application and interpretation of probability and statistics as applied to business situations by using sampling, confidence intervals, control charges, simple linear regression analysis, multiple regression analysis, correlation analysis, data analysis, time series analysis, hypothesis testing and computer analysis. Same content as MATH125, credit will not be granted for both BSAD125 and MATH125. *Prerequisite: BSAD152 or MATH121*

MATH129   5 5 0 0 0
Calculus I   Core
Absolute values, inequalities, functions, limits, continuity, differentiation, definite integral, exponential and logarithmic functions. *Prerequisite: MATH124 or equivalent or department permission*

MATH130   5 5 0 0 0
Calculus II   Core
Continuation of MATH129. Techniques of integration, hyperbolic functions, polar coordinates, indeterminate forms, improper integrals, infinite series, partial derivatives, multiple integrals. *Prerequisite: MATH129*

MATH131   3 3 0 0 0
Calculus III   Core
Continuation of MATH130. Vectors and vector valued functions. Tangent and normal vectors. Arc length and curvature. Vector fields. Line and surface integrals. Green's Theorem, Divergence Theorem and Stoke's Theorem. Infinite series. *Prerequisite: MATH130 or equivalent or department permission*

MATH132   4 4 0 0 0
Differential Equat/Laplace Trans Core
Ordinary differential equations, systems of ordinary differential equations, Laplace transforms, numerical methods and applications. *Prerequisite: MATH130 or equivalent must be taken concurrently with or prior to this course*

MATH410   3 3 0 0 0
Mathematics for Technicians I Voc/Tech
A course in elementary mathematical skills for technicians. Topics covered include fundamental operations with whole numbers, fractions, decimals and signed numbers; percents; geometric figures and basic constructions; area and volume formulas; English/Metric systems; measurements; and the interpretation of graphs and charts.

MATH411   3 3 0 0 0
Mathematics for Technicians II Voc/Tech
A course in algebra and trigonometry for technicians. Topics covered include polynomials, equations, systems of linear equations, factoring, quadratic equations, trigonometry, powers, roots and logarithms. *Prerequisite: MATH410*

Course Descriptions

MCSE305   3 3 0 0 0
Implementing Network Infrastructure   Voc/Tech
This course concentrates on the specifics of network infrastructure administration, including setting up, maintaining and administering the network. The content is geared toward preparation for the associated Microsoft certification test. *Prerequisite: ITNA320, 330, 332*

MCSE310   5 2 6 0 0
MS Windows Professional/Server   Voc/Tech
This course includes the curriculum for the current Microsoft versions of professional and server products. The content is geared toward preparation for the associated Microsoft certification test. *Prerequisite: ITNA320, 330, 332*

MCSE312   2 2 0 0 0
Designing MS Directory Services   Voc/Tech
This course covers the current curriculum for designing MS directory services. *Corequisite: MCSE305, 310, 320*

MCSE314   2 2 0 0 0
Designing Security for MS Network   Voc/Tech
This course covers the current curriculum for Designing Security for an MS Network. *Corequisite: MCSE305, 310, 320*

MCSE315   4 3 2 0 0
Managing MS Win Network Envirn   Voc/Tech
This course is designed to meet the requirements of MCSE test #70-218. It covers the basic entry level windows networking materials and skills. *Prerequisite: HTCT364, ELHT346*

MCSE316   2 2 0 0 0
Designing MS Net Infrastructure   Voc/Tech
This course covers the current curriculum for Designing the MS Network Infrastructure. *Corequisite: MCSE305, 310, 320*

MCSE318   3 3 0 0 0
Upgrading from WIN NT 4.0   Voc/Tech
This course covers the current curriculum for upgrading to the newest version of Windows Workstation/Server software from WIN NT 4.0. *Corequisite: MCSE305, 310, 320*

MCSE320   3 2 2 0 0
Implementing Directory Service   Voc/Tech
This course concentrates on the specifics of active directory administration. Includes setting up, maintaining and administrating the active directory services of current windows server products. *Prerequisite: ITNA320, 330, 332*

MCSE322   3 3 0 0 0
Design/Implement Data Warehouse Voc/Tech
This course covers the current curriculum for Designing and Implementing MS Data Warehouse. *Prerequisite: MCSE310*

MCSE330   3 3 0 0 0
Internetworking MS TCP/IP   Voc/Tech
This course covers the current curriculum in Microsoft courses for Internetworking TCP/IP. *Prerequisite: MCSE310*

MCSE335   3 3 0 0 0
Supporting MS Windows 95   Voc/Tech
This course covers the current curriculum in Microsoft Windows 95. *Prerequisite: MCSE310*

MCSE340   4 3 2 0 0
Microsoft Exchange Server   Voc/Tech
This course covers the current curriculum in the Microsoft Exchange Server series. *Prerequisite: MCSE310*

MCSE345   3 3 0 0 0
Supporting MS Windows 9.X   Voc/Tech
This course covers the current curriculum in Microsoft Windows 98. *Corequisite: MCSE305, 310, 320*

MCSE346   4 3 2 0 0
Supporting MS Windows XP   Voc/Tech
Involves installation, configuration, maintenance and administration of Windows XP Professional software. Prepares students with a knowledge base for Windows XP Pro Version certification exam. *Prerequisite: ITNA 320 or Net Plus Certification*

MCSE355   4 3 2 0 0
MS Systems Management Server   Voc/Tech
This course covers the current curriculum in administering and deploying the Microsoft Systems Management Server. *Prerequisite: MCSE310*

MCSE360   2 2 0 0 0
MS Internet Information Server   Voc/Tech
This course covers the current curriculum for creating and managing a web server.

MCSE365   1 1 0 0 0
Microsoft Proxy Server   Voc/Tech
This course covers the current curriculum for MS Proxy Server. *Prerequisite: MCSE360*

MCSE370   1 1 0 0 0
Implementing MS Internet Explorer Voc/Tech
This course covers the current curriculum for implementing MS Internet Explorer. *Prerequisite: MCSE310*

MCSE375   3 3 0 0 0
Implementing an SQL Database   Voc/Tech
This course covers the current curriculum for implementing a database in Microsoft SQL Server. *Prerequisite: MCSE305, 310, 320*

MCSE380   3 3 0 0 0
MS SQL System Administration   Voc/Tech
This course covers the current curriculum for System Administration on Microsoft SQL Server. For more information contact the Advanced Technology Center or www.dmacc.edu (ITNA program) *Prerequisite: MCSE375*

MEDA461   4 4 0 0 0
Human Body-Health & Disease I   Voc/Tech
Basic biological concepts, structure and function of the body. Interrelationship of body systems in the healthy individual is stressed. Symptoms of disease, diagnostic aids used by the physician, possible methods of treatment and prognosis are presented.

MEDA462   1 0 2 0 0
Medical Terminology   Voc/Tech
Designed to help logically understand medical terms. Basic prefixes, suffixes and root words are emphasized as a method of acquiring and retaining knowledge. Exercises stressing the spelling, pronunciation and use of medical terms are included.

MEDA464   4 3 2 0 0
Medical Laboratory Procedures I   Voc/Tech
Introduction to medical laboratory procedures, ethics, laboratory personnel and OSHA regulations. Includes use of basic lab equipment and application of basic microbiological principles. Routine urinalysis: physical, chemical and microscopic examination. Quality control is emphasized. *Corequisite: MEDA465*

MEDA465   3 2 2 0 0
Medical Office Procedures I   Voc/Tech
Designed as a basis for understanding and performing clinical skills including vital signs and patient exam preparation. Experience in taking patient histories, charting and patient education. Introduction to medical and surgical asepsis and emphasis on OSHA regulations. *Corequisite: MEDA464*

MEDA466   2 1 2 0 0
Medical Office Management I   Voc/Tech
Emphasizes administrative responsibilities of the medical assistant. Includes classroom work in records management, banking and payroll. Introduction to the computer with practical application in word processing.

MEDA467   3 3 0 0 0
Professional Development I   Voc/Tech
Emphasizes professional opportunities and responsibilities of the Medical Assistant. Medical specialities are studied. Study of first aid procedures prepares the student to cope with emergency situations in the office as well as in the community. Medical ethics and law are studied as they affect the practice of medicine.

MEDA471   4 4 0 0 0
Human Body-Health & Disease II   Voc/Tech
The study of the body systems is completed. *Prerequisite: Grade of "C" or better in MEDA461*

MEDA472   2 2 0 0 0
Diagnostic Radiography I   Voc/Tech
This course includes radiological principles, film evaluation, processing and techniques, positioning of patients and radiation protection of patients and workers. This course partially meets the requirements for a "limited diagnostic radiographer" set by the Radiologic Division of the Iowa Department of Health. *Prerequisite: MEDA464*

MEDA473   4 3 2 0 0
Medical Office Management II   Voc/Tech
Study of health insurance, HMOs, workers' compensation, Medicare and Medicaid, proper use of telephone, appointment scheduling and record-keeping. Through computer applications and practice sets, the student keeps patients' medical and financial records and transcribes medical dictation. *Prerequisite: Grade of "C" or better in MEDA466*

MEDA474   3 2 2 0 0
Medical Laboratory Procedures II   Voc/Tech
Blood collection by venipuncture and finger puncture. Pregnancy tests, mono tests and EKGs performed. Practical experience performing complete blood counts, differentials and blood chemistries. Emphasis on OSHA regulations and quality control in the physician's office laboratory. *Prerequisite: Grade of "C" or better in MEDA464; Corequisite: MEDA475*

MEDA475   3 2 2 0 0
Medical Office Procedures II   Voc/Tech
Student learns how to assist with examinations, tests and treatments and how to care for and use medical and surgical equipment used in the examining room. Includes principles of pharmacology, administration of injections, sterile procedures, pulmonary functions, bandaging and patient education. *Prerequisite: Grade "C" or better in MEDA465; Corequisite: MEDA474*

MEDA480   1 0 2 0 0
Professional Development III   Voc/Tech
Provides an opportunity for the student to discuss situations that arise in the clinical experience. Oral reports by students are supplemented by a review of weekly clinical evaluations. In addition, the student is made aware of community health service available to the patient. *Corequisite: MEDA485*

MEDA482   2 2 0 0 0
Diagnostic Radiography II   Voc/Tech
A continuation of Diagnostic Radiology I with emphasis on evaluation of films exposed by the student under supervision in a physician's office. *Prerequisite: Grade of "C" or better in MEDA472 Corequisite: MEDA485*

MEDA483   1 0 2 0 0
Medical Office Management III   Voc/Tech
Provides an opportunity for the student to become adept in using dictation transcription equipment. Case histories, consultations, physical examinations and surgical reports on prepared tapes are used to provide material that is of immediate practical use. *Prerequisite: Grade of "C" or better in MEDA473*

MEDA485   5 0 0 0 21
Practicum   Voc/Tech
A course designed especially for the preparation of students involving supervised practical application of previously studied theory. New material is integrated as the student progresses. The student receives experience in a physician's office working under the direct supervision of the physician and office staff. There is no financial remuneration. *Prerequisite: Satisfactory completion of all courses in first 2 terms. Corequisite: MEDA482*

MFGT301   3 3 0 0 0
Introduction to Safety Science   Voc/Tech
This course will cover the introduction to safety in business and industry. It will familiarize students with terminology and economics, social , environmental, ethical and regulatory pressures of today. Overview of physical safety, protection and chemical, biological and mechanical hazards.

