CONNECT TO YOUR DREAMS

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Course Catalog 2008–2009

www.DMACC.edu

DMACC
DES MOINES AREA COMMUNITY COLLEGE
Life's Calling™

Contact Us

DMACC WEBSITE:
www.DMACC.edu

EMAIL:
Admissions: admissions@dmacc.edu
Financial Aid: finaid@dmacc.edu

PHONE:
In the Des Moines/Ankeny area call: 964-6200
Or call any campus toll-free: 1-877-TO-DMACC

Information About DMACC Campuses

Ankeny	http://www.dmacc.edu/ankeny/
Boone	http://www.dmacc.edu/boone/
Carroll	http://www.dmacc.edu/carroll/
Des Moines/Urban	http://www.dmacc.edu/urban/
Newton	http://www.dmacc.edu/newton/
West	http://www.dmacc.edu/west/
Other Locations	http://www.dmacc.edu/otherlocations.asp

DMACC
DES MOINES AREA COMMUNITY COLLEGE

2006 South Ankeny Boulevard
Ankeny, Iowa 50023-3993

FAQs

FREQUENTLY ASKED QUESTIONS

Refer to the Index or Table of Contents section(s) of this catalog

Can I find answers to the following FAQs online?
Yes, visit www.DMACC.edu

What do I need to consider if I'm planning to transfer?
Transfer Information

What majors/programs are available to me at DMACC?
Educational Programs

Who can help me decide which career suits me?
Career Resource Center

Where can I receive help in selecting my courses?
Educational Advising/ Counseling Services

How much will my classes cost?
Tuition/Fees

What do I have to do to be admitted?
Admissions

Are financial aid programs available?
Financial Aid/Foundation

Is there campus housing available?
Student Services/Student Housing

Can I get a part-time or work-study job on campus?
Financial Aid/Student Employment Assistance

Is day care available for my child/children?
Child Care

If I have a learning disability, whom should I contact?
Services for Students with Disabilities

I understand DMACC offers free tutoring. How can I use this service?
Tutoring

How do I transfer credits from a different school?
Transfers to DMACC

Can I finish my high school diploma at DMACC or get a GED?
GED Testing Centers

I am new to the U.S. Is English as a second language taught at DMACC?
English as a Second Language (ESL)

Can I receive help with my course work?
Academic Achievement Center and Tutoring

Is there an easy career assessment tool to help select my DMACC program/major?
Choosing a Career Guide

Student Handbook

For more information about services, procedures and policies at Des Moines Area Community College, pick up a copy of 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.

The DMACC Foundation was created to assist educational excellence through charitable giving. Gifts to the DMACC Foundation provide scholarships, assist the college in acquiring new instructional equipment and provide capital support for new and existing facilities. Contributions also build the college endowment funds, so essential to the future. Gifts of all sizes help us realize our mission. Contributions are solicited from individuals, corporations, foundations and alumni.

How to Make a Gift

The Foundation accepts many forms of giving. Donors have the opportunity to contribute to specific funds or to establish their own fund. Giving can be cash, tangible personal property, securities, real estate, gifts-in-kind, preferred or planned gifts. To learn more; contact the DMACC Foundation at 515-964-6447.

DMACC Foundation Scholarship Program

The DMACC Foundation awards scholarships to DMACC students on every campus and throughout many programs of study. Scholarships are based on financial need and academic performance. Donors have also specified funds to improve the workforce needs in Iowa.

How to Apply

Any current or prospective DMACC student who is registering for at least 6 credit hours and has a verifiable GPA of at least 2.0 is eligible to apply for a scholarship. The application is available online from approximately January 15 through the April 1 deadline at **www.dmacc.edu/foundation**. Students who do not have access to the internet may request a paper application by calling the Foundation Office at 515-965-7105.

Application deadline is April 1, 2009, for the fall 2009 and the spring 2010 semesters.

For more information, call the Scholarship Office at (515) 964-6278.

Reasons to Support the DMACC Foundation:

- DMACC is an essential part of the community—we are of, by and for the residents of the local area—help us and you help your neighbors and yourself.
- DMACC is a stable educational force in the local community—we are here to stay—invest in us and we will be here tomorrow.
- DMACC builds the community's workforce—the students we train come from and typically remain in Iowa.
- DMACC can leverage your gifts—through private, local, state and federal matching programs.
- DMACC is a good investment—even small gifts are significant and substantial gifts can directly guide and influence positive future programming.
- DMACC has a talent for teaching and emphasizing learning—help fund our programs and your efforts will be recognized by satisfied employers and positive word-of-mouth from graduates.
- DMACC is a quality alternative to high-cost undergraduate education. We provide an effective and affordable route to the baccalaureate degree through transfer programs—support for us ensures outreach to underserved populations and expanded access to postsecondary education.
- DMACC emphasizes a mission to support student success.

PROGRAMS AVAILABLE 2008–09

ARTS AND SCIENCES AND PREPROFESSIONAL EMPHASIS

Arts & Sciences/Liberal Arts	AA/AS	All

Preprofessional Emphasis - Programs available at selected campuses

Accounting	Law
Architecture	Medicine
Business Administration	Nursing
Chiropractic	Optometry
Computer Science	Pharmacy
Dentistry	Physical Therapy
Education	Physician's Assistant
Engineering	Social Work
Veterinary Medicine	

Associate in General Studies	AGS	All

VOCATIONAL AND PARAPROFESSIONAL PROGRAMS

PROGRAM	AWARD	CAMPUS
ASEP–General Motors	AAS	A
ASSET–Ford	AAS	A
Accounting & Bookkeeping	Diploma	B,U
Accounting Certificate I	Certificate	A*,B,N*,U
Accounting Certificate II	Certificate	A*,B,N*,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
Agribusiness	AAS	A
Agribusiness–Agronomy	Certificate	A
Agribusiness–Animal Science	Certificate	A
Agribusiness–Farm Management	Certificate	A
Agribusiness–Sales/Service	Certificate	A
Airbrush Art	Certificate	A
American Sign Lang. Interp. Training	AA	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
Biomass Operations Technology	Certificate	A
Biotechnology	AS	A
Building Maintenance	Certificate	A,N
Building Trades	Diploma	A
Business Administration	AA, AS	A,B,C,N,U,W
Business Information Systems	AAS	A,B*,C*,U,W*
CAP–Chrysler	AAS	A
Caterpillar Technology	AAS	A
Chemical Dependency Counseling	Certificate	A
Civil Engineering Technology	AAS	B
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*
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 & Diemaking)	Diploma	A
Diesel Technology	AAS, Diploma	A
Dietary Manager	Certificate	A
Digital Publishing & Prepress	Certificate	A
E-Commerce Design	Certificate	A
Early Childhood Education	AS, Diploma	A,U*
Electrical Construction Trades	Diploma	N
Electronics, Robotics & Automation	AAS	A
Electronics Systems Servicing Technology	AAS	A
Emergency Med Tech Basic	Certificate	A
Enology	Certificate	A
Entrepreneurship	Diploma, Certificate	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
Gerontology Specialist	Certificate	A
Graphic Design	AAS	A
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 Resource Management	Certificate	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 Admin.	AAS	A,B*,C*,N*,U*,W*
Interior Design Consultant	Certificate	A
Interpretation & Translation	AS	U
Interpretation & Translation, Generalist	Certificate	U
Interpretation & Translation, Healthcare	Certificate	U
Interpretation & Translation, Judiciary	Certificate	U
Land Surveying	AAS	B
Landscape Design	Certificate	A
Legal Assistant	AS, Certificate	U
Long-Term Care Administrator	Certificate	A
Machinist Technology (see Tool & Diemaking)	Diploma	A, N
Management	AAS, Certificate	A,N,B*,U*
Management Information Systems	AS	A*,U
Manufacturing Technology	AAS	A,N
Marketing	AAS	A
Medical Assistant	Diploma	A
Medical Insurance/Coding	Certificate	A
Medical Laboratory Technology	AAS	A
Medical Office Specialist (see Secretarial Careers)	AAS, Diploma	A
Medical Transcriptionist	Certificate	A,B*,C*,U*
Microcomputers	Certificate	A,N*,U*,W
Mortuary Science–Advanced Standing	Diploma	A
Network Security Manager	Certificate	A,U
Nursing–Advanced Standing	AAS	A,B
Nursing–Associate Degree	AAS	A,B,C
Nursing–Practical	Diploma	A,B,C,N
Office Assistant	Diploma	A,B,C,N*,U
Office Specialist	Certificate	A,B,C,N*,U
Phlebotomy	Certificate	A
Photography[1]	Diploma	A
Printing Technologies	Certificate	A
Production Art	Certificate	A
Respiratory Therapy	AAS	A
Retailing	Diploma, Certificate	A
Sales	Certificate	A
Sales & Management	Diploma	A
Secretarial Careers:		
Administrative Assistant	AAS	A,B,C,U
Medical Office Specialist	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
Surgical Technology	Diploma	U
Telecommunications Technology	AAS, Certificate	W
Tool & Diemaking	AAS	A,N*
Turf Maintenance	Certificate	A
Veterinary Technology	AAS	A
Viticulture	Certificate	A
Welding	Diploma	A
Welding–Blueprint Reading	Certificate	A
Welding–Gas Metal Arc	Certificate	A
Welding–Gas Tungsten Arc	Certificate	A
Welding–Oxyacetylene	Certificate	A
Welding–Pipewelding	Certificate	A
Welding–Shielded Metal Arc	Certificate	A
Welding–Structural Welding	Certificate	A

[1]The Photography Diploma program will be offered pending the Iowa Department of Education approval.

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

TABLE OF CONTENTS

WELCOME TO DES MOINES AREA COMMUNITY COLLEGE

On March 18, 2006, Des Moines Area Community College (DMACC) celebrated its 40th Anniversary. Our board, faculty and staff used this celebration as a time to reflect upon our many successes, and reaffirm our core goals for the next 10 years, taking DMACC to 2016, when we will celebrate our golden anniversary.

DMACC is committed to providing outstanding service and educational excellence to our students and our communities. To achieve this, we have created three "FIRST Goals" to be implemented over the next 10 years. In comparison to other Iowa community colleges and similar award-winning colleges nationally, we intend to be:

- FIRST in Quality, making sure our students are the most successful;
- FIRST in Service, making a DMACC education accessible to all Iowans in our district; and,
- FIRST in Affordability, making DMACC the most affordable choice for our students.

We are making excellent progress toward meeting all three goals. In Quality, our students and graduates do extremely well after leaving DMACC, whether they transfer to a four-year college or university or go directly into the workforce. In Service, there are only a few areas in our district that need better access to DMACC and we will meet their needs soon. In Affordability, this year DMACC will have the second-lowest tuition of all 15 Iowa community colleges.

In our 40th anniversary year, DMACC enrolled 26,800 students with unique needs and aspirations in credit programs. We appreciate your support; we're pleased that you are considering DMACC; and we are eager to help you achieve your career goals.

Our winning DMACC team welcomes you!

Sincerely,

Robert Denson, President

PROFILE OF DMACC

History of DMACC

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 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, 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 to 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 nondiscriminatory, 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 that best meet their needs and interests.
- Provide counseling and other support services that improve students' chances for success in their educational endeavors.
- Provide learning experiences and cocurricular activities that 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, Judicial Office 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, 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 website.
Des Moines Area Community College students are expected to be familiar with policies and procedures affecting their activities. Ignorance of policies and procedures will not excuse violations.

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

ANKENY CAMPUS
2006 S. Ankeny Blvd., Ankeny, IA 50023-3993
515-964-6200 or toll-free in Iowa: 800-362-2127
FAX: 515-964-6391

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

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

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

URBAN CAMPUS
1100 7th St., 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 or toll-free in Iowa: 800-362-2127
FAX: 515-633-2409

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 opened the Charles H. Betts Building in 2004.

NEWTON CAMPUS 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 individual campuses). The campuses are closed during other times and holidays. Visit our website: www.dmacc.edu

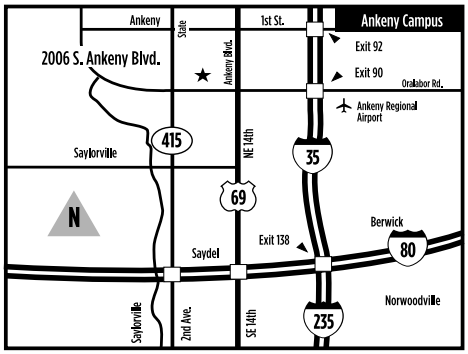
ACCREDITATION

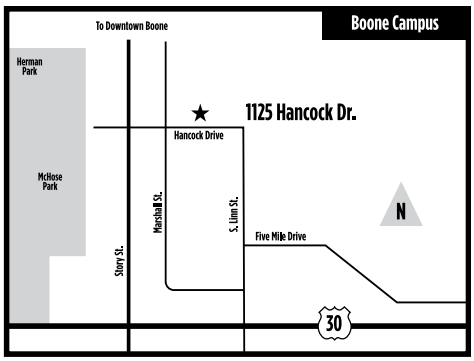
Des Moines Area Community College is accredited by the North Central Association of Colleges and Schools, 30 N. LaSalle St., Suite 2400, Chicago, IL 60602-2504. The association's telephone number is 800-621-7440, and their website is www.ncahigherlearningcommission.org. The College is also approved by the Iowa State Department of Education and the Iowa Board of Regents. College transfer curricula meet the requirements of four-year colleges and universities.

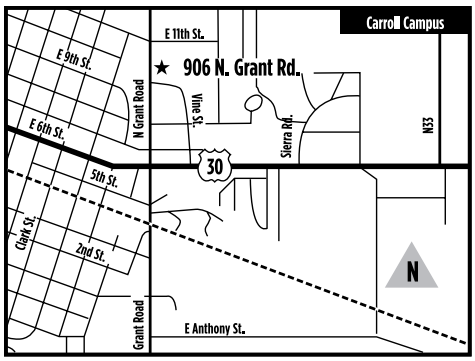
Both career option and college transfer curricula carry the approval of the United States Department of Education and are approved for veterans' benefits. The College also holds membership in the American Association of Community Colleges.

BOARD OF DIRECTORS

CAMPUS MAPS & DIRECTORIES







Ankeny Campus

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

	Bldg. No.	Rm. No.	Ext No.
Academic Achievement	6	19	6558
Academic Records	1		6341
Accidents-Auto (On Campus)	12	01	6500
Address Changes	1	16	6565
Admissions	1		6495
Advising	1	16	6246
Alumni Association	5	27	6376
Assessment Center	6	24	6595
Athletics/Recreation	5	26	6333
Bookstore	5	34	6682
Campus Clubs	5	26	6359/6376
Campus Events	1	06	6200
Campus Nurse	5	09	6352
Career Planning/Counseling	1	06	6246
Career Resource Center	1	06	6474
Child Development Center	09	25	6238
Drops/Adds	1	16	6800
Emergencies	1	06	6246/6500
Foundation Office	22		965-7105
Information Center	1	06	6200
Financial Aid	1	16	6282/6283
Graduation	1	16	6647/6507
Health Insurance/Services	5	09	6352
International Advising	1	16	6471
Library	6	03	6317
Lost & Found	5	27	6359
Program Changes	1	16	6495
Registration	1		6800
Scholarships	1	16	6278
Security	12	01	6500
Services for Students w/Disabilities	6	10b	6850
Student Accounts	1	18	6446
Student Employment Assistance	1	16	6215
Transcripts	1	16	6800
Transfer Evaluation	1	16	6647/6507
Tutoring Services	6	20	965-7004
Veterans Services	1	16	6284

Boone Campus

(515) 432-7203 or 1-800-362-2127
Campus Code #3

	Rm. No.	Ext No.
Academic Achievement	102	5096
Address Changes	120	5027
Advising	120A/129B	5024/5030/5051/5048
Assessment Center	102	5096
Athletics/Recreation	133/120A	5050
Bookstore	101	5034
Campus Clubs	120	5078
Campus Events	120	5026
Career Planning/Counseling	120A/120B	5030
Drop/Adds	120	5026/7203
Emergencies	120	5027
Financial Aid	120	5022/5023
Graduation	120	5026
Information	120	502
International Students	120A/120B	5030
Library	135	5040
Program Changes	120A/120B	5024/5030
Security	105C	5027
Services for Students w/ Disabilities	120A/120B	5024
Student Accounts	120C/120D	5022
Student Employment Assistance		5025
Student Housing	120	5078
Transcripts	120	5026
Tutoring Services	102	5096

Veterans Services: Refer all inquiries to:
964-6284 or 800-362-2127 Ext.#6284, Ankeny Campus

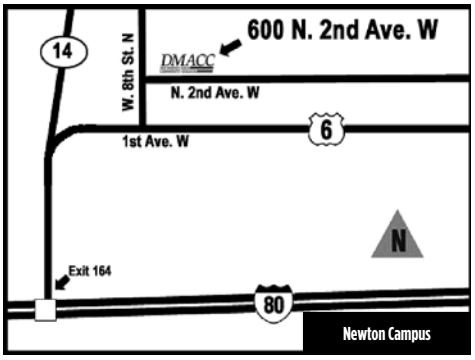
Carroll Campus

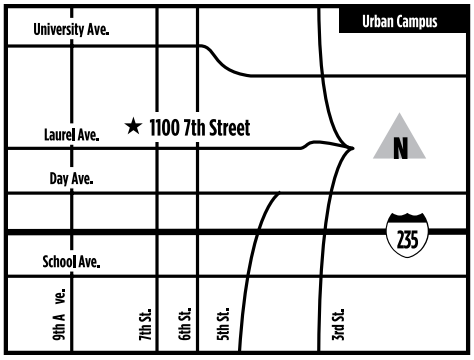
(712) 792-1755 or 1-800-362-2127
Campus Code #4

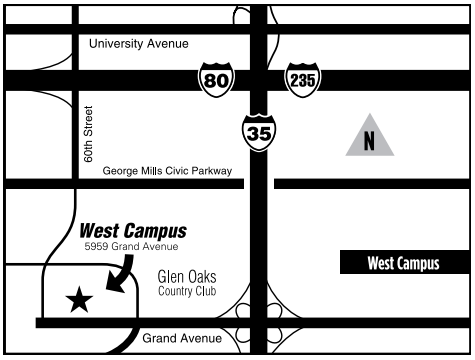
	Rm. No.	Ext No
Academic Achievement	157	8333
Accidents-Auto (On Campus)	Business Office	1755
Address Changes	141	8331/8332
Advising	141	8331/8332
Assessment Center	167	8303
Bookstore	Bookstore	8310
Campus Clubs	141	8331/8332
Campus Events	141	8331/8332
Career Planning/Counseling	141	4350
Drop/Adds	141	8331/8332
Emergencies	Business Office	1755
Financial Aid	141	8305
Graduation	141	8331/8332
Health Insurance	141	8331/8332
International Students	141	8331/8332
Iowa New Choices	141	8304
Library	158	8316/8317
Lost & Found	Business Office	1755
Program Changes	141	8331/8332
Security	Maintenance	8312
Services for Students w/Disabilities	141	8331/8332
Student Accounts	Business Office	8305
Student Employment Assistance		8331/8332
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 & DIRECTORIES







Newton Campus

(641) 791-3622 or 1-800-362-2127
Campus Code #5

	Rm. No.	Ext No.
Academic Achievement	107	1730
Accidents-Auto (on Campus)	Info Desk	3622/1720
Address Changes	Info Desk	3622
Advising	Advisors	1722/1723
Assessment Center		3622
Bookstore	105	1770
Campus Clubs	Advisors	1722/1723
Campus Events	Info Desk	3622
Career Planning	Info Desk	1722/1723
Drop/Adds	Info Desk	3622
Emergencies	Info Desk	362
Financial Aid	106	1725
Graduation	Advisors	1722/1723
Health Insurance/Services	Info Desk	3622
International Students	Info Desk	1722/1723
Lost & Found	Info Desk	3622
Program Changes	Advisors	1722/1723
Security		1795
Services for Students w/Disabilities	107	1730
Student Accounts	106	1725
Student Employment Assistance		1722/1723
Transcripts	Info Desk	3622
Transfer Evaluation	Advisors	1722/1723
Tutoring Services	107	1730

Veterans Services: Refer all inquiries to:
964-6284 or 800-362-2127 Ext.# 6284, Ankeny Campus

Urban Campus

(515) 244-4226 or 1-800-362-2127
Code #2

	Rm. No.	Ext No.
Academic Achievement	204	7204
Address Changes	101	4226
Advising	101E	4226
Assessment Center	207A	7218
Bookstore	134A	7212
Campus Clubs	101G	7515
Campus Events	101	4226
Career Planning/Counseling	101E	7717/7727
Drop/Adds	101	4226
Emergencies	101	4226
Financial Aid	101A	7202
Graduation	101	4226
Health Insurance/Services	101A	4226
Information	101	4226
International Students	101E	4226
Job Placement	101D	7236
Library	122C	7210
Lost & Found	101	4226
Program Changes	101	4226
Security	101	7200
Services for Students w/ Disabilities	101D	7727
Student Accounts	101A	7505
Transcripts	101	4226
Transfer Evaluation	101	4226
Tutoring Services	101	7232

Veterans Services: Refer all inquiries to:
964-6284 or 800-362-2127 Ext.# 6284, Ankeny Campus

West Campus

(515) 633-2407 or 1-800-362-2127
Code #6

	Rm. No.	Ext No.
Provost's Office	112W	633-2439
Associate Dean	107W	633-2442
Assessment Center	213W	633-2426
Provost's Secretary	110W	633-2406
Academic Achievement	213W	633-2472
Advising	107W	633-2405/2412
Bookstore	115W	633-2423
Campus Tours	109W	633-2408
Drop/Adds	109W	633-2408
Financial Aid	110W	633-2411
Registration/Records	109W	633-2408
Resource Center (Library)	213W	633-2426
Services for Students w/Disabilities	109W	633-2408
Student Accounts	110W	633-2411

Veterans Services: Refer all inquiries to:
964-6284 or 800-362-2127 Ext.# 6284, Ankeny Campus

2008–2009 ACADEMIC CALENDAR

August 2008

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 2008

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				

October 2008

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	

November 2008

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16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

December 2008

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

January 2009

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

February 2009

S	M	T	W	T	F	S
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15	16	17	18	19	20	21
22	23	24	25	26	27	28

March 2009

S	M	T	W	T	F	S
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22	23	24	25	26	27	28
29	30	31				

April 2009

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

May 2009

S	M	T	W	T	F	S
					1	2
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17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

June 2009

S	M	T	W	T	F	S
	1	2	3	4	5	6
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14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

July 2009

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	

Fall Semester 2008

Aug. 25, 2008.....Fall Semester Begins (first day of classes)

Sept. 1, 2008 .....Labor Day, No Classes, Offices Closed

Oct. 1, 2008.....Application Deadline for Fall Graduates

Oct. 17, 2008.....MIDTERM

Nov. 3, 2008.....*Last Day to Withdraw from Regular Term Classes

Nov. 27–30, 2008.....Thanksgiving Holiday No Classes, Offices Closed

Dec. 12, 2008 .....Last Day of Fall Semester

Dec. 25, 08–Jan. 2, 09 .....Holidays, Offices Closed

Spring Semester 2009

Jan. 12, 2009 .....Spring Semester Begins (first day of classes)

Jan. 19, 2009 .....Martin Luther King Holiday Offices Closed

Feb. 1, 2009.....Application Deadline for Spring/Summer Graduates

Feb. 27, 2009.....All Staff In-Service No Classes, Offices Closed

Mar. 9, 2009.....MIDTERM

Mar. 16–22, 2009.....Spring Break No Classes, Offices Open

Mar. 31, 2009.....*Last Day to Withdraw from Regular Term Classes

May 7, 2009.....Last Day of Spring Semester

May 7, 2009.....7:00 p.m. Ankeny/Urban/ Newton/West Graduation

May 8, 2009.....10:00 a.m. Boone Graduation

May 11, 2009 .....6:00 p.m. Carroll Graduation

Summer Semester 2009

May 27, 2009 ..... Summer Semester Begins (first day of classes)

July 3, 2009 .....Holiday, No Classes Offices Closed

Aug. 6, 2009.....Last Day of Summer Semester

*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.

KEY

- Semester Begins
- Midterm
- Last day to withdraw from classes*
- Holiday-College Closed
- Semester Ends
- Spring Break

ADMISSIONS

Des Moines Area Community College is dedicated to helping 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 placement of students in courses on the basis of counseling, examination, preenrollment 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 standby 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 online or at a DMACC campus nearest you. You may request a form by calling any DMACC campus. To apply online, visit the DMACC website 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 entry 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-serve basis. If a program is filled to capacity at the time all admission requirements are met, the applicants will be placed on standby 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.
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.

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

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: 641-791-3622 or
1-800-362-2127, ext. 3622

Urban: 515-248-7218 or
1-800-362-2127, ext. 7218

West: 515-633-2408 or
1-800-362-2127, ext. 2408

ESL TEST IN COMPASS

DMACC offers English as a Second Language ESL Test in COMPASS tests for students whose native language is not English. All full-time and part-time students whose native language is not English are required to take and pass the ESL Test in COMPASS test as a requirement for admission. Placement in ESL courses, college preparatory courses or college-level courses is based on minimum scores. Please contact the DMACC Assessment Center at the campus nearest you for more information.

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 a parent/guardian and from a high school counselor or principal on the Permission Form for High School Student.

ADMISSIONS

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 full-time students must meet the Guidelines for Required Assessment.

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 person who is 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 DMACC Application for Admission.
2. Provide a written statement of approval from a parent or guardian on the Permission Form for High School Student.
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. The student must meet with a DMACC advisor or counselor prior to registration.

ADMISSION OF GUEST STUDENTS (SUMMER ONLY)

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

International students are persons in the United States who have a nonimmigrant 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 60 days prior to the first day of the semester.

Semester	Deadline
Fall 2008	June 30, 2008
Spring 2009	November 12, 2008

If the paperwork is received after the deadline, DMACC will process the application for the next semester.

Example: For students who apply to attend school for the fall semester and the documentation arrives after June 30, DMACC will process the application for the spring semester.

Deadlines for International Transfer Students

Semester	Deadline
Fall 2008	July 11, 2008
Spring 2009	November 12, 2008
Summer 2009	March 27, 2009

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 courses.

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

1. A completed and signed DMACC International 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 $16,000.00 (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. A 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. An official transcript that provides evidence of graduation from a secondary school and transcripts from all postsecondary 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.

ADMISSIONS

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, 500 on the paper test, or 61 or higher on the internet-based version (45 if speaking not completed) 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 centers 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. 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 courses. 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 $850.00 per year will be assessed to the student.
9. Completion of the 'Guidelines for Required Assessment' and any additional entry requirements for their program of study.

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:

10. A transfer release signed by the Designated School Official (DSO) or Alternate Responsible Officer (ARS) from their most recent school of attendance.
11. Copies of passports including the VISA pages, I-94 forms and all previously issued I-20 forms.

RESIDENCY

Students may be considered for Iowa residency 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. The student **must** apply for reclassification from nonresident to resident status.

To apply for reclassification from nonresident 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:

- Iowa driver's license
- Iowa vehicle registration card
- Iowa voter registration card
- Iowa state income tax form
- Written and notarized documentation from an employer that you are employed in Iowa
- 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 students are registering.**

Reclassification of residency is not retroactive.

Noncitizens must submit proof of legal immigration status by submitting a copy of their Permanent Resident Card or I-94 page from their passport showing approved resident status by the U.S. Citizenship & Immigration Service (USCIS). **International students cannot establish residency while studying in this country on a temporary visa.**

Residency questions and documents should be submitted to the Registrar 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 academic standards must meet the requirement for readmission as found in the Academic Standards section of the catalog before reenrolling.

Students who have been suspended for a disciplinary reason may not reenroll until they have met 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 that 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. Contact the International Student Office for more details. 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 DMACC grade point average is 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.

ADMISSIONS/REGISTRATION

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 statewide 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 (MOS) 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 (DANTES). Copies of transcripts showing such work will be evaluated by the Credentials Office.

CAMPUS TOURS

Prospective students are invited to visit any or all of the DMACC campuses during **'Discover DMACC Day.'** Individual tours may be arranged by calling 1-800-362-2127 and selecting the campus of your choice, via the website at www.dmacc.edu and clicking on the 'visit DMACC' link, 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 515-244-4226
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. Students may register by calling 1-800-362-2127, ext. 7100 or via the web at www.dmacc.edu /discover.htm.

REGISTRATION PROCEDURES

New, Full-time Students

All new full-time students (12 credits or more fall and spring semester or 8 or more credits summer term) should plan to attend orientation. New students who have been accepted for admission will be notified when to report for orientation and registration. Counselors and advisors will be available to assist with registration.

To help students make a successful transition to college, DMACC offers The College Experience course, SDV108. 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. SDV108 is strongly recommended for students who fit these guidelines:

- Enrolled in a liberal arts, 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, fax or via the internet in accordance with the times and dates published in the schedule of classes or via the internet.

ADDING A COURSE

Students may add a credit course through the first five days of the full-length semester. Students who add courses during this time period are advised that classes have already begun and missed classes are the same as any absence. Course adds can be made in person, by phone, fax or via the internet. Students are not permitted to attend a course unless officially registered for the course.

DROPPING A 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 that does not run the full length of the fall, spring and summer semesters depends on the beginning and ending dates of the course. The applicable date is published in the *DMACC Credit Schedule* and is also available by contacting the Registration Office on any campus. Courses dropped during the first week of the semester will not show on the students' transcripts.

Deadlines for dropping courses are different than refund deadlines. Information about refund deadlines is published in the *DMACC Credit Schedule* and is also available by contacting the Registration Office on any campus.

Students who have withdrawn 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 Student Accounts Office to resolve their debt.

Students may be administratively dropped from courses for nonattendance. 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. Students must meet with an ombudsperson before submitting a 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.

NONCREDIT 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, fax or via the internet. Payment is due at the time of registration.

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.'

Nonresident tuition, not including fees, is twice the amount of resident student tuition. See the 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.

DMACC ONECARD/STUDENT ID

All currently enrolled credit students will receive the DMACC OneCard from Higher One, the new student photo ID card that not only serves as a picture ID confirming college enrollment and on-campus privileges, but when used in tandem with the OneAccount, the OneCard also has all the purchasing power of the debit MasterCard® network. The DMACC OneCard also provides students a choice in receiving any financial refunds from DMACC, allowing them to get their money faster and easier with new electronic options.

- The DMACC OneCard will be mailed to you by Higher One at your current mailing address on file with DMACC. Please verify that your address is correct on the DMACC Web Info System at www.dmacc.edu/WEBINST.asp.
- Student photos will be taken on all campuses. Please have your photo taken at one of DMACC's campus photo sites.
    - The DMACC OneCard should be activated at www.dmacconecard.com.
    - Lost cards will be replaced for a fee of $20 assessed to your DMACC student account.

INDEBTEDNESS POLICY

Students who have a balance due to the College should contact Student Accounts to resolve their debt. Unpaid debts may be referred to a collection agency and/or a credit bureau. DMACC uses the State of Iowa Offset Program which allows us to collect funds from tax refunds or other payments made by the State. 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 the 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. Online class books are available ONLY at the Ankeny Campus bookstore. 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 by a third party or employer, it is the student's responsibility to make sure the documentation is provided to Student Accounts prior to the payment due date. Financial Aid may hold your enrollment if all of the proper documents have not been provided to that office. A payment plan is available online with Nelnet Business Solutions (formerly FACTS). Please refer to the current Credit Course Schedule for payment due dates and payment plan options.

Important: Credit classes enrollment MAY be canceled if payment or payment arrangements are not made by the payment due date. STUDENTS are responsible for dropping classes if they DO NOT plan to attend. Please refer to the current Credit Course Schedule for payment due dates, payment plan options and the refund policy each term.

Payment for Non-Credit Continuing Education classes is required when registering.

PAYMENT BY CHECK

When you provide a check as payment, you authorize us to use information from your check to process a one-time Electronic Funds Transfer (EFT) or draft drawn from your account, or to process the payment as a check transaction. When we use information from your check to make an EFT, funds may be withdrawn from your account as soon as the same day you make your payment and you will not receive your check back from your financial institution.

If your payment is returned unpaid, you authorize the collection of your payment and a return fee of $30 by EFT(s) or drafts(s) drawn from your account.

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: Student refunds will be disbursed by Higher One according to student preference 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. 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 IRS publication 970, Tax Benefits for Higher Education. Details are also available on the internet at http://www.irs.gov/individuals/ students/index.html.

EDUCATIONAL EXPENSE

STUDENT TUITION RATE FOR CREDIT OFFERINGS

Full- or part-time enrollment (per credit) Resident	$ 107.00
Full- or part-time enrollment (per credit) Nonresident	$ 214.00
Audit (per credit) Resident	$ 107.00
Audit (per credit) Nonresident	$ 214.00
Career Supplemental noncredit courses (per contact hour)	Market Rate
Continuing and General Adult Ed–Local schools (per contact hour)	Market Rate
High School Completion (per course)	$ 100.00
High School Completion Diploma	$ 10.00
High School Correspondence (per course)	$ 100.00

Nonresident tuition is 200% of resident rate, whether the course is taken for credit or audit.

FEES

Music fee (piano/instrumental per course)	Market Rate
Correspondence course fee	$15.00/per course
TV course fee (per course)	$30.00/course
Online technology fee (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
GED Instruction materials fee	$ 50.00
Returned Check Fee	$ 30.00
Reregistration/Late Fee	$ 25.00

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 displayed 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.

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 2007–2008 budget, are as follows:

	Iowa Resident	Nonresident
Tuition and Fees	$3,060	$6,120
Books and Supplies	$1,000	$1,000
Room and Board	$5,302	$5,302
Personal/Misc.	$1,646	$1,646
Transportation	$2,080	$2,080
Total	**$13,088**	**$16,148**

Current cost of attendance can be found at www.DMACC.edu/financial.

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. FAFSA worksheets are available at all campuses. Students must 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.

Students may apply on the Web at www.fafsa.ed.gov.

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 submitting 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. Submit the FAFSA online.
5. When filing the FAFSA by using the internet, it may be necessary to print the signature page and mail it to:

   Federal Student Aid Programs
   P.O. 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. 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 & 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 Academic Competitiveness Grant

Grant assistance may be available for students who have completed rigorous high school coursework. First-year students are eligible for $750 and second-year students are eligible for $1,300.

Students who are Federal Pell Grant eligible, are enrolled full-time, have completed rigorous high school coursework and completed high school after January 1, 2006, for the first year or January 1, 2005, for the second year. Second year students must also meet the GPA requirement of 3.0 and have a total of 24 credit hours.

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 makes 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 $1,000 per academic year.

TEACH Grant

The College Cost Reduction and Access Act (the CCRAA), Pub. L. 110-84, created the Teacher Education Assistance for College and Higher Education (TEACH) Grant Program. This program is effective beginning with the 2008–2009 Award Year and provides up to $4,000 a year in grant assistance to students who plan on becoming a teacher and meet certain specified requirements. If a student who receives a TEACH Grant does not complete the required teaching, the grant must be repaid as a Direct Unsubsidized Loan under the William D. Ford Federal Direct Loan Program.

FINANCIAL AID

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 fundraising 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 partial listing of Foundation scholarship awards available college-wide can be found on the Foundation's website: www.dmacc.edu/foundation.

DMACC Foundation Scholarship Program

Criteria and Conditions for DMACC Foundation Awards

The DMACC Foundation was created to help assure educational excellence through charitable giving. Every year, the DMACC Foundation receives generous gifts from individuals, corporations and foundations. Fundraising efforts combined with earnings from the Foundation's investments provide student scholarships to hundreds of students annually.

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; filing an application for federal financial aid is the best way to do this.

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.

DMACC Foundation's Scholarship Application Checklist

The application process is online at: www.dmacc.edu/foundation/scholarships.asp.

Scholarship applications become available after January 10 each year and are due April 1, online, for the subsequent academic year.

Please read the following tips carefully and note the deadline date for applications.

- Read all instructions carefully. Incomplete or late applications will not be considered.
- Once you have submitted your application, you WILL receive a confirmation response from our e-mail system. If your system returns an error message, be sure to check that you have completed all questions in the form in which they are required.
- Current or returning DMACC students can find their current GPA on their DMACC student website. On the DMACC home page, select Student web system; go to Student Services; go to Student Records; select Academic Transcripts.
- Currently attending first-term DMACC students with no recorded grades need to have instructors write a note stating what their expected grades for the spring term will be. Submit grades, notes or transcripts from other schools separately to the Scholarship Office, Ankeny Campus, Bldg. 1.
- All applications MUST include the required one-page letter. Your letter will represent one-third of your review points. We recommend you write your letter first in a word processing program, make sure it says what you want, and then paste it into the application letter box. The complete letter will not show in the box but it will be included in our printout.
- Double-check your personal information: Social Security number, mailing address, etc. Mistakes could cause delays in our contacting you.
- Be patient. After the deadline date is past and all applications have been reviewed and awards assigned, you WILL be notified by mail of your award status. No scholarship information will be given over the phone.
- All DMACC Foundation general scholarship applications must be submitted electronically. If you do not have Web access from home, you can access the application form from the DMACC website using any available DMACC campus computer.

Outside Scholarships and Grants Websites

FASTWEB: www.fastweb.com

CollegeQuest: www.collegequest.com

CASHE: www.cashe.com

Tips for Applying for Outside Scholarships and Grants

- Focus on scholarships/grants with criteria that closely match the student.
- Send a self-addressed stamped envelope when requesting applications and information about scholarships/grants.
- Be aware of deadlines.

EMPLOYMENT

Federal 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

Students who are College Work-Study eligible may be employed as tutors for children in reading and math. As tutors, students may work in a child care center, a school, an after-school program or a library. Community Service 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:

Subsidized loans are need-based, fixed 6.8 percent 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 $3,500 for freshmen and $4,500 for sophomores. Independent students may be eligible to receive additional unsubsidized loans. Entrance and exit counseling are required.

Federal Direct Parent Loans for Undergraduate Students (PLUS)

A PLUS loan is a fixed 7.9 percent interest rate, Direct Loans may be 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.

ALTERNATIVE LOANS

Alternative loans provide low-interest loans to students and families who would not otherwise receive adequate amounts of student aid. Students may obtain additional information by calling the Financial Aid Office.

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.

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 veterans' benefits should be completed when applying for admission to DMACC. 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—Service members 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 students' benefits categories and are based on credit hour enrollment for 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 100 percent 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. Individuals must apply for this grant through their Guard unit commander each spring for the coming academic year. The Adjutant General (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 located at the Boone, Urban and West Campuses 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 nontraditional 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 at www.dmacc.edu/strive.

Vocational Rehabilitation

Through a special agreement with the Iowa Vocational Rehabilitation Services division of the Department of Education, a vocational rehabilitation staff person is assigned to each DMACC campus. Agency services are available to eligible clients. As a part of an individual written plan requiring training to meet a student's vocational goal, financial assistance may be available per Agency guidelines.

FINANCIAL AID

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, students must earn and maintain a minimum cumulative grade point average of 2.00. Students must also earn a minimum number of credits per semester 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 2.00.
   b. Subsequent terms will require the student to earn a cumulative GPA of at least 2.00.
   c. Acceptable grades to maintain a cumulative 2.00 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 2.00 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 2.00 GPA if the qualitative measurement was not met or not go deficit. 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 while maintaining GPA. (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.
5. **Regaining Eligibility**
   To regain eligibility for financial aid, the student will be required to regain cumulative 2.00 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 reenrolling 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 percent 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.

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 and a B+ in a 3-credit class in the fall and maintains a GPA of 2.00. His status is satisfactory. If he retakes the 4-credit 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 retake 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 can view their class lists online and must identify students who have never attended their class. Students will receive an email 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 email to the Information Center by the deadline provided. If the email 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

(Midterm — QA)

Instructors are asked to report students who have quit attending. An email is sent to the student showing what classes have been reported as QA. The student must obtain the instructor's signature and submit the signed email to the Financial Aid Office. If all instructors report a student as QA, a Return of 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 receiving 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 45 days after DMACC determines the student's withdrawal date.