MFGT418   5 0 0 0 20
IMT Internship   Voc-Tech
Supervised work experience with employer, based upon individual training plan which enables student to apply skills and knowledge. *Prerequisite: Successful completion of courses in terms 1, 2 and 3 of the Integrated Manufacturing Technology program.*

MFGT475   2 0 4 0 0
Manufacturing Welding I   Voc-Tech
Basic skills will be developed in welding beads and buildup surfacing in the flat position, welding with oxy-acetylene equipment along with an introduction to GMAC welding.

Course Descriptions

MFGT482   1 1 0 0 0
Related Welding Blueprint-Mfg. Tech.   Voc-Tech
Basic skills will be developed in reading welding blueprints, with emphasis on welding symbols.

MGMT101   3 3 0 0 0
Supervisory Management   Open
A unique view of organizational structure, the managerial function and the role of the supervisor as it relates to the human relationship between supervisors, peers and subordinates and the practice of sound personnel techniques.

MGMT102   3 3 0 0 0
Introduction to Management   General
Explore basic management principles, concepts and practices in the areas of planning, organizing, leading and controlling. Paradigm shifts include motivation, leadership, group dynamics, job design, organizational structure, decision making, social responsibility and global competition.

MGMT103   3 3 0 0 0
Sales Management   Open
Expands on the selling process by training the trainer in functional aspects of sales force management. Emphasis on recruitment, selection and training procedures; motivation, group presentations and meeting management; compensation plans, territory management, forecasting and performance evaluation.

MGMT104   3 3 0 0 0
Organizational Behavior   Voc/Tech
Course introduces the concepts, methodologies and techniques used in the field of organizational development. Topics covered include: fundamental concepts, leadership, organizational environment, social environment, group process and operating activities.

MGMT153   3 3 0 0 0
Office Management   Open
Introduces concepts of office management aimed at increasing efficiency and productivity in operation of the office. Areas covered include: planning and organizing, leadership and human relations and controlling office operations.

MGMT203   3 3 0 0 0
Human Relations in Business   Open
Emphasizes the importance of the development of proper attitudes toward self, others and organizational settings. Stresses the development of a good self image and the relationship this has to energy levels, emotions, defensiveness, verbal and nonverbal communication.

MGMT240   3 3 0 0 0
Principles of Managerial Finance   Open
This course provides a general background in managerial finance through financial statement analysis, time values, long range investment strategy and cost analysis of alternative financial strategies. *Prerequisite: ACCT101, 102*

MGMT241   3 3 0 0 0
Production Management   Open
An introductory course in production management with emphasis on facilities layout and planning, forecasting, inventory systems and quality control.

MGMT242   3 3 0 0 0
Human Resource Management   Voc/Tech
This course studies the role of human resource management as it applies to the challenges, problems, techniques, opportunities, ethical considerations and social dynamics in organizations. Emphasis on human resource activities of both managers and human resource specialists.

MGMT243   3 3 0 0 0
Management of Information   Voc/Tech
An introduction of managing information for decision-making. Planning what information to obtain, sources and methods of collecting information; interpreting and analyzing; presenting and using information for decisions.

MGMT244   3 3 0 0 0
Leadership Development   Voc/Tech
The central focus of this course is the development of leadership ability. The course provides a basic understanding of leadership and group dynamics theory, assists participants in developing a personal philosophy of leadership and an awareness of one's own ability and style of leadership.

MGMT250   3 3 0 0 0
Fundamentals of Purchasing Mgmt.   Voc/Tech
This course provides information on the basic functions, terminology and systems used in a modern purchasing department. Topics include supplier analysis, negotiation techniques, contracts and administration of a purchasing department for both service and manufacturing firms.

MGMT341   6 0 0 0 24
Business Internship I   Voc/Tech
One semester of full-time successful introductory on-the-job training in a cooperating training station. Emphasis is placed on customer service and sales promotion strategies. *(P/F) Corequisite: MGMT342*

MGMT342   2 1 2 0 0
Internship Seminar I   Voc/Tech
Field experience problems will be discussed, new occupational information will be presented and business people will speak on the functions, institutions and products found in the field of sales promotion.
Corequisite: MGMT341

MGMT344   2 1 2 0 0
Field Experience I Seminar   Voc/Tech
Field experience problems will be discussed, new occupational information will be presented and business people will speak on the functions, institutions and products found in the field of management.
Corequisite: MGMT345

MGMT345   6 0 0 0 24
Field Experience I   Voc/Tech
Consists of one term of full-time successful introductory on-the-job management training in a cooperating training station. Development and supervision of a training plan will be made by a teacher-coordinator.
(P/F) Corequisite: MGMT344

MGMT353   4 0 0 0 16
Business Internship II   Voc/Tech
Sales promotion training of the level prescribed in the individual training plan. Exposure will be given to merchandising techniques. The training will be scheduled in an approved cooperating training station. Supervision of the training plan will be made by a teacher/coordinator. *(P/F) Corequisite: MGMT348*

MGMT356   1 1 0 0 0
Field Experience II Seminar   Voc/Tech
Field experience problems will be discussed, new occupational information will be presented and topics relating to supervision and management will be discussed. *Corequisite: MGMT363*

MGMT358   1 1 0 0 0
Internship Seminar II   Voc/Tech
Students are exposed to areas of sales promotion through guest speakers, visual aids and discussion of business.
Corequisite: MGMT353

MGMT362   4 0 0 0 16
Business Internship III   Voc/Tech
Consists of one term of part-time on-the-job training of the level prescribed in the individual training plan. Exposure will be given to merchandising control and supervision. Supervision of the training plan will be made by a teacher/coordinator. *(P/F) Corequisite: MGMT367*

MGMT363   4 0 0 0 16
Field Experience II   Voc/Tech
Consists of field training of the level prescribed in the individual training plan. The training is scheduled in an approved cooperating management training station. The training plan will be supervised by a teacher/coordinator. *(P/F) Corequisite: MGMT356*

MGMT364   4 0 0 0 16
Field Experience III   Voc/Tech
Consists of continued field training of the level scheduled in the individual field training plan. The training is scheduled for a half day. The training plan will be supervised by a teacher/coordinator. *(P/F) Corequisite: MGMT369*

MGMT367   1 1 0 0 0
Internship Seminar III   Voc/Tech
Students are exposed to areas of marketing through guest speakers, visual aids and discussion of business internship experiences. *Corequisite: MGMT362*

MGMT369   1 1 0 0 0
Field Experience III Seminar   Voc/Tech
Field experience problems will be discussed. New occupational information will be presented and topics relating to management will be discussed. *Corequisite: MGMT364*

MGMT406   2 2 0 0 0
Relationship Strategies in Business   Voc/Tech
Includes the awareness of communication styles and how to manage successful interpersonal and organizational relationships.

MGMT407   1 1 0 0 0
Leadership Strategies in Business   Voc/Tech
Presents insights into how individuals with the right insights sense and fit into organizations. A researched set of organizational values used by excellent companies will be presented and used as a model for development of individual career values.

MILL440   3 2 2 0 0
Blueprint Reading and Layout   Voc/Tech
An introduction to blueprint reading and layout and the application of this knowledge with the use of specific tools.

MILL441   3 2 2 0 0
Material Identification and Usage   Voc/Tech
An introduction to the materials used in making architectural millwork products.

MILL442   3 2 2 0 0
Introduction to Portable Tools   Voc/Tech
An introduction to safe use and the proper care and selection of power tools.

MILL443   4 2 4 0 0
Stationary Equipment   Voc/Tech
The purpose of this course is to train the student in the identification, operation and maintenance of stationary equipment.

MILL444   3 2 2 0 0
Advanced Equipment Techniques   Voc/Tech
This course will provide the students with maintenance experience and advanced machining skills. *Prerequisite: MILL440, 441, 442, 443*

MILL445   3 2 2 0 0
32 Millimeter Cabinet Techniques   Voc/Tech
This course is an introduction to the rationale of cabinet making and millwork. *Prerequisite: MILL440, 441, 442, 443*

MILL446   4 2 4 0 0
Millwork Techniques   Voc/Tech
This course is an introduction to the initial steps of applying various millwork techniques to projects. *Prerequisite: MILL440, 441, 442, 443*

MILL447   3 2 2 0 0
Introduction to Application   Voc/Tech
This course will allow students to begin combining their knowledge of the previous courses in Architectural Millwork to produce mock up projects. *Prerequisite: MILL440, 441, 442, 443*

MILL448   5 1 8 0 0
Advanced Millwork Application I   Voc/Tech
This course will combine the skills learned from the previous courses to begin producing completed projects. *Prerequisite: MILL444, 445, 446, 447*

MILL449   5 1 8 0 0
Advanced Millwork Application II   Voc/Tech
This course will combine the students' previous courses to produce a completed project from beginning to installation. *Prerequisite: MILL448*

MKTG102   3 3 0 0 0
Principles of Marketing   General
Marketing effectively and efficiently results in better customer loyalty, higher share of customers, relief from margin erosion and higher customer satisfaction. Explore strategies used to get, keep and grow customers. Theoretical concepts blend with real world applications in the areas of planning, decision-making, consumer behavior, ethics, product, price, distribution, promotion, service and international marketing.

Course Descriptions

MKTG103   3 3 0 0 0
Principles of Selling   Open
Emphasizes the "consultative style" of personal selling. Covers the importance of establishing good relationships, finding prospect needs, providing a solution to these needs and closing a high percentage of sales interviews.

MKTG104   3 3 0 0 0
Advertising/Sales Promotion   Open
The area of promotional communication is studied to achieve an understanding of the market place, the various advertising media and the development of an effective promotional campaign.

MKTG211   3 3 0 0 0
Business Marketing   Open
Presents functional methods of business-to-business marketing. Examines all forms of wholesaler service and manufacturer type marketing activities.

MKTG231   3 3 0 0 0
Fashion Analysis & Design   Voc/Tech
Emphasis is on how the fashion business works, from concept to consumer. The fashion business entails buying supplies, creating and developing a new product and marketing the product. Fashion designers, manufacturers, buyers, as well as retailers work together to develop and sell "good" design. Focus is on analyzing styles and creating and implementing the principles of design into product development as well as researching past and present designers to understand their contribution to fashion.

MKTG232   3 3 0 0 0
Advanced Selling Strategies   Voc/Tech
Explores strategies related to working effectively with high-level decision makers. Focuses on the individual adding value to the transaction to become the supplier of choice. Examines sales automation in depth.
Prerequisite: MKTG103

MKTG233   3 3 0 0 0
Design Concepts   Voc/Tech
Includes a study of the history of fashion design, the effective use of design principles and analysis of future fashion trends. New industry based computer design software will be used to design contemporary fashion apparel for women, men or children.

MKTG234   3 3 0 0 0
Interior Design Analysis   Voc/Tech
Acquiring knowledge and expertise to create pleasing and effective interior design will be emphasized. Focus will be on space planning, furniture styles, color schemes, wall coverings and floor and window treatments. Also includes exploration of the interior design profession and related career areas.

MKTG235   3 3 0 0 0
Interior Design Planning   Voc/Tech
Focuses on the development of interior design plans and the execution of these plans. Builds upon knowledge acquired in Interior Design Analysis through analyzing client needs and creating design boards and presentations to meet those needs. *Prerequisite: MKTG234*

MKTG305   3 3 0 0 0
Internet Marketing   Voc/Tech
Study of the Internet as a marketing tool. Investigation of the relevant issues and uses of web-based marketing including influence on traditional marketing mix topics such as product, place, price and promotion. Focus will be on the use of technology rather than the technology itself.

MKTG306   3 3 0 0 0
Sports/Entertainment Marketing   Voc/Tech
Exploration of the essentials of effective Sport/Entertainment Marketing. Topics include application of the marketing principles in the sports/entertainment area, licensing issues, sponsorships and endorsements, stadium and arena marketing, broadcasting and media considerations, public policy and the unique challenges for sports/entertainment specific products (concerts, special events, concessions, football, basketball, baseball, motor sports, etc.)

MKTG321   3 3 0 0 0
Retail Management I   Voc/Tech
Course examines developments in retailing, organization of retail institutions, merchandise handling processes, understanding retail customers and future directions in retailing.

MKTG322   3 3 0 0 0
Retail Management II   Voc/Tech
A problem-solving approach to the operating principles and methods in the retail field. Management decision making is emphasized.
Prerequisite: MKTG321

MKTG323   2 1 2 0 0
Visual Merchandising/Design   Voc/Tech
Includes design/display planning activities, store fixturing and the total merchandise presentation in a store. Emphasis is placed on actual design of window and interior displays by students.

MKTG324   3 3 0 0 0
Fashion Buying   Voc/Tech
Fashion moves quickly and the buyer must be in tune with current trends and suppliers who can provide the best quality merchandise, delivery and pricing. Vender analysis, open-to-buy and timing are studied, including the development of a six-month merchandise plan.

MKTG331   3 3 0 0 0
Fashion Coordination/Promotion   Voc/Tech
Focus is on researching, analyzing and forecasting fashion trends. Information on emerging fashion trends is communicated through a power point computer presentation. Use of this information results in creation of a promotional plan to establish fashion leadership. *Prerequisite: MKTG231*

MKTG332   3 3 0 0 0
Textiles   Voc/Tech
Focus will be on an application oriented study of natural and manufactured fibers. Popular weaves, technologies used to produce, qualities achieved and costs incurred will be analyzed. Printing and dyeing processes, in addition to the finishes available today will be studied.

MKTG345   1 0 2 0 0
Fashion Study Tour   Voc/Tech
The student will participate in a supervised study tour, location to be announced, in which a concentrated time will be spent touring a market center and researching a variety of fashion businesses from manufacturing and marketing to merchandising, promoting and selling apparel. *Prerequisite: MKTG231*

MLTS401   2 1 2 0 0
Lab Fundamentals & Urinalysis   Open
A course designed to acquaint the student with the field of laboratory medicine, laboratory structure and staffing. Basic lab skills, instrumentation and quality control are presented. This course also includes the study of urine formation and methodology for determining the physical, chemical and microscopic properties of urine in normal and abnormal states. *Prerequisite: Acceptance into the Medical Laboratory Technology program*

MLTS402   2 1 2 0 0
Beginning Hematology   Open
An introduction to the study of red blood cells, white blood cells and platelets. This course focuses on red cell metabolism, hematopoiesis, evaluation of red cell morphology and the pathogenesis of anemia. Methods of measurement and basic hematology procedures are presented. *Prerequisite: Acceptance into the Medical Laboratory Technology program*

MLTS403   2 2 0 0 0
Principles of Phlebotomy   Open
An orientation course designed to give students a thorough background in blood collection, including demonstrations of venipuncture and skin puncture techniques. This course is required for students admitted to the Medical Laboratory Technology program who do not have documentation of competency in Phlebotomy and for students who wish to obtain certification in Phlebotomy. Phlebotomy students must also enroll in the Phlebotomy Clinical course, (PHLE320).

MLTS415   5 3 4 0 0
Advanced Hematology/Coagulation   Open
A review of basic procedures, followed by a study of normal and abnormal blood and bone marrow smears as they relate to anemias and leukemias. Hematology instrumentation, quality control, coagulation and body fluid analysis are studied. This advanced course is a sequel to the Beginning Hematology and includes an in-depth study of various anemias, leukemias and other hematological disorders. *Prerequisite: Grade of 'C' or better in MLTS401 and402.*

MLTS422   8 6 4 0 0
Clinical Chemistry   Open
Study and analysis of electrolyzes, proteins, lipids, enzymes, hormones, drugs and various other biochemical compounds found in the body. Test results are correlated with patients' conditions. Laboratory math, statistics and quality control are presented. *Prerequisite: Grade of 'C' or better in MLTS401. Successful completion of the following courses: CHEM131 or equivalent; CHEM 132 or equivalent; BIOL154 or equivalent.*

MLTS431   6 4 4 0 0
Clinical Microbiology   Open
A study of clinically important microorganisms. Students learn and practice techniques used to isolate and identify pathogenic bacteria, parasites and fungi. *Prerequisite: Grade of 'C' or better in MLTS401. Successful completion of the following courses: BIOL132 or equivalent, BIOL154 or equivalent, CHEM131 or equivalent; CHEM 132 or equivalent.*

MLTS440   2 1 2 0 0
Immunology & Serology   Open
Immune reactions of the body will be studied. Reactions between antigen and antibodies will be used as a means to detect diseases such as hepatitis, infectious mononucleosis and rheumatoid arthritis. *Prerequisite: Grade of 'C' or better in MLTS415.*

MLTS442   5 3 4 0 0
Immunohematology   Open
Principles of immunohematology with the practices of blood banking are presented. ABO grouping, RH typing and transfusion testing procedures are performed. Blood group antigens and antibodies are studied. *Prerequisite: Grade of 'C' or better in MLTS415 and pre or co-requisite of MLTS 440. Successful completion of the following courses: BIOL132 or equivalent, BIOL154 or equivalent, CHEM131 or equivalent; CHEM 132 or equivalent.*

MLTS455   12 0 0 0 48
Clinical Laboratory Practicum   Open
Students rotate through the various departments (hematology, chemistry, microbiology, blood bank and urinalysis) of the hospital laboratory applying the knowledge and skills learned in the classroom. *Prerequisite: Completion of first four terms of Medical Laboratory Technology program with a GPA of 2.0 or higher. Co-requisite: MLTS 465*

MLTS465   2 2 0 0 0
Clinical Seminar and Review   Open
Students review medical laboratory subjects, share experiences in the clinical area and present case studies. Job seeking skills, continuing education opportunities, legal responsibilities and professional organizations are also discussed. A mock certification exam is given. *Prerequisite: Successful Completion of first four terms of Medical Laboratory Technology program with a GPA of 2.0 or higher. Co-requisite: MLTS 455*

MORS305   2 2 0 0 0
History/Sociology-Funeral Services   Voc/Tech
Students will trace the history of funeral service from ancient times through current practices with emphasis on the development of funeral practices in the United States. Students study the customs of various cultures throughout the world including customs in the United States. *Prerequisite: Admission to the Mortuary Science program*

MORS310   3 3 0 0 0
Pathology for Mortuary Science   Voc/Tech
Students will be introduced to the study of the cause, course, and effects of diseases upon the human body, with stress on ways in which tissue changes affect the embalming process. Pathologic conditions that require special treatment and terminology associated with the causes of death. *Prerequisite: Admission to the Mortuary Science program*

MORS315   3 3 0 0 0

Course Descriptions

Funeral Law   Voc/Tech
Deals with the statutory laws and practices pertaining to funeral services. The student will study the laws that govern the funeral director and the embalmer and their legal responsibilities to the consumer. *Prerequisite: Admission to the Mortuary Science program*

MORS320   **3 3 0 0 0**
Thanatology   **Voc/Tech**
Designed to acquaint the student with an overview of psychology in funeral service as applied to death, grief, and mourning. Students will be taught specific counseling procedures used when counseling the bereaved family. Pre-need and after-care analysis will be explored. *Prerequisite: Admission to the Mortuary Science program*

MORS325   **3 3 0 0 0**
Funeral Directing   **Voc/Tech**
Surveys the principles related to funeral directing customs, religions, human relations, relations with clergy, and the professional behavior required of funeral directors. Requirements for burial, cremation, anatomical donation, and burial at sea as modes of disposition are presented. *Prerequisite: Admission to the Mortuary Science program*

MORS330   **3 3 0 0 0**
Funeral Service Merchandising   **Voc/Tech**
This course is designed to give the student an understanding of the various products available through funeral homes and competing industries. Topics of study will include merchandising, casket, urn and vault construction. *Prerequisite: Admission to the Mortuary Science program*

MORS335   **3 3 0 0 0**
Embalming I   **Voc/Tech**
Basic techniques of embalming through disinfection, preservation, and restoration of deceased human remains. Included are instruments, treatment planning, and the practical application of modern embalming theory. *Prerequisite: Admission to the Mortuary Science program and BIOL133*