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 that 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 unearned 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 grant funds if the final grant overpayment amount exceeds 50 percent of the total grant assistance the student received for the payment period.

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 12 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	$1,733
Federal Pell Grant	998
Federal SEOG	250
Total Financial Aid Awarded	**$2,981**

Bill completed only 11 days of classes or 10 percent of the semester. Bill's tuition and fee charges for the full semester are $1,320.00.

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	$2,981
Multiply Percent of Unearned Aid	x .90
Amount of Unearned Aid	**$2,682.90**

Per federal requirements, DMACC and Bill must repay a total of $2,682.90.

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	$1,320.00
Multiply Percent of Unearned Aid	x .90
Amount to be Repaid	**$1,188.00**

Bill is required to return the remaining unearned amount.

Total Unearned Aid	$2,682.90
Subtract Percent of Unearned Aid	-$1,188.00
Amount Bill Must Repay	**$1,494.90**

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 $1,188.00 to Bill's loan. Bill will be required to repay $545.00 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, $949.90 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 50% of the Pell Grant.

Unearned Pell Grant	$949.90
	x .50
Amount Bill Must Repay	**$474.95**

Title IV Grant Overpayment

If a student is required to repay an unearned grant (overpayment), 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

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 3.50 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 sent to their 'hometown' newspaper for publication.

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 AND 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 by an established date. 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 2.00. 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. Students are required to meet with the ombudsperson before filing a petition for policy waiver.

AUDITING COURSES

Students may enroll in most courses on an audit basis with instructor approval. Audit enrollment may be denied in select courses based on prerequisite knowledge or skills, high demand or other criteria. For example, a course with a practicum or clinical experience may not be appropriate for audit participation.

The same amount of tuition is due for audited courses as students pay to take the courses for credit. Audited courses appear on students' records with no credit and marks of "N."

Students auditing courses are not required to complete regular assignments or examinations, though attendance is expected. Instructors may exclude students who are auditing from participation in portions of the course, such as special projects. 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 a course. The completion of a Drop/Add form with the instructor's signature is required. If a course has been placed on audit, it cannot be changed back to credit unless the semester has not begun and the late registration period has not passed for the course.

GRADE REPORTS

Final grade reports are issued approximately one to two weeks after the end of a term. Students may also view their grades on the Web. Progress grade reports are issued 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.

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

ACADEMIC INFORMATION

Other Grade Designations:

W	Withdrawn/Dropped
I	Incomplete
N	Audit
P	Pass
T	Testing
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			Quality Grade points
Composition I	3	X	B+ (3.33) =	9.99
Fund. of Oral Communication	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 I	5	X	D+ (1.33) =	6.65
TOTAL	18 semester hours			42.31

Divide 42.31 points by 18 semester hours = 2.350

REPEAT COURSEWORK

Students may repeat a course previously taken at DMACC if the course is currently being offered.

Students who fail a required course may repeat and pass that course at Des Moines Area Community College in order to fulfill graduation requirements. The repeated course must be the exact course that was taken earlier in order for the repeat procedure to apply. 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. 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 06-07	PSY 111	D	3.00 E
SP 07-08	PSY 111	A	3.00 I

GRADE APPEALS

Students should first attempt to resolve questions about grades with their instructors. If students wish to proceed further, they should follow the steps outlined in The Appeal of the Final Grade procedure. A copy of this procedure is available in any DMACC Student Services office. Students begin the process by meeting with an ombudsperson on their campus.

Repeat, Incomplete and Failing Mark Policies

Students who, due to extenuating circumstances, are 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 by instructors 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 course work is not satisfactorily completed within the time period specified.

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 (T) credit after a minimum of 12 semester hours of credit have 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 Dean's or Provost's 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." These marks are not included in the grade point average.

ACADEMIC INFORMATION

Challenge Tests (DMACC 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.
- If the examination is requested prior to formal registration in a class, a nonrefundable fee equal to one-half the tuition for that course shall be charged. If the examination is unsuccessful, that fee may NOT be applied if student subsequently formally registers for that 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 records only when students have earned 12 credit hours at DMACC. A "T" mark is used and is not included when computing grade point average.

Students interested in taking a Challenge exam should contact the appropriate academic 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 statewide 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 guides. No credit will be awarded based on the Military Occupational Specialties (MOS) evaluation program.

Credit may be awarded for coursework 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 (DANTES). Official copies of transcripts showing such work are required for credit evaluation 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. 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 student's permanent record.

CLEP testing is available on the Ankeny Campus. Contact the Ankeny Campus 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 2.00 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 at 515-964-6800.

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 (T) credit.

Articulated credit is recorded on the student's permanent record after the student has 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 to four 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 coursework 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 high school students may be accepted under this program. If the students are 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. For more information, contact the DMACC Registration Office at 515-964-6800.

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.

SATISFACTORY ACADEMIC PROGRESS

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 2.00 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 2.00 or higher.
2. Guidelines for placing a student on 'ACADEMIC PROBATION':
   a. A student whose cumulative GPA falls below 2.00 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 2.00 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 2.00 or higher but the cumulative GPA remains below 2.00. 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 2.00 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 2.00 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 reenrolling 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 2.00 or higher, but the cumulative GPA remains below a 2.00, will be placed on ACADEMIC PROBATION.
   f. A student on CONDITIONAL ENROLLMENT who earns a term GPA and a cumulative GPA of 2.00 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 2.00 will be placed on ACADEMIC SUSPENSION and will not be allowed to enroll in credit coursework for a period of one term.
5. Guidelines for REENROLLMENT OF SUSPENDED students:
   a. After the nonenrollment period, a student on ACADEMIC SUSPENSION may apply for reenrollment. Students who are placed on academic suspension at the end of the Spring semester may not reenroll until the following Spring semester.
   b. In all instances, a readmitted student will be placed on CONDITIONAL ENROLLMENT.
   c. A student seeking reenrollment 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 reenroll only after receiving written approval of the Director of Student Development.
   e. Individual programs may impose additional reenrollment requirements.
6. A student placed on ACADEMIC SUSPENSION may appeal. Students wishing to appeal should contact the Director of Student Development, Ankeny Campus, 515-964-6222.

STUDENT RECORDS-CONFIDENTIALITY

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

Des Moines Area Community College complies with the laws of 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, email address and photograph.

With the exception of the Directory Information items listed above, all student records are considered to be confidential and are only open to designated school officials 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 or refer the *DMACC Student Handbook*.

TRANSFER CREDIT

A maximum of 43 semester credit hours of transfer credit is applicable toward Associate Degree requirements. For diploma and certificate programs, a maximum of 2/3 of the program credits may transfer into DMACC (1/3 of the credits must be earned at DMACC). The total grade point average of credits transferred to DMACC must equal 2.00 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' grade point averages at DMACC. Refer to the 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 or submit a request via the Web Information System.

Students can email 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 or DMACC I.D., 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 copies of transcripts that are issued to students are considered to be unofficial. Transcripts will not be issued for students who have unpaid financial obligations to Des Moines Area Community College.

Students who have access to the DMACC Web Info System can view unofficial copies of their transcripts 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 AND 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 that emphasize:

Liberal Arts

- 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.
- Paraprofessional curriculum prepares students for employment in a variety of public service fields. Students may also transfer to a four-year institution.
- Preprofessional 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
- Three credits in Mathematics
- Two credits in Science
- Six credits in English

PROGRAM REQUIREMENTS & GRADUATION

- 18 credits of 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 and universities vary in the required number and nature of preprofessional and general education courses that 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, and DMACC partners with other institutions. For example, DMACC is working with Grand View College on a business administration program that will be offered with accelerated courses in the evening.

The advisors and counselors at each DMACC campus are available to work with students in planning their programs 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 Admissions Partnership Program (APP)

Students interested in transferring to Iowa State University are encouraged to participate in the Admissions Partnership Program (APP). APP 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 both DMACC and ISU advisors to help select appropriate coursework.
2. Inviting students to participate in ISU programs and activities appropriate to their major.
3. Assisting students with their transition to ISU.

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.)

Noncore 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.

Degree Audit

Students may visit the credentials/graduation office or mail requests to receive reports of their progress toward completion of requirements for their programs of study. Students are encouraged to request a Graduation Evaluation Report at least one semester prior to their planned graduation date to assist with planning their final semester. Most degree audit reports are available via DMACC's web information system.

Application for Graduation

Candidates for graduation must complete applications for graduation in order to receive their academic awards. Students who do not complete requirements for graduation in the term for which they applied must submit new applications. 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 associate degree, diploma or certificate need to complete graduation applications 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 2
Summer..... February 2
(if students plan to participate in the annual commencement ceremonies)

Summer..... June 1

PROGRAM REQUIREMENTS & GRADUATION

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 and Academic Awards

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 transcripts showing the degree and date awarded 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 at 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 coursework 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 coursework 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 that 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 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, Advanced Standing Diploma and Certificates of Specialization. Course availability varies by campus.

Degrees

The requirements for the AA, AS, AAS, AGS degree, the Diploma, the Advanced Standing 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 coursework. 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.

Associate in Arts Degree (AA)

To receive an AA degree, students must:

1. Maintain a 2.00 grade point average on all work applicable for the AA degree.
2. 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.
3. Complete the final 10 semester credit hours at DMACC (or petition to the Registrar for an exception).
4. Complete a minimum of 64 semester credit hours.

PROGRAM REQUIREMENTS & GRADUATION

5. 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
- Diversity Requirements.....3 credits*

**The course taken to fulfill the Diversity Requirement may be "double counted" in any of the categories above.*

6. Include at least 16 semester credit hours of elective credit.
   a. Students may include no more than 16 semester credit hours of vocational/technical credit.
   b. 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:

1. Maintain a 2.00 grade point average on all work applicable for the AS degree.
2. 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.
3. Complete the final 10 semester credit hours at DMACC (or petition to the Registrar for an exception).
4. Complete a minimum of 64 semester credit hours.
5. 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
- Diversity Requirement.....3 credits*

**The course taken to fulfill the Diversity Requirement may be "double counted" in any of the categories above.*

6. Include at least 36 semester credit hours of elective credit.
   a. Students may include 16 semester credit hours of vocational/technical credit.
   b. 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:

1. Maintain a 2.00 grade point average on all work applicable for the AGS degree.
2. 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.
3. Complete the final 10 semester credit hours at DMACC (or petition the Registrar for an exception).
4. Complete a minimum of 12 semester credit hours at DMACC after the effective date of the AGS degree (January 1, 1992).
5. Complete a minimum of 64 semester credit hours.
6. Complete the following core requirements:

- Communications.....3 credits
- Social & Behavioral Science/ Humanities.....3 credits
- Math & Sciences.....3 credits
- Distributed Requirements.....3 credits

7. 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 AAS programs of study in this catalog to learn degree requirements in addition to these general requirements. Students must complete a specific program in order to receive the AAS degree.

To receive an AAS degree, students must:

1. Maintain a 2.00 grade point average on all work applicable for the AAS degree.
2. 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.
3. Complete the final 10 semester credit hours at DMACC (or petition to the Registrar for an exception).
4. Complete all required courses in a particular program of study. (Minimum of 64 semester credit hours.)
5. Satisfy the following core:
   a. Communications – 3 credits

ENG 105, ENG 106, ENG 108, COM 703, ADM 157

   b. Social & Behavioral Sciences/ Humanities – 3 credits

AGB 101
ANT 100, 105
ART 101, 184, 186
ASL 151, 181, 251, 291
DRA 101
ECN 120, 130
FLA 141, 142, 241, 242
FLC 141, 142, 241, 242
FLF 151, 152, 241, 242
FLG 141, 142, 241, 242
FLI 141, 142, 241, 242
FLJ 141, 142, 241, 242
FLS 151, 152, 241, 242, 181, 281
GEO 111, 125, 124
HIS 112, 113, 150, 153, 257
HUM 120, 116, 121
LIT 101, 142, 110, 111, 185, 166, 188, 193, 130, 190
MGT 145
MUS 100, 101
PHI 101, 110, 105
POL 111, 112, 121, 125, 171
PSY 111, 121, 241, 251, 261, 102, 261
REL 101
SOC 110, 115, 120, 200

   c. Mathematics or Sciences – 3 credits

ENV 115, 116
BIO 138, 156, 732, 733, 734, 104, 112, 113, 187, 164, 168, 173
BUS 211 or MAT 157, BUS 112
CHM 105, 122, 132, 165, 175, 263, 273
ELT 106, 108
MAT 110, 114, 116, 141
MAT 157 or BUS 211
MAT 162, 166, 130, 129, 211, 217, 219, 227, 772, 773
PHS 152
PHY 106, 160, 161, 213, 223, 710

   d. Distributed Requirement – 3 credits

Choose one course from 1, 2 or 3 above or SPC 101, 126 or ELT 368.

Diploma

To receive a diploma, students must:

1. Maintain a 2.00 grade point average on all work applicable for the diploma.

2. Earn at DMACC a minimum of 1/3 of the semester credit hours applicable to the degree being pursued.
3. Complete the final 10 semester credit hours at DMACC (or petition the Registrar for an exception).
4. Complete all required courses in a particular program of study. (Minimum of 30 semester credit hours.)
5. Complete the following core requirements:
   - 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:

1. 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
2. Maintain a 2.00 grade point average in all work applicable to the advanced standing diploma.
3. Earn at DMACC a minimum of 1/3 of the semester credit hours applicable to the diploma being pursued.
4. Complete the final 10 semester credit hours at DMACC (or petition the Registrar for an exception).
5. Complete a minimum of one general education course as part of the program of study.
6. 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:

1. Maintain a 2.00 grade point average on all work applicable for the certificate.
2. Earn at DMACC a minimum of 1/3 of the semester credit hours applicable to the certificate being pursued.
3. Complete the number of semester credit hours required in a particular program of study.
4. 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 with and provide service and benefits to alumni. Through annual fundraising activities, the Association provides scholarships and grants to deserving DMACC students. For more information, contact the Alumni Office.

ACADEMIC ADVISING

Academic 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, diploma and certificate programs is explained.

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	515-433-5098
Carroll Campus	712-729-8303
Hunziker Center	515-663-6700
Newton Campus	641-791-3622
Success Center	515-287-8700
Urban Campus	515-248-7218
West Campus	515-633-2408

DMACC offers English as a Second Language ESL Test in COMPASS tests for students whose native language is not English. All full-time and part-time students whose native language is not English are required to take and pass the ESL Test in COMPASS test as a requirement for admission. Placement in ESL courses, college preparatory courses or college-level courses is based on minimum scores. Please contact the DMACC Assessment Center at the campus nearest you for more information.

In addition, the Ankeny Assessment Center offers ACT, LSAT, MPRE, PRAXIS, Medical Assistant and Medical Office Specialist typing test, Veterinary Technology biology test, mechanical reasoning aptitude test, Iowa Dental Board test.

The Boone Assessment Center also offers CLEP testing.

CAMPUS SECURITY

Law enforcement and security are provided 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. to 10:30 p.m., Monday through Thursday; 7:00 a.m. to 3:00 p.m. Friday; and 8:00 a.m. to 12:30 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, ensure safety and security, and provide assistance to the College community.

STUDENT SERVICES

CAREER AND TRANSFER RESOURCE CENTER (CTRC)

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

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

The CTRC resources will enable students 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, staff and faculty. 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 materials for 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 10 working days for a refund in the form of a DMACC check.

Students whose books do not qualify for a refund are encouraged to use our everyday buyback. Check with the bookstore about further details regarding the Buyback Policy. Representatives from wholesale companies may be present at the end of the semester. 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 class book purchases may be made through the DMACC website www.dmacc.edu. Online class books are available ONLY at the Ankeny Campus bookstore. MasterCard, VISA and Discover charge cards are accepted. A picture ID is required when writing a check in the bookstore. Students with prewritten checks from parents must also present a picture ID. 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.

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 planning 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 Academic Achievement Centers provide the following support services to students enrolled in college preparatory courses: tutoring, individualized instruction, homework help, assessment of basic skills and vocational interest, and academic planning

FOOD SERVICES

Vending machines are available at each campus. The Ankeny, Boone, Urban/ Des Moines 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

Fitness and intramural sports opportunities are available for students at Des Moines Area Community College. Facilities are located in Building 5 on the Ankeny Campus and on the Boone Campus. A schedule of intramural events and rules for participation are available online and in the Recreation & Wellness Center on the Ankeny Campus. Free fitness classes and discounted personal training services are also available to currently enrolled

STUDENT SERVICES

DMACC students on the Ankeny Campus. All currently enrolled DMACC students as well as card-carrying alumni are eligible to utilize the Recreation and Wellness Center. Basketball, volleyball and other court sports as well as fitness classes take place on the gym floor. A walking/running track is also available in the gym. The fitness center houses a variety of cardiovascular and strength training equipment. Locker rooms and shower facilities are also available. Locker rentals and towel services are available for a nominal fee per semester. The gym is also available for rentals. See staff for details.

The facility hours are posted online at https://my.dmacc.edu/sites/Recreation Wellness/default.aspx and are subject to change. Guests are welcome for a $2.00 fee. Family members and other guests are welcome as long as they are accompanied by a valid DMACC student or eligible alumni. No children under 12 years of age are allowed in the fitness center. All patrons must follow all posted facility rules. For more information and current hours of operation, contact 964-6333.

INTRAMURAL RECREATION

Intramural sports are available for students, faculty and staff on the Ankeny and Boone Campuses. Opportunities exist year-round for both individual and team recreational sports and activities. Applications for participation are available online at https://my.dmacc.edu/sites/RecreationWellness/default.aspx and in the Recreation and Wellness Center in Building 5 on the Ankeny Campus.

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. Contact 964-6200 or 1-800-TO-DMACC.

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; referrals for internship and summer employment; on-campus recruitment and interviews by employers; labor market information, resource videos and books, and a list of helpful websites for research from home.

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

Also available is a free online employment service to help students find careers that match their degrees: www.iowacareer.net. To register for assistance, go to www.dmacc.edu/ student_ services/job_placement.asp.

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, Newton 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 who 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 more than 8,000 periodicals, as well as abstracting and indexing for more than 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 Online 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 listening/ 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 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, a Library Instruction class (SDV 171) and an internet Research class (SDV 172) is 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 intercampus 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, testing center, academic achievement center, an elementary curriculum library and multimedia storage area for media equipment availability and checkout.

Newton Campus

The Interactive Learning Center (ILC) at the Newton 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 online 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 makeup exams and quizzes. Students 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.

STUDENT SERVICES

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 complements 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 online along with other reference databases. There is a collection of videotapes that supplements the textbooks in accounting and mathematics, videotapes for the telecourse division of the College and videotapes 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 in accessing the resources available through the Ankeny Campus and other participating libraries.

VOCATIONAL 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 help 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 that 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
   Attention: Special Needs Coordinator
   2006 South Ankeny Boulevard, Bldg. 6-10b
   Ankeny, Iowa 50023-3993
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 HEALTH

Student Health Services is located on the Ankeny Campus in Building 5, with some services extending to other campus locations.

Student Health Services offers limited medical care, emergency treatment, and referrals for students who become ill or injured while on campus. The Campus Health Specialist is available during student contact days. A Nurse Practitioner is available for walk-ins, one day per week, during the fall and spring semesters. Please call Student Health to inquire on the time and day. Student Health Insurance information is also available.

STUDENT HOUSING

For student housing options and area apartment information, please refer to www.dmacc.edu/student_services/housing.asp. For more information about student housing at the Boone Campus, contact the housing liaison, Steve Krafcisin, at 515-433-5026. For information about the independently owned and operated housing on the Ankeny Campus, contact the manager of Campus View Apartments at 515-964-7474. The College Information Center in Building 1 of the Ankeny Campus also provides information about other housing options near the Ankeny and Urban Campuses.

Information about housing for the Carroll, Newton and West Campuses is available from the Student Services Offices at the respective campuses or on DMACC's website.

TESTING CENTERS

The Testing Center provides a site for makeup 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 students arrive to take their exams, they must present a picture identification, such as a driver's license, and know the instructor's last name. For Testing Center hours, students should contact the Information Desk at the Newton Campus, the Testing Center or Academic Achievement Center at the Ankeny, Boone or 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 may 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 or West Campuses.

STUDENT HANDBOOK

For more information about services, procedures and policies at Des Moines Area Community College, pick up a copy of 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 ACTIVITIES

ACTIVITY ROOM

The Activity Room is available for students on the Ankeny Campus. Located in Building 5, the Activity Room provides a space for students to relax, study, and play various games in a lounge-like setting. Games include pool, ping pong, and various arcade games. The games are provided by Playin Around Games. For more information, contact Recreation and Wellness at 964-6333.

DMACC CHOIRS

The DMACC music program offers students the opportunity to participate in a variety of choral music ensembles. Concert Choir (MUS 143; 2 credits) is offered on the Ankeny and Boone Campuses. The rehearsal schedule is not the same on both campuses, but is always shown in the current DMACC semester course schedule. Concert Choir is open to anyone without an audition; however, it is expected that students who enroll will have the ability to learn and sing the voice part to which they are assigned. On the Ankeny Campus, singers in Concert Choir may audition to sing in the Chamber Ensemble (MUS 150; 1 credit; formerly Chamber Choir), which rehearses on the same days as Concert Choir. Students must have the choral conductor's permission to enroll in Chamber Ensemble. Choral music credits may be used toward DMACC degrees as electives for four semesters, but, there is no limit to the number of times singers may register for the ensembles. Volunteer choral ensembles, which are open to any DMACC student who can learn and sing choral parts, are organized on the Ankeny Campus on a semester-to-semester basis. These are promoted on flyers posted in many Ankeny Campus buildings. Anyone wanting more information may contact the choral conductor in Building 5, Room 41 on the Ankeny Campus or by checking with the office on the Boone Campus. Ankeny Campus maintains its internet presence at www.dmacc.edu/music/.

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.

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 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 and student organizations. It is the philosophy of the College that cocurricular activities complement the academic program. The activities are financed by a portion of the service fee that 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 nonclassroom hours. Various types of game equipment are available, and food and beverage facilities are located in or near each of these areas.

STUDENT ORGANIZATIONS

Students are encouraged to participate in student organizations. Students may form a new organization by contacting the Student Activities Coordinator on their respective campus for information. Most recognized organizations fall into one of the following classifications:

1. Preprofessional and departmental organizations are joined by students wishing to pursue interests that contribute to the development of career fields.
2. Service organizations have as their primary purpose activities that 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.

BUSINESS RESOURCES/CONTINUING EDUCATION

TICKET SALES

Discount tickets to various activities and attractions are available at the Student Activities office at Ankeny, the Advising Office at Carroll, or the Business Offices at Boone, Newton, Urban and West Campuses. The Ankeny Campus offers discount tickets to Civic Center events, Worlds and Oceans of Fun, Adventureland Park, Ankeny Springwood Theater, Copper Creek Theater in Pleasant Hill, Woodland Hills Golf Course, Carmike Movie Theaters, Iowa Energy, Buccaneers and Iowa Stars hockey in Des Moines. The Carroll Campus offers Adventureland Park, Carroll Community Theatre, Worlds/Oceans of Fun, and Carroll Theater V discounted tickets.

Urban Campus offers discount tickets to Adventureland Park, Carmike 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 at all campuses. Credit cards are accepted at the Urban Campus.

DMACC BUSINESS RESOURCES (DBR)

Des Moines Area Community College Business Resources (DBR) provides businesses, governmental agencies and nonprofit 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 needs assessment to the customized design and implementation of training programs, DBR consultants ensure that 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 other convenient location.

CONTINUING EDUCATION AND 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.

DMACC GED Testing Centers:

DMACC Ankeny Campus

DMACC Boone Campus

DMACC Carroll Campus

DMACC Urban Campus

DMACC Newton Campus

DMACC Success Center

DMACC West Campus

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.

DMACC offers English as a Second Language (ESL) COMPASS tests for students whose native language is not English. Starting in the 2008–2009 academic year, all full-time and part-time students whose native language is not English are required to take the ESL COMPASS test as a requirement for admission. Placement in ESL courses, college preparatory courses or college-level courses is based on minimum scores. Please contact the DMACC Assessment Center at the campus nearest you.

For more information, call 515-287-8700 or 800-362-2127, ext. 8700, or check our website www.dmacc.edu/success/.

CONFERENCE AND EVENT PLANNING SERVICES

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

DMACC provides event planning services including:

- 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 on the DMACC campus 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 and courses may begin at any time and do not necessarily coincide with the College's academic calendar. A variety of noncredit vocational and avocational classes,

CONTINUING EDUCATION & SPECIALIZED PROGRAMS

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 recertification of professionals in areas such as child care, insurance, nursing, emergency medical services, cosmetology, real estate, long-term care and social work.

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 515-965-6024.

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 carried on Mediacom Cable, College Channel 16. For more information, see the Distance Learning Homepage at www.dmacc.edu/online 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, ext. 6699.

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, 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. 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 six 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 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 8 hours–3 hours in the classroom and 5 hours of 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 and C motor homes, to fifth-wheel trailers to travel trailers.

We also have RV (Recreational 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.

MOTORCYCLE/MOPED SAFETY RIDER COURSES

Basic Motorcycle Safety Rider Course

The MSF Basic Rider Course is based on years of scientific research and field experience. It teaches fundamental skills. It provides basic entry-level skills for a new rider to begin practicing and developing the mental and motor skills important for safe street operation. The Basic Rider course is a combination of 5 hour classroom and 10 hours of on-motorcycle instruction.

Moped Rider Course

Learn how to operate and care for a moped, as well as the rights and responsibilities as a moped operator. Must be 13 years or older to take this course.

DMACC INITIATIVES

COMMON COURSE NUMBERING

All of the community colleges in Iowa are participating in a joint project to develop common numbers for all of our courses. Because of this initiative, all of our course subject names and most of our course numbers at DMACC changed effective Fall semester 2006. If you need to know the former acronym and course number for one of our courses, an interactive conversion chart is available on our website at www.dmacc.edu/rod/matrix/. For questions about common course numbering at Des Moines Area Community College, you can call 515 964-6332 in the Ankeny or Des Moines areas or toll-free 800-362-1727, extension 6332.

DES MOINES AREA COMMUNITY COLLEGE CENTERS

In addition to the six campuses that comprise Des Moines Area Community College, the college participates in the Des Moines Higher Education Collaborative at 1200 Grand Ave. in downtown Des Moines and operates two centers:

SUCCESS CENTER

The DMACC Success Center opened its doors in October of 2002. Located on Porter Avenue on Des Moines' south side, this center provides programming for Youth-at-Risk (YAR), English as Second Language (ESL) and Adult Basic Education (ABE) populations from the metro area and surrounding communities, and college credit courses. More information is available on the website for the Success Center at www.dmacc.edu/success/. The telephone number for the Success Center is 515-287-8700.

DMACC CAREER ACADEMY, HUNZIKER CENTER

The new $5 million DMACC Career Academy, Hunziker Center opened its doors August 14, 2006. The center is located at the northwest corner of Interstate 35 and U.S. Highway 30 in Ames. Through a partnership with Story County's seven school districts, the Academy offers career and technical programs to high school students during the day. Some of the high school educational programs include state-of-the-art labs for building trades, culinary arts, information technology, health careers, automotive technology and manufacturing technology. In the afternoon and at night there are a wide variety of college-credit liberal arts courses offered through the Boone Campus. The telephone number for the DMACC Career Academy, Hunziker Center is 515-663-6700.

TOBACCO-FREE DMACC

Effective July 1, 2008, Des Moines Area Community College will become tobacco-free. For the purpose of promoting a healthy environment and in accordance with Iowa law, the use of tobacco products is prohibited on the grounds of the College, including all outdoor areas, inside any vehicle located on school grounds and including a perimeter area of ten feet beyond the grounds of the College. Violators may be charged penalties in accordance with Iowa statute.

TRANSFER PROGRAMS FOR BACHELOR'S DEGREES AND PROFESSIONAL PROGRAMS

Students who plan to transfer to a four-year college or university usually select the Associate in Arts or the Associate in Science degree to prepare for transfer. Students may select a concentration area under Liberal Arts to receive specific advising in this area. Des Moines Area Community College advisors work hand-in-hand with colleagues at colleges and universities in Iowa and the surrounding states to provide for a smooth transition for our students. Students should contact educational advisors or counselors to review transfer plans or tailor a transfer plan to their own situation and education goals for a seamless transition. Our staff members also help students get in touch with the appropriate contacts at the college or university of their choice. The receiving institution is the final authority on all transfer credit.

Des Moines Area Community College's Associate in Arts (AA) and Associate in Science (AS) degrees provide the flexibility and opportunity to get a solid start on your four-year degree while earning an associate degree. Our faculty and staff have worked together to develop plans of study for students who wish to pursue a professional career. Preprofessional tracks for students interested in a bachelor's degree in education, engineering and physical therapy or interested in a master's degree to be a physician's assistant are published on our website at www.dmacc.edu/programs/pdp/.

DMACC has entered into new partnership programs with Iowa State University, the University of Iowa, Northern Iowa University, Drake University, Grand View College and other institutions. DMACC faculty and staff are currently working with Grand View College to jointly offer an evening, accelerated program in business administration and they are working on new partnerships with other colleges and universities. Contact a counselor or academic advisor for details.

DMACC 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 C Legal Assistant
- A D Medical Office Specialist
- D Office Assistant
- C Medical Insurance & Coding
- 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

Agribusiness
- A Agribusiness AAS
- A Veterinary Technology
- C Agronomy
- C Animal Science
- C Farm Management
- C Sales and Service

Art
- A Graphic Design
- D Photography*
- C Airbrush Art
- C Production Art

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 Human Resource Management
- C Interior Design Consultant

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 Information Technology/Network Administration
- A Management Information Systems
- C Computer Applications
- C Computer Languages
- C Database Specialist
- C Data Entry I
- C E-Commerce Design
- C Microcomputers
- C Network Security Manager

Culinary Arts, Hotel Management, Dietary Management
- A D Culinary Arts
- A Hotel & Restaurant Management
- D Hospitality Business
- C Dietary Manager
- C Enology
- C Viticulture

Drafting/Design
- A D Architectural Technologies
- A D Computer-Aided Design Technology

Engineering & Electronics Technology
- A Civil Engineering Technology
- A Electronics, Robotics & Automation
- A Electronics Systems Servicing Technology
- 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 Dental Assistant
- D Licensed Practical Nursing (LPN)
- D Medical Assistant
- D Surgical Technology
- C Adult Services
- C Emergency Medical Tech Basic (EMT)
- C Gerontology Specialist
- C Long-Term Care Administrator
- C Phlebotomy

Horticulture
- A Commercial Horticulture
- C Greenhouse Production
- C Landscape Design
- C Turf Maintenance

Interpretation & Translation
- A American Sign Language Interpreter Training
- A Interpretation & Translation
- C Interpretation & Translation, Generalist
- C Interpretation & Translation, Healthcare
- C Interpretation & Translation, Judiciary

Manufacturing
- A D Graphic Technologies
- A D Industrial Electro-Mechanical Technology
- A Manufacturing Technology
- A Tool and Diemaking
- D Machinist Technology
- D Diemaking
- D C Welding
- C Biomass Operations Technology
- C Digital Publishing & Prepress
- C Graphic Sales & Customer Service
- C Printing Technologies

Pending approval from the Iowa Department of Education.

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 workplace are:

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

Skills

The skill areas I most like to use are:

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

School Subjects

The subjects I did well in and enjoy are:

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

Interests

The interest areas I enjoy most are:

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

Other areas to consider are:

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

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

My career profile is:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

STEP 2 Are you a match?

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 ag-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 people with personal problems
- ☐ Help people in legal situations
- ☐ Work with small children
- ☐ Persuade individuals 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.

Liberal Arts and Sciences

The Liberal 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; courses for preprofessional preparation, 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 with an A.A. or AS degree 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.

Professional Preparation

Des Moines Area Community College offers a wide range of preprofessional preparation designed to prepare students for their transfer to four-year colleges and universities. Graduates are awarded the Associate in Arts or Associate in Sciences degree with a major in Liberal Arts.

Four-year colleges and universities vary in the required number and nature of preprofessional and general education courses that should be taken during the freshman and sophomore years. The recommended preprofessional curricula listed on the following pages should be used only as suggested guidelines.

Students who have determined which profession they plan to enter should become familiar with the specific course requirements of the four-year institution to which they plan to transfer. Then with the help of an academic advisor or counselor, students can develop a curriculum best suited to satisfy their particular transfer objectives.

Examples of professional preparation (pre) programs available include:

Accounting	Law
Architecture	Medicine
Business	Nursing
Chiropractic	Optometry
Computer Science	Pharmacy
Dentistry	Physician's Assistant
Education	Social Work
Engineering	Veterinary Medicine

Associate in Arts Degree (AA)

The Associate in Arts Degree provides the courses of study equivalent to those offered to freshmen 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	Drama	Humanities	Physics and Astronomy
Anthropology	Education	Journalism	Political Science
Architecture	Engineering	Law	Psychology
Art	English	Literature	Physician's Assistant
Biology	Environmental Science	Mathematics	Sociology
Business Administration	Fitness and Sports Management	Medicine	Social Work
Chemistry		Music	Spanish
Chiropractic	Foreign Language	Nursing	Speech
Computer Science	Geography	Optometry	Veterinary
Criminal Justice	Global Studies	Pharmacy	
Dentistry	History	Philosophy and Religion	

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.

G. Complete 3 semester credit hours to satisfy the Diversity Requirement with a minimum grade of "C" or better. The Diversity Requirement does not increase the number of credits required for graduation. The course

used to fulfill the Diversity Requirement may also be used to fulfill three credits of Core requirements in Communications, Social & Behavioral Sciences, Humanities or Distributed Requirements if the diversity course is listed as fulfilling Core requirements in Communications, Social & Behavioral Sciences or the Humanities. If the course does not fall under any of the Core groups, the course used to fulfill the Diversity Requirement may count as an elective.

Courses that satisfy the Diversity Requirement at Des Moines Area Community College may or may not satisfy diversity requirements at other academic institutions. Students planning to transfer should contact their transfer institutions to verify the transferability of courses.

Communications 9 Credits

Students must take three courses:

1. ENG 105 Composition I
2. ENG 106* Composition II or ENG 108 Comp II: Technical Writing

   **Students who plan to transfer to a four-year institution are advised to take ENG 105 and ENG 106.*
3. One speech course from the following list:
   SPC 101 Fundamentals of Oral Communication
   SPC 126 Interpersonal and Small Group Communication

Social & Behavioral Sciences 9 Credits

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

ANT 100	Introduction to Anthropology	POL 112	American State & Local Government
ANT 105	Cultural Anthropology	POL 121	International Relations
ECN 120	Principles of Macroeconomics	POL 125	Comparative Gov't & Politics
ECN 130	Principles of Microeconomics	POL 171	Intro to Public Administration
GEO 111	Intro to Geography	PSY 111	Introduction to Psychology
GEO 125	Regional Geography of the Dev World	PSY 121	Developmental Psychology
GEO 124	Reg Geography of the Non West World	PSY 241	Abnormal Psychology
HIS 112	Western Civ: Ancient to Early Modern	PSY 251	Social Psychology
HIS 113	Western Civ: Early Modern to Present	PSY 261	Human Sexuality
HIS 150	US History to 1877	SOC 110	Intro to Sociology
HIS 153	US History since 1877	SOC 115	Social Problems
HIS 257	African-American History	SOC 120	Marriage & Family
POL 111	American National Government	SOC 200	Minority Group Relations

Mathematics & Sciences 9 Credits

1. Students must take one laboratory science course from BIO, CHM, ENV, PHS or PHY AND one MAT course (or BUS 211) listed below.

ENV 115	Environmental Science	CHM 132	Intro to Organic/Biochemistry
ENV 116	Environmental Science Lab (if student has credit for ENV 115)	CHM 165	General/Inorganic Chemistry I
		CHM 175	General/Inorganic Chemistry II
BIO 138	Field Ecology	CHM 263	Organic Chemistry I
BIO 156	Human Biology w/Lab	CHM 273	Organic Chemistry II
BIO104	Introductory Biology w/Lab	MAT 110	Math for Liberal Arts
BIO 112	General Biology I	MAT 114	Math for Elementary Teachers Math I
BIO 113	General Biology II	MAT 116	Math for Elementary Teachers Math II
BIO 187	Microbiology w/Lab	MAT 141	Finite Mathematics
BIO 164	Essentials Anatomy/Physiology	MAT 157	Statistics (OR BUS 211 Business Statistics)
BIO 168	Anatomy & Physiology I	MAT 162	Prin. of Business Statistics
BIO 173	Anatomy & Physiology II	MAT 166	Calculus for Business/Social Science
BUS 211	Business Statistics (OR MAT 157 Statistics)	MAT 130	Trigonometry
CHM 105	Survey of Chemistry	MAT 129	Precalculus
CHM 122	Intro to General Chemistry	MAT 211	Calculus I
MAT 217	Calculus II	PHY 160	General Physics I
MAT 219	Calculus III	PHY 161	General Physics II
MAT 227	Differential Equations with Laplace	PHY 213	Classical Physics I
PHS 152	Astronomy	PHY 223	Classical Physics II
PHY 106	Survey of Physics		

Humanities 9 Credits

ART 101	Art Appreciation	FLJ 242	Intermediate Japanese II
ASL 151	American Sign Language I	FLS 151	Elementary Spanish I
ASL 181	American Sign Language II	FLS 152	Elementary Spanish II
ASL 251	American Sign Language III	FLS 241	Intermediate Spanish I
ASL 291	American Sign Language IV	FLS 242	Intermediate Spanish II
DRA 101	Intro to Theatre	FLS 181	Spanish for Heritage Speakers I
FLA 141	Elementary Arabic I	FLS 281	Spanish for Heritage Speakers II
FLA 142	Elementary Arabic II	HIS 112	Western Civ.: Ancient to Early Modern
FLA 241	Intermediate Arabic I	HIS 113	Western Civ.: Early Modern to Present
FLA 242	Intermediate Arabic II	HUM 116	Encounters in Humanities
FLC 141	Elementary Chinese I	HUM 120	Introduction to Film
FLC 142	Elementary Chinese II	HUM 121	America in the Movies
FLC 241	Intermediate Chinese I	LIT 101	Intro to Literature
FLC 242	Intermediate Chinese II	LIT 110	American Literature to Mid 1800s
FLF 151	Elementary French I	LIT 111	American Literature since Mid 1800s
FLF 152	Elementary French II	LIT 130	African-American Literature
FLF 241	Intermediate French I	LIT 142	Major British Writers
FLF 242	Intermediate French II	LIT 166	Science Fiction
FLG 141	Elementary German I	LIT 185	Contemporary Literature
FLG 142	Elementary German II	LIT 188	Detective Fiction
FLG 241	Intermediate German I	LIT 190	Women Writers
FLG 242	Intermediate German II	LIT 193	Humor in Literature
FLI 141	Elementary Italian I	MUS 100	Music Appreciation
FLI 142	Elementary Italian II	MUS 102	Music Fundamentals
FLI 241	Intermediate Italian I	PHI 101	Intro to Philosophy
FLI 242	Intermediate Italian II	PHI 105	Introduction to Ethics
FLJ 141	Elementary Japanese I	PHI 110	Introduction to Logic
FLJ 142	Elementary Japanese II	REL 101	Survey of World Religions
FLJ 241	Intermediate Japanese I		

Distributed Requirement 12 Credits

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

Electives 16 Credits

1. Students may include no more than 16 semester credit hours of Vocational courses.
2. Students may include no more than 8 semester credit hours of Independent Study courses; no more than 4 semester credit hours of Independent Study may be earned in any single semester.

Diversity Requirement

One course is required, but this course may count in the areas above. Students must earn a grade of "C" or above for the course that is used to fulfill the Diversity Requirement. The courses marked with an asterisk (*) will satisfy the Diversity Requirement and will also fulfill requirements in Communications, Social & Behavioral Sciences, Humanities or Distributed areas above. The courses that are not marked with an asterisk will satisfy the Diversity Requirement and will count as electives.