MORS336   **1 0 2 0 0**
Embalming I Clinical   **Voc/Tech**
This course is a study of basic techniques of embalming through disinfection, preservation, and restoration of deceased human remains. Included are instruments, treatment planning, and the practical application of modern embalming theory. *Prerequisite: BIOL133 and admission to the Mortuary Science program; Corequisite: MORS335*

MORS340   **3 3 0 0 0**
Embalming II   **Voc/Tech**
This course is a continuation of MORS335. Theories and principles of embalming, embalming chemicals, cavity treatments, and disaster management will be studied with an emphasis on application to specific cases. *Prerequisite: Admission to the Mortuary Science program and MORS335*

MORS341   **1 0 2 0 0**
Embalming II Clinical   **Voc/Tech**
This course is an advanced study of embalming techniques. Included in the study will be the embalming of difficult cases. *Prerequisite: MORS335 and admission to the Mortuary Science program; Corequisite: MORS340*

MORS345   **3 3 0 0 0**

Restorative Art   **Voc/Tech**
Students will develop knowledge of anatomical modeling, facial expressions, color, cosmetics, display lighting, instruments, and materials and techniques necessary to rebuild the human face that has been destroyed by traumatic and/or pathological conditions. *Prerequisite: MORS335 and admission to the Mortuary Science program*

MORS346   **1 0 2 0 0**
Restorative Art Lab   **Voc/Tech**
This course is designed to provide the student with the theories applied in restorative art procedures. The student will study the anatomical structure of the cranial and facial areas of the human skull, facial proportions and markings, methods and techniques used to restore facial features destroyed by traumatic or pathological conditions and color and cosmetology theory. *Prerequisite: MORS335 and admission to the Mortuary Science program; Corequisite: MORS345*

MORS350   **2 2 0 0 0**
Funeral Home Operations   **Voc/Tech**
This course is designed to give the student an understanding of the principles of the operations of a funeral home. Topics of study will include funeral service forms, death benefits, and vital statistics. In addition, this course will study the role and function of the funeral director as an effective manager. Emphasis is placed on small business and management functions of planning, organizing, motivation, direction, and controlling in the funeral home setting, and introduces students, through a hands-on approach, to the basic computer applications, which are part of the day to day operations of the funeral home. *Prerequisite: Admission to the Mortuary Science program*

MORS355   **4 1 0 9 0**
Funeral Service Practicum   **Voc/Tech**
Students will be assigned to a college approved funeral home to learn procedures and policies of the funeral home and perform duties directly relating to the practice of funeral service as assigned by the preceptor, licensed funeral home staff, and faculty members. *Prerequisite: Completion of all Mortuary Science courses, required general education courses and business core courses and consent of Program Chair.*

MORS360   **2 2 0 0 0**
ThanatoChemistry   **Voc/Tech**
This course is a survey of the basic principles of disinfection and preservation as they relate to embalming. Especially emphasized are the chemical principles involved in sanitation, disinfection, and embalming practice. The development and use of professional, and community sanitation practices is addressed as well as use and precautions related to potentially harmful chemicals that are currently used in the field of funeral services. *Prerequisite: Admission to the Mortuary Science program or instructor permission; Corequisite: MORS335*

MORS365   **2 2 0 0 0**

Survey of Infectious Diseases   **Voc/Tech**
This course provides a survey of infectious disease processes, nonspecific and specific defense meachanis, and principles of infection control and epidemiology. Safe handling of infectious materials and the use of personal protective equipment are emphasized. The course will include a discussion of several diseases that may be encountered in the funeral home setting, and the embalming treatment required for those diseases. *Prerequisite: Admission to the Mortuary Science program*

MUSI130   **3 3 0 0 0**
Music Appreciation   **Core**
A survey of the development of western arts music through study of representative compositions of many periods and styles. Includes definitions of musical terminology and a major emphasis on listening.

MUSI131   **3 3 0 0 0**
Introduction to Music   **Core**
This course introduces students to the elements of music through performance on recorder and piano. Includes instruction in teaching the elements of music to pre-school and elementary school children.

MUSI136   **1 0 2 0 0**
Voice   **General**
Individual instruction in voice. Weekly half-hour lessons in tone production, breath control, diction, literature and stage presence. May be repeated for a maximum of four credits.

MUSI137   **1 0 2 0 0**
Piano   **General**
Individual instruction in piano. Weekly half hour lessons. Beginning, intermediate and advanced students accepted. May be repeated for a maximum of four credits.

MUSI139   **1 0 2 0 0**
Instrumental Music   **General**
Individual instruction in all instruments. Weekly one half-hour lessons. May be repeated for a maximum of four credits.

MUSI143   **2 1 2 0 0**
Introduction to Piano   **General**
This course is especially for the beginner in piano. Students will be introduced to the fundamentals of piano playing, including beginning note reading for the keyboard, technical development and appropriate repertoire.

MUSI144   **2 1 2 0 0**
Concert Choir   **General**
The concert choir is open to all students. Varied literature is chosen. May be repeated for a maximum of eight credits.

MUSI145   **1 0 2 0 0**
Chamber Choir   **General**
Course is open to members of the Concert Choir who are selected by auditioning with the director. Chamber Choir sings a variety of musical styles and the music is generally more difficult than the music in Concert Choir. Prior choir experience is most helpful. May be repeated for a maximum of four credits. *Prerequisite: Audition with director; COREQUISITES: MUSI 144*

MUSI147   **4 3 2 0 0**
Materials of Music I   **General**
All aspects of music theory will be introduced and explored with the experienced music student. Activities will include ear training, sight singing, keyboard training and written theory assignments.

MUSI148   **4 3 2 0 0**
Materials of Music II   **General**
As a sequel to Materials of Music I, this course will examine music theory in greater complexity and will emphasize the harmonic aspects of music. Activities include ear training, sight singing, keyboard training and written theory assignments.

NECP311   **1 1 0 0 0**
NetWare TCP/IP Transport   **Voc/Tech**
Novell Course 605. Learn how to install and configure NetWare TCP/IP software on a NetWare server. *Prerequisite: CNE certification*

NECP312   **1 1 0 0 0**
Fundamentals of Internetworking   **Voc/Tech**
Novell Course 216. Learn the internetworking devices and protocols commonly used to connect networks. *Prerequisite: NECP311*

NECP313   **1 1 0 0 0**
DNS & FTP Server Installation   **Voc/Tech**
Novell Course 658. Learn to incorporate internet technologies with existing network infrastructures. *Prerequisite: NECP312*

NECP341   **2 2 0 0 0**
NetWare 4.11 Administration   **Voc/Tech**
Novell Course 520, Test 50-613 provides knowledge and skills to perform competently the role of Network Administrator or System Manager for NetWare 4.11. *Prerequisite: Working knowledge of personal computer operation systems and hardware, or A+ certification.*

NECP342   **2 2 0 0 0**
Networking Technologies   **Voc/Tech**
Novell Course 200, Test 50-147. Course covers basics of computer networking including terms and concepts. "Core" requirement for CNE certification. *Prerequisite: Working knowledge of personal computer operation systems and hardware, or A+ certification.*

NECP343   **2 2 0 0 0**
NetWare 4.x Advanced Admin.   **Voc/Tech**
Novell Course 525, Test 50-614. Advanced administrative skills such as tuning the network and server for better performance and managing complex tree structures. *Prerequisite: NECP341, 342*

NECP344   **2 2 0 0 0**
Novell System Administration   **Voc/Tech**
Work as a design team using a case company. Create a design document for IntranetWare and create an implementation schedule. *Prerequisite: NECP351, 352*

NECP345   **1 1 0 0 0**
NetWare 4.x Install & Configure   **Voc/Tech**
Novell Course 804. Install IntranetWare, determine appropriate settings for installation and create and manage NDS Building Intranet. *Prerequisite: NECP344*

Course Descriptions

NECP346   2 2 0 0 0
Novell System Programming   Voc/Tech
The two main goals of the Service and Support course are NetWare installation and upgrade and basic network troubleshooting. After completing this course you will be able to install file servers and workstations, configure and install network boards and cables and isolate and diagnose common network problems. *Prerequisite: NECP351, 352*

NECP347   2 2 0 0 0
IntraNetWare Integrating NT   Voc/Tech
Novell Course 555, Test 50-636. Integrate a Windows NT environment with an IntranetWare environment. Streamline NT administration by using NDS for NT. *Prerequisite: NECP343*

NECP351   3 2 2 0 0
Novell Administration   Voc/Tech
Provides knowledge and skills to perform competently in the role of Network Administrator or System Manager for NetWare5. *Prerequisite: ITNA310, 320*

NECP352   3 2 2 0 0
Novell Advanced Administration   Voc/Tech
Provides advanced administration skills to design, configure and administer a complex NetWare 5 Network. *Prerequisite: ITNA310, 320*

NRAO301 - Adjunct   3 2 0 3 0
Nurse Aide 75 Hours   Voc/Tech
Entry level skills to seek employment in Iowa skilled facilities. Meets OBRA87 standards.

NRAO310   1 1 0 0 0
CCDI-Chronically Confused Dementia Train   Voc/Tech
This 15 hour course has been developed to meet the training requirements for Intermediate Care Facilities by providing basic knowledge about Alzheimer's disease and other chronic dementia illnesses. Emphasis is on the physical and psychological changes that take place in the Alzheimer's patient and the importance of appropriate communication. Explanation of the stages of Alzheimer's disease and appropriate interventions will be introduced.

NRAO333 - Adjunct   3 2 0 3 0
Advanced Nurse Aide   Voc/Tech
A continuation of Nurse Aide to provide additional skills and clinical to work in hospital. *Prerequisite: A DMACC sponsored 75 hour Nurse aide class-NRAO556 or 301*

NURS224   5 3 0 6 0
Health: Birth to Middle Adult   Open
Promotion of health from birth to middle age is discussed. Issues of normal pregnancy, child rearing and common illnesses of this age group are included. A holistic viewpoint including the influence of the family will be maintained. The student participates in health and illness care in a variety of settings. *Prerequisite: NURS221, 222, 223, PSCH101, 103*

NURS225   4 2 0 6 0
Older Adult Health   Open
Introduces the normal aging process and common health conditions of the older adult. Holistic nursing care for the individual is promoted through use of the nursing process. The student participates in health and illness care for the individual in a variety of settings. *Prerequisite: NURS221, 222, 223, PSCH101, 103*

NURS232   2 1 2 0 0
Passport to ADN Nursing   Open
Assists preparation for a successful transition to the ADN program. Focuses on curriculum design, knowledge components, student expectations, study/time management skills. PN to RN role changes, application of nursing process with emphasis on health assessment and nursing skills across the life span. *Prerequisite: Acceptance into Advanced Standing Program*

NURS241   4 2 4 0 0
Fundamentals of Nursing   Open
Introduces the concepts of health assessment, safety, critical thinking, pharmacology, teaching/learning and communication. Associated skills are performed in the laboratory setting.

NURS242   4 2 2 3 0
Nursing Practice I   Open
Introduces nursing care of clients with common health problems with a focus on health assessment, standardized plan of care, therapeutic interventions, safety and basic communication. Includes lab and practicum applications. *Prerequisite: NURS241*

NURS243   2 2 0 0 0
Success in Nursing   Open
Explores the art and science of nursing practice including nursing history, roles, and legal/ethical practice issues for the professional practical nurse. Health care delivery systems and settings will be discussed. Strategies for success in nursing will be applied.

NURS244   5 3 0 6 0
Nursing Practice II   Open
Theory and practicum in caring for clients with predictable health needs involving sexuality, reproduction, sensory/perceptual/cognition, life crises, grief and loss, mobility, and bowel elimination alterations. *Prerequisite: NURS241, 242, 243, PSCH103, BIOL134*

NURS245   5 3 0 6 0
Nursing Practice III   Open
Theory and practicum in caring for clients with predictable health needs involving comfort, circulation, oxygenation, nutrition, endocrine, and urinary elimination alterations. *Prerequisite: NURS241, 242, 243, PSCH103, BIOL134*

NURS246   1 1 0 0 0
Practical Nursing Roles   Open
Examines roles and responsibilities of the licensed practical nurse including client response to acute and chronic illness and individual readiness to practice nursing. *Prerequisite: NURS241, 242, 243, PSCH103, BIOL134*

PHIL110   3 3 0 0 0
Introduction to Philosophy   Core
Exploration of basic questions in epistemology, metaphysics and ethics. Emphasis on western philosophy tradition.

PHIL111   3 3 0 0 0
Introduction to Logic   Core
Learn to recognize and construct good arguments. Study of deduction including categorical and truth functional arguments. Study of induction. Examination of informal fallacies.

PHIL112   3 3 0 0 0
Ethical Problems   Core
Comparative study of different traditional moral theories. Application of moral theories to different contemporary moral problems.

PHIL113   3 3 0 0 0
Comparative Religions   Core
Study of major living religions; commonalities and contrasts. How these religions enrich human lives.

PHLE320   2 0 0 3 5
Phlebotomy Clinical   Voc/Tech
Students report to a local hospital to practice patient approach and collect blood specimens from hospital patients. The 120-hour clinical includes both supervised clinical experience and independent clinical learning experiences. Note: Phlebotomy students must also take MLTS403

PHOT105   3 2 2 0 0
Principles of Photography   Open
Students will learn the basic principles of photography. Topics will include basic camera operation, film developing, darkroom techniques and special effects. The camera will become an instrument to explore and communicate ideas, goals and visions effectively.

PHOT106   3 2 2 0 0
Advanced Photography   Open
For students who have mastered basic photographic principles and processes. Topics will include photographic lighting and filtration, photojournalism, documentary photography, advanced darkroom techniques, print finishing and display. *Prerequisite: PHOT105*

PHOT107   3 2 2 0 0
Principles of Digital Photography   Open
Students will learn the basic principles of digital photography. Topics will include basic camera operation, composition, metering, computer tips and tricks, and shooting tips and tricks. The digital camera in conjunction with the computer will become instruments to explore visual communication effectively. This course requires an SLR digital camera, minimum 5.0 megapixal, capable of interchangeable lenses.

PHOT210- Adjunct   3 2 2 0 0
Travel Photography   Open
Advanced principles of image making, printing and presentation will be explored with spirit and knowledge that is expected to engender an appreciation for photography, travel and the state of Iowa. *Prerequisite: PHOT105*

PHOT407   3 2 2 0 0
Studio Photography   Voc/Tech
Students will learn to compose a photograph in a deliberate process. Students will arrange and analyze elements in a scene and use artificial light to produce the desired effect. Projects will test for student imagination, creativity, technical skills and willingness to experiment, while improving their photographic expertise. *Prerequisite: PHOT106*

PHYE128   3 1 4 0 0
Lifeguard Train/Water Safety Instruction   Open
Provides the student with the practical, cognitive, behavioral and decision making skills needed for lifeguarding and the necessary skills to conduct/instruct all levels of Red Cross swimming and water safety lesson programs. Upon satisfactory completion, student will receive Red Cross certification in lifeguarding and water safety instructor.

PHYE129   1 0 2 0 0
Advanced Lifesaving   Open
Purpose is to provide the student with the skills/techniques to successfully rescue a person in need. Focus on water safety, personal and self rescue, swimming rescues and artificial resuscitation. Upon satisfactory completion, the student will receive Red Cross certification. *Prerequisite: Students must pass a swim test*

PHYE130   1 0 2 0 0
Physical Fitness   Open
Various exercises and activities to improve physical fitness.

PHYE133   1 0 2 0 0
Bowling   Open
Beginning skills only

PHYE135   1 0 2 0 0
Cheerleading   Open
Men and women desiring to be basketball cheerleaders for Varsity Basketball season.

PHYE136   1 0 2 0 0
Weight Training   Open
Introduction to basics of weight training. Emphasizes increasing physical capacity, that is increased muscular strength and power.

PHYE137   1 0 2 0 0
Recreational Swimming   Open
Recreational swimming at Heartland Health Center. Some swimming experience expected.

PHYE140   3 3 0 0 0
Sports Officiating   Open
Study of the rules and official's mechanics for high school football, basketball and baseball. Provides guidelines for students to become licensed officials in Iowa for these sports.

PHYE144   3 3 0 0 0
Intro to Physical Education   Open
History of physical education. Careers and professional leadership in physical education, with emphasis on teaching. Examines the four areas of most vital concern to the physical educator: recreation and leisure, sports, curriculum and research and evaluation.

PHYE146   3 3 0 0 0
Personal/Community Health   Open
Provides the student with information on physical, emotional and social factors as they relate to personal and community health.

PHYE149   3 3 0 0 0
Wellness Prog/Planning/Organization   Open
The purpose of this course is to familiarize the student with wellness programs in the workplace. Emphasis will be on program design, health assessment, corporate management issues and promotion.

PHYE150   3 3 0 0 0
Fitness Testing/Programming   Open
The purpose of this course is to prepare the student to be able to organize and implement fitness programs for employees in agencies and organizations. Emphasis will be on introduction/recruitment of employees, fitness testing, prescription of individual and group fitness programs and fitness retesting procedures.

Course Descriptions

Course Descriptions

PHYE155   1 1 0 0 0
Theory of Coaching   Open
Theory of Coaching gives students a foundation in coaching to build upon. Basic principles and techniques will be introduced. Positive coaching philosophies, general coaching principles, ethics, and sports management will be discussed.

PHYE157   2 1 2 0 0
Introduction to Athletic Training   Open
Entry level course designed to introduce the potential coach or athletic trainer to the field of athletic training. Basic care and prevention of athletic injuries will be dealt with in order to equip the coach or trainer with the knowledge to make intelligent decisions regarding common athletic injuries.

PHYE158   1 0 2 0 0
Golf   Open
Beginning skills only.

PHYE159   1 0 2 0 0
Golf II   Open
Expansion of basic golf skills.

PHYE160   1 0 2 0 0
Volleyball   Open
Provides instruction in the basic skills and strategies of volleyball. Class is designed to provide volleyball play for both the beginner and the experienced player; however, instruction is geared toward beginning skills. All equipment is provided.

PHYE161   1 0 2 0 0
Aerobics   Open
Introduces aerobic concept of physical fitness. Includes aerobic activities, aerobic exercising and aerobic dance. Course designed for men and women.

PHYE162   1 0 2 0 0
Tennis I   Open
Introduction to basic skills (forehand, backhand, service and volley) and basic knowledge of game play.

PHYE163   1 0 2 0 0
Badminton I   Open
Introduction to basic skills (serve, clear, drop, drive and smash) and basic knowledge of game play.

PHYE164   2 2 0 0 0
Personal Wellness   General
This course will aide in the enhancement of knowledge, skills and attitudes necessary to promote positive life-long wellness decisions. Students will look at the physical, social, intellectual, emotional, occupational and spiritual components of wellness.

PHYL106   4 3 2 0 0
Survey of Physics   Core
Student is exposed to scientific method with an emphasis on elementary problem solving. Review of basic mathematics, the topics of weights and measures, mechanics, heat, gas laws, electricity, magnetism, sound, light and modern physics are covered.

PHYL111   4 3 2 0 0
College Physics I   Core
This course is the first semester of a two semester sequence in non-calculus physics. Topics include forces, linear and rotational motion, energy, momentum, fluids, gases and heat. *Prerequisite: MATH123 or high school trigonometry*

PHYL112   4 3 2 0 0
College Physics II   Core
Course is second semester of a two semester sequence in non-calculus physics. Topics include wave motion, sound, electricity, magnetism, optics and modern physics.
Prerequisite: PHYL111 or equivalent

PHYL121   6 5 2 0 0
Classical Physics I   Core
Course is calculus based and intended for engineering and science majors. Topics include statics, dynamics, kinematics, fluid behavior, wave motion, vibrating systems, heat and thermodynamics. *Corequisite: MATH129 or equivalent must be taken concurrently with or prior to this course*

PHYL122   6 5 2 0 0
Classical Physics II   Core
This course is a continuation of Classical Physics I. Topics covered include static electricity, electrical circuits magnetism, time-dependent electric and magnetic fields, optics and modern physics. *Prerequisite: PHYL121 or equivalent; Corequisite: MATH130 must be taken concurrently with or prior to this course*

PHYL401   3 2 2 0 0
Physics for Technicians   Voc/Tech
A physics course for students of technology. Topics include: forces, work, energy, heat, electricity and magnetism with a strong emphasis on practical applications.
Prerequisite: MATH410 or equivalent

PLSC111   3 3 0 0 0
American National Government   Core
A study of the American political system and how and why the citizenry relate to the government as they do. Emphasis is placed upon the organization and functioning of the presidential, legislative and judicial subsystems.

PLSC112   3 3 0 0 0
State & Local Government   Core
Study of organization, operations and politics of state and local governments. Emphasis on an analysis of legislative, executive and judicial roles and processes.

PLSC121   3 3 0 0 0
World Politics   Core
International system is examined from several perspectives including United States, Russia and China. Emphasis upon ideology, national interest, the use of power, international law and organization.