*ANT 100	Introduction to Anthropology
*ANT 105	Cultural Anthropology
ANT 110	Faces of Culture
ANT 125	Applications of Anthropology
ANT 150	Global Issues - Logic Perspec
*ASL 151	American Sign Language I
*ASL 181	American Sign Language II
*ASL 251	American Sign Language III
*ASL 291	American Sign Language IV
ASM 150	Communication with the Elderly
ASM 155	Impact of Demographics
ASM 160	Aspects of Aging
ASM 165	Healthy Aging
ASM 180	Cultural Diversity
ASM 200	Depression, Death & Grieving
(Three ASM courses must be taken because the courses are one credit each.)	
BUS 220	Intro International Business
*FL_ ---	All Foreign Language Courses
*GEO 111	Intro to Geography
*GEO 124	Reg Geog of the Non West World
GLS 200	Country Study
GLS 220	The Middle East and Islam
GLS 230	Latin America
GLS 235	Intro to International Studies
*HIS 112	Western Civ.: Ancient to Early Mod
*HIS 113	Western Civ.: Early Modern to Pres
*HIS 150	US History to 1877
*HIS 153	US History since 1877
HIS 201	Iowa History
*HIS 257	African-American History
HSV 185	Discrimination and Diversity
*HUM 116	Encounters in Humanities
*HUM 120	Introduction to Film
*HUM 121	America in the Movies
ITP 133	Deaf Culture and Community
ITR 101	Intro Interp & Translation
*LIT 101	Intro to Literature
*LIT 111	Amer Literature since Mid 1800
*LIT 130	African-American Literature
*LIT 142	Major British Writers
*LIT 190	Women Writers
MGT 145	Human Relations in Business
PEH 178	Sports Diversity
*POL 111	American National Government
*POL 121	International Relations
*POL 125	Comparative Gov't & Politics
POL 129	Politics of Terrorism
*PSY 241	Abnormal Psychology
*PSY 251	Social Psychology
*REL 101	Survey of World Religions
*SOC 110	Intro to Sociology
*SOC 115	Social Problems
*SOC 200	Minority Group Relations
SOC 225	Social Gerontology
SPC 120	Intercultural Communication
*SPC 126	Interpersonal & Small Grp Comm

Total AA Degree Requirements 64 Credits

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

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 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 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.

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.

G. Complete 3 semester credit hours to satisfy the Diversity Requirement with a minimum grade of "C" or better. The Diversity Requirement does not increase the number of credits required for graduation. The course used to fulfill the Diversity Requirement may also be used to fulfill three credits of Core requirements in Communications, Social & Behavioral Sciences, Humanities or Distributed Requirements if the diversity course is listed as fulfilling Core requirements in Communications, Social & Behavioral Sciences or the Humanities. If the course does not fall under any of the Core groups, the course used to fulfill the Diversity Requirement may count as an elective.

Courses that satisfy the Diversity Requirement at Des Moines Area Community College may or may not satisfy diversity requirements at other academic institutions. Students planning to transfer should contact their transfer institutions to verify the transferability of courses.

Core Requirements 28 credits

Communications 9 credits

Students must take three courses:

1. ENG 105 Composition I
2. ENG 106* Composition II or ENG 108 Comp II: Technical Writing

   **Students who intend to transfer to a four-year institution are advised to take ENG 105 and ENG 106.*

3. One speech course from the following list:
   SPC 101 Fundamentals of Oral Communication
   SPC 126 Interpersonal and Small Group Communication

Social & Behavioral Sciences 6 credits

ANT 100	Introduction to Anthropology
ANT 105	Cultural Anthropology
ECN 120	Principles of Macroeconomics
ECN 130	Principles of Microeconomics
GEO 111	Intro to Geography
GEO 125	Regional Geography of the Dev World
GEO 124	Reg Geography of the Non West World
HIS 112	Western Civ: Ancient to Early Modern
HIS 113	Western Civ: Early Modern to Present
HIS 150	US History to 1877
HIS 153	US History since 1877
HIS 257	African-American History
POL 111	American National Government
POL 112	American State & Local Government
POL 121	International Relations
POL 125	Comparative Gov't & Politics
POL 171	Intro to Public Administration
PSY 111	Introduction to Psychology
PSY 121	Developmental Psychology
PSY 241	Abnormal Psychology
PSY 251	Social Psychology
PSY 261	Human Sexuality
SOC 110	Intro to Sociology
SOC 115	Social Problems
SOC 120	Marriage & Family
SOC 200	Minority Group Relations

Mathematics & Sciences 6 Credits

Students must take one MAT course (or BUS 211) and one science from BIO, CHM, ENV, PHS or PHY.

ENV 115	Environmental Science
ENV 116	Environmental Science Lab (if student has credit for ENV 115)
BIO 138	Field Ecology
BIO 156	Human Biology w/Lab
BIO 104	Introductory Biology w/Lab
BIO 112	General Biology I
BIO 113	General Biology II
BIO 187	Microbiology w/Lab
BIO 164	Essential Anatomy/Physiology
BIO 168	Anatomy & Physiology I
BIO 173	Anatomy & Physiology II
BUS 211	Business Statistics
CHM 105	Survey of Chemistry
CHM 122	Intro to General Chemistry
CHM 132	Intro to Organic/Biochemistry
CHM 165	General/Inorganic Chemistry I
CHM 175	General/Inorganic Chemistry
CHM 263	Organic Chemistry I
CHM 273	Organic Chemistry II
MAT 110	Math for Liberal Arts
MAT 114	Math for Elementary Teachers Math I
MAT 116	Math for Elementary Teachers Math II
MAT 141	Finite Mathematics
MAT 157	Statistics (OR BUS 211 Business Statistics)
MAT 162	Prin. of Business Statistics
MAT 166	Calculus for Business/Social Science
MAT 130	Trigonometry
MAT 129	Precalculus
MAT 211	Calculus I
MAT 217	Calculus II
MAT 219	Calculus III
MAT 227	Differential Equations with Laplace (OR MAT 157 Statistics)
PHS 152	Astronomy
PHY 106	Survey of Physics
PHY 160	General Physics I
PHY 161	General Physics II
PHY 213	Classical Physics I
PHY 223	Classical Physics II

Humanities 3 Credits

Students must select from the following courses:

ART 101	Art Appreciation
ASL 151	American Sign Language I
ASL 181	American Sign Language II
ASL 251	American Sign Language III
ASL 291	American Sign Language IV
DRA 101	Intro to Theatre
FLA 141	Elementary Arabic I
FLA 142	Elementary Arabic II
FLA 241	Intermediate Arabic I
FLA 242	Intermediate Arabic II
FLC 141	Elementary Chinese I
FLC 142	Elementary Chinese II
FLC 241	Intermediate Chinese I
FLC 242	Intermediate Chinese II
FLF 151	Elementary French I
FLF 152	Elementary French II
FLF 241	Intermediate French I
FLF 242	Intermediate French II
FLG 141	Elementary German I
FLG 142	Elementary German II
FLG 241	Intermediate German I
FLG 242	Intermediate German II
FLI 141	Elementary Italian I
FLI 142	Elementary Italian II
FLI 241	Intermediate Italian I
FLI 242	Intermediate Italian II
FLJ 141	Elementary Japanese I
FLJ 142	Elementary Japanese II
FLJ 241	Intermediate Japanese I
FLJ 242	Intermediate Japanese II
FLS 151	Elementary Spanish I
FLS 152	Elementary Spanish II
FLS 241	Intermediate Spanish I
FLS 242	Intermediate Spanish II
FLS 181	Spanish for Heritage Speakers I
FLS 281	Spanish for Heritage Speakers II
HIS 112	Western Civ: Ancient to Early Modern
HIS 113	Western Civ: Early Modern to Present
HUM 116	Encounters in Humanities
HUM 120	Introduction to Film
HUM 121	America in the Movies
LIT 101	Intro to Literature
LIT 110	American Literature to Mid 1800s
LIT 111	American Literature since Mid 1800s
LIT 130	African-American Literature
LIT 142	Major British Writers
LIT 166	Science Fiction
LIT 185	Contemporary Literature
LIT 188	Detective Fiction
LIT 190	Women Writers
LIT 193	Humor in Literature
MUS 100	Music Appreciation
MUS 102	Music Fundamentals
PHI 101	Intro to Philosophy
PHI 105	Introduction to Ethics
PHI 110	Introduction to Logic
REL 101	Survey of World Religions

Distributed Requirement 4 Credits

Complete 4 additional credits from any of the courses in categories of Communications, Social & Behavioral Sciences, Math & Science and Humanities.

Electives 36 Credits

1. Students may include no more than 16 semester credit hours of Vocational courses.
2. Students may include no more than 8 semester credit hours of Independent Study courses; no more than 4 semester credit hours of Independent Study may be earned in any single semester.

Diversity Requirement

One course is required, but this course may count in the areas above. Students must earn a grade of "C" or above for the course that is used to fulfill the Diversity Requirement. The courses marked with an asterisk (*) will satisfy the Diversity Requirement and will also fulfill requirements in Communications, Social & Behavioral Sciences, Humanities or Distributed areas above. The courses that are not marked with an asterisk will satisfy the Diversity Requirement and will count as electives.

*ANT 100	Introduction to Anthropology
*ANT 105	Cultural Anthropology
ANT 110	Faces of Culture
ANT 125	Applications of Anthropology
ANT 150	Global Issues - Logic Perspec
*ASL 151	American Sign Language I
*ASL 181	American Sign Language II
*ASL 251	American Sign Language III
*ASL 291	American Sign Language IV
ASM 150	Communication with the Elderly
ASM 155	Impact of Demographics
ASM 160	Aspects of Aging
ASM 165	Healthy Aging
ASM 180	Cultural Diversity
ASM 200	Depression, Death & Grieving
(Three ASM courses must be taken because the courses are one credit each.)	
BUS 220	Intro International Business
*FL_ ---	All Foreign Language Courses
*GEO 111	Intro to Geography
*GEO 124	Reg Geog of the NonWest World
GLS 200	Country Study
GLS 220	The Middle East and Islam
GLS 230	Latin America
GLS 235	Intro to International Studies
*HIS 112	Western Civ.: Ancient to Early Mod
*HIS 113	Western Civ.: Early Modern to Pres
*HIS 150	US History to 1877
*HIS 153	US History since 1877
HIS 201	Iowa History
*HIS 257	African-American History
HSV 185	Discrimination and Diversity
*HUM 116	Encounters in Humanities
*HUM 120	Introduction to Film
*HUM 121	America in the Movies
ITP 133	Deaf Culture and Community
ITR 101	Intro Interp & Translation
*LIT 101	Intro to Literature
*LIT 111	Amer Literature since Mid 1800
*LIT 130	African-American Literature
*LIT 142	Major British Writers
*LIT 190	Women Writers
MGT 145	Human Relations in Business
PEH 178	Sports Diversity
*POL 111	American National Government
*POL 121	International Relations
*POL 125	Comparative Gov't & Politics
POL 129	Politics of Terrorism
*PSY 241	Abnormal Psychology
*PSY 251	Social Psychology
*REL 101	Survey of World Religions
*SOC 110	Intro to Sociology
*SOC 115	Social Problems
*SOC 200	Minority Group Relations
SOC 225	Social Gerontology
SPC 120	Intercultural Communication
*SPC 126	Interpersonal & Small Grp Comm

Total AS Degree Requirements 64 Credits

Associate in General Studies Degree (AGS)

The Associate in General Studies degree 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 on their campus 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 to 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. 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, and receive, an exception).

D. Complete no more than 8 semester credit hours of Independent Study courses; no more than 4 credits of Independent Study may be earned in a single semester.

E. Complete a minimum of 64 semester credit hours at DMACC after the AGS program approval effective date of January 1, 1992.

F. Satisfy the following Core:

- Communications 3 credits
- Social & Behavioral Sciences 3 credits
- Math & Sciences 3 credits
- Distributed Requirements 3 credits

Communications 3 credits

COM 703	Communication Skills	ENG 108	Comp II: Technical Writing
ENG 105	Composition I	ADM 157	Business English
ENG 106	Composition II		

Social & Behavioral Sciences 3 credits

AGB 101	Agricultural Economics	FLF 152	Elementary French II
ANT 100	Introduction to Anthropology	FLF 241	Intermediate French I
ANT 105	Cultural Anthropology	FLF 242	Intermediate French II
ART 101	Art Appreciation	FLG 141	Elementary German I
ART 184	Principles of Photography	FLG 142	Elementary German II
ASL 151	American Sign Language I	FLG 241	Intermediate German I
ASL 181	American Sign Language II	FLG 242	Intermediate German II
ASL 251	American Sign Language III	FLI 141	Elementary Italian I
ASL 291	American Sign Language IV	FLI 142	Elementary Italian II
DRA 101	Intro to Theatre	FLI 241	Intermediate Italian I
ECN 120	Principles of Macroeconomics	FLI 242	Intermediate Italian II
ECN 130	Principles of Microeconomics	FLJ 141	Elementary Japanese I
FLA 141	Elementary Arabic I	FLJ 142	Elementary Japanese II
FLA 142	Elementary Arabic II	FLJ 241	Intermediate Japanese I
FLA 241	Intermediate Arabic I	FLJ 242	Intermediate Japanese II
FLA 242	Intermediate Arabic II	FLS 151	Elementary Spanish I
FLC 141	Elementary Chinese I	FLS 152	Elementary Spanish II
FLC 142	Elementary Chinese II	FLS 241	Intermediate Spanish I
FLC 241	Intermediate Chinese I	FLS 242	Intermediate Spanish II
FLC 242	Intermediate Chinese II	FLS 181	Spanish for Heritage Speakers I
FLF 151	Elementary French I	FLS 281	Spanish for Heritage Speakers II
GEO 111	Intro to Geography	MUS 100	Music Appreciation
GEO 125	Regional Geography of the Dev World	MUS 102	Music Fundamentals
GEO 124	Reg Geography of the Non West World	PHI 101	Intro to Philosophy
HIS 112	Western Civ: Ancient to Early Modern	PHI 110	Introduction to Logic
HIS 113	Western Civ: Early Modern to Present	PHI 105	Introduction to Ethics
HIS 150	US History to 1877	POL 111	American National Government
HIS 153	US History since 1877	POL 112	American State & Local Government
HIS 257	African-American History	POL 121	International Relations
HUM 120	Introduction to Film	POL 125	Comparative Gov't & Politics
HUM 116	Encounters in Humanities	POL 171	Intro to Public Administration
HUM 121	America in the Movies	PSY 111	Introduction to Psychology
LIT 101	Intro to Literature	PSY 121	Developmental Psychology
LIT 142	Major British Writers	PSY 241	Abnormal Psychology
LIT 110	American Literature to Mid 1800s	PSY 251	Social Psychology
LIT 111	American Literature since Mid 1800s	PSY 261	Human Sexuality
LIT 185	Contemporary Literature	PSY 102	Human and Work Relations
LIT 166	Science Fiction	REL 101	Survey of World Religions
LIT 188	Detective Fiction	SOC 110	Intro to Sociology
LIT 193	Humor in Literature	SOC 115	Social Problems
LIT 130	African-American Literature	SOC 120	Marriage & Family
LIT 190	Women Writers	SOC 200	Minority Group Relations
MGT 145	Human Relations in Business		

Mathematics & Sciences 3 Credits

ENV 115	Environmental Science	ELT 106	Basic Math for Electronics
ENV 116	Environmental Science Lab (if student has credit for ENV 115)	MAT 110	Math for Liberal Arts
		MAT 114	Math for Elementary Teachers Math I
BIO 138	Field Ecology	MAT 116	Math for Elementary Teachers Math II
BIO 156	Human Biology w/Lab	MAT 141	Finite Mathematics
BIO 104	Introductory Biology w/Lab	MAT 157	Statistics (OR BUS 211 Business Statistics)
BIO 112	General Biology I	MAT 162	Prin. of Business Statistics
BIO 113	General Biology II	MAT 166	Calculus for Business/Social Science
BIO 187	Microbiology w/Lab	MAT 130	Trigonometry
BIO 164	Essential Anatomy/Physiology	MAT 129	Precalculus
BIO 168	Anatomy & Physiology I	MAT 211	Calculus I
BIO 173	Anatomy & Physiology II	MAT 217	Calculus II
BIO 732	Health Science Microbiology	MAT 219	Calculus III
BIO 733	Health Science Anatomy	MAT 227	Differential Equations with Laplace (OR MAT 157 Statistics)
BIO 734	Health Science Physiology		
BUS 112	Business Math	MAT 772	Applied Math
BUS 211	Business Statistics	MAT 773	Applied Math II
CHM 105	Survey of Chemistry	PHS 152	Astronomy
CHM 122	Intro to General Chemistry	PHY 106	Survey of Physics
CHM 132	Intro to Organic/Biochemistry	PHY 160	General Physics I
CHM 165	General/Inorganic Chemistry I	PHY 161	General Physics II
CHM 175	General/Inorganic Chemistry II	PHY 213	Classical Physics I
CHM 263	Organic Chemistry I	PHY 223	Classical Physics II
CHM 273	Organic Chemistry II	PHY 710	Technical Physics

Distributed Requirement 3 Credits

Students must select one course from any of the courses in categories of Communications, Social & Behavioral Sciences/Humanities or Math & Sciences or SPC 101 or SPC 126 or ELT 368.

Electives 52 Credits

Total AGS Degree Requirements 64 Credits

ASEP - General Motors

The Automotive Service Educational Program (ASEP), cosponsored 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, attend any required information/registration session 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.

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

Required Courses

ATG 312	GM Specialized Electronics Training	4
ATG 316	GM Shop Fund & Minor Service	4
ATG 320	GM Brake Systems	4
ATG 322	GM Steering & Suspension	3
ATG 329	Technical Internship I	3
ATG 326	GM Auto Air Conditioning Systems	3
ATG 327	Minor Service/Repair-GM Engines	3
ATG 328	Diagnosis/Repair-GM Electrical Systems	3
ATG 330	Technical Internship II	3
ATG 333	Major Service Procedures/GM Engines	3
ATG 336	GM Fuel Systems	3
ATG 337	GM Tune-Up Proc and Emission Control	4
ATG 340	Technical Internship III	3
ATG 344	GM Manual Drivetrains	4
ATG 345	GM Automatic Drivetrains	4
ATG 350	Technical Internship IV	3
ATG 354	Advanced GM Motors Systems	5
BUS 102	Intro to Business	3
COM 703	Communication Skills	3
MAT 772	Applied Math	3
PHY 710	Technical Physics	3
PSY 102	Human and Work Relations	3
Total credits required to complete this program		**74**

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 coursework as prescribed and maintain a 2.0 grade point average.

Required Courses

ATF 312	Ford Automotive Electronics	5
ATF 317	Ford Shop Fund and Minor Service	3
ATF 280	Ford Steering/Suspension/Brakes	4
ATF 290	Adv Ford Suspension/Brakes	2
ATF 320	Technical Internship I	3
ATF 326	Ford Auto AC Systems	3
ATF 328	Diagnosis/Repair Ford Elec Systems	5
ATF 330	Technical Internship II	3
ATF 333	Ford Engine Diagnosis/Repair	4
ATF 336	Ford Fuel Systems & Injection	3
ATF 337	Ford Tune-Up Proc and Emission Control	4
ATF 340	Technical Internship III	3
ATF 344	Ford Driveline and 4X4 Diagnosis and Repair	2
ATF 345	Ford Manual Transmissions	2
ATF 346	Ford Transmissions and Transaxles	4
ATF 350	Technical Internship IV	3
ATF 354	Ford Advanced Engine Controls, Electronics	5
BUS 102	Intro to Business	3
COM 703	Communication Skills	3
MAT 772	Applied Math	3
PHY 710	Technical Physics	3
PSY 102	Human and Work Relations	3
Total credits required to complete this program		**73**

Accounting & Bookkeeping

The Accounting & Bookkeeping program prepares you for a career in accounting. Many career opportunities exist for you upon completion of the Accounting & 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 ADM 105 Intro to Keyboarding 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.

Term 1–Select 1 Course from Each Option

ACC 131	Principles of Accounting I		4
ACC 124	Accounting Professionalism		3
BUS 112	Business Math		3
CSC 110	Intro to Computers		3
MGT 145	Human Relations in Business	Opt 1	3
PSY 111	Introduction to Psychology	Opt 1	3
ECN 120	Principles of Macroeconomics	Opt 1	3
ECN 130	Principles of Microeconomics	Opt 1	3
ENG 105	Composition I	Opt 2	3
ADM 157	Business English	Opt 2	3

ECN 120 or ECN 130 is strongly recommended for students pursuing business majors at a four-year institution.

Term 2

ACC 132	Principles of Accounting II		4
ACC 193	Accounting Procedures/Mgmt		3
ACC 311	Computer Accounting		3
ACC 361	Accounting Spreadsheets		3
ACC 161	Payroll Accounting		3

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

ACC 946	Accounting Career Seminar		1
ACC 932	Accounting Internship	Opt 3	3-4
ENG 106	Composition II	Opt 4	3
ENG 108	Comp II: Technical Writing	Opt 4	3
COM 703	Communication Skills	Opt 4	3

Students planning to transfer to a four-year institution should select ENG 106.

Total minimum credits required to complete this program 42

Accounting Certificate I & Accounting Certificate II

(see Certificate Section page 93)

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 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 ADM 105 Intro to Keyboarding or keyboarding skills of 25 NWPM is strongly recommended.
- High school Algebra II or higher with a grade of "C" or better or MAT 073 and/or MAT 141 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 coursework as prescribed and maintain a 2.0 grade point average.

Term 1

ACC 131	Principles of Accounting I		4
CSC 110	Intro to Computers		3
ECN 120	Principles of Macroeconomics		3
ENG 105	Composition I		3
Any AA/AS degree Core MAT or BUS 211 course			3-4

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

ACC 132	Principles of Accounting II		4
ENG 106	Composition II		3
CIS 125	Intro to Program Logic w/lang		3
ACC 311	Computer Accounting		3
ACC 161	Payroll Accounting	Opt 1	3
ACC 191	Financial Analysis	Opt 1	3

Term 3–Select 1 Course from Option 2

ACC 231	Intermediate Accounting I		4
ECN 130	Principles of Microeconomics		3
SPC 101	Fundamentals of Oral Communication		3
CIS 402	COBOL	Opt 2	3
CIS 604	Visual Basic	Opt 2	3
CIS 161	C++	Opt 2	3
Any AA/AS degree Core MAT or BUS 211 course			3-4

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

ACC 261	Income Tax Accounting		3
ACC 272	Accounting Information Systems		4
ACC 361	Accounting Spreadsheets		3
CIS 413	COBOL II	Opt 3	4
BCA 113	Computer Network Literacy	Opt 3	3
Any AA/AS degree Core BIO, CHM, ENV or PHY 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 67

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 65 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 ADM 105 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 MAT 073 and/or MAT 141 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 coursework as prescribed and maintain a 2.0 grade point average. A grade of "C" or better is required in all ACC coursework.

Term 1

ACC 131	Principles of Accounting I	4
CSC 110	Intro to Computers	3
ECN 120	Principles of Macroeconomics	3
ENG 105	Composition I	3
Any AA/AS degree Core MAT or BUS 211 course		3-4

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

ACC 132	Principles of Accounting II	4
ACC 191	Financial Analysis	3
ACC 311	Computer Accounting	3
ACC 161	Payroll Accounting	3
ENG 106	Composition II	3

Term 3

ACC 231	Intermediate Accounting I	4
ACC 222	Cost Accounting	4
ECN 130	Principles of Microeconomics	3
SPC 101	Fundamentals of Oral Communication	3
Any AA/AS degree Core MAT or BUS 211 course		3-4

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

ACC 261	Income Tax Accounting		3
ACC 272	Accounting Information Systems		4
ACC 361	Accounting Spreadsheets		3
Any AA/AS degree Core BIO, CHM, ENV or PHY course		Opt 1	3
Any AA/AS degree Core Humanities course		Opt 2	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 65

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 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 ADM105 Intro to Keyboarding or keyboarding skills of 25 NWPM is strongly recommended.
- High school Algebra II or higher with a grade of "C" or better or MAT 073 and/or MAT 141 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 ACC coursework.

Term 1–Select 1 Course from Option 1

ACC 131	Principles of Accounting I		4
ACC 124	Accounting Professionalism		3
CSC 110	Intro to Computers		3
ENG 105	Composition I	Opt 1	3
ADM 157	Business English	Opt 1	3
Any AA/AS degree Core MAT or BUS 211 course			3-4

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

ACC 132	Principles of Accounting II	4
ACC 311	Computer Accounting	3
ACC 161	Payroll Accounting	3

ACC 191	Financial Analysis		3
ENG 106	Composition II	Opt 2	3
ENG 108	Comp II: Technical Writing	Opt 2	3
COM 703	Communication Skills	Opt 2	3

Students planning to transfer to a four-year institution should select ENG106.

Term 3–Select 1 Course from Option 3

ACC 946	Accounting Career Seminar		1
SPC 101	Fundamentals of Oral Communication		3
ACC 932	Accounting Internship	Opt 3	3-4

Term 4–Select 1 Course from Option 4

ACC 231	Intermediate Accounting I		4
ACC 222	Cost Accounting		4
Any AA/AS degree Core MAT or BUS 211 course			3-4
BUS 185	Business Law I	Opt 4	3
ECN 120	Principles of Macroeconomics	Opt 4	3

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

ACC 261	Income Tax Accounting		3
ACC 272	Accounting Information Systems		4
ACC 361	Accounting Spreadsheets		3
MGT 145	Human Relations in Business	Opt 5	3
PSY 111	Introduction to Psychology	Opt 5	3
ECN 130	Principles of Microeconomics	Opt 5	3

Students planning to transfer to a four-year institution should select courses numbered from 100 to 199. ECN 120 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 66

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 coursework 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 coursework as prescribed and maintain a 2.0 grade point average.

Term 1

BUS 112	Business Math		3
MGT 145	Human Relations in Business		3
ADM 157	Business English		3
BCA 133	Word Processing Skill Development I		4
ADM 131	Office Calculators		1
BCA 212	Intro to Computer Business Applications		3

Term 2

SDV 153	Pre-Employment Strategies		2
ADM 162	Office Procedures		3
ADM 154	Business Communication		3
BCA 137	Word Processing Skill Development II		3
BCA 213	Intermed. Computer Business Applications		3
ADM 259	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

MGT 115	Administrative Management		3
ACC 131	Principles of Accounting I	Opt 1	4
ACC 111	Intro to Accounting	Opt 1	3
SPC 101	Fundamentals of Oral Communication	Opt 2	3
SPC 126	Interpersonal & Small Group Comm	Opt 2	3
BUS 102	Intro to Business	Opt 3	3
FIN 121	Personal Finance	Opt 3	3
BUS 148	Small Business Management	Opt 3	3
BUS 185	Business Law I	Opt 3	3
BCA 113	Computer Network Literacy	Opt 3	3
MGT 248	Systems & Information Management	Opt 3	3
MKT 110	Principles of Marketing	Opt 3	3

Term 4–Select 3 Credits from Option 4

ADM 164	Administrative Office Applications		3
BCA 111	Emerging Technologies		3
BCA 250	Desktop Publishing		3
ADM 265	Supervised Practical Experience		2
ADM 937	Prof Office Careers Seminar		1
Any ACC course (except adjunct)		Opt 4	
Any BUS course (except adjunct)		Opt 4	
Any BCA, CSC, CIS or NET course (except adjunct)		Opt 4	
Any ECN course (except adjunct)		Opt 4	
Any FIN course (except adjunct)		Opt 4	
Any MGT course (except adjunct)		Opt 4	
Any MKT course (except adjunct)		Opt 4	
Any ADM, MTR, MAP course (except adjunct)		Opt 4	

Total minimum credits required to complete the AAS degree 64

Adult Services (see Certificate Section page 93)

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 session. 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.

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**
ASM 278	Management in Senior Care Services	3
ASM 279	Health Care Human Resources	3
ASM 280	Health Care Delivery Systems	2
ASM 282	Aging Services in the Continuum/Care	2
ASM 283	Aging Policies & Government Programs	2
SOC 225	Social Gerontology/Applications	4
SOC 226	Issues in Aging	2
Practicum:		
ASM 251	Governance of NF/SNF	2
ASM 252	Governance of Supported Living	2
ASM 253	LTC Practicum: Psychosocial Needs	2
ASM 254	LTC Practicum: Physical Needs	2
ASM 255	LTC Practicum: Administration	2
ASM 257	ASM Capstone	2
Option Courses–Select a Minimum of 10 Credits from Option 1		
ACC 131	Principles of Accounting I	Opt 1 4
ACC 111	Intro to Accounting	Opt 1 3
ASM 238	Financial Management in Aging Services	Opt 1 3
ASM 239	Information Systems in Health Care	Opt 1 2
ASM 274	Law and Ethics in Health Care	Opt 1 3

Adult Services Track

The Adult Services AS degree track provides students with the coursework 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 SOC 110 Introduction to Sociology and PSY 111 Introduction to Psychology to fulfill the Social & Behavioral Sciences component of the AS degree core requirements.

Required Courses

Complete AS degree Core Requirements		**28**
ASM 278	Management in Senior Care Services	3
ASM 279	Health Care Human Resources	3
ASM 280	Health Care Delivery Systems	2
ASM 282	Aging Services in the Continuum/Care	2
ASM 283	Aging Policies & Government Programs	2
SOC 225	Social Gerontology/Applications	4
SOC 226	Issues in Aging	2
ASM 239	Information Systems in Health Care	2
ASM 257	ASM Capstone	2
ASM 256	Agency Experience	2
ASM 274	Law and Ethics in Health Care	3
Option Courses–Select 1 Course from Option 2 and a Minimum of 10 Credits from Option 3		
ACC 131	Principles of Accounting I	Opt 2 4
ACC 111	Intro to Accounting	Opt 2 3
ASM 251	Governance of NF/SNF	Opt 3 2
ASM 252	Governance of Assisted Living	Opt 3 2
ASM 238	Financial Management in Aging Services	Opt 3 3
ASM 295	Death and Dying	Opt 3 3
ASM 292	Activities in Long-Term Care	Opt 3 4
DTM 355	Food Production Management	Opt 3 1
DTM 356	Food Service Management	Opt 3 2
HCM 236	Human Nutrition	Opt 3 3
HSV 130	Interviewing/Interpersonal Relations	Opt 3 3
MAP 129	Medical Terminology	Opt 3 1
MKT 110	Principles of Marketing	Opt 3 3
PEH 102	Health	Opt 3 3
Total minimum credits required to complete this program with either track		**68**

Agribusiness

The Agribusiness program is designed to prepare students for the rapidly expanding food, fiber and natural resources industry. Students are given an option of emphasizing agronomy, animal science, farm management or agricultural supply and service.

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. Classroom and laboratory instruction will occur at the Dallas County Farm location where the program maintains a crop and livestock operation.

Students who receive the Agribusiness degree are capable of filling entry-level jobs as an agronomist, livestock specialist, grain or petroleum marketing specialist. Other job opportunities may be found within the seed, chemical, banking and commodity brokerage industry.

Students with a production agricultural interest will benefit from the broad-based approach the degree provides for an ever-changing industry. The agribusiness degree has been designed for those who may enter production agriculture or find employment as a farm management specialist.

The agribusiness degree offers students transfer opportunities to several four-year institutions. Students should visit with program instructors and counselors for information regarding courses that transfer to four-year institutions and their specific program requirements.

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 Agribusiness AAS degree, students must complete all coursework as prescribed and maintain a 2.0 grade point average.

Required Courses

AGS 319	Animal Nutrition	3
AGA 381	Crop Scouting	3
AGS 323	Animal Nutrition II	3
AGS 113	Survey of the Animal Industry	3
AGA 114	Principles of Agronomy	3
AGS 242	Animal Health	3
AGA 157	Soil Fertility	1
AGB 235	Intro to Agricultural Markets	3
AGP 333	Precision Agriculture Applications	3
AGA 154	Fundamentals of Soil Science	3
AGB 101	Agricultural Economics	3
AGA 284	Pesticide Application Certification	3
AGB 802	Agribusiness Internship I	2
AGA 222	Grain Management	2
AGB 812	Agribusiness Internship II	2
CSC 110	Intro to Computers	3
SDV 153	Pre-Employment Strategies	2
SPC 101	Fundamentals of Oral Communication	3

Option Courses–Select 1 Course from Options 1, 2, 3 and 4. Select 4 Courses from Option 5

MAT 141	Finite Math	Opt 1	4
MAT 772	Applied Math	Opt 1	3
ACC 131	Principles of Accounting I	Opt 2	4
ACC 111	Introduction to Accounting	Opt 2	3
ENG 105	Composition I	Opt 3	3
COM 703	Communication Skills	Opt 3	3
MGT 145	Human Relations in Business	Opt 4	3
PSY 111	Introduction to Psychology	Opt 4	3
SOC 110	Introduction to Sociology	Opt 4	3
AGS 222	Survey of the Aquaculture Industry	Opt 5	3
AGS 225	Swine Science	Opt 5	3
AGS 226	Beef Cattle Science	Opt 5	3
AGA 211	Grain and Forage Crops	Opt 5	3
AGB 331	Agribusiness Management	Opt 5	3
AGB 330	Farm Business Management	Opt 5	3
AGM 335	Petroleum Products in Agriculture	Opt 5	3
BUS 185	Business Law I	Opt 5	3
MKT 140	Selling	Opt 5	3

Total minimum credits required to complete this program 72

Agribusiness Agronomy, Agribusiness Animal Science, Agribusiness Farm Management & Agribusiness Sales/Service Certificates (see Certificate Section starting on page 93-94)

Airbrush Art (see Certificate Section, page 94)

American Sign Language Interpreter Training

The American Sign Language Interpreter Training Program prepares students for a lifetime of commitment to serving the Deaf Community in the capacity of an ally and an interpreter. All four American Sign Language courses satisfy liberal arts core requirements in the Humanities and are widely accepted as foreign language requirements at colleges and universities.

Earning a degree in American Sign Language Interpreting offers many benefits. This demanding and rewarding career offers freelance, part-time and full-time opportunities almost anywhere in the country. Qualified interpreters work in hundreds of thousands of life experience settings. The diversity experienced through serving the Deaf Community is a lifetime of self-journey and discovery.

Location: Ankeny

Program Entry Requirements

1. Complete an application.
2. Satisfy the required COMPASS assessment and attend any required information/registration session.
3. Complete the following courses with a grade of C (not C-) or better in each:

   ASL 151 (American Sign Language I) or approved equivalent from another college

   ASL 181 (American Sign Language II) or approved equivalent from another college

   ITP 123 (Intro to ASL Interpreting)

   ITP 133 (Deaf Culture and Community)
4. After the COMPASS assessment requirement has been met, initially students will be admitted to the Liberal Arts AA degree program, with a Preprogram American Sign Language Interpreter Training major. After term two, applicants will be required to participate in a standardized performance activity with standardized rubrics to demonstrate a minimum level of ASL proficiency. An ASL professor(s) and/or a professor and one qualified representative from the Sign Language Interpreting Community will assess the activity. Students with a minimal level of ASL competency will be admitted to the program.

Students start fall term.

Graduation Requirements
To earn an American Sign Language AA degree, a student must complete the standard core requirements for the degree, plus the American Sign Language Interpreter Training required courses and maintain a 2.0 grade point average.

Term 1

ASL 151	American Sign Language I	5
ENG 105	Composition I	3
ITP 133	Deaf Culture and Community	3

Select 2 Courses from Required Courses (below) and/or Option 1 through 3 (below) 6

Term 2

ASL 181	American Sign Language II	5
ITP 123	Intro to ASL Interpreting	3

Select 2 Courses from Option 4a or 4b 8

Term 3

ASL 251	American Sign Language III	5
ITP 146	ASL Interp Voice to Sign I	3
ITP 152	ASL Interp Sign to Voice I	3

Term 4

ASL 291	American Sign Language IV	5
ITP 148	ASL Interp Voice to Sign II	3
ITP 154	ASL Interp Sign to Voice II	3

Select 2 Courses from Required Courses (below) and/or Option 1 through 4 **6**

Term 5

ITP 932	Internship	6
ITP 190	Ethics in ASL Interpreting	3

Select 2 Courses from Required Courses (below) and/or Option 1 through 4 **6**

Total Minimum Credits for American Sign Language Interpreter Training AA degree **76**

Required Courses - Choose Both Courses Listed

ENG 106	Composition II	3
SPC 101	Fund of Oral Communication	3

Option Courses - Choose 1 Course from Option 1, 2 and 3 (Choices from Options 1, 2, & 3 must each have a different acronym)

SOC 110	Introduction to Sociology	Opt 1	3
SOC 120	Marriage & Family	Opt 1	3
SOC 200	Minority Group Relations	Opt 1	3
PSY 111	Introduction to Psychology	Opt 2	3
PSY 261	Human Sexuality	Opt 2	3
PSY 121	Developmental Psychology	Opt 2	3
HIS 112	West Civ.: Ancient to Early Mod.	Opt 3	4
HIS 113	West Civ.: Early Modern to Pres.	Opt 3	4
ANT 100	Introduction to Anthropology	Opt 3	3
ANT 105	Cultural Anthropology	Opt 3	3
POL 111	American National Government	Opt 3	3
POL 112	Amer State & Local Government	Opt 3	3

Choose Either Option 4a or Option 4b

MAT 141	Finite Math	Opt 4a	4
BIO 168	Anatomy & Physiology I	Opt 4a	4
BIO 173	Anatomy & Physiology II	Opt 4a	4
MAT 114	Elementary Educators Math I	Opt 4b	3
MAT 116	Elementary Educators Math II	Opt 4b	3
BIO 164	Essentials Anatomy/Physiology	Opt 4b	5

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 coursework as prescribed and maintain a 2.0 (C) grade point average.

ALL MLW courses are reserved for students accepted into the full-time Architectural Millwork program.

Term 1

MLW 440	Blueprint Reading and Layout	3
MLW 441	Material Identification and Usage	3
MLW 442	Introduction to Portable Tools	3
MLW 443	Stationary Equipment	4
HSC 102	Emergency Care	1
MAT 772	Applied Math	3

Term 2

MLW 444	Advanced Equipment Techniques	3
MLW 445	Millimeter Cabinet Techniques	3
MLW 446	Millwork Techniques	4
MLW 447	Introduction to Application	3
COM 703	Communication Skills	3

Term 3

MLW 448	Advanced Millwork Applications I	5
MLW 449	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 session. 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 MAT 063).

Students start summer term.

NOTE: BCA 113 has a prerequisite of CSC 110 Introduction to Computers.

The requirement for MAT 772 & 773 can be fulfilled with evidence of a grade of "C" or above in MAT 130 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 program chair.

Graduation Requirements
To earn an Architectural Technologies diploma or AAS degree, students must complete all coursework as prescribed and maintain a 2.0 (C) grade point average.

Term 1

ARC 114	Architectural Drafting I	5
ARC 165	Materials & Assemblies I	3

ARC 116	Construction Estimating		2
CAD 119	Intro to Computer Aided Drafting		3
Term 2			
ARC 127	Architectural Drafting II		5
ARC 167	Materials & Assemblies II		3
CAD 126	Intermediate CADD-Architectural		3
ENG 105	Composition I		3
MAT 772	Applied Math		3
Term 3–Select 1 Course from Option 1			
ARC 128	Architectural Drafting III		5
ARC 169	Materials & Assemblies III		3
ARC 180	Building Codes		2
ARC 181	Construction Documents Technology		2
MAT 773	Applied Math II		3
MGT 145	Human Relations in Business	Opt 1	3
PSY 111	Intro to Psychology	Opt 1	3
PSY 102	Human & Work Relations	Opt 1	3
SOC 110	Introduction to Sociology	Opt 1	3
Total credits required to complete the diploma			**48**

Additional Courses Required to Complete this Program

HIS 112	Western Civ: Ancient to Early Modern		4
HIS 113	Western Civ: Modern to Present		4
BCA 113	Computer Network Literacy		3
ARC 190	Presentation Graphics	Opt 2	3
CAD 162	Introduction to Multimedia	Opt 2	3
ENG 106	Composition II	Opt 3	3
ENG 108	Comp II: Technical Writing	Opt 3	3
Total credits required to complete the AAS degree			**65**

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 coursework as prescribed and maintain a 2.0 grade point average.