PLSC122   3 3 0 0 0
Comparative Political Systems   Core
Examination of the government and politics of such countries as Great Britain, Mexico, Germany and Russia. Each nation is viewed in terms of its political culture, party system, executive, legislative and legal organization.

PLSC126   3 3 0 0 0
Intro to Public Administration   Core
Study of the theory & practice of public administration examining alternate organizational theories & practices, personnel administration, problems of communications within organizations and styles of leadership. Course emphasizes the interrelationships of professional and political influences on decision making

PLSC127 - Adjunct   3 3 0 0 0
News Media and Electoral Politics   General
Course will examine the role the news media plays in electoral strategy and outcomes. Focus will be on the relationship between the voting public, television and print media, and public officials. The general election will be assessed. The course is designed for prospective journalism and political science majors.
Corequisite: concurrent enrollment in JNAD127

PLSC129 - Adjunct   3 3 0 0 0
Politics of Terrorism   General
An interactive course analyzing the philosophy and methodology of prominent extremist groups in the USA and the world. Focus will be on definitions, conditions, media response, and prospects for future terrorist activity. Assessments will be student-centered and emphasize research and composition.

PSCH101   3 3 0 0 0
General Psychology   Core
A survey of psychology including theoretical and experimental findings and applications from areas such as neurobiology, learning, memory, personality, social, abnormal and therapy.

PSCH103   3 3 0 0 0
Developmental Psychology   Core
The study of factors that affect human development from conception to death, with emphasis on topics such as physical, cognitive and social changes, methods of study and current issues. Recommend PSCH101 be taken prior to this course.

PSCH104   3 3 0 0 0
Abnormal Psychology   Core
An introduction to the study of abnormal behavior, with emphasis on anxiety, depression, schizophrenia and personality disorders. Includes the dynamics of mental disorder along with the biopsychosocial factors involved in the etiology and treatment of disorders. Recommend PSCH101 be taken prior to this course.

PSCH105   3 3 0 0 0
Social Psychology   Core
This course surveys selected topics in social psychology including social perception, social influence, attraction, altruism, aggression, persuasion, attitude formation, group processes and applications of research to everyday situations.

PSCH106   3 3 0 0 0
Psych of Human Relations and Adj   General
Emphasizes awareness of factors inherent in human relationships and psychological adjustment patterns of individuals and groups. Effort is made to develop techniques of interpersonal relations and coping.

PSCH107   3 3 0 0 0
Principles of Behavior Modification   General
The principles of learning theory with a major emphasis on operant conditioning will be studied. Emphasis will be on the practical application of these principles to the areas of mental health, mental retardation and education.

PSCH108   3 3 0 0 0
Human Sexuality & Gender Roles   Core
This course provides students with definitive and precise information about the nature of human sexuality and gender roles. An interdisciplinary approach will be used to present a more comprehensive view, stressing the biological, social and psychological aspects of sexuality and gender roles.

PSCH109   3 3 0 0 0
Educational Psychology   General
The principles of psychology applied to classroom teaching, with emphasis on such topics as development, learning, motivation, evaluation, adjustment and educational techniques and innovations.

PSCH110   3 3 0 0 0
Stress and Stress Management   General
Basic instruction in understanding stress reactions, their causes and effects and theory and application of stress management techniques. Includes theories of stress and stress reduction, physiological/psychological reactions to stress, measurement of stress reactions and application of stress reduction.

PSCH120-Adjunct   3 3 0 0 0
Exploring Human Behavior   General
An introductory-level course encouraging an understanding and appreciation of the scientific approach to the study of human behavior. Dramatization and other techniques clarify fundamental concepts and philosophies, highlighting the contributions of major figures in psychology. (TV course)

PSCH 155-Adjunct   3 3 0 0 0
Exploring Mental Health   General
A telecourse that explores the basic causes, manifestations and treatment of common psychological disorders. The course introduces mental illness along a continuum from functional to dysfunctional.

READ087   3 3 0 0 0
College Preparatory Reading I   College Prep
The first in a series of two courses designed to help students succeed with college-level reading assignments. Emphasis will be placed on vocabulary development and basic comprehension skills, particularly the skill of recognizing the main idea and supporting details.
Prerequisite: Compass score of 35 or higher on COMR. College Preparatory courses cannot be used to fulfill degree requirements.

READ088   3 3 0 0 0
College Preparatory Reading II   College Prep
The second in a series of courses designed to help students succeed with college-level reading assignments. Emphasis is on strengthening vocabulary and comprehension skills including annotating, summarizing, making inferences and reading critically. *Prerequisite: READ087 or a Compass score of 57 or higher on COMR. College Preparatory courses cannot be used to fulfill degree requirements.*

READ116   3 3 0 0 0
Speed Reading   General
An advanced reading course designed to improve reading speed and comprehension. Emphasis on adapting to varying content, levels of difficulty and reading purposes.
Prerequisite: READ088 or a Compass score of 81 or higher on COMR or ACT score of 19 or higher on ACTR

Course Descriptions

RESP300   3 3 0 0 0
Fundamentals of Respiratory Therapy   Open
This initial course in the Respiratory Therapy program emphasizes the assessment and evaluation of patients. Also included will be a history of health care, medical specialties, communication skills and medical terminology. Students must demonstrate skill in the assessment of patient vital signs. *Prerequisite: BIOL133 or BIOL154*

RESP302   4 3 2 0 0
Gas, Humidity & Aerosol Therapy   Open
This course introduces the student to basic therapeutic techniques utilized in respiratory care. Major topics include medical gas therapy, humidity and aerosol, cylinder systems and physical principles of gases and liquids. Students will be required to demonstrate competence in the techniques to receive a passing grade in the course.
Prerequisite: RESP300 must be taken concurrently with or prior to this course; Corequisite: RESP304

RESP304   4 3 2 0 0
Cardiopulmonary Therapeutics   Open
Students will learn basic patient care techniques of hyperinflation therapy, secretion clearance, airway care, patient assessment, pulmonary rehabilitation, subacute respiratory care and assessment of the effectiveness of therapies. Students will be required to demonstrate competence in procedures to succeed in course. *Prerequisite: RESP300 must be taken concurrently with or prior to this course; Corequisite: RESP302*

RESP310   5 5 0 0 0
Cardiopulmonary Renal Pathophys   Open
This course provides an in-depth study of the normal functioning of the cardiovascular, pulmonary and renal systems emphasizing their interactions. Progresses to study of the common adolescent and adult diseases affecting the three systems. Students will learn to interpret the results of arterial blood gas pH data. *Prerequisite: RESP304, BIOL134 must be taken concurrently or prior to this course*

RESP315   3 3 0 0 0
Respiratory Therapy Pharmacology   Open
Course provides a study of actions and interactions of drugs with and within the body. Students will learn theories of drug action, pharmacodynamics and methods for drug administration. Drugs affecting the cardiovascular, pulmonary and renal systems will be emphasized. *Prerequisite: RESP304, BIOL134 must be taken concurrently or prior to this course*

RESP320   5 4 2 0 0
Advanced Respiratory Therapy   Open
Techniques of initiation, monitoring, maintenance and discontinuation of mechanical ventilation in a variety of care settings will be learned. Students will develop skill in ABG analysis and electrocardiography. Adjuncts for advanced life support will be learned . Students will become proficient in the analysis of arterial blood gases and basic techniques of electrocardiography. Students will learn the use of adjuncts for the treatment of cardiopulmonary arrest.
Prerequisite: BIOL134 or 154, RESP310

RESP325   3 3 0 0 0
Neonatal/Pediatric Respiratory Therapy Open
Embryonic development of the respiratory and cardiovascular systems will begin this course which progresses to the learning of normal function and a consideration of the common neonatal and pediatric diseases. Therapeutic techniques and monitoring of the patients will be learned. *Prerequisite: BIOL134 or 154, RESP310*

RESP330   3 3 0 0 0
Cardiopulmonary Diagnostics   Open
Principles and techniques of testing of cardiovascular and pulmonary function will be learned with an emphasis on the evaluation and interpretation of the results of the tests. Integration of test results with clinical picture with emphasis on therapeutics and principles of polysomnography will be learned.
Prerequisite: BIOL134 or 154, RESP310, 315

RESP335   3 3 0 0 0
Respiratory Therapy Mgmt & Ethics Open
Begins with study of the organization and management of a respiratory therapy department. Consideration of issues of jurisprudence and medicolegal aspects of health care. Tactful interactions and ethical practices will be emphasized. Will also serve to review much of what has been assimilated in the program. *Prerequisite: RESP372*

RESP352   4 2 0 8 0
Respiratory Therapy Practicum I   Open
This is the initial hospital experience. Consists of supervised care of patients with respiratory disorders. Students will administer IPPB, aerosol, postural drainage and incentive breathing therapies. Other therapeutic modalities which have been learned will be introduced as well.
Prerequisite: RESP304 COREQUISITES: RESP310, 315

RESP362   5 2 0 10 0
Respiratory Therapy Practicum II   Open
This practicum will continue the supervised experience in provision of basic patient care techniques to therapies from practicum I. Arterial puncture, arterial line sampling and analysis of blood samples will be introduced. Suctioning of airways will be emphasized.
Prerequisite: RESP 352

RESP372   6 2 0 13 0
Respiratory Therapy Practicum III   Open
This practicum continues supervised experience in basic therapeutic techniques with emphasis on increased speed and efficiency. Neonatal intensive care will be introduced. Students will continue development of skills in sampling and analyzing arterial blood. ECG and other cardiac diagnostic tests will be observed. *Prerequisite: RESP325, 362*

RESP382   6 2 0 13 0
Respiratory Therapy Practicum IV   Open
Hospital respiratory care with the addition of mechanical ventilation and care of patients in critical care units will complement the techniques from the prior practicums. Observation and performance of pulmonary function testing will be introduced.
Prerequisite: RESP320, 372; RESP330 must be taken concurrently with or prior to this course

RESP392   5 2 0 12 0
Respiratory Therapy Practicum V   Open
The fourth clinical experience with emphasis on the care of patients in critical care areas of the hospital. All techniques and procedures previously performed will continue to be administered to patients. *Prerequisite: RESP330, 382*

SFTY302   3 3 0 0 0
Accident Invest & Worker Comp   Voc/Tech
This course addresses the requirements and important procedures regarding worker compensation laws and guidelines. The basics of worker compensation are emphasized including accident reporting, completing worker compensation forms, investigating accidents and implementing corrective actions.

SFTY310   3 3 0 0 0
Regulatory Safety Standards & Req   Voc/Tech
This course will cover the regulatory agencies and their standards to which all businesses are required to conform. Standards such as those promulgated by OSHA, EPA and ISO will be reviewed. Emphasis will be placed on understanding the regulations.