Auto Collision - Diploma

Required Courses

CRR 150	Basic Shop Safety		1
CRR 325	Sheet Metal Fundamentals		5
CRR 841	Principles of Refinishing		5
CRR 742	Estimating Theory		2
CRR 877	Refinishing Applications		7
CRR 202	Plastic Repair		3
CRR 502	Frame Damage Analysis		2
CRR 876	Refinishing Production		6
CRR 760	Advanced Estimating		2
CRR 655	Advanced Collision Repair		5
COM 703	Communication Skills		3
MAT 772	Applied Math		3
CRR 101	Sheet Metal Welding		2
Total credits required to complete the diploma			**46**

Auto Collision - AAS

CRR 150	Basic Shop Safety		1
CRR 325	Sheet Metal Fundamentals		5
CRR 841	Principles of Refinishing		5
CRR 742	Estimating Theory		2
CRR 877	Refinishing Applications		7
CRR 202	Plastic Repair		3
CRR 502	Frame Damage Analysis		2
CRR 876	Refinishing Production		6
CRR 760	Advanced Estimating		2
CRR 655	Advanced Collision Repair		5
AUT 603	Basic Automotive Electricity		3
AUT 652	Advanced Automotive Electricity		3
AUT 704	Auto Heating & AC		4
AUT 503	Automotive Basic Brakes		3
AUT 404	Basic Suspension & Steering		4
COM 703	Communication Skills		3
HSC 102	Emergency Care		1
MAT 772	Applied Math		3
PHY 710	Technical Physics		3
CRR 101	Sheet Metal Welding		2
Option Courses–Select 1 Course from Each Option			
MGT 145	Human Relations in Business	Opt 1	3
PSY 102	Human and Work Relations	Opt 1	3
PSY 111	Introduction to Psychology	Opt 1	3
SOC 110	Introduction to Sociology	Opt 1	3
BUS 148	Small Business Management	Opt 2	3
BUS 185	Business Law I	Opt 2	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, parts specialists and repair technicians in related fields.

There are three separate diploma options that 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 other campuses.

The Auto Maintenance and 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 Campus students start fall and spring term. Urban Campus students start fall term; Carroll 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 coursework 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

AUT 109	Auto Measurement and Tools	3
AUT 834	Automotive Fuel Systems	4
AUT 603	Basic Automotive Electricity	3
AUT 652	Advanced Automotive Electricity	3
AUT 704	Auto Heating & AC	4
AUT 163	Automotive Engine Repair	3
AUT 844	Automotive Electronic Engine Controls	6
AUT 823	Advanced Automotive Tune-Up	4
AUT 870	Automotive Service Management	2
AUT 173	Advanced Automotive Engine Repair	3
COM 703	Communication Skills	3
MAT 772	Applied Math	3
PHY 710	Technical Physics	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

AUT 109	Auto Measurement and Tools		3
AUT 242	Basic Automotive Power Train		6
AUT 503	Automotive Brake Systems		3
AUT 404	Basic Suspension & Steering		4
AUT 243	Advanced Automotive Power Train		6
AUT 535	Advanced Auto Brakes & Alignment		5
COM 703	Communication Skills		3
HSC 102	Emergency Care		1
MGT 145	Human Relations in Business	Opt 1	3
PSY 111	Introduction to Psychology	Opt 1	3
PSY 102	Human and Work Relations	Opt 1	3
SOC110	Introduction to Sociology	Opt 1	3
Total credits required for Chassis & Power Train diploma			**34**

Automotive Maintenance & Light Repair Technology at the 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

AUT 109	Auto Measurement and Tools		3
AUT 603	Basic Automotive Electricity		3
AUT 652	Advanced Automotive Electricity		3
AUT 704	Auto Heating & AC		4
AUT 163	Automotive Engine Repair		3
AUT 870	Automotive Service Management		2
AUT 503	Automotive Brake Systems		3
AUT 404	Basic Suspension & Steering		4
AUT 535	Advanced Auto Brakes & Alignment		5
COM 703	Communication Skills		3
HSC 102	Emergency Care		1
MAT 772	Applied Math		3
MGT 145	Human Relations in Business	Opt 1	3
PSY 111	Introduction to Psychology	Opt 1	3
PSY 102	Human and Work Relations	Opt 1	3
SOC 110	Introduction to Sociology	Opt 1	3
Total credits required for Auto Maintenance & Light Repair diploma			**40**

Automotive Mechanics Technology - AAS degree

Required Courses–Select 1 Course from Option 1

AUT 109	Auto Measurement and Tools	3
AUT 834	Automotive Fuel Systems	4
AUT 603	Basic Automotive Electricity	3
AUT 652	Advanced Automotive Electricity	3
AUT 704	Auto Heating & AC	4
AUT 163	Automotive Engine Repair	3
AUT 844	Auto Electronic Engine Controls	6
AUT 845	Electrical Systems Diagnosis	2
AUT 823	Advanced Automotive Tune-Up	4
AUT 870	Automotive Service Management	2
AUT 173	Advanced Automotive Engine Repair	3
AUT 242	Basic Automotive Power Train	6
AUT 503	Automotive Brake Systems	3
AUT 404	Basic Suspension & Steering	4
AUT 243	Advanced Automotive Power Train	6
AUT 535	Advanced Auto Brakes & Alignment	5
HSC 102	Emergency Care	1
COM 703	Communication Skills	3
MAT 772	Applied Math	3

PHY 710	Technical Physics		3
MGT 145	Human Relations in Business	Opt 1	3
PSY 111	Introduction to Psychology	Opt 1	3
PSY 102	Human and Work Relations	Opt 1	3
SOC 110	Introduction to Sociology	Opt 1	3

Total credits required for the Auto Mechanics AAS degree 74

Biomass Operations Technology

(see Certificate Section, page 94)

Biotechnology

The Biotechnology program is designed to prepare students to work as Biotechnology technicians in this rapidly expanding field that 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 take CHM 165 and 175 instead of CHM 122 and 132. CHM 263 and 273 may also be taken depending on the program being considered. In addition, many four-year programs will require calculus (MAT 211 and/or 217) and physics (PHY 213 and 223), which can be taken at DMACC. 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
Complete an application, satisfy the assessment requirement and attend any required information/registration session. In addition, students must complete:

1. One year of high school chemistry or Academic Achievement Chemistry I & II or successful completion of CHM 122
2. Two years of high school algebra or MAT 063 and 073
3. Demonstration of satisfactory writing skills on college entrance or assessment exam.

Students start fall or spring term.

Graduation Requirements
To earn a Biotechnology AS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Required Courses

BIO 104	Introductory Biology w/Lab		3
ENG 105	Composition I		3
BIO 112	General Biology I		4
ENG 106	Composition II		3
MAT 157	Statistics		4
BIO 113	General Biology II		4
BIO 187	Microbiology w/Lab		4
SPC 101	Fundamentals of Oral Communication		3
BIO 250	Cell & Molecular Biology–Nucleic Acids		5
BIO 251	Cell and Molecular Biology–Proteins		5
BIO 146	Genetics		3
BIO 249	Biotechnology Internship		3

Option Courses–Select 3 Credits From Option 1

	AA/AS Core Humanities	Opt 1	3

Select 6 Credits From Option 2

	AA/AS Core Social and Behavioral Sciences	Opt 2	6

Select 1 Course from Option 3

CSC 110	Intro to Computers	Opt 3	3
ENG 108	Comp II: Technical Writing	Opt 3	3

Select 2 Courses from Option 4 OR 2 Courses from Option 5

CHM 122*	Intro to General Chemistry	Opt 4	4
CHM 132*	Intro Organic/Biochemistry	Opt 4	4
CHM 165	General/Inorg Chemistry I	Opt 5	4
CHM 175	General/Inorg Chemistry II	Opt 5	4

**Students who plan to transfer to a four-year school should take CHM 165 and 175 in place of CHM 122 and 132.*

Total minimum credits required to complete this program 64

Building Maintenance

(see Certificate Section, page 95)

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 coursework as prescribed and maintain a 2.0 grade point average.

Term 1

CON 333	Materials/Construction Theory	5
CON 334	Construction Techniques	7
CON 336	Care/Use of Hand/Power Tools	1

CON 337	Construction Blueprint Reading	1
CON 338	Materials Takeoff	1
HSC 102	Emergency Care	1
MAT 772	Applied Math	3
Term 2		
CON 346	Concrete Systems & Forming	4
CON 341	Construction Drafting & Design	2
CON 342	Interior Trim Practices	3
CON 480	Construction Procedure/Application I	5
COM 703	Communication Skills	3
Term 3		
CON 481	Construction Procedure/Application II	5
CON 482	Construction Procedure/Application III	5
Total credits required to complete this program		**46**

Business

Students planning to major in business administration or related fields at a four-year college/university can satisfy many of their general education requirements at Des Moines Area Community College. Since degree requirements vary at senior institutions, students should become familiar with the specific course requirements of their selected transfer institution. Students are also encouraged to contact the four-year major advisor as early as possible to develop a transfer plan. DMACC advisors and/or counselors can also help by providing transfer materials and course planning assistance.

Business Administration - AA or AS

The Business Administration program offers the student a number of career and educational opportunities. The program allows students to choose either an AA or AS degree. Students who plan to transfer to a four-year college or university should consider the AA degree. The AA degree will satisfy most freshman and sophomore Business Administration requirements of four-year colleges if planned carefully with an advisor. The AS degree is designed for students who want to prepare for an immediate career in business.

Unique features of the Business Administration curriculum include: an introduction to American and international business practices, accounting practices and business law concepts. The Student Development Office can provide lists of course requirements 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, Online

Program Entry Requirements
Complete an application, satisfy the assessment requirements and attend any required information/registration session. Students may start any term.

Graduation Requirements
To earn a Business Administration AA or AS degree, a student must complete the standard core requirements for the degree, plus the Business Administration required courses and maintain a 2.0 grade point average.

AA Degree

Required Courses

ACC 131	Principles of Accounting I	4
ACC 132	Principles of Accounting II	4
BUS 102	Intro to Business	3
BUS 185	Business Law I	3
BUS 220	Intro to International Business	3
ECN 120*	Principles of Macroeconomics	3
ECN 130*	Principles of Microeconomics	3

ECN 120 and ECN 130 are required courses for this program and shall also be used to fulfill 3 credits of Social and Behavioral Science AA Core and 3 credits of Distributive AA Core.

Complete Remaining AA Degree Core Requirements as follows:

Communications	9
Social & Behavioral Sciences	9

(6 credits + 3 credits for ECN 120 from above)

Math & Science	9

(Check with the four-year institution before selecting your math and science courses because certain courses are prerequisites to admission into the College of Business at different colleges and universities.)

Humanities	9
Distributive	12

(9 credits + 3 credits for ECN 130 from above)

Check with the four-year institution before selecting your distributive credits because certain additional math courses are required as prerequisites to admission into the College of Business at different colleges and universities.

Total Minimum Credits for Business Administration AA Degree 65

AS Degree

Required Courses

ACC 131	Principles of Accounting I	4
ACC 132	Principles of Accounting II	4
BUS 102	Intro to Business	3
BUS 185	Business Law I	3
CSC 110	Intro to Computers	3
BUS 220	Intro to International Business	3
ECN 120	Principles of Macroeconomics	3
ECN 130	Principles of Microeconomics	3

NOTE: ECN 120 and ECN 130 can be used to satisfy the Social & Behavioral Sciences component of the AS Core. Students choosing this option will need to complete an additional 6 credit hours from either AS degree core courses or General Business Option Courses to meet program requirements.

Select 3 Courses from Option 1 below		
FIN 121	Personal Finance	Opt 1 3
FIN 101	Principles of Banking	Opt 1 3
FIN 180	Intro to Investments	Opt 1 3
BUS 231	Quantitative Methods	Opt 1 4
BUS 260	Principles of Insurance	Opt 1 3
BUS 148	Small Business Management	Opt 1 3
BUS 186	Business Law II	Opt 1 3
MGT 101	Principles of Management	Opt 1 3
MGT 248	Systems & Info Management	Opt 1 3
MKT 110	Principles of Marketing	Opt 1 3
BUS 240	Virtual Business Firm	Opt 1 3
Elective if needed to satisfy 64 minimum credits		1
Complete AS Degree Core Requirements		**28**
Total Minimum Credits for Business Administration AS Degree		**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 coursework 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, 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 Business Information Systems AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Required Courses

ACC 131	Principles of Accounting I	4
BUS 102	Intro to Business	3
CIS 125	Intro to Programming Logic w/Language	3
CIS 402	COBOL	3
CSC 110	Intro to Computers	3
CIS 604	Visual BASIC	3
BCA 113	Computer Network Literacy	3
CIS 303	Introduction to Database	3
CIS 332	Database and SQL	3
CIS 505	Structured Systems Analysis	4
MGT 248	Systems & Information Management	3
Any AA/AS Degree Core MAT or BUS course		3–4

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 Option 4

ENG 105	Composition I	Opt 1	3
COM 703	Communication Skills	Opt 1	3
SPC 101	Fund of Oral Communication	Opt 2	3
Any AA/AS Core Speech Course (SPC)		Opt 2	3
MGT 145	Human Relations in Business	Opt 3	3
PSY 111	Introduction to Psychology	Opt 3	3
SOC 110	Intro to Sociology	Opt 3	3
ACC 311	Computer Accounting	Opt 4	3
BUS 150	E-Commerce on the Web	Opt 4	3
CIS 207	Fund of Web Programming	Opt 4	3
CIS 240	E-Commerce Website II	Opt 4	3
ADM 105	Intro to Keyboarding	Opt 4	1
CIS 152	Data Structures	Opt 4	3
CIS 413	COBOL II	Opt 4	4
CIS 171	Java	Opt 4	3
CIS 182	JSP and Servlets	Opt 4	3
CIS 215	Server Side Web Programming	Opt 4	3
CIS 169	C#	Opt 4	3
CIS 204	Intro to Website Development	Opt 4	3
CIS 247	Intro to XML	Opt 4	3
SDV 153	Pre-Employment Strategies	Opt 4	2
CIS 612	Advanced Visual BASIC	Opt 4	3
CIS 435	COBOL on the World Wide Web	Opt 4	3
CIS 161	C++	Opt 4	3
CIS 583	Assembler	Opt 4	4
CIS 164	Advanced C++	Opt 4	3
CIS 338	SQL/Oracle	Opt 4	3
CIS 346	Database Design	Opt 4	3
ENG 108	Comp II: Technical Writing	Opt 4	3
Total credits required to complete AAS degree			**65**

CAP - Chrysler

The Chrysler Automotive Program (CAP), cosponsored by DMACC and Chrysler LLC Company, is a two-year automotive program designed to upgrade the technical competence and professional level of the incoming Chrysler dealership technician. The curriculum, designed by 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 Chrysler as a participant. In addition, all program participants must be employed by a participating Chrysler, Dodge or Jeep dealership. Students start in October each year.

Graduation Requirements
To earn a CAP-Chrysler AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Required Courses

ATC 312	Chrysler Electrical/Electronics	4
ATC 317	Shop Fundamentals and Minor Service	4
ATC 318	Basic Brakes	4
ATC 320	Technical Internship I	3
ATC 328	Chrysler Electrical Systems Repair	4
ATC 329	Chrysler Steering & Suspension	3
ATC 330	Technical Internship II	3
ATC 335	Service/Repair Chrysler Engines	5
ATC 336	Chrysler Fuel Systems	3
ATC 340	Technical Internship III	3
ATC 346	Chrysler Engine Performance	5
ATC 347	Chrysler Heating & AC	3

ATC 350	Technical Internship IV	3
ATC 354	Chrysler Manual Drivetrains	4
ATC 355	Chrysler Automatic Drivetrains	4
ATC 356	Advanced Chrysler Systems	5
ATC 360	Technical Internship V	2
COM 703	Communication Skills	3
MAT 772	Applied Math	3
PHY 710	Technical Physics	3
PSY 102	Human and Work Relations	3
Total credits required to complete this program		**74**

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.

This program is accredited by the AED, Associated Equipment Distributors, www.AEDNET.org.

Location: Ankeny

Program Entry Requirements
Complete an application, satisfy the assessment requirement, complete a mechanical aptitude and ability test, 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 coursework as prescribed and maintain a 2.0 grade point average.

Required Courses

DSL 356	Diesel Engines I	6
DSL 366	Diesel Engines II	6
DSL 546	Power Trains I	6
DSL 605	Hydraulics and Brakes	5
DSL 145	Basic Electricity	5
DSL 733	Air Conditioning	3
DSL 830	Operation and Maintenance	5
DSL 555	Power Trains II	5
DSL 409	Diesel Electronics	5
CAT 430	Caterpillar Fuel Systems	4
CAT 431	Caterpillar Failure Analysis	2
CAT 432	Caterpillar LS/PC Hydraulics	2
CAT 433	Caterpillar Service Information System	2
DSL 155	Advanced Electricity	4
CAT 434	Caterpillar Internship	4
CAT 435	Caterpillar Multi-Media	2
AUT 140	Welding for Automotive Mechanics	2

Option Courses–Select 1 Course from Each Option

COM 703	Communication Skills	Opt 1	3
ENG 105	Composition I	Opt 1	3
MAT 141	Finite Math	Opt 2	4
MAT 772	Applied Math	Opt 2	3
MAT 130	Trigonometry	Opt 2	3
MGT 145	Human Relations in Business	Opt 3	3
PSY 111	Introduction to Psychology	Opt 3	3
PSY 102	Human and Work Relations	Opt 3	3
SOC 110	Introduction to Sociology	Opt 3	3
PHY 710	Technical Physics	Opt 4	3
PHY 106	Survey of Physics	Opt 4	4
Total credits required to complete AAS degree			**80**

Chemical Dependency Counseling

(see Certificate Section, page 95)

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 materials testing. This is designed to be a two-year degree program.

This 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.

Career opportunities with this degree are with construction firms; surveying firms; consulting engineering firms; federal, state and local government agencies; materials testing labs and many other areas of the private sector that support the transportation industry.

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 MAT 773 by the results of a COMPASS test. If students are not placed in MAT 773, they will be required to take remedial math courses to be brought up to the level of MAT 773 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 coursework. 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 coursework as prescribed and maintain a 2.0 grade point average.

Required Courses

CET 102	Fundamentals of Civil Engineering	3
CET 119	Survey I	3
CET 135	Materials I	3
CET 138	Construction I	3
CET 169	Survey II	4
CET 173	Highway Design I	4
CET 178	Automated Design I	4
CET 192	Statics	4
CET 219	Survey III	4
CET 222	Soils and Foundations	3
CET 235	Construction II	3
CET 244	Materials II	3
CET 278	Automated Design II	4
CET 283	Highway Design II	4
CET 291	Structure Design and Construction	3
MAT 773	Applied Math II	3

CSC 110	Intro to Computers		3
CET 305	Field Coop		5
With faculty approval, students may take the following in place of CET 305			
CET307	Field Orientation		2
AND 1 of the following courses:			
MGT 145	Human Relations in Business		3
OR			
PSY 111	Intro to Psychology		3
Option Courses–Select Both Option 1 Courses, OR Both Option 2 Courses, AND 1 Course from Option 3			
COM 703	Communication Skills	Opt 1	3
ENG 105	Composition I	Opt 1	3
ENG 105	Composition I	Opt 2	3
ENG 108	Comp II: Technical Writing	Opt 2	3
MGT 145	Human Relations in Business	Opt 3	3
PSY 111	Intro to Psychology	Opt 3	3
PSY 102	Human and Work Relations	Opt 3	3
Total credits required to complete AAS degree			**72**

Recommended Electives (not required for the AAS degree)

CAD 119	Intro to Computer-Aided Drafting
SPC 101	Fund of Oral Communication
MAT 130	Trigonometry
SRV 215	Intro to Land Information Systems

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 elective courses that may be taken for additional credit. Those courses are AGH 160 Irrigation Systems, AGH 241 Sports Turf.

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 coursework as prescribed and maintain a 2.0 grade point average.

Required Courses

AGA 157	Soil Fertility*		1
AGA 154	Fundamentals of Soil Science*		3
AGH 159	Landscape Drafting		2
AGH 221	Principles of Horticulture		3
AGH 142	Construction, Safety & Maintenance		3
AGH 123	Woody Plant Materials		3
AGH 132	Introduction to Greenhouse		3
AGH 111	Intro to Turfgrass Management*		2
AGH 154	Residential Landscape Design I		3
AGH 805	Horticulture Internship I		2
AGH 233	Plant Propagation I		3
AGH 155	Landscape Design II		2
AGH 251	Insects and Diseases		2
AGH 120	Herbaceous Plant Materials		3
AGH 283	Pesticide Application Certification*		2
SDV 153	Pre-Employment Strategies		2
AGH 281	Arboriculture		3
AGH 292	Garden Center Management		3
AGH 815	Horticulture Internship II		2
AAS Degree Core science course			3
For the Turf Maintenance Emphasis, the following course is required			
AGH 211	Advanced Turfgrass Management*		3
For the Greenhouse Production Emphasis, the following course is required			
AGH 133	Greenhouse Production Techniques		3
Option Courses Either Plan–Select 1 Course from Option 1, 2 and 3			
MAT 141	Finite Mathematics	Opt 1	4
MAT 772	Applied Math*	Opt 1	3
ENG 105	Composition I	Opt 2	3
COM 703	Communication Skills	Opt 2	3
MGT 145	Human Relations in Business	Opt 3	3
PSY 111	Introduction to Psychology	Opt 3	3
PSY 102	Human and Work Relations	Opt 3	3
Either Plan–Select 2 Courses from Option 4			
ACC 111	Intro to Accounting	Opt 4	3
MKT 140	Selling	Opt 4	3
CSC 110	Intro to Computers	Opt 4	3
Either Plan–Select 1 Course from Option 5			
AGH 262	Fruit and Vegetable Science	Opt 5	3
AGH 272	Nursery Production I	Opt 5	3
Total minimum credits required for the Greenhouse Production emphasis			**71**
Total minimum credits required for the Turf Maintenance emphasis			**71**

In addition to the courses required for this degree, students may take the following courses to enhance their background or for personal enrichment:

AGH 160	Irrigation Systems*	2
AGH 241	Sports Turf*	2
AGH 103	Floral Design I	1
AGH 104	Floral Design II	1

*(Courses marked with * are required for the Turf Maintenance Certificate)*

Computer-Aided Design Technology

Computer-Aided Design (CAD) Technology prepares students for a career in a variety of design and drafting disciplines. The CAD technology student will be exposed to and operate different CAD software packages and related equipment. Students will learn how to create CAD models and drawings to meet international and U.S. customary design and 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 parametric (solid) modeling, model/assembly analysis and geometric dimensioning and tolerancing. Associate Degree students will also be taught a variety of specialized design and drafting standards that are used in several different industries.

Engineering and manufacturing design and drafting, computer animation, technical publishing and independent CAD contracting are areas where 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 CSC 110 (Introduction to Computers) 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 coursework as prescribed and maintain a 2.0 grade point average.

Term 1–Select 1 Course from Option 1

CAD 151	CAD Graphics I		6
CAD 155	Networking Systems Involving CAD		3
MAT 772	Applied Math		3
MGT 145	Human Relations in Business	Opt 1	3
PSY 102	Human and Work Relations	Opt 1	3

Term 2

MAT 773	Applied Math II	3
CAD 242	Manufacturing Interfaces	3
ENG 105	Composition I	3
CAD 152	CAD Graphics II	6

Term 3

CAD 182	SolidWorks CAD I	3
CAD 196	Engineering Disciplines & Practices	3
CAD 240	Applied Materials and Processes	3
Total credits required to complete the diploma		**39**

Term 4

CAD 153	CAD Applications I	3
CAD 246	Parametric CAD I	3
CAD 215	Mechanical Systems	3
CAD 252	Design Project I	4
ENG 108	Comp II: Technical Writing	3

Term 5

CAD 148	Introduction to Finite Elem Analysis	3
CAD 154	CAD Applications II	3
CAD 248	Parametric CAD II	3
CAD 254	Design Project II	5
Total credits required to complete this AAS degree		**69**

Computer Applications and Computer Languages Certificates

(see Certificate Section, page 95)

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 that 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 - Law Enforcement

Term 1

CRJ 100	Intro to Criminal Justice	3
CRJ 132	Constitutional Law	3
Select 3 courses from AA Degree Core Requirements		**9**

Term 2

CRJ 130	Criminal Law	3
Select 3 courses from AA Degree Core Requirements		9
Select 1 course from Option Courses		3

Term 3

CRJ 141	Criminal Investigation	3
Select 3 courses from AA Degree Core Requirements		9
Select 1 course from Option Courses		3

Term 4

CRJ 248	Scientific Investigation	3
Select 3 courses from AA Degree Core Requirements		9
Select 1 course from Option Courses		3

Term 5

SOC 200*	Minority Group Relations	3
Select 3 courses from AA Degree Core Requirements		9
Select 1 course from Option Courses		3

AA Degree Core Requirements (mentioned above) are as follows:

Communications	9
Social & Behavioral Sciences	9

**SOC 200 is a required course for this program which may be used to fulfill 3 credits of Social & Behavioral Science AA Core. And POL 171 is an option course that may also be used to fulfill 3 credits of Social & Behavioral Science AA Core.*

Math & Science	9
Humanities	9
Distributive	12

Option Courses–Select 12 Credits from Option 1

CRJ 101	Ethics in Criminal Justice	Opt 1	3
CRJ 107	Survey/Criminal Justice Agencies	Opt 1	3
CRJ 109	Theories of Interviewing	Opt 1	3
CRJ 119	Community Relations	Opt 1	3
CRJ 137	Juvenile Law	Opt 1	3
CRJ 165	Intro to Electronic Crime	Opt 1	3
CRJ 195	Crime Scene Investigation	Opt 1	4
POL 171*	Intro to Public Administration	Opt 1	3
SOC 240	Criminology	Opt 1	3

Total minimum credits required to complete the AA degree 75

AS Degree - Law Enforcement

Term 1

CRJ 100	Intro to Criminal Justice	3
CRJ 132	Constitutional Law	3
Select 2 courses from AS Degree Core Requirements		7
(one must be a 4-credit course)		
Select 1 course from Option Courses		3

Term 2

CRJ 130	Criminal Law	3
CRJ 141	Criminal Investigation	3
Select 3 courses from AS Degree Core Requirements		9
Select 1 course from Option Courses		3

Term 3

CRJ 248	Scientific Investigation	3
SOC 200*	Minority Group Relations	3
Select 2 courses from AS Degree Core Requirements		6
Select 1 course from Option Courses		3

Term 4

CRJ 932	Internship	3
Select 2 courses from AS Degree Core Requirements		6
Select 2 courses from Option Courses		6

AS Degree Core Requirements (mentioned above) are as follows:

Communications	9
Social & Behavioral Sciences	6

**SOC 200 & POL 171 CANNOT be used to fulfill both Program Credit Requirements and Social and Behavioral Science AS Core.*

Math & Science	6
Humanities	3
Distributive	4

Option Courses–Select 15 Credits from Option 1

CRJ 101	Ethics in Criminal Justice	Opt 1	3
CRJ 107	Survey/Criminal Justice Agencies	Opt 1	3
CRJ 109	Theories of Interviewing	Opt 1	3
CRJ 119	Community Relations	Opt 1	3
CRJ 137	Juvenile Law	Opt 1	3
CRJ165	Intro to Electronic Crime	Opt 1	3
CRJ 195	Crime Scene Investigation Lab	Opt 1	4
POL 171*	Intro to Public Administration	Opt 1	3
SOC240	Criminology	Opt 1	3

Total minimum credits required to complete the AS degree 64

AA Degree - Corrections

Term 1

CRJ 100	Intro to Criminal Justice	3
CRJ 132	Constitutional Law	3
Select 3 courses from AA Degree Core Requirements		9

Term 2

CRJ 136	Correctional Law	3
Select 3 courses from AA Degree Core Requirements		9
Select 1 course from Option Courses		3

Term 3

CRJ 222	Correctional Treatment Methods	3
Select 3 courses from AA Degree Core Requirements		9
Select 1 course from Option Courses		3

Term 4

CRJ 229	Penology	3
Select 3 courses from AA Degree Core Requirements		9
Select 1 course from Option Courses		3

Term 5

SOC 200*	Minority Group Relations	3
Select 3 courses from AA Degree Core Requirements		9
Select 1 course from Option Courses		3

AA Degree Core Requirements (mentioned above) are as follows:

Communications	9
Social & Behavioral Sciences	9

**SOC 200 is a required course for this program which may be used to fulfill 3 credits of Social and Behavioral Science AA Core. And POL 171 is an option course that may also be used to fulfill 3 credits of Social & Behavioral Science AA Core.*

Math & Science	9
Humanities	9
Distributive	12

Option Courses–Select 12 Credits from Option 1

CRJ 101	Ethics in Criminal Justice	Opt 1	3
CRJ 107	Survey/Criminal Justice Agencies	Opt 1	3
CRJ 109	Theories of Interviewing	Opt 1	3
CRJ 119	Community Relations	Opt 1	3
CRJ 137	Juvenile Law	Opt 1	3
CRJ 141	Criminal Investigation	Opt 1	3
CRJ 195	Crime Scene Investigation	Opt 1	4
POL 171*	Intro to Public Administration	Opt 1	3
SOC 240	Criminology		3

Total minimum credits required to complete the AA degree 75

AS Degree - Corrections

Term 1

CRJ 100	Intro to Criminal Justice	3
CRJ 132	Constitutional Law	3
Select 2 courses from AS Degree Core Requirements		6
Select 1 course from Option Courses		3

Term 2

CRJ 136	Correctional Law	3
CRJ 229	Penology	3
Select 3 courses from AS Degree Core Requirements		9
Select 1 course from Option Courses		3

Term 3

CRJ 222	Correctional Treatment Methods	3
SOC 200*	Minority Group Relations	3
Select 2 courses from AS Degree Core Requirements *(one must be a 4-credit course)*		7
Select 1 course from Option Courses		3

Term 4

CRJ 932	Internship	3
Select 2 courses from AS Degree Core Requirements		6
Select 2 courses from Option Courses		6

AS Degree Core Requirements (mentioned above) are as follows:

Communications	9
Social & Behavioral Sciences	6
**SOC 200 & POL 171 CANNOT be used to fulfill both Program Credit Requirements and Social & Behavioral Science AS Core.*	
Math & Science	6
Humanities	3
Distributive	4

Option Courses–Select 15 Credits from Option 1

CRJ 101	Ethics in Criminal Justice	Opt 1	3
CRJ 107	Survey/Criminal Justice Agencies	Opt 1	3
CRJ 109	Theories of Interviewing	Opt 1	3
CRJ 119	Community Relations	Opt 1	3
CRJ 137	Juvenile Law	Opt 1	3
CRJ 141	Criminal Investigation	Opt 1	3
CRJ195	Crime Scene Investigation	Opt 1	4
POL 171*	Intro to Public Administration	Opt 1	3
SOC 240	Criminology	Opt 1	3

Total minimum credits required to complete the AS degree 64

AS Degree - Electronic Crime

Term 1

CRJ 100	Intro to Criminal Justice	3
NET 123	Computer Hardware Basics	4
CRJ 167	Operating Sys. for Forensics	3
Select 1 course from AS Degree Core Communications		3
Select 1 course from AS Degree Social & Behavioral Sci.		3

Term 2

CRJ 130	Criminal Law	3
CRJ 141	Criminal Investigation	3
CRJ 176	Computer Forensics I	3
Select 1 course from AS Degree Core Communications		3
Select 1 course from AS Degree Core Math & Sciences		3

Term 3

CRJ 178	E-Crime Investigative Methods	3
Select 1 course from AS Degree Core Social & Behavioral Sci.		3

Term 4

CRJ 276	Computer Forensics II	3
CRJ 132	Constitutional Law	3
NET 213	CISCO Networking	4
Select 1 course from AS Degree Core Communications		3
Select 1 course from AS Degree Core Humanities		3

Term 5

CRJ 277	Adv. Digital Forensic Methods	4
CRJ 932	Internship	3
Select 1 4-credit course from AS Degree Core Requirements		4
Select 1 course from AS Degree Core Math & Sciences		3

AS Degree Core Requirements (mentioned above) are as follows:

Communications	9
Social & Behavioral Sciences	6
Math & Science	6
Humanities	3
Distributive	4

Total minimum credits required to complete the AS degree 67

Culinary Arts

The DMACC Culinary Arts program has been designated the Iowa Culinary Institute, signifying the world-class prominence of the program. The Culinary Arts program is accredited by the American Culinary Federation.

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.

**In order to facilitate student success, the Culinary Arts program offers a learning community where students complete HCM 320 Intro to Hospitality Industry and SPC 101 Fundamentals of Oral Communication (speech) together. Students are required to enroll in the learning community during their first or second semester and will receive details about this when they attend orientation and registration after being admitted to the program. Only students who completed speech at DMACC prior to entering the Culinary Arts program or by transferring credit from another college or university will be permitted to fulfill this requirement with an option course other than SPC 101.*

Terms A and B are the first two terms of the program. For the first two semesters, students are divided into groups A and B. Students in group A take the courses listed below under Term A their first semester and then complete term B in their second semester. Students in group B take the courses listed below under Term B their first semester and then complete term A in their second semester. All students complete the same courses in terms 3, 4 and 5.

Upon successful completion of terms A through 5, students will receive a Culinary Arts AAS degree. Students with a shorter-term educational goal may receive a diploma upon completion of terms A, B and 3. The first three terms must be completed before enrollment is allowed in terms 4 and 5.

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 coursework as prescribed and maintain a 2.0 grade point average.

Term A			
HCM 100	Sanitation and Safety (lec)		2
HCM 104	Sanitation and Equipment Lab		1
HCM 143	Food Preparation I (lec)		3
HCM 144	Food Preparation I Lab		3
HCM 320*	Intro to Hospitality Industry (lec)		2
SPC 101*	Fund of Oral Communication	Opt 1	3
Any SPC course designated as AAS Core (see paragraph above for explanation)		Opt 1	3
Term B–Select 1 Course from Option 2 and 1 Course from Option 3			
HCM 200	Dining Room Service (lec)		2
HCM 231	Nutrition (lec)		2
HCM 510	Work Experience		3
MGT 145	Human Relations in Business		3
COM 703	Communication Skills	Opt 2	3
Any ENG course designated as AAS Core		Opt 2	3
BUS 112	Business Math	Opt 3	3
MAT 772	Applied Math	Opt 3	3
Any MAT or BUS course designated as AAS Core		Opt 3	3
Term 3			
HCM 152	Food Preparation II (lec)		2
HCM 153	Food Preparation II Lab		2
HCM 110	Baking (lab)		2
HCM 270	Garde Manger (lab)		2
Total credits required to complete the diploma			**38**
Term 4			
HCM 240	Menu Planning & Design (lec)		2
HCM 250	Purchasing (lec)		2
HCM 173	International Cuisine (lec)		2
HCM 172	International Cuisine (lab)		3
HCM 210	Dining Management (lec)		2
HCM 167	Culinary Skills Development (lab)		3
Term 5			
HCM 175	International Cuisine Lab II		3
HCM 124	Advanced Baking/Buffet Decorating (lab)		2
HCM 169	Culinary Cuisine Lab		4
HCM 168	Advanced Culinary Cuisine (lec)		2
HCM 300	Beverage Management (lec)		2
SDV 153	Pre-Employment Strategies		2
Total credits required to complete the AAS degree			**67**

Data Entry I and Database Specialist Certificates (see Certificate Section, page 96)

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.

Note: 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 information/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 coursework as prescribed and maintain a 2.0 grade point average.

Term 1		
DEA 253	Dental Science I	4
DEA 256	Dental Anatomy	2
DEA 424	Dental Materials Lab	1
DEA 507	Principles of Dental Assisting	6
DHY 221	Dental Materials	2
DHY 161	Oral Radiology	3
Term 2		
DEA 321	Dental Radiography II	2
DEA 591	Dental Assisting Seminar	1
DEA 576	Dental Assisting Clinic I	3
DEA 263	Dental Science II	2
DEA 615	Clinical Dental Assisting	5
DEA 702	Dental Office Procedures	2
ENG 105	Composition I	3
Term 3		
DEA 297	Ethics/Jurisprudence Seminar	1
DEA 577	Dental Assisting Clinic II	4
PSY 102	Human & Work Relations	3
SPC 101	Fund of Oral Communication	3

Graduates may immediately sit for the National Board exam to become a Certified Dental Assistant.

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 that 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. BIO 164 Essential Anatomy/Physiology OR BOTH BIO 733 Health Science Anatomy AND BIO 734 Health Science Physiology
2. CHM 122 Introduction to General Chemistry
3. BIO 187 Microbiology w/lab OR BIO 732 Health Science Microbiology

When transferring equivalent courses to DMACC, an official transcript must be sent to the Admissions Office as courses are completed.

Wait List Processing
Position on the Wait List will be determined by the number of support courses completed.

CHM 132 Introduction to Organic/Biochemistry, PSY 111 Introduction to Psychology, SOC 110 Introduction to Sociology, ENG 105 Composition I, SPC 101 Fundamentals of Oral Communication OR SPC 126 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.

Term 1–CPR Certification

CHM 132	Intro to Organic/Biochemistry	4
DHY 170	Principles of Dental Hygiene	2
DHY 171	Principles of Dental Hygiene Practicum	3
DHY 121	Oral Histology and Embryology	2
DHY 114	Dental Hygiene Anatomical Sciences	4
DHY 161	Oral Radiology	3

Term 2–Select the Option 1 Course or both Option 2 Courses

DHY 181	Dental Hygiene I		2
DHY 182	Clinical Dental Hygiene I		4
DHY 164	Oral Radiography II		2
DHY 141	General and Oral Pathology		3
DHY 232	Nutrition & Preventative Dentistry	Opt 1	4
HCM 236	Human Nutrition	Opt 2	3
DHY 234	Nutrition/Dental Counseling	Opt 2	1

Term 3

DHY 281	Dental Hygiene II	2
DHY 282	Clinical Dental Hygiene II	2
DHY 211	Periodontology	2
DHY 133	Pharmacology	3
PSY 111	Intro to Psychology	3

Term 4

DHY 221	Dental Materials	2
DHY 223	Dental Materials Lab	1
DHY 261	Dental Health Education	3
DHY 291	Dental Hygiene III	2
DHY 292	Clinical Dental Hygiene III	5
SOC 110	Introduction to Sociology	3

Term 5–Select 1 Course from Option 3

DHY 251	Community Oral Health		3
DHY 301	Dental Hygiene IV		2
DHY 302	Clinical Dental Hygiene IV		5
ENG 105	Composition I		3
SPC 101	Fund of Oral Communication	Opt 3	3
SPC 126	Interpersonal & Small Group Communication	Opt 3	3
Total credits required to complete this program			**77**

Diemaking (See Tool & Diemaking, page 90)

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.

This program is accredited by the AED Associated Equipment Distributors www.AEDnet.org

Location: Ankeny

Program Entry Requirements
Complete an application, satisfy the assessment requirement, complete a mechanical aptitude and ability test, 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 coursework as prescribed and maintain a 2.0 grade point average.