SFTY390   4 1 0 0 12
Safety Science Internship   Voc/Tech
This course allows the student to demonstrate the knowledge and experiences gained through the safety science program. The internship must involve a faculty pre-approved business/industry. The student will conduct the project with the business/industry partner and present it to a panel of DMACC faculty/industry representatives.

SOCY101   3 3 0 0 0
Introduction to Sociology   Core
The study of human interaction, groups and society. Topics included are culture, socialization, organizations, deviance, inequality, institutions, health, population, ecology, social change and research methods.

SOCY102   3 3 0 0 0
Social Issues   Core
This course is an analysis of the nature, dimensions, causes and characteristics of selected social problems of major interest. Consideration is given to theories research and programs for prevention and treatment.

SOCY103   3 3 0 0 0
Courtship, Marriage & Family   Core
This course analyzes the sociological, physical, psychological, legal and economic aspects of the American family. Included are investigations of courtship and marriage relationships, preparation for marriage, family, parenthood, interpersonal relationships and marital adjustment.

SOCY105   3 3 0 0 0
Race, Ethnic & Gender Relations   Core
This course is the study of the relations between racial, ethnic and gender categories. Focus on stereotypes, prejudices, discrimination and exploitation. Major emphasis upon group relations in the United States. SOCY101 is recommended.

SOCY106   3 3 0 0 0
Juvenile Delinquency   General
An investigation of juvenile delinquency in American society, sociological theories and research of delinquency, impact of groups, juvenile justice system and prevention programs. *Prerequisite: SOCY101 or instructor permission*

SOCY107   3 3 0 0 0
Criminology   General
The nature and extent of crime and criminality, society's efforts to control crime, theories of causation, emphasis on social processes, systems and methods of correction. *Prerequisite: SOCY101 or instructor permission*

SOCY204   4 4 0 0 0
Social Gerontology/Applications   Open
Societal aspects of aging as they relate to the delivery of services to the aging. Students will develop a project which serves a specific community need.

SOCY205   2 2 0 0 0
Issues in Aging   Open
This course will address the issues of aging: in transition, explore the conflicts of change and examine the needs and strategies to best meet the demands and challenges presented to this fast-growing segment of our population.

SPAN101   4 4 0 0 0
Elementary Spanish I   Core
Development of the basic skills of understanding, speaking, reading and writing Spanish. Grammar analysis, classroom conversational practice and some exploration of the Hispanic culture.

SPAN102   4 4 0 0 0
Elementary Spanish II   Core
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis.
Prerequisite: SPAN101 or instructor's permission

SPAN103   4 4 0 0 0
Intermediate Spanish I   Core
Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of Hispanic cultural and literary materials to develop conversational skills. *Prerequisite: SPAN102 or instructor's permission*

SPAN104   4 4 0 0 0
Intermediate Spanish II   Core
Continued review of grammatical constructions using Hispanic cultural materials. Reading, writing and conversation will be emphasized in the context of cultural issues and current events.
Prerequisite: SPAN103 or instructor's permission

SPCH110   3 3 0 0 0
Fundamentals of Speech   Core
Explores the fundamentals of speech-communication through the study and practice of interpersonal and small group communication and the composition and delivery of short speeches.

SPCH117   3 3 0 0 0
Interpersonal & Small Group Comm Core
An introduction to interpersonal and group communication theories and their application in relationship development, conflict resolution, group problem solving and group presentations.

Course Descriptions

Course Descriptions

SPCH119   3 3 0 0 0
Professional Communication   General
Communication theory applied to organizational settings in such forms as interviewing, group work; conflict resolution; and public, impromptu and ceremonial speaking. Topics: organizational perspectives, leadership, power, intercultural diversity, nonverbal communication and perception. *Prerequisite: SPCH110 or 117 or permission of instructor*

SURV310   3 3 0 0 0
Survey Drafting   Voc/Tech
This course includes the application of manual and computer-aided techniques in survey drafting. The topics include plat maps, topography, field notebook sketches and property descriptions. Third party software will be utilized. *Prerequisite: CET-390*

SURV320   5 4 2 0 0
U.S. Public Lands Survey System   Voc/Tech
This course will develop a working knowledge of the United States Public Land Survey System and its application in Iowa surveying. Topics will include: the general plan; methods of surveying; the system of rectangular surveys; monumentation; restoration of lost or obliterated corners; resurveys; special surveys and special instructions; field notes; and plats. *Prerequisite: CET-315*

SURV410   1 1 0 0 0
Safety in the Work Environment   Voc/Tech
This course will address the various safety hazards and causes of illness and injury in the work environment. Topics will include acceptable safety conduct and positive safety attitudes and practices, basic first aid techniques; proper traffic control procedures; avoiding the effects of temperature extremes; recognizing and avoiding hazardous materials; potential hazards from poisonous plants and animals; and ergonomic principles to prevent musculoskeletal disorders.

SURV415   2 2 0 0 0
Intro to Land Information Systems Voc/Tech
An introduction to Land Information System and Land Records Research. Mapping information analysis compiled from country records for environmental protection, land uses, land values and the responsibility of the professional surveyor to a land information system will be covered. An introduction to LIS software will be included. *Prerequisite: CET-320*

SURV420   3 1 4 0 0
Boundary Surveying   Voc/Tech
This course will develop a working knowledge of land boundary surveying including liability, professional stature, original surveys, apportionment procedures and description writing. Field work in both urban and rural settings will be performed. *Prerequisite: SURV320*

SURV425   2 2 0 0 0
Surveying Ethics   Voc/Tech
Introduction to ethical and business issues involved in the surveying profession. Case studies and problems included. *Prerequisite: SURV320*

SURV430   3 3 0 0 0
Land Subdivision   Voc/Tech
Covers different phases of the land development process: study financing of the project, site analysis, design of preliminary plat and a final plat. *Prerequisite: MATH123*

SURV435   5 4 2 0 0
Introduction to Geodesy   Voc/Tech
This course deals with concepts of astronomy and geodesy that are relevant to the practice of surveying. They include theory, field techniques, coordinate systems, gravity and leveling; control surveys and networks; GPS surveying; an introduction to the figure of the earth and its geometric and physical characteristics; solar and Polaris observation; photogrammetry and computations involved in the determination of true north. *Prerequisite: MATH123*

SURV440   4 4 0 0 0
Boundary Law   Voc/Tech
This is an in depth course dealing with evidence and procedures used in the determination and location of property boundaries and recognized landlines. Laws and administrative rules relating to land surveying in the State of Iowa will be addressed. The role of the surveyor in issuing opinions regarding boundary locations and in resolving boundary disputes will be examined. *Prerequisite: SURV420*

TELE311   3 3 0 0 0
Basic Electricity/Electronics I   Voc/Tech
For beginners to solve basic electronic problems involving voltage, resistance and power. Relationship between electricity and magnetism, operation of resistors, meters, switches, relays, capacitors, inductors and batteries will be explained.

TELE312   2 2 0 0 0
Basic Electricity/Electronics II   Voc/Tech
For those who have an understanding of volts, Ohms, amps and series parallel circuits. Explain the difference between alternating current (AC) and direct current (DC), the AC generator; analyze simple AC currents, transformer action, series and parallel resonant circuits. May also be taken as a study course.

TELE316   2 2 0 0 0
Electronic Circuits   Voc/Tech
Basic and operational amplifiers, power supplies, oscillators, pulse circuits and modulation. Must have prior knowledge in electricity/electronics. *Prerequisite: TELE312*

TELE318   3 3 0 0 0
Semiconductor Devices   Voc/Tech
N-type, P-type, PN junctions, diodes, zener diode, transistors, bipolar characteristics, field effect, thyristors, integrated circuits and opto electronics. Should have knowledge in AC/DC electronics.

TELE410   3 3 0 0 0
Introduction to Telephony   Voc/Tech
Provides an overview of telecommunications and covers basic telecommunications circuits, equipment and diagnostic procedures for lines, basic key systems and an understanding of the telecommunications industry. *Corequisite: TELE413*

TELE413   3 0 6 0 0
Introduction to Telephony Lab   Voc/Tech
Provides hands-on experience in installation and fault isolation of telephone lines and basic key systems, basic cable counts, cable splicing and cable termination procedures. *Corequisite: TELE410*

TELE420   4 4 0 0 0
Telecom Transport Technology   Voc/Tech
Covers basic telecommunications equipment used by businesses and its connection to a switched public or private network. Covered subjects include electronic key systems, private branch exchange systems (PBX), trunks and associated equipment. Analog and digital communications and associated equipment are also covered. Experienced individuals may contact the instructor to gain admittance to this course. *Prerequisite: TELE410, 413, Corequisite: TELE423*

TELE422   4 0 8 0 0
Telecommunications Outside Plant   Voc/Tech
This course trains the student on telecommunications outside plant. Training includes: ladder safety, working aloft and pole climbing, safety and procedures for outside telecommunications equipment and hardware. *Prerequisite: TELE410, 411; Corequisite: TELE420, 421*

TELE423   3 0 6 0 0
Telecom Transport Lab   Voc/Tech
Provides hands-on training on a private branch exchange system, user data modification for a digital central office switch, digital key systems and associated equipment. Experience includes wiring, soldering, call routing, fault isolation and modular splicing. *Prerequisite: TELE410, TELE413; Corequisite: TELE420*

TELE430   4 4 0 0 0
Advanced Topics in Telecom   Voc/Tech
Covers advanced digital switching principles and practices, system configuration and diagnostic procedures common to digital central office switching systems and private branch exchanges. Experienced individuals may contact the instructor to gain admittance to this course. *Prerequisite: TELE420, 423, Corequisite: TELE433*

TELE432   3 3 0 0 0
Data Communications   Voc/Tech
An introduction to data communications and data networks. Includes digital communications, analog communications and interfaces. Networks including both LAN and WAN operation and common test techniques. *Prerequisite: TELE410, 413*

TELE433   3 0 6 0 0
Advanced Topics in Telecom Lab   Voc/Tech
Provides hands-on learning experience with broadband fiber circuits, digital multiplex systems and high speed transport devices. Focus on system configuration and diagnostics are also presented. *Prerequisite: TELE420, 423; Corequisite: TELE430*

TELE440   3 3 0 0 0
Telecommunications Management   Voc/Tech
Telecom management course covering new and emerging technology and implementation in the business environment. Discussion covering technology management and leveraging of telecom assets. *Prerequisite: TELE430, 433; Corequisite: TELE433*

TELE441   4 0 8 0 0
Telecommunications Experience IV   Voc/Tech
Provides hands-on learning experiences on digital carrier, twisted pair and fiber optic facilities, point to point and switched data circuits, DMS-10M and local area networks. *Prerequisite: TELE431.*

TELE443   3 0 6 0 0
Internetworking Lab   Voc/Tech
Provides hands-on lab experience configuring and troubleshooting networks. Internetworking is the primary focus using various software tools and test equipment to connect and analyze differing networks. Voice over IP, ATM, xDSL, ISDN and other technologies are used and implemented in the lab setting. *Prerequisite: TELE430, 433; Corequisite: TELE440*

TOOL437   1 1 0 0 0
Geometric Dimensioning & Tolerance   Voc/Tech
A basic course explaining the GD & T system and the symbols used within it.

TOOL460   1 0 2 0 0
Hand Tools & Basic Machine Tools   Voc/Tech
Machine shop procedures including shop safety, hand tools, layout and tool grinding. Operations on drill presses, pedestal grinders and sawing machines.

TOOL461   1 1 0 0 0
Lathe Operations I   Voc/Tech
An introductory level course explaining the theory of the basic operation and care of an engine lathe. *Corequisite: TOOL462*

TOOL462   2 0 4 0 0
Lathe Operations Lab I   Voc/Tech
An introductory level course for the metal cutting lathe. During this course students will become familiar with basic setups as well as safe operation and care of a lathe in a lab environment. *Corequisite: TOOL461*

TOOL463   1 1 0 0 0
Mill Operations I   Voc/Tech
An introductory level course explaining the theory of the basic operation and care of a vertical milling lathe. *Corequisite: TOOL464*

TOOL464   2 0 4 0 0
Milling Operations Lab I   Voc/Tech
An introductory level course for the vertical mill. During this course students will become familiar with basic setups as well as safe operation and care of milling machines in a lab environment. *Corequisite: TOOL463*

TOOL470   2 2 0 0 0
Lathe Operations II   Voc/Tech
An advanced level course explaining complex setups and procedures for lathes. *Prerequisite: TOOL461 Corequisite: TOOL471*

TOOL471   3 0 6 0 0
Lathe Operations Lab II   Voc/Tech
An advanced course for the metal cutting lathe. During this course students will become familiar with advanced setups as well as safe operation and care of a lathe. *Prerequisite: TOOL462; Corequisite: TOOL470*

TOOL472   2 2 0 0 0
Milling Operations II   Voc/Tech
An advanced course for the vertical and horizontal milling machines. During this course students will become familiar with advanced setups and machining concepts as well as safe operation and care of milling machines. *Prerequisite: TOOL463 Corequisite: TOOL473*

Course Descriptions

TOOL473　　　　　　**3 0 6 0 0**
Milling Operations Lab II　　**Voc/Tech**
An advanced course for the vertical and horizontal machines. During this course students will become familiar with advanced setups and machining concepts as well as safe operation and care of milling machines. *Prerequisite: TOOL464 Corequisite: TOOL472*

TOOL480　　　　　　**2 0 4 0 0**
Blueprint Reading I　　**Voc/Tech**
A beginning and intermediate blueprint reading course covering basic visualization of shapes and sizes and freehand sketching of objects. Includes section lining, print alterations and projections.

TOOL481　　　　　　**3 1 4 0 0**
Blueprint Reading II　　**Voc/Tech**
An advanced blueprint reading course involving study of industrial metal work drawings as they apply to planning and laying out of jigs and fixtures. *Prerequisite: TOOL480*

TOOL482　　　　　　**3 2 2 0 0**
Machine Shop Measurements I　　**Voc/Tech**
A study of measurements as used in industry. Units of instruction include tools, gauges, comparators, gauge blocks and inspection practices.

TOOL489　　　　　　**1 1 0 0 0**
Heat Treatment of Materials　　**Voc/Tech**
Introduction to physical and mechanical characteristics of metals directly associated with area of heat treatment. Also structure and composition of metals, testing, hardening, tempering and annealing.

TOOL492　　　　　　**1 1 0 0 0**
Grinding Procedures　　**Voc/Tech**
Theoretical explanation of procedures in surface grinding. *Corequisite: TOOL493*

TOOL493　　　　　　**3 0 6 0 0**
Grinding Procedures Lab　　**Voc/Tech**
During this course students will become familiar with basic setups as well as safe operation and care of a surface grinder in a lab environment. *Corequisite: TOOL492*

TOOL494　　　　　　**1 1 0 0 0**
CNC Lathe Operations　　**Voc/Tech**
An introductory level course explaining the theory behind the basic operation and programming of a CNC lathe. *Corequisite: TOOL495*

TOOL495　　　　　　**2 1 2 0 0**
CNC Lathe Operations Lab　　**Voc/Tech**
An introductory level course for programming and operating a CNC lathe in a lab environment. *Corequisite: TOOL494*

TOOL496　　　　　　**1 1 0 0 0**
CNC Mill Operations　　**Voc/Tech**
An introductory level course explaining the theory behind basic operation and programming of a CNC vertical machining center. *Corequisite: TOOL499*

TOOL497　　　　　　**1 0 2 0 0**
Basic Lathe Operation　　**Voc/Tech**
This course covers set-up and operation of the metal lathe including lathe parts, materials and safety procedures.

TOOL498　　　　　　**1 0 2 0 0**
Vertical Mill Operation　　**Voc/Tech**
Vertical mill operation is explained and reinforced with practical experience using vertical milling machines.

TOOL499　　　　　　**2 1 2 0 0**
CNC Mill Operations Lab　　**Voc/Tech**
An introductory level course for programming and operating a CNC milling center in a lab environment. *Corequisite: TOOL496*

UPHL433　　　　　　**3 0 6 0 0**
Auto Upholstery Installation　　**Voc/Tech**
Automobile upholstery and interior trim must be removed and replaced to facilitate access for auto collision repairers. Types of interior and exterior upholstery and trim and their removal, repair and replacement will be studied in the lab. Also removal, replacement and adjustment of outer automobile panels, to include proper fit and wind noise and water leak testing. *Prerequisite: AUTC403, HLCR314, WELD468*

WELD460　　　　　　**3 0 6 0 0**
Related Welding-Industrial Maint　　**Voc/Tech**
A related welding course for industrial maintenance techniques to include the following topics. Theory and operation of welding equipment related safety issues, metallurgy and related properties.

WELD467　　　　　　**2 0 4 0 0**
Related Welding-Transportation Trades　　**Voc/Tech**
Skills will be developed in oxy-acetylene fusion and braze welding, shielded metallic arc welding as well as oxy-fuel flame cutting. Safety is emphasized and basic welding theory is discussed. Warnings concerning the danger and liability involved in welding high strength steels will be stressed (auto body and chassis, etc.) safety is emphasized.

WELD468　　　　　　**2 0 4 0 0**
Related Welding/Auto Collision　　**Voc/Tech**
Basic skills will be developed in oxygen-acetylene fusion welding and flame cutting. Gas Metal Arc (MIG) welding equipment; and attain basic understanding of procedures related to auto collision area. Safety is emphasized.

WELD473　　　　　　**2 0 4 0 0**
Oxygen-Acetylene Weld/Cutting　　**Voc/Tech**
Skills will be developed in oxy-acetylene welding, cutting and repair. Safety is emphasized.

WELD474　　　　　　**2 0 4 0 0**
Shielded Metal Arc Welding I　　**Voc/Tech**
Skills will be developed in welding beads and buildup surfacing in the flat position. Safety is emphasized.

WELD478　　　　　　**3 0 6 0 0**
Shielded Metal Arc Welding II　　**Voc/Tech**
Skills will be developed in welding multiple pass tee fillet welds in the horizontal position. Safety is emphasized. *Prerequisite: WELD474*

WELD479　　　　　　**2 0 4 0 0**
Shielded Metal Arc Welding III　　**Voc/Tech**
Skills will be developed in welding corner fillet joints, weld around and sheet metal weldments in the flat position. Safety is emphasized. *Prerequisite: WELD478*

WELD481　　　　　　**3 3 0 0 0**
Blueprint Reading　　**Voc/Tech**
The basic skills needed to read shop drawings (including welding symbols) will be learned. *Prerequisite: MATH410*

WELD483　　　　　　**2 0 4 0 0**
Gas Metal Arc Welding　　**Voc/Tech**
Practical application in the use of the gas metallic arc welding process including submerged arc and flux cored arc. Safety is emphasized.

WELD486　　　　　　**3 0 6 0 0**
Shielded Metal Arc Welding IV　　**Voc/Tech**
Skills will be developed in welding beads, buildup surfacing and fillet weldments in the horizontal position. Safety is emphasized. *Prerequisite: WELD479*

WELD487　　　　　　**3 0 6 0 0**
Shielded Metal Arc Welding V　　**Voc/Tech**
Skills will be developed in welding fillet joints in the vertical downhill and vertical uphill position. Safety is emphasized. *Prerequisite: WELD486*

WELD488　　　　　　**2 0 4 0 0**
Shielded Metal Arc Welding VI　　**Voc/Tech**
Skills will be developed in welding fillet joints in the overhead position. Air carbon arc gouging and plasma arc cutting will also be practiced. Safety is emphasized. *Prerequisite: WELD487*

WELD493　　　　　　**2 0 4 0 0**
Gas Tungsten Arc Welding　　**Voc/Tech**
A course to develop skills in the gas tungsten arc welding process using mild steel, stainless steel and aluminum. Safety is emphasized. *Prerequisite: WELD473*

WELD497　　　　　　**2 0 4 0 0**
Adv Shielded Met Arc Welding I　　**Voc/Tech**
Skills will be developed in welding and testing vee groove joints in the flat and horizontal positions. Safety is emphasized. *Prerequisite: WELD488*

WELD498　　　　　　**3 0 6 0 0**
Adv Shielded Met Arc Welding II　　**Voc/Tech**
Skills will be developed in welding and testing in the vertical and overhead positions. Safety is emphasized. *Prerequisite: WELD497*

WELD499　　　　　　**3 0 6 0 0**
Intro-Shield Met Arc Pipe Welding　　**Voc/Tech**
Welding practice and testing on open groove plate weldments in the 1G, 2G, 3G and 4G positions and, as time permits, on pipe weldments in the 2G, 5G and 6G positions. Safety is emphasized. *Prerequisite: WELD498*

Faculty and Staff

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Osteopathic Medicine and Health Science

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State University; Assoc. AIA; CDT; ACP.

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Index

Notes