Required Courses–Diploma

DSL 356	Diesel Engines I	6
DSL 366	Diesel Engines II	6
DSL 546	Power Trains I	6
DSL 605	Hydraulics and Brakes	5

DSL 145	Basic Electricity		5
DSL 733	Air Conditioning		3
DSL 830	Operation and Maintenance		5
Select 1 Course from Each Option			
COM 703	Communication Skills	Opt 1	3
ENG 105	Composition I	Opt 1	3
MAT 722	Applied Math	Opt 2	3
MAT 141	Finite Math	Opt 2	4
MAT 130	Trigonometry	Opt 2	3
Total credits required to complete the diploma			**42**

Required Courses–AAS

DSL 356	Diesel Engines I		6
DSL 366	Diesel Engines II		6
DSL 546	Power Trains I		6
DSL 605	Hydraulics and Brakes		5
DSL 145	Basic Electricity		5
DSL 733	Air Conditioning		3
DSL 830	Operation and Maintenance		5
DSL 555	Power Trains II		5
DSL 409	Diesel Electronics		5
DSL 407	Diesel Fuel Systems		6
DSL 155	Advanced Electricity		4
DSL 845	Heavy Equipment Repair		5
DSL 855	Truck Repair		5
AUT 140	Welding for Automotive Mechanics		2
Select 1 Course from Each Option			
COM 703	Communication Skills	Opt 1	3
ENG 105	Composition I	Opt 1	3
MAT 772	Applied Math	Opt 2	3
MAT 141	Finite Math	Opt 2	4
MAT 130	Trigonometry	Opt 2	3
MGT 145	Human Relations in Business	Opt 3	3
PSY 111	Introduction to Psychology	Opt 3	3
PSY 102	Human and Work Relations	Opt 3	3
SOC 110	Introduction to Sociology	Opt 3	3
PHY 106	Survey of Physics	Opt 4	4
PHY 710	Technical Physics	Opt 4	3
Total credits required to complete the AAS degree			**80**

Dietary Manager (see Certificate Section, page 96)

Digital Publishing & Prepress

(see Certificate Section, page 96)

E-Commerce Design (see Certificate Section, page 96)

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.

Coursework 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 coursework 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 degree 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 any term.

Graduation Requirements
To earn an Early Childhood Education diploma, a student must complete all coursework 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 ensure 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.

Term 1

ECE 173	Early Childhood Development	3
ECE 101	Intro to Early Childhood Education	1
ECE 242	Early Childhood Guidance	2
ECE 147	Assessment Planning–Young Children	1
ECE 148	Group Exp. for Early Childhood Programs	2
ECE 149	Curriculum–Preschool Children	3
ECE 130	Emergency Care	1
ECE 265	Student Participation I	3
	Total	**16**

Term 2

ECE 133	Child Health, Safety & Nutrition	3
ECE 220	Infant/Toddler Care & Education	3
ECE 121*	Professional Relationships	2
ECE 266	Student Participation II	3
ECE 281	Practicum	2

** ECE 121 is only offerred in the Spring Semester*

Option Courses–Select 1 Course from Each Option

ENG 105	Composition I	Opt 1	3
COM 703	Communication Skills	Opt 1	3
ADM 157	Business English	Opt 1	3
SOC 110	Introduction to Sociology	Opt 2	3
PSY 111	Intro to Psychology	Opt 2	3
PSY 102	Human and Work Relations	Opt 2	3
MGT 145	Human Relations in Business	Opt 2	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 student's background in general education. Further competence in early childhood education is developed through coursework 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 take one of the many jobs available in early childhood education including teaching in child care centers, preschools, child development homes and public and private schools, working with infants and toddlers, preschoolers and school-age children, as well as administrative positions in early childhood programs. Students who intend to transfer should contact the Early Childhood Education program chair or program counselor regarding important information concerning articulation agreements with four-year institutions. This program is not intended for students who are in Elementary Education.

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 ensure 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.

Term 1

ECE 173	Early Childhood Development	3
ECE 101	Intro to Early Childhood Education	1
ECE 242	Early Childhood Guidance	2
ECE 147	Assessment & Planning–Young Children	1
ECE 148	Group Exp. for Early Childhood Programs	2
ECE 149	Curriculum–Preschool Children	3
ECE 130	Emergency Care	1
ECE 265	Student Participation I	3
		Total 16

Term 2

ECE 133	Child Health, Safety & Nutrition	3
ECE 220	Infant/Toddler Care & Education	3
ECE 121*	Professional Relationships	2
ECE 266	Student Participation II	3
ECE 281	Early Childhood Education Practicum	2
		Total 13

Required Courses for Remaining Semesters

Additional AS Degree Core Requirements		**28**
ECE 290*	Early Childhood Program Administration	3
ECE 267	Early Childhood Assoc Practicum	3
Elective courses		2

** ECE 290 and ECE 121 are only offered in the spring semester*

Total minimum credits required to complete this program 65

Education

Students planning to major in secondary or elementary education at a four-year college/university can satisfy many of their general education requirements at Des Moines Area Community College. Since degree requirements vary at senior institutions, students should become familiar with the specific course requirements of their selected transfer institution. Students are also encouraged to contact the four-year major advisor as early as possible to develop a transfer plan. DMACC advisors and/or counselors can also help by providing transfer materials and course planning assistance.

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 meet National Electric Code® (NEC 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 coursework as prescribed and maintain a 2.0 grade point average.

Term 1

MAT 772	Applied Math	3
CON 337	Construction Blueprint Reading	1
ELT 303	Principles of Electricity	3
ELT 158	NEC® Residential	3
ELT 159	NEC® Residential Lab	3

Term 2			
ELT 172	NEC® Commercial/Industrial		3
ELT 173	NEC® Commercial/Industrial Lab		4
ELT 134	Motor Controls		3
COM 703	Communication Skills		3
CSC 110	Introduction to Computers		3
Term 3			
ELE 141	Advanced Motor Controls		3
ELT 174	Electrical Grounding		2
ELT 119	Programmable Logic Controllers		3
MGT 145	Human Relations in Business		3
Total credits required to complete this program			**40**

Electronics, Robotics & Automation

The Electronics, Robotics & 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 session.
3. Complete the required COMPASS testing, obtaining a satisfactory score in algebra (49 or higher) or ACT scores with a math sub score of 19 or higher, or completion of MAT 063 with a grade of "C" or better.
4. Successful completion of CSC 110 Intro to Computers or equivalent; or approval of the program counselor.

Students start fall term.

Graduation Requirements

To earn an Electronics, Robotics & Automation AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Term 1–Select 1 Course from Option 1			
ELT 385	Electric Circuit Analysis I		4
ELT 386	Electric Circuit Analysis I Lab		2
ELT 389	Fabrication Techniques		3
ELT 108	Math for Electronics & Computers		4
ENG 105	Composition I	Opt 1	3
COM 703	Communication Skills	Opt 1	3
Term 2–Select 1 Course from Option 2			
ELT 325	Digital Electronics		3
ELT 326	Digital Electronics Lab		3
ELT 387	Electronic Circuit Analysis II		3
ELT 388	Elec. Circuit Analysis II Lab		3
ELT 181	Adv. Math for Electronics Technicians		1
MGT 145	Human Relations in Business	Opt 2	3
PSY 111	Intro to Psychology	Opt 2	3
PSY 102	Human & Work Relations	Opt 2	3
SOC 110	Introduction to Sociology	Opt 2	3
Term 3			
CIS 130	Computer Programming		3
ELT 134	Motor Controls		3
ELT 126	Industrial Electronics		2
ELT 143	Mechanisms		3
Term 4			
ELT 611	Microprocessors		2
ELT 612	Microprocessors Lab		3
NET 213	CISCO Networking		4
ELT 119	Programmable Logic Controllers		3
ELT 721	Robotics		2
ECN 120	Principles of Macroeconomics		3
Term 5			
ELT 791	Hydraulics and Pneumatics		3
ELT 792	Hydraulics and Pneumatics Lab		2
ELT 643	Process Control Instrument		3
ELT 644	Process Control Instrument Lab		2
ELT 725	Introduction to FMS Cell		2
ELT 125	Advanced PLC		3
ELT 870	Electronic Capstone Project		3
Total credits required to complete this program			**78**

Electronics Systems Servicing Technology

The Electronics Systems Servicing Technology program prepares the student 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 (ELT 932). Before students enroll in the ELT 932 Internship course, they will be required to achieve a grade of "C" or higher in the DMACC courses pertaining to their 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 ELT 474 and 475.

Security Systems: Courses requiring a grade of "C" or higher are ELT 482 and 483.

Business Machines: Courses requiring a grade of "C" or higher are ELT 478 and 479.

Medical Electronics: Courses requiring a grade of "C" or higher are ELT 484 and 485.

Location: Ankeny

Program Entry Requirements

1. Complete an application.
2. Satisfy the assessment requirement and attend any required information/registration session.
3. Complete the required COMPASS testing, obtaining a satisfactory score in algebra (49 or higher) or ACT scores with a math sub score of 19 or higher, or completion of MAT 063 with a grade of "C" or better.
4. Successful completion of CSC 110 Intro to Computers or equivalent; or approval of the program counselor.

Students start fall term.

Graduation Requirements

To earn an Electronics Systems Servicing Technology AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Term 1–Select 1 Course from Option 1			
ELT 385	Electronic Circuit Analysis I		4
ELT 386	Electronic Circuit Analysis I Lab		2
ELT 389	Fabrication Techniques		3
ELT 108	Math for Electronics & Computers		4
ENG 105	Composition I	Opt 1	3
COM 703	Communication Skills	Opt 1	3
Term 2–Select 1 Course from Option 2			
ELT 325	Digital Electronics		3
ELT 326	Digital Electronics Lab		3
ELT 387	Electronic Circuit Analysis II		3
ELT 388	Electronic Circuit Analysis II Lab		3
ELT 181	Adv Math for Electronics Technicians		1
MGT 145	Human Relations in Business	Opt 2	3
PSY 111	Introduction to Psychology	Opt 2	3
PSY 102	Human & Work Relations	Opt 2	3
SOC 110	Introduction to Sociology	Opt 2	3
Term 3			
ELT 781	Electro-Mechanical Systems		2
ELT 782	Electro-Mechanical Systems Lab		2
ELT 478	Basic Imaging Devices		3
ELT 479	Basic Imaging Devices Lab		3
ECN 120	Principles of Macroeconomics		3
Term 4			
ELT 474	Communications Systems		3
ELT 475	Communications Systems Lab		3
ELT 652	Computer Repair & Networking		4
ELT 482	Security Systems		3
ELT 483	Security Systems Lab		4
Term 5			
ELT 484	Medical Electronics Systems		3
ELT 485	Medical Electronics Systems Lab		3
ELT 816	System Troubleshooting		2
ELT 817	System Troubleshooting Lab		3
ELT 932	Internship		5
Total credits required to complete the AAS degree			**78**

Emergency Medical Tech Basic

(see Certificate Section, page 96)

Engineering

Students planning to major in an engineering field at a four-year college/university can satisfy many of their general education requirements at Des Moines Area Community College. Since degree requirements vary at senior institutions, students should become familiar with the specific course requirements of their selected transfer institution. Students are also encouraged to contact the four-year major advisor as early as possible to develop a transfer plan. DMACC advisors and/or counselors can also help by providing transfer materials and course planning assistance.

Enology

(see Certificate Section, page 97)

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, 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. Students start any term.

Graduation Requirements

To earn an Entrepreneurship diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Required Courses			
ACC 311	Computer Accounting		3
BUS 112	Business Math		3
BUS 220	Intro to International Business		3
BUS 131	Small Business Management Strategies		3
BUS 138	Small Business Marketing		3
BUS 141	Small Business Start-Up		3
BUS 148	Small Business Management		3
BUS 150	E-Commerce on the Web		3
BUS 181	Basic Law for Entrepreneurs		2
Option Courses–Select 1 Course From Each Option			
ACC 131	Principles of Accounting I	Opt 1	4
ACC 111	Intro to Accounting	Opt 1	3
ENG 105	Composition I	Opt 2	3
COM 703	Communication Skills	Opt 2	3

MGT 145	Human Relations in Business	Opt 3	3
PSY 111	Introduction to Psychology	Opt 3	3
BUS 240	Virtual Business Firm	Opt 4	3
CSC 110	Intro to Computers	Opt 4	3
MKT 140	Selling	Opt 4	3
BCA 212	Intro Computer Business Appl	Opt 4	3
Total credits required to complete this program			**38**

Entrepreneurship

(see Certificate Section, page 97)

Fashion

(see Certificate Section, page 97)

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 coursework and individual effort. Graduates interested in apparel design or interior design usually transfer to a four-year program.

Instruction is based on 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 coursework as prescribed and maintain a 2.0 grade point average.

Required Courses–Fashion/Design AAS Degree

APP 260	Fashion Analysis & Design		3
INT 124	Interior Design Analysis		3
APP 111	Visual Merchandising & Design		3
APP 230	Fashion Coordination/Promotion		3
APP 211	Textiles		3
MKT 110	Principles of Marketing		3
MKT 140	Selling		3
MKT 150	Principles of Advertising		3
MGT 147	Leadership Development		3
MGT 800	Business Internship I		6
MGT 802	Business Internship Seminar I		2
MGT 805	Business Internship II		4
MGT 807	Business Internship Seminar II		1
MGT 194	Relationship Strategies in Business		2
SDV 153	Pre-Employment Strategies		2

Option Courses–Select 1 Course from Each Option

APP 250	Design Concepts	Opt 1	3
INT 125	Interior Design Planning	Opt 1	3
BUS 102	Introduction to Business	Opt 2	3
MKT 160	Principles of Retailing	Opt 2	3
BUS 148	Small Business Management	Opt 3	3
APP 270	Fashion Buying	Opt 3	3
MKT 165	Retail Management II	Opt 3	3
MGT 130	Principles of Supervision	Opt 3	3
CIS 110	Intro to Computers	Opt 4	3
GRD 301	Intro to Desktop Publishing	Opt 4	3
BAC 212	Intro Computer Business Appl	Opt 4	3
ENG 105	Composition I	Opt 5	3
COM 703	Communication Skills	Opt 5	3
MGT 145	Human Relations in Business	Opt 6	3
PSY 111	Introduction to Psychology	Opt 6	3
BUS 112	Business Math	Opt 7	3
MAT 141	Finite Math	Opt 7	4
SPC 101	Fundamentals of Oral Communication	Opt 8	3
SPC 126	Interpersonal & Small Group Comm	Opt 8	3
Total credits required to complete the AAS degree			**68**

Required Courses–Fashion/Design Diploma

APP 260	Fashion Analysis & Design		3
INT 124	Interior Design Analysis		3
APP 111	Visual Merchandising & Design		3
APP 211	Textiles		3
MKT 110	Principles of Marketing		3
MKT 140	Selling		3
MGT 147	Leadership Development		3
MGT 800	Business Internship I		6
MGT 802	Business Internship Seminar I		2
MGT 194	Relationship Strategies in Business		2
SDV 153	Pre-Employment Strategies		2

Option Courses–Select 1 Course from Each Option

MKT 160	Principles of Retailing	Opt 1	3
BUS 102	Introduction to Business	Opt 1	3
MGT 145	Human Relations in Business	Opt 2	3
PSY 111	Introduction to Psychology	Opt 2	3
BUS 112	Business Math	Opt 3	3
MAT 141	Finite Math	Opt 3	4
ENG 105	Composition I	Opt 4	3
COM 703	Communication Skills	Opt 4	3
Total credits required to complete the diploma			**45**

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

CHM 122	Intro to General Chemistry	4
ENG 105	Composition I	3
ENG 106	Composition II	3
ENG 108	Composition II: Technical Writing	3
FIR 230	Fire Behavior and Investigation	3
FIR 232	Property Insurance–Fraud Investigation	3
FIR 124	Building Construction	3
FIR 152	Fire Protection Systems	3
FIR 182	Hazardous Materials	3
FIR 220	Planning for Fire Prevention	3
FIR 212	Emergency Scene Management	3
FIR 200	Occupational Safety/Health in Emergency Services	3
FIR 138	Principles of Fire Prevention	3
MGT 101	Principles of Management	3
PHI 105	Introduction to Ethics	3
POL 112	American State & Local Government	3
PSY 111	Introduction to Psychology	3
AS Degree Core MAT		3
AS Degree Core SPC		3
Electives		6–7

The Courses Below are Recommended to Fulfill the Elective 6–7 Credits

MGT 130	Principles of Supervision	3
MGT 145	Human Relations in Business	3
MGT 147	Leadership Development	3
PSY 102	Human and Work Relations	3

EMS 210 Emergency Med Tech Basic is recommended

Total minimum credits required to complete this program 64

Fire Specialist (see Certificate Section, page 97)

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 two-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 AS degree is a transfer degree, designed to prepare students for a Fitness Management, Sports Management and Health program at a four-year school. Graduates from the program may also be able to find entry-level positions at parks and recreation departments, YMCA/YWCAs, 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 coursework as prescribed and maintain a 2.0 grade point average.

Required Courses–All Students

BIO 168	Anatomy & Physiology I	4
BIO 173	Anatomy & Physiology II	4
CSC 110	Intro to Computers	3
ECN 130	Principles of Microeconomics	3
ENG 105	Composition I	3
ENG 106	Composition II	3
PEH 920	Field Experience	2
PEA 144	Physical Fitness & Conditioning	2
HCM 236	Human Nutrition	3
PEH 162	Intro to Physical Education	3
PEH 102	Health	3
SPC 101	Fund of Oral Communication	3
Total Required Courses–All Students		**36**

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

PEH 141	First Aid		2
PEH 265	Leadership Techniques for Fitness Program		2
MGT 101	Principles of Management		3
PET 110	Intro to Athletic Training		2
PSY 121	Developmental Psychology		3
Any AS degree Core Humanities			6
Any AS degree Core Social Sciences			3
Elective			1

Option Courses–Select 1 Course from Each Option

MAT 130	Trigonometry	Opt 1	3
MAT 157	Statistics	Opt 1	4
PHY 106	Survey of Physics	Opt 2	4
PHY 160	General Physics I	Opt 2	5

Health Emphasis

Required Courses

BIO 112	General Biology I		4
PEH 141	First Aid		2
MAT 157	Statistics		4
MKT 110	Principles of Marketing		3
PSY 121	Developmental Psychology		3
PSY 261	Human Sexuality		3
Any AS degree Core Humanities			6
Any AS degree Core Social Sciences			3
Elective			2

Sports Management Emphasis

Required Courses

ACC 131	Principles of Accounting I		4
PEH 255	Principles–Sports Management		3
MAT 157	Statistics		4
MGT 101	Principles of Management		3
MKT 110	Principles of Marketing		3
SOC 110	Introduction to Sociology		3
Any AS degree Core Humanities			3
Elective			2

Option Courses–Select 1 Course From Option 3

PSY 111	Introduction to Psychology	Opt 3	3
PSY 121	Developmental Psychology	Opt 3	3
Recommended Electives			
AGH 241	Sports Turf		2
JOU 165	Principles of Advertising		3
MKT 199	Sports/Entertainment Marketing		3
PEC 110	Coaching, Ethics, Tech & Theory		1
PEH 110	Personal Wellness		2
PEH 178	Sports Diversity		3
PEC 161	Sports Officiating		3
PEH 262	Wellness Programming/Planning/Organization		3
PEH 120	Principles: Personal Training I		3

Total credits required to complete this program with a:

Fitness Management Emphasis	**65**
Health Emphasis	**66**
Sports Management Emphasis	**64**

Gerontology Specialist

(see Certificate section, page 97)

Graphic Design (previously Commercial Art)

The Graphic Design 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, web design, 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 design studios, advertising agencies, in-house art departments, printing companies, publishing firms and other businesses in need of creative communications.

Location: Ankeny

Program Entry Requirements

Complete an application and attend a Graphic Design 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, but some courses are available summer term.

Graduation Requirements

To earn a Graphic Design AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Required Courses

GRD 401	Graphic Design Orientation		3
GRD 403	Communication Design I		3
GRD 404	Typography II		3
GRD 405	Typography I		3
GRD 407	Production Art I		3
GRD 410	Illustration I		3
GRD 411	Communication Design II		3
GRD 415	Production Art II		3
GRD 421	Internship Preparation		2
GRD 424	Graphic Design Internship I		3
GRD 426	Communication Design III		3
GRD 430	Production Art III		3
GRD 436	Portfolio Preparation I		3
GRD 437	Communication Design IV		3
GRD 440	Production Art IV		3
GRD 444	Portfolio Preparation II		3
GRD 459	Computer Graphics		3
GRD 463	Electronic Photo Editing		3
GRD 301	Intro to Desktop Publishing		3

Option Courses–Select 2 Courses from Option 1

GRD 414	Illustration II	Opt 1	3
GRD 419	Lettering and Sign Art	Opt 1	2
GRD 425	Graphic Design Internship II	Opt 1	3

GRD 428	Illustration III	Opt 1	3
GRD 449	Airbrush I	Opt 1	4
GRD 451	Airbrush II	Opt 1	4
GRD 462	Computer Graphics II (Web Design)	Opt 1	3
GRT 400	Intro to Printing Methods	Opt 1	4
GRT 401	Intro to Graphic Communication	Opt 1	3
GRT 416	Desktop Publishing II	Opt 1	3
GRT 425	Electronic Image Control	Opt 1	4
ART 292	Studio Photography	Opt 1	3
MKT 150	Principles of Advertising	Opt 1	3

Option Courses–Select 1 Course from Each Option

AAS degree Core Communications	Opt 2	3
AAS degree Core Social & Behavioral Sciences/Humanities (ART 184 or ART 186 recommended)	Opt 3	3
AAS degree Core Mathematics or Sciences	Opt 4	3
AAS degree Core Distributed Requirement	Opt 5	3

Total minimum credits required to complete this program 73

Graphic Sales and Customer Service

(see Certificate section, page 97)

Graphic Technologies

The Graphic Technologies program 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, 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, students 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 and other companies in need of individuals with printing and digital publishing expertise.

Location: Ankeny

Program Entry Requirements

Complete an application and attend a Graphic Technologies Information Session. Students must obtain a minimum score of 42 in English and 25 in 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 coursework as prescribed and maintain a 2.0 grade point average.

Term 1–Select 1 Course from Option 1

GRT 400	Intro to Printing Methods	4
GRT 401	Intro to Graphic Communication	3
GRT 406	Digital Publishing I	3
BCA 212	Intro to Computer Business Appl	3
AAS	Core Communications	3

Term 2

GRT 410	Printing Methods I	4
GRT 409	Project Planning & Management	3
GRT 421	Electronic Prepress I	4
GRT 416	Desktop Publishing II	3
AAS Core Social & Behavioral Sciences/Humanities		3
MGT 145 or PSY 102 or ART 184 recommended		

Term 3

- Students who choose an emphasis in Printing Technologies should select Option 1.
- Students who choose an emphasis in Digital Publishing should select Option 2.
- All students must choose one course from the Option 4 course list.

GRT 420	Advanced Printing Methods	Opt 1	4
GRT 427	Specialty Printing Methods	Opt 1	4
GRT 425	Electronic Image Control	Opt 2	4
GRT 426	Digital Publishing III	Opt 2	4
AAS Core Math & Sciences (MAT 772 or BUS 112 recommended)			3
Option 4 Course (see list of courses below)			3

Total credits required to complete the diploma 47

Term 4

- Students must successfully complete all GRT courses in terms 1, 2 and 3 before enrolling in term 4 courses.
- Students who chose a printing technologies emphasis in term 3 should select GRT 453.
- Students who chose a digital publishing emphasis in term 3 should select GRT 455 for 4 credits.
- All students must select 1 Course from the Option 4 Course List (see list of courses below).

GRT 453	Printing Methods Capstone	Opt 3	4
GRT 455	Digital Publishing Capstone	Opt 3	4
GRT 431	Electronic Prepress II		4
GRT 932	Internship (variable credit)		3-4
AAS Core Distributed Requirement			3
Option 4 Course (see list of courses below)			3

Option 4 Course List:

ART 184	Principles of Photography	Opt 4	3
ART 186	Principles of Digital Photography	Opt 4	3
MKT 110	Principles of Marketing	Opt 4	3
MKT 140	Selling	Opt 4	3
MKT 150	Principles of Advertising	Opt 4	3
MGT 130	Principles of Supervision	Opt 4	3

JOU 125	Newspaper Production	Opt 4	3
GRD 403	Communication Design I	Opt 4	3
GRD 405	Typography I	Opt 4	3
GRD 462	Computer Graphics II	Opt 4	3
ADM 259	Professional Development	Opt 4	3
CIS 207	Fund of Web Programming	Opt 4	3
BCA 213	Inter Computer Business Appl	Opt 4	3
CIS 204	Intro to Website Development	Opt 4	3
Total credits required to complete the AAS degree			**64**

Greenhouse Production

(see Certificate Section, page 98)

Heating, Air Conditioning, 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 coursework as prescribed and maintain a 2.0 grade point average.

Term 1

HCR 307	Fundamentals of Refrigeration		5
HCR 260	HVAC Trade Skills I		3
HCR 404	Electricity		5
MAT 772	Applied Math		3

Term 2–Select 1 Course from Option 1

HCR 253	Residential Heating and AC		5
HCR 440	Electrical Controls and Circuits		5
HCR 515	Sheet Metal Fabrication		3
ENG 105	Composition I	Opt 1	3
COM 703	Communication Skills	Opt 1	3

Term 3

HCR 256	Applied Heating and AC		5
HCR 932	Internship		4
Total credits required to complete the diploma			**41**

Term 4

HCR 270	Advanced Heating and AC		5
HCR 506	Air Distribution		3
HCR 717	Blueprint Reading		3
PHY 710	Technical Physics		3

Term 5–Select 1 Course from Option 2

HCR 290	Commercial HVAC and Refrigeration		5
HCR 840	Computer Load Calculations		2
HCR 803	Environmental Controls		5
MGT 145	Human Relations in Business	Opt 2	3
PSY 111	Introduction to Psychology	Opt 2	3
SOC 110	Introduction to Sociology	Opt 2	3
SOC 115	Social Problems	Opt 2	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 term.

Graduation Requirements
To earn a Hospitality Business diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Term 1

COM 703	Communication Skills	3
HCM 100	Sanitation and Safety	2
HCM 200	Dining Room Service	2
HCM 320	Intro to Hospitality Industry	2
MGT 145	Human Relations in Business	3
ADM 131	Office Calculators	1
ADM 105	Intro to Keyboarding	1

Term 2

BUS 112	Business Math	3
HCM 143	Food Preparation I	3
HCM 104	Sanitation and Equipment Lab	1
HCM 144	Food Preparation I Lab	3
MKT 140	Selling	3
BCA 212	Intro to Computer Business Appl	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.

SDV 153	Pre-Employment Strategies		2
HCM 510	Work Experience		3
HCM 152	Food Preparation II (Lec)	Opt 1	2
HCM 153	Food Preparation II Lab	Opt 1	2
MKT 110	Principles of Marketing	Opt 2	3
Total minimum credits required to complete this program			**38**

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 student's 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 session. Students start fall term.

Graduation Requirements
To earn a Hotel and Restaurant Management AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Required Courses

Term 1–Select 1 Course from Option 1

HCM 100	Sanitation and Safety		2
HCM 200	Dining Room Service		2
HCM 320	Intro to Hospitality Industry		2
MGT 145	Human Relations in Business		3
ADM 131	Office Calculators		1
ADM 105	Intro to Keyboarding		1
COM 703	Communication Skills	Opt 1	3
Any ENG course designated as Core		Opt 1	3

Term 2–Select 1 Course from Option 2

HCM 143	Food Preparation I		3
HCM 104	Sanitation and Equipment Lab		1
HCM 144	Food Preparation I Lab		3
MKT 140	Selling		3
BCA 212	Intro Computer Business Appl		3
BUS 112	Business Math	Opt 2	3
Any MAT course designated as Core		Opt 2	3

Term 3

SDV 153	Pre-Employment Strategies		2
HCM 510	Work Experience		3

• Students seeking a restaurant management emphasis should select the option 3 courses.

HCM 152	Food Preparation II	Opt 3	2
HCM 153	Food Preparation II Lab	Opt 3	2

• Students seeking a hotel management emphasis should select the option 4 course.

MKT 110	Principles of Marketing	Opt 4	3

Term 4

Terms 1, 2 & 3 must be completed before enrolling in terms 4 & 5.

All students must take the following three courses:

ACC 111	Intro to Accounting		3
BUS 148	Small Business Management		3
HCM 250	Purchasing (Lec)		2

• Students seeking a restaurant management emphasis should select the option 5 courses.

HCM 210	Dining Management (Lec)	Opt 5	2
HCM 167	Culinary Skill Development	Opt 5	3

• Students seeking a hotel management emphasis should select option 6 courses.

HCM 604	Hotel Services Internship	Opt 6	5
HCM 600	Intro to Lodging Operations	Opt 6	2

Term 5

All students must take the following two courses.

HCM 231	Nutrition		2
HCM 240	Menu Planning & Design (Lec)		2

• All students must select one course from option 7.

SPC 101	Fundamentals of Oral Communication	Opt 7	3
Any SPC course designated as Core		Opt 7	3

• Students seeking a restaurant management emphasis should select the option 8 course.

HCM 300	Beverage Management	Opt 8	2

• Students seeking a hotel management emphasis should select the option 9 course.

HCM 605	Hotel Administration	Opt 9	2

• All students must select one course from the option 10 courses.

BUS 102	Intro to Business	Opt 10	3
BUS 185	Business Law I	Opt 10	3
MGT 130	Principles of Supervision	Opt 10	3
MGT 101	Principles of Management	Opt 10	3

Total minimum credits required to complete this program 63

Human Resource Management

(see Certificate Section, page 98)

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.

A specialization certificate is offered in chemical dependency counseling.

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, hospitals, supported living and work programs and state or county departments of social services.

Locations: Ankeny, Newton, 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

HSV 109	Introduction to Human Services	3
HSV 230	Community Organization	3
HSV 220	Survey Mental Health Treatment	3
HSV 130	Interviewing/Interpersonal Relations	3
HSV 286	Intervention Theories/Practice I	3
HSV 287	Intervention Theories/Practice II	3
HSV 802	Field Experience	3
HSV 185	Discrimination and Diversity	3
PSY 121	Developmental Psychology	3
PSY 241	Abnormal Psychology	3

Option Courses–Select 2 Courses from Option 1 and 1 Course from Option 2

ANT 100	Introduction to Anthropology	Opt 1	3
PHI 105	Introduction to Ethics	Opt 1	3
POL 112	American State & Local Government	Opt 1	3
HSV 135	Counseling with Women	Opt 1	3
HSV 813	Pract: Chemical Depend Counseling I	Opt 1	3
HSV 814	Pract: Chemical Depend Counseling II	Opt 1	3
HSV 255	Addictive Disease Concepts	Opt 1	3
SOC 120	Marriage and Family	Opt 1	3
SOC 200	Minority Group Relations	Opt 1	3
SOC 230	Juvenile Delinquency	Opt 1	3
SOC 240	Criminology	Opt 1	3
SOC 225	Social Gerontology/Applications	Opt 1	4
PSY 111	Introduction to Psychology	Opt 1	3
PSY 251	Social Psychology	Opt 1	3
PSY 102	Human and Work Relations	Opt 1	3
PSY 291	Principles of Behavior Modification	Opt 1	3
PSY 261	Human Sexuality	Opt 1	3
PSY 281	Educational Psychology	Opt 1	3
SOC 110	Introduction to Sociology	Opt 2	3
SOC 115	Social Issues	Opt 2	3

Complete Remaining AS degree Core Requirements 28

Total minimum credits required to complete this program 67

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 coursework as prescribed and maintain a 2.0 grade point average.

Term 1

MAT 772	Applied Math	3
CSC 110	Introduction to Computers	3
MFG 276	Hand & Bench Machine Tools	1
ELT 303	Principles of Electricity	3

Select Emphasis 1 or Emphasis 2:

Emphasis 1 Manufacturing Maintenance Technologies		
MFG 121	Machine Trade Printreading I	2
CON 336	Care/Use of Hand/Power Tools	1
Emphasis 2 Biomass Maintenance Technologies		
BPT 102	Intro to Biomass Process Tech	2
RRO 101	Railcar Safety	2

Term 2

MAT 773	Applied Math II	3
COM 703	Communication Skills	3
IND 146	Mechanical Power Transmission I	3
ELT 134	Motor Controls	3
Emphasis 1 Manufacturing Maintenance Technologies		
MGT 164	Total Quality Management	3
Emphasis 2 Biomass Maintenance Technologies		
BPT 111	Biomass Equipment and Systems	3

Term 3

IND 147	Mechanical Power Transmission II	4
Emphasis 1 Manufacturing Maintenance Technologies		
MFG 250	Engine Lathe Theory	1
MFG 251	Engine Lathe Operations Lab	2
MFG 260	Mill Operations Theory	1
MFG 261	Mill Operations Lab	2
Emphasis 2 Biomass Maintenance Technologies		
BPT 112	Biomass Tech Health/Safety	3
BPT 125	Piping & Instrument Diagrams	2

Term 4

ELE 141	Advanced Motor Controls	3
ELT 791	Hydraulics & Pneumatics	3
ELT 792	Hydraulics & Pneumatics Lab	2
IND 144	Pump Overhaul and Repair	4
Emphasis 1 Manufacturing Maintenance Technologies		
BMA 177	Industrial Plumbing & Pipefitting	3
Emphasis 2 Biomass Maintenance Technologies		
BMA 167	Steam Plant Operations	2

Term 5

MFG 172	Related Welding–Indust Maint	3
ELT 119	Programmable Logic Controllers	3
MGT 145	Human Relations in Business	3
CAD 119	Intro to Computer -Aided Drafting	3
Emphasis 1 Manufacturing Maintenance Technologies		
MFG 524	PM & Diagnosing Mech/Elec Sys	3
Emphasis 2 Biomass Maintenance Technologies		
BPT 128	Operator Biomass Lab Process	3

Total minimum credits required to complete this program 66

Information Processing Support

(see Certificate Section, page 98)

Information Technology/Network Administration

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. In addition, students may also prepare for CISCO certification by choosing to take the CISCO option courses. The modular design of the 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 session.
3. Complete the required COMPASS testing, obtaining a satisfactory score in pre-algebra (44 or higher) or ACT scores with a math sub score of 19 or higher, or completion of MAT 053 with a grade of "C" or better.
4. Successful completion of CSC 110 Intro to Computers or equivalent; or approval of the program counselor.

Students start fall term.

Graduation Requirements
To earn an Information Technology Network Administration AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

All students take the first three terms.

Term 1–Select 1 Course from Each Option

NET 144	Digital & Computer Electronics		3
NET 213	CISCO Networking		4
MGT 145	Human Relations in Business	Opt 1	3
PSY 102	Human & Work Relations	Opt 1	3
ENG 105	Composition I	Opt 2	3
COM 703	Communication Skills	Opt 2	3
ELT 106	Basic Math for Electronics	Opt 3	3
ELT 108	Math for Electronics & Computers	Opt 3	4
BUS 211	Business Statistics	Opt 3	4
Any AA/AS degree Core MAT		Opt 3	3–4

Term 2

NET 123	Computer Hardware Basics		4
NET 223	CISCO Routers		4
NET 402	Linux Network Administration		3
CIS 130	Computer Programming		3
Select 1 Course from AA/AS degree Core Social & Behavioral Sciences/Humanities		Opt 4	3–4

Term 3

NET 623	Network Applications		4
NET 628	Network Applications Lab		2
NET 139	MCSE Desktop Operating System		4

After Term 3, students must declare a Microsoft or Linux emphasis and take the respective Microsoft or Linux courses. To fulfill the program credit requirements, the student must select courses from the option list.

By selecting all CISCO courses as options, the student will be prepared to test for CISCO CCNA certification.

For Microsoft Specialization, students must complete the following:

Term 4

NET 333	Implementing Network Windows Infrastructure		3
NET 664	MS Windows Professional/Server		5
NET 343	Windows Directory Services		3
Courses from the Option 5 Course List		Minimum	2

Term 5

Courses from the Option 5 Course List		Minimum	12

For Linux Specialization, students must complete the following:

Term 4

NET 412	Linux System Administration		3
NET 512	Linux Enterprise Administration I		3
CIS 210	Web Development I		3
Courses from the Option 5 Course List		Minimum	3

Term 5

NET 432	Linux System Security		3
NET 422	Linux System Programming		3
CIS 211	Web Development II		3
Courses from the Option 5 Course List		Minimum	3

Option 5 Courses

NET 233	CISCO Switches		4
NET 243	CISCO Wide Area Networks (WAN)		4
NET 324	Windows Network Management		4
NET 333	Imp Windows Network Infrastructure		3
NET 343	Windows Directory Service		3
NET 365	Design MS Active Dir & Network		3
NET 376	Designing Security for MS Net		3
NET 412	Linux System Administration		3
NET 422	Linux System Programming		3
NET 432	Linux Network Security		3
NET 434	Linux Systems and Certification		3
NET 435	Linux Programming for Administration		3
NET 436	Linux Network Programming		3
NET 512	Linux Enterprise Admin I		3
NET 532	Linux Enterprise Administration II		3
NET 612	Fund of Network Security		3
NET 653	Microsoft Exchange Server		4
NET 664	MS Windows Prof/Server		5

NET 711	Internetworking MS TCP/IP	3
NET 715	Database Security & Auditing	3
NET 730	Computer Forensics & Inv.	3
NET 932	Internship	3
CIS 178	Java Programming I	2
CIS 179	Java Programming II	2
CIS 210	Web Development I	3
CIS 211	Web Development II	3
CIS 303	Introduction to Database	3

Minimum number of credits required to complete this degree – Linux specialization **67**

Minimum number of credits required to complete this degree – Microsoft specialization **68**

Interior Design Consultant

(see Certificate Section, page 98)

Interpretation and Translation

The Interpretation and Translation program prepares functionally bilingual students for entry-level employment in the rapidly expanding language interpretation and translation field or for transfer to a four-year degree program in translation/interpretation studies. At the completion of the program, students will be able to provide basic interpreting and translation service between English and their other language(s) in general contexts, as well as in at least one specialty area: judicial or healthcare. The program is designed for students who wish to add interpretation and translation skills to their current set of job skills, as well as those students who wish to prepare themselves for the certification exams and further academic studies that are necessary to become professional interpreters and translators.

Students in the program complete general education core requirements, a generalist track in interpretation/translation, and one of the following emphases in interpretation/translation: judicial or healthcare. All students complete an internship under the supervision of a professional interpreter/translator, 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 Interpretation and Translation-Generalist Certificate, plus one or both of the following: Interpretation and Translation-Judicial Certificate or Interpretation and Translation-Healthcare Certificate.

A program chairperson and a program counselor are available to assist students with educational and career planning.

Graduates of the Interpretation and Translation program may find employment in the courts, law enforcement agencies, healthcare institutions, social services agencies, educational institutions, nonprofit organizations, government agencies and businesses. The program also prepares students for certification exams or for further studies in the field.

Location: Urban
Selected courses in this program may be offered at other campuses or through distance learning.

Program Entry Requirements

1. Complete an application.
2. Attend any required information/registration session or a program conference.
3. Provide evidence of proficiency in English with one of the following:
   a. ACT score on the English subtest of 19 or above
   b. A minimum COMPASS writing score of 70
   c. Completion of ENG 105 with a grade of "C" or better
   d. TOEFL score of 173 on the computer test or 500 on the paper test
   e. Completion of two years of college study with a minimum GPA of 2.0 (or equivalent) at an institution where English is the medium of instruction
   f. Other evidence demonstrating English proficiency may be approved by the program chair
4. Show proficiency in a second language with one of the following:
   a. Evidence of completion of high school in a country where the second language is spoken
   b. Two years of college study with a minimum GPA of 2.0 (or equivalent) at an institution in a country where the second language is spoken
   c. Completion of a college minor in the second language with a minimum grade of "C" for all courses taken in the second language
   d. Proficiency may be demonstrated with other evidence, but must be approved by the program chair

Note: Students will need computer skills to be successful in the program. If students do not have these skills, completion of CSC 110 or BCA 212 is strongly recommended.

Students start any term; however, close contact with an academic advisor is recommended for planning, because many courses are only offered once per year.

Graduation Requirements
To earn an Interpretation and Translation AS degree, a student must complete the standard core requirements for the degree, plus the Interpretation and Translation required courses and options, maintain a 2.0 grade point average and receive a grade of "C" or above in all ITR coursework.

Required Courses

Complete AS degree Core Requirements		**28**
ITR 101	Introduction to Interpretation and Translation	3
ITR 102	Tools for the Interpreter and Translator	3
ITR 111	Fundamentals of Interpretation	3
ITR 115	Fundamentals of Translation	3
ITR 910	Emphasis Seminar	3
ITR 120	Ethics for the Interpreter/Translator	1

In addition to the required courses, students are required to select one of the following Emphasis Options:

Judicial Interpretation/Translation Emphasis
(17 credits)

PRL 103	Introduction to Law	3
ITR 128	Legal Terminology & Sight Translation	3
ITR 130	Judiciary Interpreting I	3
ITR 132	Judiciary Interpreting II	3
ITR 137	Judiciary Translation	3
ITR 800	Judiciary Interpreting/Translation Internship	2
Electives		3

Students in the Judiciary Interpreting/Translation Emphasis are encouraged to take POL 111 or POL 112 as part of their core requirements, and PRL 112 as their elective choice.

Healthcare Interpreting/Translation Emphasis
(17 credits)

BIO 156	Human Biology w/Lab	3
ITR 148	Healthcare Terminology & Sight Translation	3
ITR 150	Healthcare Interpreting I	3
ITR 152	Healthcare Interpreting II	3
ITR 158	Healthcare Translation	3
ITR 810	Healthcare Interpreting & Translation Internship	2
Electives		3

Students in the Healthcare Interpreting/Translation Emphasis are encouraged to take CHM 105 as part of their core requirements, and BIO 733 or BIO 734 as their elective choice.

Total minimum credits required to complete this program 64

Interpretation and Translation-Generalist, Healthcare, Judiciary

(see Certificate Section, page 98-100)

Land Surveying

The Land Surveying program prepares students for a career as a land surveyor in the state of Iowa. This program is designed to fill an increasing demand for technically skilled people in the land surveying field, and demand is expected to continue well into the 21st century. A graduate of this program may be eligible to sit for the Iowa Professional Land Surveying exam after completing state licensing board requirements.

Career opportunities are with surveying firms; construction firms; consulting engineering firms; federal, state and local government agencies; and many other areas of the private sector that support the surveying industry. 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.

- Students must have earned a grade of "C" or above in a high school Algebra course.
- Or be placed in MAT 773 by the results of a COMPASS test.

If students are not placed in MAT 773, they will be required to take remedial math courses to be brought up to the level of MAT 773 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 coursework. If starting other than fall, please contact the Land Surveying department.

Graduation Requirements
To earn a Land Surveying AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Required Courses

CET 102	Fundamentals of Civil Engineering	3
CET 119	Survey I	3
CET 135	Material I	3
CET 138	Construction I	3
CET 169	Survey II	4
CET 178	Automated Design I	4
CET 219	Survey III	4
SRV 120	U.S. Public Lands Survey System	5
SRV 215	Intro to Land Information Systems	2
SRV 220	Boundary Surveying	3
SRV 225	Surveying Ethics	2
SRV 230	Land Subdivision	3
SRV 235	Intro to Geodesy	5
SRV 240	Boundary Law	4
MAT 773	Applied Math II	3
CSC 110	Introduction to Computers	3
BUS 185	Business Law I	3
SRV 305	Field Coop	5

With faculty approval, students may take the following in place of SRV 305:

CET 307	Field Orientation	2
AND 1 of the following courses:		
MGT 145	Human Relations in Business	3
OR		
PSY 111	Introduction to Psychology	3

Option Courses–Select Both Option 1 Courses, OR Both Option 2 Courses, AND 1 Course from Option 3

COM 703	Communication Skills	Opt 1	3
ENG 105	Composition I	Opt 1	3
ENG 105	Composition II	Opt 2	3
ENG 108	Comp II: Technical Writing	Opt 2	3
PSY 111	Introduction to Psychology	Opt 3	3
MGT 145	Human Relations in Business	Opt 3	3
PSY 102	Human and Work Relations	Opt 3	3

Total credits required to complete AAS degree 71

Recommended Electives (not required for the degree)

SPC 101	Fund of Oral Communication	3
MAT 130	Trigonometry	3
MGT 145	Human Relations in Business	3
ACC 111	Intro to Accounting	3
BUS 148	Small Business Management	3
BUS 186	Business Law II	3
HIS 201	Iowa History	3

Landscape Design (see Certificate Section, page 100)

Law

Students planning to major in pre-law or go to law school after receiving a bachelor's degree at a four-year college/university can satisfy many of their general education requirements at Des Moines Area Community College. Since degree requirements vary at senior institutions, students should become familiar with the specific course requirements of their selected transfer institution. Students are also encouraged to contact the four-year major advisor as early as possible to develop a transfer plan. DMACC advisors and/or counselors can also help by providing transfer materials and course planning assistance.

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.
BCA 212 Intro Computer Business Applications is highly recommended as a developmental course.

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 PRL coursework.

Required Courses

Complete AS degree Core Requirements			**28**
PRL 103	Introduction to Law		3
PRL 131	Torts & Litigation I		3
PRL 141	Business & Corporate Law I		3
PRL 280	Legal Internship & Ethics		4
PRL 112	Legal Research and Writing I		3
PRL 113	Legal Research and Writing II		3
Option Courses–Select 15 Credits From Option 1			
PRL 132	Torts & Litigation II	Opt 1	3
PRL 161	Family Law	Opt 1	3
PRL 142	Business & Corporate Law II	Opt 1	3
PRL 151	Real Estate Law	Opt 1	3
PRL 167	Probate Procedure	Opt 1	3
PRL 169	Wills, Estate Planning & Taxation	Opt 1	3
PRL 171	Administrative Practice	Opt 1	3
PRL 125	Evidence: Theory and Practice	Opt 1	3
PRL 137	Debtor/Creditor Law	Opt 1	3
PRL 118	Computerized Legal Research	Opt 1	1
PRL 114	Adv Legal Research and Writing	Opt 1	3
PRL 182	Mediation	Opt 1	3
ACC 261	Income Tax Accounting	Opt 1	3
CSC 110	Intro to Computers	Opt 1	3
CRJ 130	Criminal Law	Opt 1	3
CRJ 132	Constitutional Law	Opt 1	3
HSV 130	Interviewing/Interpersonal Relations	Opt 1	3
Elective Courses			
Electives			2
Total credits required to complete this program			**64**

Legal Assistant

(see Certificate Section, page 101)

Long-Term Care Administrator

(see Certificate Section, page 101)

Machinist Technology

(see Tool & Diemaking, page 90)

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.

Coursework 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.

Graduation Requirements
To earn a Management AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Required Courses

MGT 130	Principles of Supervision	3
MGT 101	Introduction to Management	3
MKT 145	Sales Management	3
MGT 128	Organizational Behavior	3
MGT 170	Human Resource Management	3
MGT 802	Business Internship Seminar I	2
MGT 800	Business Internship I	6
MGT 194	Relationship Strategies in Business	2
MGT 164	Total Quality Management	3
MGT 147	Leadership Development	3
MKT 110	Principles of Marketing	3
MKT 140	Selling	3
SDV 153	Pre-Employment Strategies	2

Option Courses–Select 1 Course from Options 1–6 and 3 Courses from Option 7

CSC 110	Intro to Computers	Opt 1	3
GRD 301	Intro to Desktop Publishing	Opt 1	3
BCA 212	Intro to Computer Applications	Opt 1	3
ENG 105	Composition I	Opt 2	3
COM 703	Communication Skills	Opt 2	3
ACC 131	Principles of Accounting I	Opt 3	4
ACC 111	Intro to Accounting	Opt 3	3
SPC 101	Fundamentals of Oral Communication	Opt 4	3
SPC 126	Interpersonal & Small Group Comm	Opt 4	3
MGT 145	Human Relations in Business	Opt 5	3
PSY 111	Intro to Psychology	Opt 5	3
BUS 112	Business Math	Opt 6	3
MAT 141	Finite Math	Opt 6	4
MGT 248	Systems & Information Management	Opt 7	3
BUS 102	Intro to Business	Opt 7	3
BUS 148	Small Business Management	Opt 7	3
BUS 150	E-Commerce on the Web	Opt 7	3
BUS 278	Employment Law	Opt 7	3
MKT 160	Principles of Retailing	Opt 7	3
BUS 185	Business Law I	Opt 7	3
ECN 120	Principles of Macroeconomics	Opt 7	3
ACC 132	Principles of Accounting II	Opt 7	4

Total minimum credits required to complete this program 66

Management

(see Certificate Section, page 101)

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 session. Submit evidence of grade "C" or better in one year of high school Algebra or equivalent (DMACC Academic Achievement Center Algebra I & II or MAT 063). Students start any term.

Graduation Requirements
To earn a Management Information Systems (MIS) AS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Term 1

ACC 131	Principles of Accounting I		4
CIS 125	Computers and Program Logic w/Lang		3
CSC 110	Intro to Computers		3
ENG 105	Composition I		3
Any AA/AS Degree Core BIO, CHM, ENV or PHY course			4

Term 2

CIS 152	Data Structures		3
CIS 402	COBOL		3
ACC 132	Principles of Accounting II		4
ENG 106	Composition II		3
SPC 101	Fund of Oral Communication		3

Term 3–Select 1 Course from Option 1

CIS 505	Structured Systems Analysis		4
CIS 604	Visual Basic		3
CIS 303	Introduction to Database		3
ECN 120	Principles of Macroeconomics		3
MAT 141	Finite Mathematics	Opt 1	4
BUS 211	Business Statistics	Opt 1	4

Term 4–Select 2 Courses from Option 2

CIS 154	Computational Structures		3
ECN 130	Principles of Microeconomics		3
AA/AS degree Core Humanities course			3
AA/AS degree Core Distributed course			4
CIS 413	COBOL II	Opt 2	3
CIS 182	JSP and Servlets	Opt 2	3
CIS 215	Server Side Web Programming	Opt 2	3
CIS 588	Computer Organization	Opt 2	3
CIS 612	Advanced Visual Basic	Opt 2	3
CIS 332	Database and SQL	Opt 2	3
CIS 338	SQL/Oracle	Opt 2	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. 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 session. Students start fall term.

Graduation Requirements
To earn a Manufacturing Technology AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Term 1			
MFG 523	Controlling Mfg. Business Costs		2
COM 703	Communication Skills		3
MAT 772	Applied Math		3
MFG 171	Manufacturing Welding I		2
MFG 121	Machine Trade Printreading I		2
MFG 105	Machine Shop Measuring		3
Term 2			
MFG 250	Engine Lathe Theory		1
MFG 251	Engine Lathe Operations Lab		2
MFG 260	Mill Operations Theory		1
MFG 261	Milling Operations Lab I		2
MFG 132	Machine Trade Printreading II		3
MFG 350	CNC Lathe Operations Theory		1
MFG 351	CNC Lathe Operations Lab		2
MFG 330	CNC Mill Operations Theory		1
MFG 331	CNC Mill Operations Lab		2
Term 3			
MFG 818	IMT Internship		5
MFG 152	Related Welding Blueprint–Mfg. Tech		1
WEL 181	Gas Metal Arc Welding		2
Term 4–Select 1 Course from Option 1			
MGT 164	Total Quality Management		3
CAD 119	Intro Computer-Aided Drafting/CADD		3
ELT 721	Robotics		2
ELT 303	Principles of Electricity		3
MGT 145	Human Relations in Business	Opt 1	3
PSY 102	Human and Work Relations	Opt 1	3
Term 5			
MFG 521	Measuring Devices–SPC		1
CAD 125	Intermediate CADD–Mechanical		3
CAD 139	Introduction to CAD/CAM		3
IND 124	Control Systems Overview		2
MAT 773	Applied Math II		3
MFG 200	Intro 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 of this and more. You could be working for some of the fastest-growing companies and brightest leaders in business. By using your skills and creativity, you will become part of the future in American business.

Coursework 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-to-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

MKT 110	Principles of Marketing	3
MKT 140	Selling	3
MKT 150	Principles of Advertising	3
MKT 115	Business-to-Business Marketing	3
MKT 141	Advanced Selling Strategies	3
MKT 160	Principles of Retailing	3
APP 111	Visual Merchandising & Design	3
MGT 130	Principles of Supervision	3
MGT 147	Leadership Development	3
MGT 800	Business Internship I	6
MGT 802	Business Internship Seminar I	2
MGT 805	Business Internship II	4
MGT 807	Business Internship Seminar II	1
MGT 194	Relationship Strategies in Business	2
SPC 101	Fund of Oral Communications	3
SDV 153	Pre-Employment Strategies	2

Option Courses–Select 1 Course From Each Option

CSC 110	Intro to Computers	Opt 1	3
GRD 301	Intro to Desktop Publishing	Opt 1	3
BCA 212	Intro to Business Computer Appl	Opt 1	3
BUS 112	Business Math	Opt 2	3
MAT 141	Finite Mathematics	Opt 2	4
ENG 105	Composition I	Opt 3	3
COM 703	Communication Skills	Opt 3	3
ACC 131	Principles of Accounting I	Opt 4	4
ACC 111	Intro to Accounting	Opt 4	3
MKT 165	Retail Management II	Opt 5	3
ECN 120	Principles of Macroeconomics	Opt 5	3
MGT 101	Principles of Management	Opt 5	3
BUS 148	Small Business Management	Opt 5	3
MGT 145	Human Relations in Business	Opt 6	3
PSY 111	Intro to Psychology	Opt 6	3
MKT 199	Sports/Entertainment Marketing	Opt 7	3
BUS 150	E-Commerce on the Web	Opt 7	3
MKT 120	E-Marketing	Opt 7	3
MKT 182	Customer Relationship Mgmt	Opt 7	3
Total minimum credits required to complete this program			**68**

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 multiskilled 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 Assisting program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Curriculum Review Board of the American Association of Medical Assistants Endowment (AAMAE). Commission on Accreditation of Allied Health Education Programs, 1361 Park Street, Clearwater, FL 33756. Phone 727-210-2350. DMACC graduates are eligible to take the certification examination (CMA (AAMA)) given by the Certifying Board of the American Association of Medical Assistants. Graduates are also able to take 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 session. Submit evidence of grade "C" or better in one year of high school Biology or equivalent (DMACC Academic Achievement Center Biology I & II or BIO 156). 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 coursework as prescribed and maintain a 2.0 grade point average. A grade of 2.0 (C) or better is required in all MAP 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 MAP 544 & MAP 554; MAP 225 & MAP 228; MAP 347 & MAP 348; MAP 110 & MAP 118; MAP 250 & MAP 252; and MAP 118 & MAP 130. Several courses have corequisites as listed in the catalog.

Term 1–Select 1 Course from Option 1

MAP 544	Human Body–Health and Disease I		4
MAP 129	Medical Terminology		1
MAP 225	Medical Laboratory Procedures I		4
MAP 347	Medical Office Procedures I		3
MAP 110	Medical Office Management I		2
MAP 423	Professional Development		3
ENG 105	Composition I	Opt 1	3
COM 703	Communication Skills	Opt 1	3

Term 2

MAP 554	Human Body–Health and Disease II		4
MAP 250	Diagnostic Radiography I		2
MAP 118	Medical Office Management II		4
MAP 228	Medical Laboratory Procedures II		3
MAP 348	Medical Office Procedures II		3
PSY 111	Intro to Psychology		3

Term 3

MAP 606	Professional Development III		1
MAP 252	Diagnostic Radiography II		2
MAP 130	Transcription		1
MAP 624	Practicum		5
Total credits required to complete this program			**48**

Medical Insurance and Coding

(see Certificate Section, page 102)

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 a required information/registration session or obtain the approval of the Program Chair.
- Submit to the Admissions Office evidence of high school graduation or GED prior to enrollment. Recommended GPA of 2.5 or GED of 55.
- Submit to Admissions Office evidence of grade "C" or better in one year of high school Algebra or the equivalent (MAT 063).
- Submit to the Admissions Office evidence of grade "C" or better in one year of high school Biology or the equivalent (BIO 156 or Academic Achievement Center Biology I and II).
- Submit to the Admissions Office evidence of grade "C" or better in one year high school Chemistry or the equivalent (CHM 122 or Academic Achievement Center Chemistry I and II).
- The following criteria is recommended: grade of "C" or better in high school-level Algebra II, ACT score of 20 or above, COMPASS scores (writing 70, reading 81, algebra 49).
- BIO 164 Essentials Anatomy/Physiology is a required course in the MLT program. Students are strongly encouraged to take this course or an equivalent anatomy and physiology course(s) prior to starting the MLT program. Will accept BIO 733 Health Science Anatomy and BIO 734 Health Science Physiology or BIO 168 Anatomy & Physiology I and BIO 173 Anatomy & Physiology II (or equivalent courses) in place of BIO 164 Essentials Anatomy/Physiology.
- Students start fall term.

Graduation Requirements
To earn a Medical Laboratory Technology AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. A grade of "C" or better is required in all MLT courses.

Term 1		**Select 1 Course from Options 1, 2, and 3**	
MLT 120	Urinalysis		3
MLT 115	Clinical Lab Fundamentals		3
BIO 164*	Essentials Anatomy/Physiology	*Opt 1a	5
CHM 122	Intro to General Chemistry	Opt 2	4
CHM 165	General/Inorg Chemistry I	Opt 2	4
PSY 111	Introduction to Psychology	Opt 3	3
SOC 110	Introduction to Sociology	Opt 3	3
Term 2		**Select 1 Course from Options 4 and 5**	
MLT 232	Advanced Hematology & Coagulation		5
ENG 105	Composition I		3
BIO 732	Health Science Microbiology	Opt 4	4
BIO 187	Microbiology w/Lab	Opt 4	4
CHM 132	Intro to Organic/Biochemistry	Opt 5	4
CHM 263	Organic Chemistry I	Opt 5	5
Term 3			
MLT 261	Immunohematology		5
MLT 270	Immunology & Serology		2
MLT 180	Clinical Lab Practicum I		1
Term 4		**Select 1 Course from Option 6**	
MLT 242	Clinical Chemistry		8
MLT 251	Clinical Microbiology		6
SPC 101	Fund of Oral Communication	Opt 6	3
SPC 126	Interpersonal & Small Grp Comm	Opt 6	3
Term 5			
MLT 282	Clinical Laboratory Practicum II		12
MLT 290	Clinical Seminar and Review		2
Total credits required to complete this program			**73**

***Course options for anatomy and physiology in place of BIO 164:**

BIO 733	Health Science Anatomy	Opt 1b	3
	AND		
BIO 734	Health Science Physiology	Opt 1b	3
OR			
BIO 168	Anatomy & Physiology I	Opt 1c	4
	AND		
BIO 173	Anatomy & Physiology II	Opt 1c	4

Medical Office Specialist

The Medical Office Specialist program is designed to prepare the student to work in a variety of medical settings, including hospitals/medical centers, clinics, health insurance companies and other health-related businesses. The office specialist works with administrative areas in the practice including front office, transcription, insurance and billing and is often the first contact with the patient; however, this program is not designed to prepare the student for direct patient care.

Upon successful completion of all four terms, the student is eligible to receive an AAS degree. A student completing the first three terms only is eligible to receive a diploma.

Location: Ankeny
Selected courses in this program are offered at other campuses.

Program Entry Requirements

1. Complete an application, satisfy the assessment requirement and attend any required information/registration session.
2. Complete the required COMPASS testing obtaining a satisfactory score in writing skills (70 or higher) or ACT writing score of 19 or higher or completion of ADM 157 Business English with a grade of "C" or better.
3. Keyboarding speed of 40 NWPM or above as demonstrated by a five-minute test.

Students start fall term.

Graduation Requirements
To earn a Medical Office Specialist diploma or AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average.

Term 1		
MGT 145	Human Relations in Business	3
ADM 157	Business English	3
BUS 112	Business Math	3
HSC 120*	Medical Terminology I	3
BCA 133	Word Processing Skill Development I	4
BCA 212	Intro Computer Business Applications	3
Term 2		
SDV 153	Pre-Employment Strategies	2
HSC 121*	Medical Terminology II	3
BCA 137	Word Processing Skill Dev II	3
ADM 131	Office Calculators	1

MAP 141	Medical Insurance	3
ADM 259	Professional Development	3
MTR 120	Medical Transcription I	3

Term 3

MAP 532	Human Body–Health & Disease	3
ADM 215	Medical Office Procedures	3
MTR 121	Medical Transcription II	3
Total credits required to complete the diploma		**46**

Term 4–Select 1 Course from Option 1 & Select 1 Course from Option 2

ACC 111	Intro to Accounting		3
ADM 154	Business Communication		3
MAP 803	Internship–Medical Secretaries		3
BCA 213	Intermediate Computer Business Appl		3
MAP 150	Adv Medical Billing/Coding	Opt 1	3
MTR 122	Medical Transcription III	Opt 1	3
SPC 101	Fund of Oral Communication	Opt 2	3
SPC 126	Interpersonal & Small Group Comm	Opt 2	3
Total credits required to complete AAS degree			**64**

***Challenge test available. Must earn 74%.**

Medical Transcriptionist

(see Certificate Section, page 102)

Medicine

Students planning to major in pre-med or go to medical school after receiving the bachelor's degree at a four-year college/university can satisfy many of their general education requirements at Des Moines Area Community College. Since degree requirements vary at senior institutions, students should become familiar with the specific course requirements of their selected transfer institution. Students are also encouraged to contact the four-year major advisor as early as possible to develop a transfer plan. DMACC advisors and/or counselors can also help by providing transfer materials and course planning assistance.

Microcomputers (see Certificate Section, page 102)

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 or funeral director.

The Mortuary Science program at Des Moines Area Community College is accredited by the American Board of Funeral Service Education (ABFSE, 3432 Ashland Ave., Suite U, St. Joseph, MO 64506, www.abfse.org).

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 postsecondary 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.

Location: Ankeny

Program Entry Requirements

1. Complete a DMACC Application.
2. Satisfy DMACC's general assessment requirement and attend any required information/registration session.
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) from a regionally accredited college or university, or

   b. Submit a transcript of all completed college work that indicates having earned a minimum of 64 college credits from a regionally accredited college or university with a grade average of "C" or above.
4. Submit evidence of a minimum of 15 credits earned in general education that includes one communications course, one mathematics course, and one social and behavioral science course. A listing of courses meeting these requirements can be found in the DMACC catalog or linked from the Mortuary Science program website at http://funeral.dmacc.edu.

Classes start fall term only.

Graduation Requirements

To earn a Mortuary Science–Advanced Standing diploma, a student must complete all coursework as prescribed and maintain a 2.0 grade point average, and earn a grade of "C" or above in all courses in the program.

To prevent delays in the scheduling of courses and graduation, students should complete a required human anatomy course and the required business courses (ACC 111 or ACC 131, and BUS 185) prior to beginning the MOR courses.

Required Courses–Select 1 Course from Option 1 and Option 2

ACC 131	Principles of Accounting	Opt 1	4
ACC 111	Intro to Accounting	Opt 1	3
Human Anatomy Course Approved by the Program Chair		Opt 2	3
(A list of approved Anatomy courses can be found on the program website.)			
BUS 185	Business Law I		3
MOR 305	History of Funeral Service		2
MOR 310	Pathology for Mortuary Science		3
MOR 315	Funeral Law		3
MOR 320	Thanatology		3
MOR 325	Funeral Directing		3
MOR 330	Funeral Merchandising		3
MOR 335	Embalming I		3
MOR 336	Embalming I Clinical		1
MOR 340	Embalming II		3
MOR 341	Embalming II Clinical		1
MOR 345	Restorative Art		3

MOR 346	Restorative Art Lab	1
MOR 354	Funeral Home Operations I	1
MOR 355	Funeral Home Operations II	1
MOR 360	Thanatochemistry	2
MOR 365	Survey of Infectious Disease	2
MOR 941	Practicum*	4
Total minimum credits required to complete this program		**48**

During MOR 941 Practicum, each student is required to take the National Board Exam as a graduation requirement.

The annual passage rate of first-time takers on the National Board Examination (NBE) for the most recent three-year period for this institution and all ABFSE-accredited funeral service education programs is posted on the ABFSE website (www.abfse.org).

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 in which you intend to practice. In Iowa, call 515-281-4287.

Network Security Manager

(see Certificate Section, page 102)

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, Carroll
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 Nursing information session, registration meeting and a Nursing program orientation.
3. Provide proof of completion of an approved Practical Nursing Program comparable to DMACC Practical Nursing as determined by the Director of Nursing Education and 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 DMACC's Assessment Requirement.
6. Complete Nursing program admissions testing with satisfactory minimum scores in reading, writing and mathematics.
7. Meet the minimum established score on the required PN-to-ADN Assessment Test.
8. Complete the following courses with a grade of "C" (not C-) or better in each:

   BIO 733–Health Science Anatomy
   BIO 734–Health Science Physiology
   ENG 105–Composition I
   PSY 111–Introduction to Psychology
   PSY 121–Developmental Psychology
9. Provide proof of high school graduation or GED completion.

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. Results of the criminal record/child and adult abuse registry checks will be released to the Department of Human Services, which will determine if the crime or founded abuse warrants prohibition from clinical education experience. Students unable to participate in clinical education will be unable to complete the Nursing program.

Proof of immunizations is required of all nursing students. Completion of the Student Health and Immunization Record form and current certification by either the American Heart Association CPR for the Health Care Provider or American Red Cross CPR for the Professional Rescuer are required prior to beginning clinical rotations. Proof of a current flu vaccination is required of all nursing students by January of each year.

Graduation Requirements
To earn an Associate Degree (AAS) in Nursing, a student must complete all coursework as prescribed and have a grade of "C" or above in all ADN 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 in a previous term.

Prerequisites

BIO 733	Health Science Anatomy		3
BIO 734	Health Science Physiology		3
ENG 105	Composition I		3
PSY 111	Introduction to Psychology		3
PSY 121	Developmental Psychology		3
Term 3–Select 1 Course from Option 1			
ADN 126	Passport to ADN Nursing		2
SPC 126	Interpersonal & Small Group Comm		3
BIO 732	Health Science Microbiology	Opt 1	4
BIO 187	Microbiology w/lab	Opt 1	4
Term 4			
ADN 611	Professional Nursing Practice		2
ADN 416	Family Health Nursing		5
ADN 474	Mental Health Nursing		5
SOC 110	Introduction to Sociology		3
Term 5–Select 1 Course from Option 2			
ADN 551	Adult Health Nursing		7
ADN 821	Nursing Seminar		3
HUM 116	Encounters in Humanities	Opt 2	3
LIT 101	Introduction to Literature	Opt 2	3
PHI 101	Introduction to Philosophy	Opt 2	3
PHI 110	Introduction to Logic	Opt 2	3
PHI 105	Introduction to Ethics	Opt 2	3
REL 101	Survey of World Religions	Opt 2	3
Total additional credits required to complete this program			**52**

Nursing Programs

Practical Nursing and 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 preventive care for individuals of all ages, primarily in a structured care setting such as hospitals, long-term care facilities or clinics.

Upon successful completion of Terms 1 and 2, the student is 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 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 healthcare 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, Newton–Practical Nursing only, Urban–part-time option
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 Nursing information session, registration meetings and a program orientation.
3. Complete DMACC's assessment requirement.
4. Complete required nursing program admissions testing with satisfactory minimum scores in reading, writing and mathematics.
5. Successfully complete HSC 172 plus HSC 182 or an equivalent 120-hour (or more) Certified Nurse Assistant course from an approved program–January 1992 or after.
6. Submit proof of successful completion of Nurse Aide written (NRAO 858) and skills (NRAO 859) tests for placement on the Direct Care Worker Registry.
7. Complete the following courses with a grade of "C" (not C-) or better in each:

   BIO 733 – Health Science Anatomy
   PSY 111 – Introduction to Psychology
8. Proof of high school graduation or GED completion.

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. Results of the criminal record/child and adult abuse registry checks will be released to the Department of Human Services, which will determine if the crime or founded abuse warrants prohibition from clinical education experience. Students unable to participate in clinical education will be unable to complete the Nursing program.

Proof of immunizations is required of all nursing students. Completion of the Student Health and Immunization Record form and current certification by either the American Heart Association CPR for the Health Care Provider or American Red Cross CPR for the Professional Rescuer are required prior to beginning clinical rotations. Proof of a current flu vaccination is required of all nursing students by January of each year.

Practical Nursing starts:
Ankeny, Boone–Fall and Spring Terms; Carroll, Newton–Fall Term Only; Urban–Part-time, Fall Term Only in even-numbered years

Associate Degree Nursing starts:
Ankeny, Boone–Summer, Fall Terms; Carroll–Summer Term Only; Urban–Part-time, Fall Term Only in even-numbered years

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 in a previous term.

Continuation in the Associate Degree program at the Ankeny, Boone, Carroll and Urban Campuses requires successful completion of Terms 1 and 2 of the Practical Nursing curriculum. Students who successfully complete the Practical Nursing program at Newton Campus may apply to special start into the ADN program on a different campus.

Graduation Requirements
To earn a Practical Nursing diploma, a student must complete all coursework as prescribed in Terms 1 and 2 and have "C" or above in all Nursing and support courses in the curriculum.

To earn an Associate Degree (AAS) in Nursing, a student must complete all coursework as prescribed in Terms 1–5 and have a grade of "C" or above in all PNN, ADN 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 in a previous term.

Continuation in the Associate Degree program requires successful completion of Terms 1 and 2 of the Practical Nursing curriculum.

Prerequisite		
BIO 733	Health Science Anatomy	3
PSY 111	Introduction to Psychology	3
Term 1		
BIO 734	Health Science Physiology	3
PNN 151	Fundamentals of Nursing	4
PNN 152	Nursing Practice I	4
PNN 153	Success in Nursing	2
PSY 121	Developmental Psychology	3
Term 2		
ENG 105	Composition I	3
PNN 605	Nursing Practice II	5
PNN 606	Nursing Practice III	5
PNN 351	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 in 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 and 2 prior to enrolling in ADN courses.

Term 3–Select 1 Course from Option 1

SPC 126	Interpersonal and Small Group Comm.		3
BIO 732	Health Science Microbiology	Opt 1	4
BIO 187	Microbiology w/Lab	Opt 1	4

Term 4

ADN 611	Professional Nursing Practice		2
ADN 416	Family Health Nursing		5
ADN 474	Mental Health Nursing		5
SOC 110	Introduction to Sociology		3

Term 5–Select 1 Course from Option 2

ADN 551	Adult Nursing		7
ADN 821	Nursing Seminar		3
HUM 116	Encounters in Humanities	Opt 2	3
LIT 101	Introduction to Literature	Opt 2	3
PHI 101	Introduction to Philosophy	Opt 2	3
PHI 110	Introduction to Logic	Opt 2	3
PHI 105	Introduction to Ethics	Opt 2	3
REL 101	Survey of World Religions	Opt 2	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.

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 coursework as prescribed and maintain a 2.0 grade point average.

Term 1

BUS 112	Business Math	3
MGT 145	Human Relations in Business	3
ADM 157	Business English	3
BCA 133	Word Processing Skill Development I	4
ADM 131	Office Calculators	1
BCA 212	Intro Computer Business Appl	3

Term 2

SDV 153	Pre-Employment Strategies	2
ADM 162	Office Procedures	3
ADM 154	Business Communication	3
ADM 259	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

BCA 137	Word Processing Skill Dev II	3
ADM 265	Supervised Practical Experience	2
ADM 937	Prof Office Careers Seminar	1

Information Processing Emphasis Option

BCA 137	Word Processing Skill Development II	3
BCA 213	Intermediate Computer Business Appl	3

Office Management Emphasis Option

BCA 113	Computer Network Literacy	3
MGT 115	Administrative Management	3

Bookkeeping Emphasis Option

ACC 111	Intro to Accounting	3
BCA 213	Intermediate Computer Business Appl	3

Legal Emphasis Option

BUS 185	Business Law I	3
ADM 208	Legal Terminology	3

Data Entry Emphasis Option

ADM 138	Data Entry	3
BCA 213	Intermed Computer Business Appl	3

Total credits required to complete the diploma 34

Office Specialist (see Certificate Section, page 103)

Phlebotomy (see Certificate Section, page 103)

Photography

The Photography Diploma program is designed to prepare students to be employed as commercial photographers. Students gain basic knowledge in film and digital photography, photojournalism and advanced editing processes. Current industry standard software and techniques are utilized. Students also learn to communicate with customers and consider social and environmental issues in the context of their work. The Photography diploma program will be offered starting Fall Semester 2008 pending Iowa Department of Education approval.

Locations: Ankeny

Program Entry Requirements
Complete an application, satisfy the assessment requirement and attend any required information/registration sessions. Students start any term.

Graduation Requirements
To earn a Photography Diploma, a student must complete all required coursework as prescribed and maintain a 2.0 grade point average.

FALL START

Term 1 - Fall

ART 184	Principles of Photography	3
ART 186	Principles Digital Photography	3
ART 289	Photojournalism	3

Select One Course from Option 1 and One Course from Option 2

SPC 101	Fund of Oral Communication	Opt 1	3
SPC 126	Interpersonal & Small Grp Comm	Opt 1	3
ENG 105	Composition I	Opt 1	3
BIO 104	Introductory Biology w/Lab	Opt 2	3
BIO 138	Field Ecology	Opt 2	3
ENV 115	Environmental Science	Opt 2	3

Term 2 – Spring

ART 226	Alternative Photo Processes		3
ART 291	Travel Photography		3
ART 292	Studio Photography		3
BUS 112	Business Math		3

Select One Course from Option 3

GEO 111	Introduction to Geography	Opt 3	3
HIS 153	U.S. History Since 1877	Opt 3	4
PSY 261	Human Sexuality	Opt 3	3
SOC 120	Marriage & Family	Opt 3	3
PSY 111	Introduction to Psychology	Opt 3	3

Term 3 – Summer

ART 929	Individual Projects		6

Total minimum credits required to complete this program 36

SPRING START

Term 1 – Spring

ART 184	Principles of Photography		3
ART 186	Principles Digital Photography		3
ART 289	Photojournalism		3

Select One Course from Option 1 and One Course from Option 2

SPC 101	Fund of Oral Communication	Opt 1	3
SPC 126	Interpersonal & Small Grp Comm	Opt 1	3
ENG 105	Composition I	Opt 1	3
BIO 104	Introductory Biology w/Lab	Opt 2	3
BIO 138	Field Ecology	Opt 2	3
ENV 115	Environmental Science	Opt 2	3

Term 2 – Summer

ART 226	Alternative Photo Processes		3
ART 291	Travel Photography		3
ART 292	Studio Photography		3

Term 3 –Fall

ART 929	Individual Projects		6
BUS 112	Business Math		3

Select One Course from Option 3

GEO 111	Introduction to Geography	Opt 3	3
HIS 153	U.S. History Since 1877	Opt 3	4
PSY 261	Human Sexuality	Opt 3	3
SOC 120	Marriage & Family	Opt 3	3
PSY 111	Introduction to Psychology	Opt 3	3

Total minimum credits required to complete this program 36

SUMMER START

Term 1 – Summer

ART 184	Principles of Photography		3
ART 186	Principles Digital Photography		3
ART 289	Photojournalism		3

Term 2 – Fall

ART 226	Alternative Photo Processes		3
ART 291	Travel Photography		3
ART 292	Studio Photography		3

Select One Course from Option 1 and One Course from Option 2

SPC 101	Fund of Oral Communication	Opt 1	3
SPC 126	Interpersonal & Small Grp Comm	Opt 1	3
ENG 105	Composition I	Opt 1	3
BIO 104	Introductory Biology w/Lab	Opt 2	3
BIO 138	Field Ecology	Opt 2	3
ENV 115	Environmental Science	Opt 2	3

Term 3 – Spring

ART 929	Individual Projects		6
BUS 112	Business Math		3

Select One Course from Option 3

GEO 111	Introduction to Geography	Opt 3	3
HIS 153	U.S. History Since 1877	Opt 3	4
PSY 261	Human Sexuality	Opt 3	3
SOC 120	Marriage & Family	Opt 3	3
PSY 111	Introduction to Psychology	Opt 3	3

Total minimum credits required to complete this program 36

Printing Technologies (see Certificate Section, page 103)

Production Art (see Certificate Section, page 103)

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 that affect the respiratory and cardiovascular systems. Respiratory therapists work closely with physicians to plan, provide and evaluate direct care to persons with pulmonary and cardio-vascular diseases.

The curriculum includes a variety of supervised clinical practicum experiences in local healthcare 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, which 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 MAT073 Elementary Algebra II).
- 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 CHM122 Introduction to General Chemistry).
- Submit to Admissions Office evidence of grade of "C" or above in BIO 733 Health Science Anatomy or BIO 164 Essentials Anatomy and Physiology or equivalent courses.

Students start fall term.

Graduation Requirements
To earn a Respiratory Therapy AAS degree, a student must complete all coursework as prescribed and maintain a 2.0 grade point average. A minimum of grade "C" or above is required in all RCP courses.

Term 1			
RCP 100	Intro to Respiratory Care		3
RCP 240	Respiratory Therapeautics		4
RCP 250	Cardio/Pulmonary Therapeutics		4
CHM 122	Introduction to General Chemistry		4
Term 2–Select 1 Course from Option 1			
RCP 360	Cardio/Pulmonary Renal Pathophysiology		5
RCP 400	Respiratory Therapy Pharmacology		3
RCP 700	Respiratory Therapy Practicum I		4
BIO 734	Health Science Physiology	Opt 1	3
BIO 164	Essentials Anatomy & Physiology	Opt 1	5
Term 3–Select 1 Course from Option 2			
RCP 600	Neonatal/Pediatric Respiratory Therapy		3
RCP 705	Respiratory Therapy Practicum II		5
ENG 105	Composition I	Opt 2	3
COM 703	Communication Skills	Opt 2	3
Term 4–Select 1 Course from Option 3			
RCP 500	Advanced Respiratory Therapy		5
RCP 710	Respiratory Therapy Practicum III		7
BIO 732	Health Science Microbiology	Opt 3	4
BIO 187	Microbiology w/Lab	Opt 3	4
Term 5–Select 1 Course from Option 4			
RCP 410	Cardio/Pulmonary Diagnostics		3
RCP 715	Respiratory Therapy Practicum IV		7
PSY 111	Intro to Psychology	Opt 4	3
PSY 102	Human and Work Relations	Opt 4	3
SOC 110	Introduction to Sociology	Opt 4	3
MGT 145	Human Relations in Business	Opt 4	3
Term 6			
RCP 800	Respiratory Therapy Mgmt & Ethics		3
RCP 720	Respiratory Therapy Practicum V		5
Total credits required to complete this program			**78**

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 an almost 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 of 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 coursework as prescribed and maintain a 2.0 grade point average.

Required Courses			
MKT 140	Selling		3
MKT 150	Principles of Advertising		3
MKT 160	Principles of Retailing		3
MKT 165	Retail Management II		3
APP 111	Visual Merchandising & Design		3
MGT 800	Business Internship I		6
MGT 802	Business Internship Seminar I		2
MGT 194	Relationship Strategies in Business		2
MGT 147	Leadership Development		3
SDV 153	Pre-Employment Strategies		2
Option Courses–Select 1 Course from Each Option			
ENG 105	Composition I	Opt 1	3
COM 703	Communication Skills	Opt 1	3
MKT 110	Principles of Marketing	Opt 2	3
MKT 120	E-Marketing	Opt 2	3
BUS 102	Intro to Business	Opt 2	3
BUS 148	Small Business Management	Opt 2	3
MGT 145	Human Relations in Business	Opt 3	3
PSY 111	Introduction to Psychology	Opt 3	3
BUS 112	Business Math	Opt 4	3
MAT 141	Finite Math	Opt 4	4
Total credits required to complete this program			**42**

Retailing Certificate

(see Certificate Section, page 103)

Sales (see Certificate Section, page 104)

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 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 coursework as prescribed and maintain a 2.0 grade point average.

Required Courses

MGT 147	Leadership Development		3
MGT 800	Business Internship I		6
MGT 802	Business Internship Seminar I		2
MGT 194	Relationship Strategies in Business		2
MKT 140	Selling		3
MKT 141	Advanced Selling Strategies		3
SDV 153	Pre-Employment Strategies		2

Option Courses–Select 1 Course from Each Option

CSC 110	Intro to Computers	Opt 1	3
GRD 301	Intro to Desktop Publishing	Opt 1	3
BCA 212	Intro to Computer Business Appl	Opt 1	3
MGT 130	Principles of Supervision	Opt 2	3
MGT 101	Principles of Management	Opt 2	3
MKT 145	Sales Management	Opt 2	3
ENG 105	Composition I	Opt 3	3
COM 703	Communication Skills	Opt 3	3
BUS 102	Intro to Business	Opt 4	3
MKT 110	Principles of Marketing	Opt 4	3
BUS 150	E-Commerce on the Web	Opt 4	3
BUS 112	Business Math	Opt 5	3
MAT 141	Finite Math	Opt 5	4
MGT 145	Human Relations in Business	Opt 6	3
PSY 111	Introduction to Psychology	Opt 6	3
Total credits required to complete this program			**39**

Supervision (see Certificate Section, page 104)

Surgical Technology

The Surgical Technology program is designed to prepare students to be employed in a hospital or surgery center. As a skilled health professional, the surgical technologist is able to circulate with a Registered Nurse and scrub independently for a variety of specialties and procedures.

Students gain a basic knowledge of anatomy, physiology, microbiology, aseptic technique, surgical techniques and procedures, and patient care techniques. These subjects are presented in the classroom, through laboratory experience and in a supervised clinical setting.

Criminal background checks will be completed on each student. Criminal convictions or documented history of abuse may delay or prevent students from participation in clinical education experiences. Students unable to participate in clinical education will be unable to complete the Surgical Technology program.

Location: Urban
Selected courses in this program are offered at other campuses.

Program Entry Requirements

1. Complete an application.
2. Attend required Surgical Technology information session–contact advisor for dates.
3. Satisfy DMACC's assessment requirement.
4. Submit evidence of grade "C" or better in one year of high school Biology or equivalent (DMACC Academic Achievement Center Biology I & II or BIO 156 Human Biology w/Lab).
5. One year of high school Chemistry or equivalent (DMACC Academic Achievement Center Chemistry I & II or CHM 122 Intro to General Chemistry) is recommended.
6. Submit proof of high school graduation or GED prior to enrollment.

Students start fall term.

Graduation Requirements
To earn a Surgical Technology diploma, a student must complete all coursework as prescribed in Terms 1–3 and have a "C" or better in all Surgical Technology courses and support courses.

In order to progress to the next term, these courses must be successfully completed in the term identified or in a previous term.

Term 1

SUR 130	Intro to Surgical Technology		2
BIO 733	Health Science Anatomy		3
SUR 140	Fundamentals of Surgical Tech		5
SUR 150	Med Terminology for Surg Tech		2

Select 1 Course from Each Option

MAT 772	Applied Math	Opt 1	3
BUS 112	Business Math	Opt 1	3
ENG 105	Composition I	Opt 2	3
COM 703	Communication Skills	Opt 2	3

Term 2

SUR 420	Pharmacology for the Surg Tech		2
BIO 734	Health Science Physiology		3
SUR 805	Clinical Practicum I		5
SUR 200	Surg Procedures/Techniques I		5

Select 1 Course from Option 3

MGT 145	Human Relations in Business	Opt 3	3
PSY 111	Introduction to Psychology	Opt 3	3
PSY 102	Human and Work Relations	Opt 3	3
SOC 110	Introduction to Sociology	Opt 3	3

Term 3

BIO 732	Health Science Microbiology	4
SUR 202	Surg Procedures/Techniques II	3
SUR 810	Clinical Practicum II	5
Total credits required to complete this diploma		**48**

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.
3. Complete required COMPASS testing, obtaining a satisfactory score in MAT (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 coursework as prescribed and maintain a 2.0 grade point average.

Term 1

ELT 106	Basic Math for Electronics	3
ELT 368	DC & AC Fundamentals	3
ELT 369	DC & AC Fundamentals Lab	3
TEL 210	Telecommunications I	3
TEL 213	Introduction to Telephony Lab	3

Term 2

CSC 110	Intro to Computers	3
TEL 220	Telecommunications II	4
TEL 223	Telecom Transport Lab	3
TEL 232	Data Communications	3

Term 3

TEL 230	Advanced Topics in Telecom	4
TEL 233	Advanced Topics in Telecom Lab	3
Option 1 Course		3

Term 4

SPC 101	Fund of Oral Communication	3
TEL 240	Telecommunications Management	3
TEL 243	Internetworking Lab	3
Option 1 Course		3
Option 2 Course		3

Term 5

BUS 102	Intro to Business	3
ENG 105	Composition I	3
Option 1 Course		3
Option 1 Course		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 BCA, CIS, ELT, NET or CSC course

Option 2 Courses

MGT 145	Human Relations in Business
PSY 111	Introduction to Psychology
PSY 102	Human and Work Relations
SOC 110	Introduction to Sociology
Total credits required to complete this program	**65**

Telecommunications
(see Certificate Section, page 104)

Tool & Diemaking

The Tool and Diemaking program prepares students to meet the demands for qualified personnel in either the conventionally controlled or computer numerical controlled (CNC) tooling industry.

There are two separate diploma options available:

1st Year: Machinist Technology or Diemaking. Machinist Technology graduates should have the skills required to work in a general machine shop.

2nd Year: Diemaking. 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 and Newton
Machinist Technology diploma (1st year) is available at Ankeny and Newton. Diemaking (2nd year) is available only at Ankeny.

Program Entry Requirements Machinist Technology Diploma
Complete an application, satisfy the assessment requirement and attend any required information/registration session. Students start fall term.

Program Entry Requirements Diemaking Diploma
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 coursework as prescribed and maintain a 2.0 grade point average.

All Students Must Complete the Following AAS Degree Requirements:

Required Courses

MAT 772	Applied Math	3
MAT 773	Applied Math II	3

Select 1 Course from Each Option

COM 703	Communication Skills	Opt 1	3
ENG 105	Composition I	Opt 1	3
MGT 145	Human Relations in Business	Opt 2	3
PSY 111	Introduction to Psychology	Opt 2	3
PSY 102	Human and Work Relations	Opt 2	3
SOC 110	Introduction to Sociology	Opt 2	3

Machinist Technology Diploma

Students Who Choose the Machinist Technology Diploma Option Must Complete the Following Courses:

MFG 276	Hand & Bench Machine Tools	1
MFG 250	Engine Lathe Theory	1
MFG 251	Engine Lathe Operations Lab	2
MFG 260	Mill Operations Theory	1
MFG 261	Milling Operations Lab I	2
MFG 252	Engine Lathe Theory II	2
MFG 253	Engine Lathe Operations Lab II	3
MFG 273	Mill Operations II	2
MFG 274	Mill Operations Lab II	3
MFG 121	Machine Trade Printreading I	2
MFG 132	Machine Trade Printreading II	3
MFG 105	Machine Shop Measuring	3
MFG 290	Heat Treatments	1
MFG 270	Grinders Theory	1
MFG 271	Grinders Lab	3
MFG 350	CNC Lathe Operations Theory	1
MFG 351	CNC Lathe Operations Lab	2
MFG 330	CNC Mill Operations Theory	1
MFG 331	CNC Mill Operations Lab	2
Plus AAS degree Core 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:

CAD 119	Intro to Computer-Aided Drafting	3
CAD 139	Intro to CAD/CAM	3
MFG 402	Basic Diemaking Theory	4
MFG 403	Basic Diemaking Lab	6
MFG 411	Progressive Die Design	3
MFG 412	Advanced Diemaking Theory	4
MFG 413	Advanced Diemaking Lab	6
MFG 452	Moldmaking	3
MFG 381	EDM Fundamentals	3
MFG 140	Geometric Dimensioning/Tolerance	1
Plus AAS degree Core 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 AAS degree Core Requirements	12
Plus the Requirements for Both Diplomas	72
Total credits required to complete the Tool and Diemaking AAS degree	**84**

Turf Maintenance

(see Certificate Section, page 104)

Veterinary Medicine

Students planning to major in pre-veterinary medicine or go to school to become a veterinarian after receiving the Bachelor's Degree at a four-year college/university can satisfy many of their general education requirements at Des Moines Area Community College. Since degree requirements vary at senior institutions, students should become familiar with the specific course requirements of their selected transfer institution. Students are also encouraged to contact the four-year major advisor as early as possible to develop a transfer plan. DMACC advisors and/or counselors can also help by providing transfer materials and course planning assistance.

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 Veterinary Technology curriculum. This program is accredited. Students who have successfully completed the program will have the opportunity to sit for the Veterinary Technician National Examination (RVT) and the state qualifying exam.

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 coursework 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 Admissions Office at Des Moines Area Community College.
3. Students will be expected to have developed word processing skills or may be required to enroll in a keyboarding course prior to taking the Veterinary Office Procedures course.
4. Biology Competency Exam: All applicants must take this exam and receive a minimum score of 25 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 the College formally processes your admission application, you will receive additional information regarding all required assessments for this program.

5. 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 coursework as prescribed and maintain a 2.0 grade point average.

Term 1			
AGV 120	Veterinary Medical Terminology		1
AGV 124	Intro to Veterinary Technology		1
AGV 129	Veterinary Physiology		3
AGV 133	Veterinary Clinic Pathology I		3
AGS 245	Intro to Animal Diseases		1
BIO 733	Health Sciences Anatomy		3
Select 1 Course from Option 1			
BIO 156	Human Biology w/Lab	Opt 1	3
BIO 112	General Biology I	Opt 1	4
Term 2			
AGV 134	Veterinary Clinical Pathology II		3
AGV 139	Intro Veterinary Pharmacology		1
SPC 101	Fundamentals of Oral Communication		3
AGV 166	Veterinary Nursing Care		3
Select 1 Course from Option 2 and 1 Course from Option 3			
CHM 105	Survey of Chemistry	Opt 2	3
CHM 122	Intro to General Chemistry	Opt 2	4
Any AAS degree Core MAT course		Opt 3	3–5
MAT 772	Applied Math	Opt 3	3
Term 3			
AGV 932	Veterinary Technology Internship		4
Select 1 Course from Option 4			
BIO 732	Health Science Microbiology	Opt 4	4
BIO 187	Microbiology w/Lab	Opt 4	4
Term 4			
AGV 266	Adv Veterinary Nursing Care		2
AGV 141	Advanced Veterinary Pharmacology		2
AGV 164	Clinical Mgmt of Domestic Species		2
AGV 172	Large Animal Medicine and Surgery		3
AGV 180	Veterinary Radiology		2
ECN 130	Principles of Microeconomics		3
Term 5			
AGS 319	Animal Nutrition		3
AGV 160	Anesthesia & Surgical Assistance		4
AGV 165	Clinical Mgmt of Lab & Exotic Species		2
ADM 168	Veterinary Office Procedures		2
AGV 138	Clinical Pathology Lab		1
Select 1 Course from Option 5			
ENG 105	Composition I	Opt 5	3
COM 703	Communication Skills	Opt 5	3
Total minimum credits required to complete this program			**68**

Viticulture

(See Certificate Section, page 104)

Welding

Welding is a joining process that produces coalescence of materials by heating them to the welding temperature, with or without the application of pressure or by the application of pressure alone and with or without the use of filler metal. It is used to make welds. A weld is a localized coalescence of metals or nonmetals produced either by heating materials to the welding temperature, with or without the application or pressure, or by the application of pressure alone and with or without the use of filler material. Coalescence refers to the growing together or growth into one body of the materials being welded.

Ferrous and nonferrous metals are joined using the oxy-acetylene, shielded metal arc, gas tungsten arc and gas metal arc welding processes. Free-hand 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 coursework as prescribed and maintain a 2.0 grade point average.

Required Courses

COM 703	Communication Skills	3
MAT 772	Applied Math	3
WEL 120	Oxy-Fuel Welding/Cutting	2
WEL 150	Arc Welding I (SMAW)	2
WEL 165	Arc Welding II (SMAW)	3
WEL 166	Arc Welding III (SMAW)	2
WEL 111	Welding Blueprint Reading	3
WEL 167	Arc Welding IV (SMAW)	3
WEL 168	Arc Welding V (SMAW)	3
WEL 169	Arc Welding VI (SMAW)	2
WEL 181	Gas Metal Arc Welding	2
WEL 190	Gas Tungsten Arc Welding	2
Total credits required to complete this program		**30**

Welding Certificates available: Blueprint Reading, Oxy-acetylene, Shielded Metal Arc, Gas Metal Arc, Gas Tungsten Arc, Structural Welding, and Pipe Welding, (see Certificate Section, page 105).

Woodworking

(For more information, see Architectural Millwork, page 51)

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

BUS 112	Business Math		3
CSC 110	Intro to Computers		3
ADM 138	Data Entry		3

Option Courses–Select 1 Course from Each Option

ACC 131	Principles of Accounting I	Opt 1	4
ACC 111	Intro to Accounting	Opt 1	3
ENG 105	Composition I	Opt 2	3
COM 703	Communication Skills	Opt 2	3
ADM 157	Business English	Opt 2	3
MGT 145	Human Relations in Business	Opt 2	3
SPC 101	Fundamentals of Oral Communication	Opt 2	3
SPC 126	Interpersonal & Small Group Comm	Opt 2	3
SDV 153	Pre-Employment Strategies	Opt 3	2
ACC 124	Accounting Professionalism	Opt 3	3

Total minimum credits required to complete this certificate 17

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.

Employment opportunities are currently found in commercial businesses, government offices and public accounting firms.

Program Entry Requirements

Complete the Accounting Certificate I

Required Courses

ACC 261	Income Tax Accounting		3
ACC 161	Payroll Accounting		3

Option Courses–Select 1 Course From Each Option

ACC 131	Principles of Accounting I	Opt 1	4
ACC 132	Principles of Accounting II	Opt 1	4
BCS 164	Basic Databases	Opt 2	1
BCA 212	Intro Computer Business Appl	Opt 2	3
ACC 191	Financial Analysis	Opt 3	3
ACC 251	Gov't & Nonprofit Accounting	Opt 3	3
ACC 193	Accounting Procedures/Mgmt.	Opt 3	3
BCA 213	Intermediate Computer Business Appl	Opt 3	3

Total credits required to complete this certificate 14

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 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.

If you plan to work in a residential care facility, it is recommended that you also take the following courses: SOC 110 Introduction to Sociology and PSY 111 Introduction to Psychology.

Required Courses

ASM 278	Management in Senior Care Services		3
ASM 279	Health Care Human Resources		3
ASM 280	Health Care Delivery Systems		2
ASM 282	Aging Services in the Continuum		2
ASM 283	Aging Policies and Government Programs		2
SOC 225	Social Gerontology/Applications		4
SOC 226	Issues in Aging		2
ASM 257	ASM Capstone		2
ASM 256	Agency Experience		2
ASM 239	Information Systems in Health Care		2
ASM 274	Law and Ethics in Health Care		3

Option Courses–Select 1 Course from Option 1

ACC 111	Intro to Accounting	Opt 1	3
ACC 131	Principles of Accounting I	Opt 1	4

Total credits required to complete this certificate 30

These credits are applicable to the AS degree in Aging Services Management.

Agribusiness - 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 and identify weeds, insects and soil nutrient deficiencies. Marketing skills will be enhanced through the application of enterprise analysis and current commodity management tools.

The coursework within this certificate will serve as a strong preparatory base for the "Certified Crop Advisor" (CCA) program.

Required Courses

AGA 381	Crop Scouting		3
AGA 114	Principles of Agronomy		3
AGA 157	Soils Fertility		1
AGB 235	Intro to Agricultural Markets		3
AGP 333	Precision Agriculture Applications		3
AGA 154	Fundamentals of Soil Science		3
AGA 211	Grain and Forage Crops		3

Option Courses–Select 1 Course from Option 1

AGA 284	Pesticide Application Certification	Opt 1	3
AGB 802	Agribusiness Internship I	Opt 1	2
AGA 222	Grain Management	Opt 1	2

Total credits required to complete this certificate 21

These credits are applicable to the AAS degree in Agribusiness.

Agribusiness - 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

AGS 319	Animal Nutrition I		3
AGS 323	Animal Nutrition II		3
AGS 113	Survey of the Animal Industry		3
AGS 242	Animal Health		3
AGB 235	Intro to Agricultural Markets		3
AGB 802	Agribusiness Internship I		2

Option Courses–Select 1 Course from Option 1

AGS 225	Swine Science	Opt 1	3
AGS 226	Beef Cattle Science	Opt 1	3

Total credits required to complete this certificate 20

These credits are applicable to the AAS degree in Agribusiness.

Agribusiness - 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

AGA 381	Crop Scouting		3
AGS 113	Survey of the Animal Industry		3
AGA 114	Principles of Agronomy		3
AGB 235	Intro to Agricultural Markets		3
AGB 330	Farm Business Management		3
AGB 101	Agricultural Economics		3

Option Courses–Select 1 Course from Option 1

ACC 111	Intro to Accounting	Opt 1	3
AGB 802	Agribusiness Internship I	Opt 1	2
BUS 185	Business Law I	Opt 1	3
CSC 110	Introduction to Computers	Opt 1	3

Total credits required to complete this certificate 20

These credits are applicable to the AAS degree in Agribusiness.

Agribusiness - Sales and 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

AGS 113	Survey of the Animal Industry		3
AGA 114	Principles of Agronomy		3
AGB 235	Intro to Agricultural Markets		3
AGB 331	Agribusiness Management		3
AGB 101	Agricultural Economics		3
MKT 140	Selling		3

Option Courses–Select 1 Course from Option 1

AGB 802	Agribusiness Internship I	Opt 1	2
BUS 185	Business Law I	Opt 1	3
CSC 110	Introduction to Computers	Opt 1	3
MGT 145	Human Relations in Business	Opt 1	3
PSY 111	Intro to Psychology	Opt 1	3
SOC 110	Introduction to Sociology	Opt 1	3

Total credits required to complete this certificate 20

These credits are applicable to the AAS degree in Agribusiness.

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 graphic design 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

GRD 449	Airbrush I	4
GRD 451	Airbrush II	4

Total credits required to complete this certificate 8

These credits are applicable to the AAS degree in Graphic Design.

Biomass Operations Technology

The Biomass Operations Technology certificate is designed to train individuals to become operators in a biomass production facility. At the completion of the program the students should be able to understand the basic operation of a biomass plant, as well as the chemical flow, instrumentation, environmental and safety issues, lab sampling techniques and other complex plant operations.

Locations: Ankeny, Carroll, Newton

Required Courses

BPT 102	Intro to Biomass Process Tech	2
BPT 111	Biomass Equipment and Systems	3
BPT 112	Biomass Tech Health/Safety	3
BPT 125	Piping and Instrument Diagrams	2
BPT 128	Operator Biomass Lab Process	3
RRO 101	Railcar Safety	2
BMA 167	Steam Plant Operations	2

Total credits required to complete this certificate 17

These credits are applicable to the AAS degree in Industrial Electro-Mechanical Technology.

Building Maintenance

The Building Maintenance certificate is a series of job-related courses that 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

BMA 165	Boiler Room Maintenance		1
ELT 303	Principles of Electricity		3

Option Courses–Select 3 Credits from Option 1

BMA 167	Steam Plant Operations	Opt 1	2
BMA 175	Basic Plumbing	Opt 1	2
HSC 102	Emergency Care	Opt 1	1

Total credits required to complete this certificate 7

Chemical Dependency Counseling

This certificate is designed for individuals with a Graduate, Bachelor's, Associate in Arts, Associate in Science, or Associate in General Studies Degree who wish to update or develop skills in chemical dependency counseling.

Entry Requirements:

1. Complete an application.
2. Satisfy the assessment requirement.
3. Attend a chemical dependency certificate informational meeting that is offered in the fall and spring or obtain approval from the Human Services Program Chair.

Students must participate in a chemical dependency practicum. Students can contact the program chair of the Human Services program for possible practicum site options, or information is also available on the DMACC website. Practicums may have additional costs to the student. One possibility of a practicum site is Powell Chemical Dependency Center in Des Moines.

Required Courses

ENG 105	Composition I		3
HSV 220	Survey Mental Health Treatment		3
HSV 130	Interviewing/Interpersonal Relations		3
HSV 286	Intervention Theories/Practice I		3
HSV 287	Intervention Theories/Practice II		3
HSV 802	Field Experience		3
HSV 813	Practicum: Chemical Dependency Counsel I		3
HSV 814	Practicum: Chemical Dependency Counsel II		3
HSV 255	Addictive Disease Concepts		3

Option Courses–Select 1 Course from Each Option

BIO 156	Human Biology w/Lab	Opt 1	3
PSY 121	Developmental Psychology	Opt 1	3
PSY 241	Abnormal Psychology	Opt 1	3
SOC 115	Social Problems	Opt 2	3
SPC 101	Fundamentals of Oral Communication	Opt 2	3

Total credits required to complete this certificate 33

These credits are applicable to the AS 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, database, desktop publishing, graphics, presentation, spreadsheet, e-mail, internet and operating systems.

Required Courses

BCA 133	Word Processing Skill Dev I	4
BCA 137	Word Processing Skill Dev II	3
BCA 212	Intro Computer Business Applications	3
BCA 213	Intermediate Computer Business Applications	3
BCA 113	Computer Network Literacy	3

Total credits required to complete this certificate 16

These credits are 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

ACC 131	Principles of Accounting I		4
CIS 125	Intro to Programming Logic w/Lang		3
CIS 402	COBOL		3
CSC 110	Intro to Computers		3
CIS 421	COBOL–Intermediate		4
CIS 505	Structure Systems Analysis		4

Option Courses–Select a Minimum of 6 Credits

CIS 604	Visual BASIC	Opt 1	3
CIS 612	Advanced Visual BASIC	Opt 1	3
BCA 113	Computer Network Literacy	Opt 1	3
CIS 593	Mainframe Operations	Opt 1	4
CIS 431	COBOL/Advanced	Opt 1	3
CIS 435	COBOL on the World Wide Web	Opt 1	3
CIS 161	C++	Opt 1	3
CIS 583	Assembler	Opt 1	4
CIS 164	Advanced C++	Opt 1	3
CIS 303	Introduction to Database	Opt 1	3
CIS 332	Database and SQL	Opt 1	3
CIS 338	SQL/Oracle	Opt 1	3
CIS 346	Database Design	Opt 1	3

Total credits required to complete this certificate 27

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

SDV 153	Pre-Employment Strategies	2
MGT 145	Human Relations in Business	3
ADM 138	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.

Required Courses

CSC 110	Intro to Computers	3
CIS 125	Intro to Programming Logic w/Lang	3
CIS 402	COBOL	3
CIS 303	Introduction to Database	3
CIS 332	Database and SQL	3
CIS 338	SQL/Oracle	3
CIS 346	Database Design	3
Total credits required to complete this certificate		**21**

Dietary Manager

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 dietitian, the dietary manager assists in providing quality nutritional care services in food service departments, hospitals, assisted living and healthcare facilities.

Required Courses

DTM 350	Health Field	1
DTM 351	Food Preparation	1
DTM 352	Sanitation/Meal Service	2
DTM 353	Nutrition Life Cycle	1
DTM 354	Modified Diets	1
DTM 355	Food Production Management	1
DTM 356	Food Service Management	2
DTM 361	Food Prep Field Experience	1
DTM 362	Sanitation/Meal Service Field Experience	1
DTM 363	Nutrition Life Cycle Field Experience	1
DTM 364	Modified Diet/Field Experience	1
DTM 365	Food Production Field Experience	1
DTM 366	Food Service Mgmt Field Experience	1
Total credits required to complete this certificate		**15**

Digital Publishing & Prepress

The Digital Publishing & Prepress certificate is designed for students in the Graphic Technologies program who wish to specialize in their degree, or for individuals with prior printing experience who are looking to update their skills or are seeking advancement in the graphics/printing industry. The program will provide up-to-date technical information regarding tools, equipment and processes.

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 desktop publishing, website development, digital image enhancement and electronic prepress applications.

Required Courses

GRT 416	Digital Publishing II		3
BCA 212	Intro to Computer Business Appl		3
GRT 421	Electronic Prepress I		4
GRT 425	Electronic Image Control		4
GRT 431	Electronic Prepress II		4

Option Courses–Select 1 Course from Option 1

CIS 207	Fundamentals of Web Programming	Opt 1	3
GRD 462	Computer Graphics II	Opt 1	3
Total credits required to complete this certificate			**21**

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, Dreamweaver, Photoshop, Fireworks and Flash.

Required Courses

BUS 150	E-Commerce on the Web	3
CIS 207	Fund of Web Programming	3
CIS 240	E-Commerce Website II	3
GRD 403	Communication Design I	3
GRD 462	Computer Graphics II	3
GRD 463	Electronic Photo Editing	3
GRD 301	Intro to Desktop Publishing	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 area hospitals and with local ambulance services. National Registry Certification tests will be available at course completion in both the written and skill areas. Area ambulance units and some hospital emergency departments utilize EMT-Bs.

Required Course

EMS 210	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.

Enology

The Enology certificate offers a broad range of practical skills required to work in the wine industry. It emphasizes the procedures to effectively process fruit and handle wine in the cellar. In addition, the certificate will introduce basic wine laboratory analysis. Students will attain a foundation in viticulture allowing them to scout vineyards and assess fruit quality and potential yield. Finally, the certificate program will examine how wines are produced in other major world growing regions.

Required Courses

VIN 149	Grape and Wine Science	4
VIN 150	Introduction to Wine	3
VIN 151	Cellar Tech. and Operations	4
VIN 152	Intro. to Wine Science	4
VIN 932	Enology Internship	3
Total credits required to complete this certificate		**18**

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 coursework transfers into the one-year Entrepreneurship diploma program.

Required Courses

BUS 138	Small Business Marketing		3
BUS 141	Small Business Start-Up		3
BUS 148	Small Business Management		3
BUS 220	Introduction to International Business		3
Option Courses–Select 1 Course from Each Option			
ACC 131	Principles of Accounting I	Opt 1	4
ACC 111	Intro to Accounting	Opt 1	3
BUS 131	Small Business Management Strategies	Opt 2	3
BUS 181	Basic Law for Entrepreneurs	Opt 2	2
ACC 311	Computer Accounting	Opt 3	3
BUS 240	Virtual Business Firm	Opt 3	3
BUS 150	E-Commerce on the Web	Opt 3	3
Total credits required to complete this certificate			**20**

These credits are applicable to the Diploma in Entrepreneurship.

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 to develop fashion awareness.

Required Courses

APP 260	Fashion Analysis & Design	3
APP 111	Visual Merchandising & Design	3
APP 211	Textiles	3
MKT 160	Principles of Retailing	3
MKT 140	Selling	3
Total credits required to complete this certificate		**15**

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.

Coursework 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

FIR 230	Fire Behavior and Investigation	3
FIR 232	Property Insurance–Fraud Investigation	3
FIR 124	Building Construction	3
FIR 152	Fire Protection Systems	3
FIR 182	Hazardous Materials	3
FIR 220	Planning for Fire Protection	3
FIR 212	Emergency Scene Management	3
FIR 200	Occup Safety/Health in Emergency Services	3
FIR 138	Principles of Fire Prevention	3
Total credits required to complete this certificate		**27**

These credits are applicable to the AS degree in Fire Science Technology.

Gerontology Specialist

The Gerontology Specialist certificate is designed for individuals working with our growing older population. The goal is to increase knowledge and understanding of the aging process and how to better relate to the older adult. The specialist certificate will consist of eight one-credit courses on the web with face-to-face seminars, offered to a cohort group, over a two-semester period.

Required Courses

ASM 155	Impact of Demographics	1
ASM 160	Aspects of Aging	1
ASM 150	Communication with the Elderly	1
ASM 800	Seminar 1	1
ASM 165	Healthy Aging	1
ASM 180	Cultural Diversity	1
ASM 200	Depress, Death & Grieving	1
ASM 805	Seminar II	1
Total credits required to complete this certificate		**8**

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

GRT 400	Intro to Printing Methods	4
GRT 401	Intro to Graphic Communications	3
GRT 409	Project Planning & Management	3
MKT 110	Principles of Marketing	3
MKT 140	Selling	3
MKT 150	Principles of Advertising	3
Total credits required to complete this certificate		**19**

These credits are applicable to the AAS degree in Graphic Technologies.

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

AGA 157	Soils Fertility	1
AGA 154	Fundamentals of Soil Science	3
AGH 132	Intro to Greenhouse	3
AGH 283	Pesticide Application Certification	2
AGH 221	Principles of Horticulture	3
AGH 233	Plant Propagation I	3
AGH 133	Greenhouse Production Techniques	3
MAT 772	Applied Math	3
Total credits required to complete this certificate		**21**

These credits are applicable to the AAS degree in Commercial Horticulture.

Human Resource Management

Human Resource Management skills are increasingly important for nearly anyone pursuing a career in business. This certificate is designed to provide a background in human resource functions and law for students majoring in Management, Business Administration, Administrative Assistant and Entrepreneurship, among others. This certificate is also beneficial to people employed in business who wish to upgrade their knowledge of human resource procedures

Required Courses

MGT 145	Human Relations in Business	3
MGT 101	Principles of Management	3
MGT 130	Principles of Supervision	3
MGT 170	Human Resource Management	3
BUS 185	Business Law I	3
BUS 278	Employment Law	3
MGT 128	Organizational Behavior	3
Total credits required to complete this certificate		**21**

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

ADM 157	Business English	3
ADM 154	Business Communication	3
BCA 133	Word Processing Skill Development I	4
BCA 137	Word Processing Skill Development II	3
BCA 212	Intro to Computer Business Appl	3
BCA 213	Intermediate Computer Business 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

MKT 140	Selling	3
MKT 110	Principles of Marketing	3
INT 124	Interior Design Analysis	3
INT 125	Interior Design Planning	3
APP 111	Visual Merchandising & Design	3
APP 211	Textiles	3
Total credits required to complete this certificate		**18**

These credits are applicable to the Fashion diploma or the AAS degree in Fashion/Design.

Interpretation & Translation - Generalist

The Interpretation and Translation Generalist Certificate is a vocational credential for preparing functionally bilingual students for entry-level employment as general, nonspecialized interpreters or translators. Upon completion, students should be able to provide basic interpreting and translation services between English and their other languages(s) in nonspecialized contexts. The program is designed for students who wish to add general interpreting and translation skills to their current set of job skills.

Certificate students complete basic courses in interpretation and translation, as well as ethics. All students complete an internship under the supervision of a professional interpreter/translator, during which time they use the skills and apply the knowledge gained in the classroom. Some credits earned for the Interpretation and Translation Generalist certificate can also be applied to the Judiciary Interpretation and Translation AS and Certificate programs, or to the Healthcare Interpretation and Translation AS and certificate programs.

A program chairperson and a program counselor are available to assist students with education and career planning.

Employment opportunities for general Interpretation and Translation interpreters and translators are currently found in all industries and businesses where nonspecialized interpretation and translation services are needed. There are also many volunteer opportunities.

Note: Interpretation and translation employment in specialized areas, including legal, medical, social services, education fields and many businesses, require additional specialized training and/or certification. Students interested in those fields should consider the Judiciary Interpretation and Translation AS or certificate programs or the Healthcare Interpretation and Translation Certificate programs.

Location: Urban

Program Entry Requirements

1. Complete an application.
2. Attend any required information/orientation or a program conference.
3. Provide evidence of proficiency in English with one of the following:
   a. ACT score on the English subtest of 19 or above
   b. Minimum COMPASS score of 70
   c. Completion of ENG 105 with grade of "C" or better
   d. TOEFL score of 173 on the computer test or 500 on the paper test
   e. Completion of two years of college study with a minimum GPA of 2.0 (or equivalent) at an institution where English is the medium of instruction
   f. Other evidence demonstrating English proficiency may be approved by the program chair
4. Show proficiency in a second language with one of the following:
   a. Evidence of completion of high school in a country where the second language is spoken
   b. Two years of college study with a minimum GPA of 2.0 (or equivalent) at an institution in a country where the second language is spoken
   c. Completion of a college minor in the second language with a minimum grade of "C" for all courses taken in the second language
   d. Proficiency may be demonstrated with other evidence, but must be approved by the program chair
   e. Students will need computer skills to be successful in the program

If students do not have these skills, completion of BCA 212 or CSC 110 is strongly recommended, but the course will be an extra course and will not apply toward program requirements.

Students may start any term; however, students should contact an academic advisor for planning, as many courses are only offered once per year.

Required Courses

ITR 101	Intro to Interpretation & Translation	3
ITR 102	Tools for the Interpreter & Translator	3
ITR 111	Fundamentals of Interpretation	3
ITR 115	Fundamentals of Translation	3
ITR 120	Ethics for the Interpreter/Translator	1
ITR 805	Generalist I/T Internship	2
Total credits required to complete this certificate		**15**

These credits (except ITR 805) are applicable to the AS degree in Interpretation & Translation.

Interpretation & Translation - Healthcare

The Interpretation & Translation Healthcare certificate is for functionally bilingual students with a bachelor's degree, Associate in Science or Associate in Arts Degree who wish to work as healthcare interpreters or translators. Upon completion, students should be able to provide basic interpreting and translation services between English and their other language(s) in healthcare contexts. The program is designed for students who wish to add healthcare interpreting and translation skills to their current set of job skills.

Certificate students complete basic courses in interpretation and translation, as well as ethics. All students complete an internship under the supervision of a professional interpreter/translator, during which they use the skills and apply the knowledge gained in the classroom. Some credits earned for the Interpretation and Translation Healthcare certificate can also be applied to the Judiciary Interpretation and Translation AS and certificate programs, or to the Interpretation and Translation Generalist certificate programs.

A program chairperson and a program counselor are available to assist students with education and career planning.

Employment opportunities are currently found in healthcare facilities where specific interpretation and translation related to healthcare services are needed. There are also many volunteer opportunities.

Note: Interpretation and translation employment in specialized areas, including legal, medical, social services, education fields and many businesses, requires additional specialized training and/or certification. Students interested in legal interpretation and translation should consider the Judiciary Interpretation and Translation AS degree or Certificate programs.

Location: Urban

Program Entry Requirements

1. Complete an application.
2. Attend any required information/orientation or a program conference.
3. Provide evidence of completion of a bachelor's degree, Associate in Science Degree, or Associate in Arts Degree.
4. Provide evidence of proficiency in English with one of the following:
   a. ACT score on the English subtest of 19 or above
   b. Minimum COMPASS score of 70
   c. Completion of ENG 105 with a grade of "C" or better
   d. TOEFL score of 173 on the computer test or 500 on the paper test
   e. Completion of two years of college study with a minimum GPA of 2.0 (or equivalent) at an institution where English is the medium of instruction
   f. Other evidence demonstrating English proficiency may be approved by the program chair
5. Show proficiency in a second language with one of the following:
   a. Evidence of completion of high school in a country where the second language is spoken
   b. Two years of college study with a minimum GPA of 2.0 or equivalent at an institution in a country where the second language is spoken
   c. Completion of a college minor in the second language with a minimum grade of "C" for all courses taken in the second language
   d. Proficiency may be demonstrated with other evidence, but must be approved by the program chair
   e. Students will need computer skills to be successful in the program. If students do not have these skills, completion of BCA 212 or CSC 110 is strongly recommended, but the course will be an extra course and will not apply toward certificate requirements.

Students may start any term; however, students should contact an academic advisor for planning, as many courses are only offered once per year.

Required Courses

ITR 101	Intro to Interpretation & Translation	3
ITR 102	Tools for the Interpreter & Translator	3
ITR 111	Fundamentals of Interpretation	3
ITR 115	Fundamentals of Translation	3
ITR 120	Ethics for the Interpreter/Translator	1
ITR 910	Emphasis Seminar	3
BIO 156	Human Biology w/Lab	3
ITR 148	Healthcare Terminology & Sight Translation	3
ITR 150	Healthcare Interpreting I	3
ITR 152	Healthcare Interpreting II	3
ITR 158	Healthcare Translation	3
ITR 810	Healthcare I/T Internship	2
Total credits required to complete this certificate		**33**

These credits are applicable to the AS degree in Interpretation & Translation.

Interpretation & Translation - Judiciary

The Interpretation & Translation Judiciary certificate is for functionally bilingual students with a bachelor's degree, Associate in Science or Associate in Arts Degree who wish to work as judiciary interpreters or translators. Upon completion, students should be able to provide basic interpreting and translation services between English and their other languages(s) in judiciary contexts. The program is designed for students who wish to add judiciary interpreting and translation skills to their current set of job skills.

Certificate students complete basic courses in interpretation and translation, as well as ethics. All students complete an internship under the supervision of a professional interpreter/translator, during which time they use the skills and apply the knowledge gained in the classroom. Some credits earned for the Interpretation and Translation Judiciary certificate can also be applied to the Interpretation and Translation Healthcare certificate, or to the Interpretation and Translation Generalist certificate program.

A program chairperson and a program counselor are available to assist students with education and career planning.

Employment opportunities for Interpretation and Translation Judiciary interpreters and translators are found in law enforcement agencies, law offices and courts where interpretation and translation services are needed. There are also many volunteer opportunities.

Note: Interpretation and translation employment in specialized areas, including legal, medical, social services, education fields and many businesses, requires additional specialized training and/or certification. Students interested in healthcare interpretation and translation should consider the Healthcare Interpretation and Translation AS or Certificate programs.

Location: Urban

Program Entry Requirements:

1. Complete an application.
2. Attend any required information/orientation or a program conference.
3 Provide evidence of completion of a Bachelor's Degree, Associate in Science degree, or Associate in Arts Degree.
4. Provide evidence of proficiency in English with one of the following:
   a. ACT score on the English subtest of 19 or above
   b. Minimum COMPASS score of 70
   c. Completion of ENG 105 with a grade of "C" or better
   d. TOEFL score of 173 on the computer test or 500 on the paper test
   e. Completion of two years of college study with a minimum GPA of 2.0 (or equivalent) at an institution where English is the medium of instruction
   f. Other evidence demonstrating English proficiency may be approved by the program chair
5. Show proficiency in a second language with one of the following:
   a. Evidence of completion of high school in a country where the second language is spoken
   b. Two years of college study with a minimum GPA of 2.0 or equivalent at an institution in a country where the second language is spoken
   c. Completion of a college minor in the second language with a minimum grade of "C" for all courses taken in the second language
   d. Proficiency may be demonstrated with other evidence, but must be approved by the program chair
   e. Students will need computer skills to be successful in the program. If students do not have these skills, completion of BCA 212 or CSC 110 is strongly recommended, but the course will be an extra course and will not apply toward certificate requirements.

Students may start any term; however, students should contact an academic advisor for planning, as many courses are only offered once per year.

Required Courses

ITR 101	Intro to Interpretation & Translation	3
ITR 102	Tools for the Interpreter & Translator	3
ITR 111	Fundamentals of Interpretation	3
ITR 115	Fundamentals of Translation	3
ITR 120	Ethics for the Interpreter/Translator	1
ITR 910	Emphasis Seminar	3
PRL 103	Introduction to Law	3
ITR 128	Legal Terminology & Sight Translation	3
ITR 130	Legal Interpreting I	3
ITR 132	Judiciary Interpreting II	3
ITR 137	Judiciary Translation	3
ITR 800	Judiciary I/T Internship	2
Total credits required to complete this certificate		**33**

These credits are applicable to the AS degree in Interpretation & Translation.

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

AGA 157	Soil Fertility	1
AGA 154	Fundamentals of Soil Science	3
AGH 154	Residential Landscape Design	3
AGH 159	Landscape Drafting	2
AGH 221	Principles of Horticulture	3
AGH 155	Landscape Design II	2
AGH 142	Construction, Safety & Maintenance	3
AGH 123	Woody Plant Materials	3
AGH 120	Herbaceous Plant Materials	3
Total credits required to complete this certificate		**23**

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 PRL coursework.

Required Courses

PRL 103	Introduction to Law		3
PRL 131	Torts & Litigation I		3
PRL 141	Business & Corporate Law I		3
PRL 280	Legal Internship & Ethics		4
PRL 112	Legal Research & Writing I		3
PRL 113	Legal Research & Writing II		3

Option Courses–Select 15 Credits from Option 1

PRL 132	Torts & Litigation II	Opt 1	3
PRL 161	Family Law	Opt 1	3
PRL 142	Business & Corporate Law II	Opt 1	3
PRL 151	Real Estate Law	Opt 1	3
PRL 167	Probate Procedure	Opt 1	3
PRL 169	Wills, Estate Planning & Taxation	Opt 1	3
PRL 171	Administrative Practice	Opt 1	3
PRL 125	Evidence: Theory & Practice	Opt 1	3
PRL 137	Debtor/Creditor Law	Opt 1	3
PRL 118	Comp. Legal Research	Opt 1	3
PRL 114	Adv. Legal Research & Writing	Opt 1	3
PRL 182	Mediation	Opt 1	3
ACC 261	Income Tax Accounting	Opt 1	3
CSC 110	Intro to Computers	Opt 1	3
CRJ 130	Criminal Law	Opt 1	3
CRJ 132	Constitutional Law	Opt 1	3
HSV 130	Interviewing/Interpersonal Relations	Opt 1	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 designed for students with a prior degree who plan to sit for Nursing Home Administrator Licensure. Students must meet the Iowa Board of Examiners for Nursing Home Administrator equivalency requirements, which include verification of a four-year degree. Students are required to submit their official college transcripts to the DMACC Admissions Office.

IMPORTANT NOTE: Students are strongly advised to contact one of the staff members of Aging Services Management in Bldg. 9 on the Ankeny Campus or call 515-964-6262 or 515-964-6814 for additional important information.

Required Courses

ASM 278	Management in Senior Care Services	3
ASM 279	Health Care Human Resources	3
ASM 280	Health Care Delivery Systems	2
ASM 282	Aging Services in the Continuum	2
ASM 283	Aging Policies and Government Programs	2
SOC 225	Social Gerontology/Applications	4
SOC 226	Issues in Aging	2

Practicum

ASM 251	Governance of NF/SNF	2
ASM 252	Governance of Supported Living	2
ASM 253	LTC Practicum: Psychosocial Needs	2
ASM 254	LTC Practicum: Physical Needs	2
ASM 255	LTC Practicum: Administration	2
ASM 257	ASM Capstone	2

Option Courses–Select 10 Credits from Option 1

ACC 111	Intro to Accounting	Opt 1	3
ACC 131	Principles of Accounting I	Opt 1	4
ASM 238	Financial Management in AS	Opt 1	3
ASM 239	Information Systems in Health Care	Opt 1	2
ASM 274	Law and Ethics in Health Care	Opt 1	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

MGT 130	Principles of Supervision	3
MGT 101	Principles of Management	3
BUS 102	Intro to Business	3
BUS 185	Business Law I	3
CSC 110	Intro to Computers	3

Option Courses–Select 1 Course from Each Option

BUS 150	E-Commerce on the Web	Opt 1	3
MKT 145	Sales Management	Opt 1	3
MGT 115	Administrative Management	Opt 1	3
MKT 115	Business-to-Business Marketing	Opt 1	3
MKT 160	Principles of Retailing	Opt 1	3
BUS 148	Small Business Management	Opt 1	3
ACC 131	Principles of Accounting I	Opt 2	4
ACC 111	Intro to Accounting	Opt 2	3
ENG 105	Composition I	Opt 3	3
COM 703	Communication Skills	Opt 3	3
MGT 145	Human Relations in Business	Opt 4	3
PSY 111	Intro to Psychology	Opt 4	3
BUS 112	Business Math	Opt 5	3
MAT 141	Finite Math	Opt 5	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 Insurance and Coding

Medical Insurance and Coding is one of the fastest-growing medical office specialties and promises to increase in importance. Students learn to transform medical diagnoses and procedures into numbers or codes for purposes of reimbursement and recordkeeping. This certificate program is designed for those who choose to work in a variety of medical settings including hospitals and medical centers, government facilities, insurance companies and home offices. It is ideal for the individual who is currently working in the medical setting and wants to develop skills that are "best of practice." Courses are offered online or late afternoon and evening. In addition, this certification can be earned in coordination with the Medical Office Specialist program.

Program Entry Requirements: Keyboarding speed of 40 NWPM or above as demonstrated by a five-minute test.

Term 1

ADM 157	Business English	3
*HSC 120	Medical Terminology I	3
MAP 141	Medical Insurance	3
BCA 133	Word Processing Skill Dev. I	4

Term 2

*HSC 121	Medical Terminology II	3
MAP 532	Human Body–Health and Disease	3
MAP 150	Adv. Medical Billing and Coding	3
ADM 215	Medical Office Procedures	3
Total credits required to complete this certificate		**25**

*Challenge test available. Must earn 74%.

Note: Graduates may sit, at their own expense, for the Certified Coding Associates designation through the American Health Information Management Association.

The majority of credits listed above are applicable to the AAS degree in Medical Office Specialist.

Medical Transcriptionist

The purpose of the Medical Transcriptionist certificate is to provide a course of study for medical office specialist students to concentrate in the area of medical transcription. This certificate is best suited for people who have a background in medical/business work experience. 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 start any term.

Program Entry Requirements:

1. Complete an application.
2. Complete ADM 157 Business English with a grade of "C" or better.
3. Keyboarding speed of 40 NWPM or above as demonstrated by a five-minute test.

Term 1

BCA 133	Word Processing Skill Development I	4
HSC 120*	Medical Terminology I	3
MTR 120	Medical Transcription I	3

Term 2

HSC 121*	Medical Terminology II	3
MTR 121	Medical Transcription II	3

Term 3

MAP 532	Human Body–Health and Disease	3
MTR 122	Medical Transcription III	3
Total credits required to complete this certificate		**22**

*Challenge test available. Must earn 74%

These credits are also applicable to the AAS degree in Medical Office Specialist.

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 busi-ness computer applications skills and assume responsibility for a network.

Required Courses

BUS 102	Introduction to Business	3
CIS 125	Intro to Programming Logic w/Lang	3
CIS 402	COBOL	3
CSC 110	Intro to Computers	3
BCA 113	Computer Network Literacy	3

Option Courses–Select a Minimum of 6 Credits

ACC 131	Principles of Accounting I	Opt 1	4
ACC 132	Principles of Accounting II	Opt 1	4
ACC 311	Computer Accounting	Opt 1	3
ACC 361	Accounting Spreadsheets	Opt 1	3
CIS 413	COBOL II	Opt 1	4
CIS 604	Visual BASIC	Opt 1	3
CIS 612	Advanced Visual BASIC	Opt 1	3
CIS 161	C++	Opt 1	3
CIS 164	Advanced C++	Opt 1	3
CIS 303	Introduction to Data Base	Opt 1	3
CIS 332	Data Base and SQL	Opt 1	3
CIS 338	SQL/Oracle	Opt 1	3
CIS 346	Data Base Design	Opt 1	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 AAS in Business Information Systems.

Network Security Manager

The purpose of the Network Security Manager certificate is to provide students who are already employed in the area of information technology the knowledge and skills needed to prepare for careers as security systems analysts, security business analysts, database administrators or system development managers. Students learn basic concepts and terminology in computer networks and data communications, as well as project initiation, fact gathering, procedures, forms, system implementation and evaluation. They also study legal and ethical issues, security technologies, risk management, network and system security, cryptography and information

security maintenance. Students learn to detect and analyze data stored or hidden on computer systems and to implement database security and auditing in order to protect data.

Prior to enrolling in the Network Security Manager certificate courses, students must successfully complete the following courses: CSC 110 Intro to Computers, CIS 125 Intro to Programming Logic w/Lang, CIS 402 COBOL or equivalent courses or have instructor approval.

Required Courses

BCA 113	Computer Network Literacy	3
CIS 303	Introduction to Database	3
CIS 505	Structured Systems Analysis	4
NET 612	Fundamentals of Network Security	3
NET 715	Database Security & Auditing	3
NET 730	Computer Forensics & Investigation	3
Total credits required to complete this certificate		**19**

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

BUS 112	Business Math	3
MGT 145	Human Relations in Business	3
ADM 157	Business English	3
BCA 133	Word Processing Skill Development I	4
ADM 131	Office Calculators	1
BCA 212	Intro Computer Business Appl	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.

Phlebotomy

A phlebotomist draws blood from patients for diagnostic medical tests. Most phlebotomists are employed in hospitals. The program runs approximately nine 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.

Program Entry Requirements

Complete an application. Attend a required information/registration session, or obtain the approval of the Program Chair. Submit to the Admissions Office evidence of high school graduation or GED prior to enrollment.

Required Courses

PHB 113	Principles of Phlebotomy	3
PHB 280	Phlebotomy Clinical	2
Total credits required to complete this certificate		**5**

Printing Technologies

The Printing Technologies certificate is designed for students in the Graphic Technologies program who wish to specialize in their degree, or for individuals with prior printing experience who are looking to update their skills or are seeking advancement in the graphics/printing industry. The program will provide up-to-date technical information regarding tools, equipment and processes.

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 offset, flexography, screen printing. Job planning, cost estimating and finishing methods will also be covered.

Required Courses

GRT 400	Intro to Printing Methods	4
GRT 401	Intro to Graphic Communications	3
GRT 409	Project Planning & Management	3
GRT 410	Printing Methods I	4
GRT 420	Printing Methods II	4
GRT 427	Specialty Printing Methods	4
Total credits required to complete this certificate		**22**

These credits are applicable to the AAS degree in Graphic Technologies.

Production Art

The purpose of the Production Art certificate is to provide training for en-try-level positions as pro-duc-tion artists in large printing and pub-lish-ing companies and com-pa-nies with small pub-li-ca-tions de-part-ments.

Required Courses

GRD 407	Production Art I	3
GRD 415	Production Art II	3
Total credits required to complete this certificate		**6**

These credits are applicable to the AAS degree in Graphic Design.

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

MKT 160	Principles of Retailing	3
MKT 140	Selling	3
APP 111	Visual Merchandising & Design	3
MGT 147	Leadership Development	3
Total credits required to complete this certificate		**12**

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

MKT 140	Selling		3
MKT 110	Principles of Marketing		3
MGT 194	Relationship Strategies in Business		2
MGT 147	Leadership Development		3

Option Courses–Select 1 Course from Each Option

ENG 105	Composition I	Opt 1	3
COM 703	Communication Skills	Opt 1	3
MGT 145	Human Relations in Business	Opt 2	3
PSY 111	Introduction to Psychology	Opt 2	3

Total credits required to complete this certificate 17

These credits are also applicable to the diploma in Sales & Management, the diploma or AAS in Fashion/Design, the AAS degree in Management, the AAS degree in Marketing.

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

MGT 130	Principles of Supervision		3
MGT 101	Introduction to Management		3

Option Courses–Select 6 Credits from Option 1, and 1 Course from Option 2, and 1 Course from Option 3

BUS 102	Introduction to Business	Opt 1	3
BUS 148	Small Business Management	Opt 1	3
BUS 150	E-Commerce on the Web	Opt 1	3
MKT 145	Sales Management	Opt 1	3
MKT 115	Administrative Management	Opt 1	3
MGT 800	Business Internship I	Opt 1	6
MKT 140	Selling	Opt 1	3
MKT 115	Business-to-Business Marketing	Opt 1	3
MKT 160	Principles of Retailing	Opt 1	3
ENG 105	Composition I	Opt 2	3
COM 703	Communication Skills	Opt 2	3
MGT 145	Human Relations in Business	Opt 3	3
PSY 111	Introduction to Psychology	Opt 3	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.

Telecommunications

This certificate program prepares the student for working in the telecommunications outside plant field. The coursework 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

ELT 368	DC & AC Fundamentals	3
ELT 369	DC & AC Fundamentals Lab	3
TEL 210	Telecommunications I	3
TEL 213	Introduction to Telephony Lab	3
CSC 110	Intro to Computers	3
ADM 105	Intro to Keyboarding I	1
TEL 220	Telecommunications II	4
TEL 222	Telecommunications Outside Plant	4
TEL 223	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

AGA 157	Soil Fertility		1
AGA 154	Fundamentals of Soil Science		3
AGH 283	Pesticide Application Certification		2
AGH 160	Irrigation Systems		2
AGH 241	Sports Turf		2
AGH 111	Intro to Turfgrass Management		2
AGH 211	Advanced Turfgrass Management		3
MAT 772	Applied Math		3

Option Courses–Select 1 Course from Option 1

ENV 115	Environmental Science	Opt 1	3
AGH 221	Principles of Horticulture	Opt 1	3

Total credits required to complete this certificate 21

The majority of these credits are applicable to the AAS degree in Commercial Horticulture.

Viticulture

The Viticulture certificate provides job training for those working with vineyards and for those who want to start a vineyard. The certificate will promote skills and practices imperative for quality grape production.

Required Courses

VIN 149	Grape and Wine Science	4
VIN 101	Intro to Starting a Vineyard	4
VIN 102	Intro to Bearing Vineyards	4
VIN 103	Intro to Vineyard Pest Mgmt	4
VIN 920	Field Experience	3

Total credits required to complete this certificate 19

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 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

WEL 120	Oxy-Fuel Welding/Cutting	2

These credits are applicable to the diploma in Welding.

Shielded Metal Arc Welding

WEL 150	Arc Welding I (SMAW)	2
WEL 165	Arc Welding II (SMAW)	3
WEL 166	Arc Welding III (SMAW)	2
WEL 167	Arc Welding IV (SMAW)	3
WEL 168	Arc Welding V (SMAW)	3
WEL 169	Arc Welding VI (SMAW)	2
Total credits required for Shielded Metal Arc Welding		**15**

These credits are applicable to the diploma in Welding.

Gas Metal Arc Welding

WEL 181	Gas Metal Arc Welding	2

These credits are applicable to the diploma in Welding.

Gas Tungsten Arc Welding

WEL 190	Gas Tungsten Arc Welding	2

These credits are applicable to the diploma in Welding.

Blueprint Reading

WEL 111	Welding Blueprint Reading	3

These credits are applicable to the diploma in Welding.

Structural Welding

WEL 176	Advanced Arc Welding I (SMAW)	2
WEL 177	Advanced Arc Welding II (SMAW)	3

Pipe Welding

WEL 303	Pipe Welding (SMAW)	3

Certificates of Completion

Transportation Institute Commercial Vehicle

Commercial Vehicle Operator Program

The Transportation Institute Commercial Vehicle Operator program is one of approximately 65 in the U.S. that has been certified by the Professional Truck Drivers Institute of America. The 240-hour, noncredit program uses the U.S. Department of Transportation Model Curriculum. Students may complete the program in the daytime in six 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 Courses (DDC), driver/dispatcher relationships and driver retention programs. It also offers a Train the Trainer Program that allows transportation carriers to qualify their drivers to become certified driver finishers.

Features

1. Placement with companies prior to beginning of training.
2. Extensive in-truck training with two-students-per-instructor ratio.
3. Student loan availability for students who qualify.
4. Graduation with a Commercial Drivers License (CDL).
5. Earning potential–$25,000–$40,000 first year.
6. Excellent career opportunities within the industry.

Required Courses	Contact Hours
Basic Operations	81.75
Safe Operational Practices	44.50
Advanced Operating Procedures	38.00
Vehicle Maintenance	16.75
Non-Vehicle Activities	59.00

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 3 hours in the classroom and 5 hours of 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.

We also have RV (Recreational Vehicle) training and educational programs, 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.

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.

Example:

Credits | Lecture Hours | Lab Hours | Practicum Hours

Course — **ACC 222** — **4 4 0 0 0** — Work Experience

Course Name — **COST ACCOUNTING** — **OPEN** — Course Type

Course Description — 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 : ACC 132 — Pre- and/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. Transferability is generally limited. Only 16 credits can apply to the AA/AS degree.

CORE Traditional liberal arts courses in the first two years of a baccalaureate degree.

COLLEGE PREPARATORY (COLL PREP) 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 or prior to the course.

**An instructor may deny enrollment in or drop a student from a specific course if a course prerequisite has not been met.*

ACC 111 — **3 3 0 0 0**
INTRO TO ACCOUNTING — **OPEN**
An introductory course in accounting fundamentals and procedures. Includes capturing and analyzing business data and financial statement preparation.

ACC 124 — **3 3 0 0 0**
ACCOUNTING PROFESSIONALISM — **VOC/TECH**
Covers all aspects of accounting career goal- setting, developing prospective accounting employer lists, resumé 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)

ACC 131 — **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.

ACC 132 — **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. Course also includes an introduction to capital budgeting, analysis of financial statements and decision making by managers. Prerequisite: ACC 131

ACC 161 — **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: ACC 131 or ACC 111

ACC 165 — **2 2 0 0 0**
PAYROLL CERTIFICATION REVIEW — **VOC/TECH**
Covers fundamental payroll calculations and applications. Provides students with the basic knowledge and skills required to prepare for the Fundamental Payroll Certification (FPC) exam administered by the American Payroll Association. Recommended for payroll professionals.

ACC 191 — **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 ACC 131

ACC 193 — **3 3 0 0 0**
ACCOUNTING PROCEDURES/MGMT — **VOC/TECH**
Generally Accepted Accounting Principles (GAAP) are emphasized. Topics include receivables, payables, banking records, document flow, internal control, planning, organizing, leadership, human relations and business communications. Prerequisite: ACC 131

ACC 222 — **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: ACC 132

ACC 231 — **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: ACC 132

ACC 232 — **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: ACC 231

ACC 241 — **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.

ACC 251 — **3 3 0 0 0**
GOV'T & 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: ACC 131

ACC 261 — **3 3 0 0 0**
INCOME TAX ACCOUNTING — **OPEN**
An introduction to personal income tax. Emphasizes computation of federal and state income taxes and preparation of tax forms. Prerequisite: ACC 131 or ACC 111

ACC 268 — **3 3 0 0 0**
BUSINESS TAX — **VOC/TECH**
Business Tax focuses on federal income tax associated with the three principal business forms: corporations, both S and C partnerships and limited liability companies. Tax aspects affecting the determination of taxable income and loss as they apply to businesses are covered.

ACC 272 — **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. Prerequisites: ACC 132, CSC 110

ACC 281 — **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: ACC 231

ACC 311 — **3 2 2 0 0**
COMPUTER ACCOUNTING — **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: ACC 131 or ACC 111

ACC 361 — **3 2 2 0 0**
ACCOUNTING SPREADSHEETS — **VOC/TECH**
Microcomputer operations with an emphasis on financial and managerial uses. Includes topics in spreadsheet modeling, spreadsheet commands.
Prerequisite: ACC 131, CSC 110

ACC 850 — **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: ACC 261

ACC 932 — **3-4 0 0 0 12-16**
ACCOUNTING INTERNSHIP — **VOC/TECH**
An opportunity to gain practical experiences through on-the- job training in an approved business or governmental office. May be taken for 3 or 4 credits. (P/F) Prerequisite: Successful completion of 11 hours of ACC courses.
Corequisite: ACC 946

COURSE DESCRIPTIONS

ACC 946 **11000**
ACCOUNTING CAREER SEMINAR **VOC/TECH**
Designed to provide in-depth discussion of Accounting/Bookkeeping/Accounting Specialist work experiences. Prerequisite: Successful completion of 11 hours of ACC credit courses; permission of the department and demonstrable job readiness with computer literacy. Corequisite: ACC 932

ADM 105 **10200**
INTRO TO KEYBOARDING **VOC/TECH**
Basic instruction on a personal computer to learn the touch system for the alphabetic keyboard, number keyboard and ten-key numeric pad.

ADM 131 **10200**
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.

ADM 138 **30600**
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.

ADM 154 **33000**
BUSINESS COMMUNICATION **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: ADM 157, BCA 212

ADM 157 **33000**
BUSINESS ENGLISH **VOC/TECH**
The fundamentals of proofreading, grammar, spelling, punctuation, word usage, capitalization, abbreviations and number usage.

ADM 162 **32200**
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: ADM 157, BCA 133

ADM 164 **32200**
ADMINISTRATIVE OFFICE APPL **VOC/TECH**
This course incorporates simulated office activities into realistic workplace integration. Students use integration software to complete specialized tasks. Workplace basic skills including interpersonal skills, communication, teamwork, creative thinking and Problem solving will be developed. Prerequisite: ADM 162, BCA 213

ADM 168 **21200**
VETERINARY OFFICE PROCEDURES **VOC/TECH**
Integration of knowledge and skills needed to function in a veterinarian office environment. Topics include ethics, customer relations, telecommunications techniques, scheduling and management software and compliance.

ADM 208 **33000**
LEGAL TERMINOLOGY **VOC/TECH**
Provides training in spelling, defining and pronouncing terms common in the legal field.

ADM 215 **33000**
MEDICAL OFFICE PROCEDURES **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: HSC 120, BCA 137

ADM 259 **33000**
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.

ADM 265 **20008**
SUPERVISED PRACTICAL EXP. **VOC/TECH**
Practical experience through on-the-job training in an approved business setting. Tasks will be consistent with students' career objectives, skills and knowledge. (P/F) Prerequisite: ADM 157, BCA 133, 212 Corequisite: ADM 937

ADM 300 **11000**
CPS REVIEW SEC. I ECON & LAW **VOC/TECH**
Section I assists students to pass Part 1 of the Certified Professional Secretary Examination by reviewing economic, accounting and business law fundamentals. In addition to one hour of credit, students will be awarded 1.5 CEUs.

ADM 305 **11000**
CPS REVIEW SEC. II OFFICE SYS **VOC/TECH**
Section II assists students to pass Part 2 of the Certified Professional Secretary Examination by reviewing office technology, administration and communication. In addition to one hour of credit, students will be awarded 1.5 CEUs.

ADM 310 **11000**
CPS REVIEW SEC. III MANAGEMENT **VOC/TECH**
Section III assists students to pass Part 3 of the Certified Professional Secretary Examination by reviewing behavioral science in business and human resource management. In addition to one hour of credit, students will be awarded 1.5 CEUs.

ADM 937 **11000**
PROF OFFICE CAREERS SEMINAR **VOC/TECH**
An examination of topics relevant to the office internship experience, sharing workplace problems encountered and the solutions found to those problems. Prerequisite: ADM 157, BCA 133, 212. Corequisite: ADM 265

ADN 126 **21200**
PASSPORT TO ADN NURSING **VOC/TECH**
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 the Advanced Standing Nursing Program

ADN 416 **53060**
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: PNN 605, 606, 351, ENG 105, SPC 126, BIO 732 or 187 Corequisite: ADN 611

ADN 474 **53060**
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: PNN 605, 606, 351, ENG 105, SPC 126, BIO 732 or BIO 187 Corequisite: ADN611

ADN 551 **74090**
ADULT HEALTH 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: ADN 611, 416, 474, SOC 110

ADN 611 **21200**
PROFESSIONAL NURSING PRACTICE **OPEN**
Introduces the role of the professional registered nurse, including comprehensive planning, client care management, collaborative relationships and performance of complex skills. Prerequisite: PNN 605, 606, 351, ENG 105, SPC 126, BIO 732 or BIO 187

ADN 821 **31060**
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: ADN 551

AGA 114 **33000**
PRINCIPLES OF AGRONOMY **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.

AGA 154 **33000**
FUNDAMENTALS OF SOIL SCIENCE **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: AGA 157

AGA 157 **10200**
SOIL FERTILITY **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: AGA 154

AGA 211 **33000**
GRAIN AND FORAGE CROPS **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 AGA 381, 114, 154

AGA 222 **22000**
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.

AGA 284 **33000**
PESTICIDE APPLICATION CERTIFIC **VOC/TECH**
Common features of pests, methods of control, how pesticides work, pesticide labels, application equipment, calibration, laws and regulations governing pesticide use.

AGA 381 **32200**
CROP SCOUTING **VOC/TECH**
The course develops an understanding of the factors that 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.

AGB 101 **33000**
AGRICULTURAL ECONOMICS **VOC/TECH**
The study of economic principles and the application of these principles to the distribution of agricultural supplies.

AGB 235 **33000**
INTRO TO AGRICULTURAL MARKETS **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.

AGB 330 **33000**
FARM BUSINESS 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.

AGB 331 **33000**
AGRIBUSINESS 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.

AGB 802 **20008**
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: AGS 113 or AGA 114

AGB 812 **20008**
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: AGB 802

AGH 103 **10200**
FLORAL DESIGN I **VOC/TECH**
Construction and mechanics of merchandising flowers and plants at retail.

COURSE DESCRIPTIONS

AGH 104 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: AGH 103

AGH 111 2 2 0 0 0
INTRO TO TURFGRASS MANAGEMENT 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: AGH 221, AGA 154, 157

AGH 120 3 2 2 0 0
HERBACEOUS PLANT MATERIALS VOC/TECH
The identification, morphology, landscape use and culture of native and nonnative plants of the Upper Midwest. Emphasis on early and midseason perennials and annuals. The following courses should be completed or taken currently: AGH 155, 123

AGH 123 3 1 4 0 0
WOODY PLANT MATERIALS VOC/TECH
The identification, morphology, landscape use and culture of native and nonnative woody plants of the Upper Midwest. First 10 weeks, emphasis on deciduous plants. Last 5 weeks, emphasis on evergreens.
Corequisite: AGH 159

AGH 132 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 greenhouse. Prerequisite: AGH 221, AGA 157, 154

AGH 133 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: AGH 132

AGH 142 3 2 2 0 0
CONSTRUCTION, SAFETY & MAINT. VOC/TECH
Principles and practices of residential landscape construction. Encompasses process from initial client contact to installation of plant material and hardscape. Laboratory work involves landscape installation using landscape materials and techniques.

AGH 154 3 1 4 0 0
RESIDENTIAL LANDSCAPE DESIGN VOC/TECH
Fundamentals of landscape design for homes are presented. Introduction to principles of landscaping as they apply to residential landscaping. Students are given opportunities to draw basic residential landscape plans. Prerequisite or Corequisite: AGH 159, 123 must be taken with or prior to this course.

AGH 155 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: AGH 154, 159, 123; Corequisite: AGH 120

AGH 159 2 2 0 0 0
LANDSCAPE DRAFTING VOC/TECH
Introduction to landscape drafting and associated drafting equipment and materials. Corequisite: AGH 123

AGH 160 2 1 2 0 0
IRRIGATION SYSTEMS VOC/TECH
A study of the design, installation use and 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 discussed. Prerequisite: AGA 154, 157, AGH 111

AGH 211 3 2 2 0 0
ADVANCED TURFGRASS MANAGEMENT VOC/TECH
Turf management practices on golf and recreation areas with practical experience in maintaining turf on outdoor campus facilities. Prerequisite: AGH 111

AGH 221 3 3 0 0 0
PRINCIPLES OF HORTICULTURE 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 and transpiration.

AGH 233 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: AGH 221, AGA 154, 157

AGH 241 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. Precompetition practices of field layout along with post-competition practices of repair and field recovery will be discussed. Prerequisite: AGH 111, AGA 154, 157

AGH 251 2 2 0 0 0
INSECTS AND DISEASES VOC/TECH
Identification of diseases and insects that frequently infest horticultural crops and plant materials. Structures, functions and life cycles of these pests will be studied with environmental conditions favoring development. Chemical, organic, biological and mechanical control methods will be presented. A collection will aid in the ID process.

AGH 262 3 2 2 0 0
FRUIT AND 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: AGH 221, AGA 154, 157

AGH 272 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: AGH 221, AGA 154, 157

AGH 281 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: AGH 221, AGA 154, 157

AGH 283 2 2 0 0 0
PESTICIDE APPLICATION CERTIFIC 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.

AGH 292 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.

AGH 805 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: AGH 132, 111, 123

AGH 815 2 0 0 0 10
HORTICULTURE INTERNSHIP II VOC/TECH
An 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: AGH 805

AGM 335 3 3 0 0 0
PETROLEUM PRODUCTS IN AG 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.

AGP 333 3 2 2 0 0
PRECISION AGRICULTURE APPL. 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.

AGS 113 3 3 0 0 0
SURVEY OF THE ANIMAL INDUSTRY VOC/TECH
An analysis of the livestock industry with emphasis on reproduction, inheritance, performance testing, selection and marketing.

AGS 222 3 2 2 0 0
SURVEY OF AQUACULTURE INDUSTRY 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.

AGS 225 3 3 0 0 0
SWINE SCIENCE 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. Required: Permission of instructor or AGS 319, 113

AGS 226 3 3 0 0 0
BEEF CATTLE SCIENCE 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 AGS 319, 113

AGS 242 3 3 0 0 0
ANIMAL HEALTH VOC/TECH
A survey of diseases of large domestic animals, including discussion of causes, transmission, prevention and control.

AGS 245 1 1 0 0 0
INTRODUCTION TO ANIMAL DISEASE VOC/TECH
This course covers the disease processes, primary and contributing causes, treatments and prevention of common medical and surgical diseases in domestic animals. Prerequisite: AGV 120

AGS 319 3 3 0 0 0
ANIMAL NUTRITION 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.

AGS 323 3 3 0 0 0
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: AGS 319

AGV 120 1 1 0 0 0
VETERINARY MEDICAL TERMINOLOGY VOC/TECH
Course covers the origins of common medical terms used in the veterinary field. Using analysis of the word parts, the student will be able to determine the definition of medical terminology. Prerequisite: Instructor approval for program admission

AGV 124 1 0 2 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.

AGV 129 3 3 0 0 0
VETERINARY PHYSIOLOGY VOC/TECH
Physiology with a veterinary clinical emphasis. Provides the basis for study of confirmation, production and pathological processes of diseases of dogs, cats, horses, sheep, cattle, swine and laboratory animals. Prerequisite: AGV 120, 124; Corequisite: BIO 733

AGV 133 3 2 2 0 0
VETERINARY CLINIC PATHOLOGY I VOC/TECH
This course covers parasite identification and testing and various sample collection, procedure and interpretation for common diagnostic testing performed in the veterinary laboratory.

AGV 134 3 2 2 0 0
VETERINARY CLINIC PATHOLOGY II VOC/TECH
Continues Veterinary Clinical Pathology I with emphasis on coagulation studies and clinical Chemistry. Selected serological tests will also be covered. Prerequisite: AGV 120, 124, 133

COURSE DESCRIPTIONS

AGV 138 1 0 2 0 0
CLINICAL PATHOLOGY LAB VOC/TECH
A review of current clinical laboratory practices in veterinary pathology. Prerequisite: AGV 134

AGV 139 1 1 0 0 0
INTRO 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.

AGV 141 2 2 0 0 0
ADV VETERINARY PHARMACOLOGY VOC/TECH
This course is designed to provide advanced knowledge in specific medication classification, usage and effects. Prerequisite: AGV 139

AGV 160 4 2 4 0 0
ANESTHESIA/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 postoperative patient management. Prerequisite: AGV 120, 124, 141

AGV 164 2 1 2 0 0
CLINICAL MGMT DOMESTIC SPECIES VOC/TECH
This course covers the management and husbandry of animals housed in a hospital or shelter situation. Proper kennel cleaning & disinfection, record-keeping, monitoring of health parameters, nutrition, bathing, administration of common medications and diagnostic sampling. Prerequisite: AGV 120

AGV 165 2 1 2 0 0
CLIN MGMT 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: AGV 120

AGV 166 3 1 4 0 0
VETERINARY NURSING CARE VOC/TECH
Introduces the fundamentals of animal nursing, including handling, restraint, patient history and admissions and emergency handling. Prerequisite: AGV 129, BIO 733

AGV 172 3 2 2 0 0
LARGE ANIMAL MEDICINE/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: AGV 160

AGV 180 2 1 2 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: AGV 120, 124

AGV 266 2 1 2 0 0
ADV VETERINARY NURSING CARE VOC/TECH
Continues Veterinary Nursing Care with emphasis on advanced veterinary nursing procedures. Prerequisite: AGV 166

AGV 932 4 0 0 0 20
VET TECHNOLOGY INTERNSHIP VOC/TECH
Internship experience within a veterinarian related business with an emphasis on animal care procedures. Prerequisite: AGV 134, 141

ANT 100 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.

ANT 105 3 3 0 0 0
CULTURAL ANTHROPOLOGY CORE
The study of human cultures and their diversity. Those who take this course should develop some understanding not only of the differences that people all over the world experience in their lives and in their perceptions of others, but also those elements that are common to the human experience. This course will entail application of principles and theory to various aspects of field work. Completing Introduction to Anthropology would be helpful; however, it is not a requirement.

ANT 110 3 3 0 0 0
FACES OF CULTURE GENERAL
A television course in cultural anthropology that 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 that provides for the survival of the species.

ANT 125 3 3 0 0 0
APPLICATIONS OF ANTHROPOLOGY GENERAL
Applied anthropology uses anthropological and interdisciplinary theory and research to address social issues. This course introduces students to basic concepts in four-field anthropology, with an emphasis on cultural anthropology and it provides an overview of major specializations and current research topics. Students will engage in primary, community-based research through a course project on a topic of choice within one applied specialty. Students in all programs of study at DMACC may benefit through better understanding of qualitative research processes, the broad array of social issues that applied anthropologists study and critical thinking and writing that are necessary to Problem solving and understanding of culture and society. Prerequisite or Corequisite: ANT 100 or 105 or instructor approval

ANT 150 3 3 0 0 0
GLOBAL ISSUES-LOCAL PERSPEC GENERAL
Examines a variety of ways in which global connections affect cultural groups. Introduces the concepts and historical backdrop needed to understand global processes with specific cases from anthropological research that illuminate ties between local effect and general changes. The concept of "culture" is explained from critical and historical perspectives, along with recent shifts in theorizing and applying anthropological knowledge. The uses of qualitative field research in studies of globalization are emphasized. Students conduct a small, topic-focused research project to see how globalization affects local processes in Iowa. Prerequisite or Corequisite: ANT 100 or 105 or instructor approval

APP 111 3 3 0 0 0
VISUAL MERCHANDISING & DESIGN VOC/TECH
Focus will be learning design principles and design elements in visual merchandising and merchandise display. An emphasis is placed on planning and designing successful interior store or business displays and windows with the six components as well as implementing all of the design principles.

APP 211 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.

APP 230 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 PowerPoint presentation. Use of this information results in creation of a promotional plan to establish fashion leadership. Prerequisite: APP 260

APP 250 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.

APP 260 3 3 0 0 0
FASHION ANALYSIS AND 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.

APP 270 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. Vendor analysis, open-to-buy and timing are studied, including the development of a six-month merchandise plan.

APP 291 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: APP 260

ARC 114 5 2 6 0 0
ARCHITECTURAL DRAFTING I VOC/TECH
Practical application of the basic skills of drafting involving the necessary thought process. A complete set of residential drawings will be developed by hand–involving plans, elevations, sections and details.

ARC 116 2 2 0 0 0
CONSTRUCTION ESTIMATING VOC/TECH
An orderly process of accounting for the items involved in the construction project.

ARC 127 5 2 6 0 0
ARCHITECTURAL DRAFTING II VOC/TECH
This course will apply practical application of the basic skills of drafting involving the mechanics and the necessary thought process. Prerequisite: ARC 114 and CAD 401

ARC 128 5 2 6 0 0
ARCHITECTURAL DRAFTING III VOC/TECH
Drawings will be developed of a small commercial building using Building Information Modeling software. Prerequisite: ARC 127

ARC 165 3 3 0 0 0
MATERIALS & ASSEMBLIES I VOC/TECH
An introduction to building materials and assemblies through the Construction Specifications Institute's MasterFormat accounting and management system.

ARC 167 3 3 0 0 0
MATERIALS & ASSEMBLIES II VOC/TECH
An introduction to building materials and assemblies through the Construction Specifications Institute's MasterFormat accounting and management system. Prerequisite: ARC 165

ARC 169 3 3 0 0 0
MATERIALS & ASSEMBLIES III VOC/TECH
An introduction to building materials and assemblies through the Construction Specifications Institute's MasterFormat accounting and management system. Prerequisite: ARC 167

ARC 180 2 2 0 0 0
BUILDING CODES VOC/TECH
A look into building codes and their interpretation.

ARC 181 2 2 0 0 0
CONSTRUCTION DOCUMENTS TECH VOC/TECH
An investigation into the Construction Specification Institute's Construction Documents Technologist certification material and examination.

ARC 190 3 1 4 0 0
PRESENTATION GRAPHICS VOC/TECH
Exploration into architectural presentation graphics, schematic and finish presentation styles. Students will have an option of media to produce presentation graphics for their portfolios. Prerequisite: ARC 127 or instructor permission

ART 101 3 3 0 0 0
ART APPRECIATION CORE
A general survey course that 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.

ART 102 3 2 2 0 0
ARTS FOR ELEMENTARY EDUCATION GENERAL
Designed for students in education and recreation to assist them with design, construction and planning for multiart forms and materials for instructional situations.

COURSE DESCRIPTIONS

ART 133 3 0 6 0 0
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.

ART 136 3 0 6 0 0
LIFE DRAWING GENERAL
Drawing and painting a live model. Emphasis on structure, movement and expression.

ART 143 3 0 6 0 0
PAINTING GENERAL
Acrylic painting with emphasis on still life, landscape and individual composition.

ART 148 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.

ART 173 3 0 6 0 0
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 hand-building and wheel-throwing. Concepts in ceramic art discussed, connecting cultures, artists and contemporary objects.

ART 174 3 0 6 0 0
CERAMICS II 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

ART 176 3 0 6 0 0
TILEMAKING GENERAL
Design and fabricate tiles for specific applications, while emphasizing critical processes of working with clay. Transforms two-dimensional drawings to pieces in three dimensions. Study new theories in "Visual Communication."

ART 184 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.

ART 186 3 2 2 0 0
PRINCIPLES 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 megapixels, capable of interchangeable lenses.

ART 195 3 3 0 0 0
DESIGN: EXPLORING ART MEDIA GENERAL
An introduction to basic techniques in media such as paper-making, clay, fibers and soft sculptures. Students will explore variety of traditional approaches to express a contemporary vision.

ART 225 3 2 2 0 0
PHOTOSHOP FOR PHOTOGRAPHY OPEN
Whether you shoot film or digital, this hands-on course teaches you everything you need to know to scan, process, manipulate and print high-quality photographs digitally from Adobe Photoshop, the industry-standard software for the digital darkroom.

ART 226 3 2 2 0 0
ALTERNATIVE PHOTO PROCESSES OPEN
For students who have mastered the basic photographic principles and process. This class will be a guide that demonstrates a variety of alternative processes, encompassing both traditional and nontraditional techniques. Topics include Litho Printing, EIR Film, HIE Film, Spray Developing, Fotodye, Tone Zone, Sun-printing and Photograms. Prerequisite: ART 184, ART 186

ART 289 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. (This course uses digital cameras only.)

ART 291 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: ART 184

ART 292 3 2 2 0 0
STUDIO PHOTOGRAPHY VOC/TECH
Students learn to arrange and compose a photograph in a deliberate process. Students learn to analyze the elements in a scene, arrange them and use artificial light for the desired effect. Projects test student imagination, creativity, technical skills and willingness to experiment while improving their photographic expertise.
Prerequisite: ART 184, ART 186

ART 929 2-6 0 0 6-18 0
INDIVIDUAL PROJECTS OPEN
Students will have the opportunity to further develop their photographic expertise in one or more of the following photography classifications: Architectural, Banquet, Postcards/Marketing Publications, Business Portraits, Fine Arts, Fashion, Furniture, Industrial, Illustrative, Photojournalism, Public Relations, Conventions/Special Events, Educational, Weddings. Students meet with instructor for project review once a week until project is completed. This course is repeatable up to 6 credits.
Prerequisite: ART 226, ART 289, ART 291, ART 292

ASL 151 5 4 2 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 181 5 4 2 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 151 or instructor permission

ASL 251 5 4 2 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 finger spelling (including numbers and loan signs). In addition, ASL semantics and syntax (including conversational regulators) will be introduced. Prerequisite: ASL 181 or instructor permission

ASL 291 5 4 2 0 0
AMERICAN SIGN LANGUAGE IV CORE
This course expands the principles in ASL III. The 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 251 or instructor permission

ASM 150 1 1 0 0 0
COMMUNICATION WITH THE ELDERLY OPEN
This course will introduce strategies and concepts to improve communication with the elderly population. Prerequisite: Instructor approval

ASM 155 1 1 0 0 0
IMPACT OF DEMOGRAPHICS OPEN
This course will address demographic changes in the elderly population and the impact on society. Prerequisite: Instructor approval

ASM 160 1 1 0 0 0
ASPECTS OF AGING OPEN
This course will examine the physiological, biological and psychological changes as they relate to the aging process. Prerequisite: Instructor approval

ASM 165 1 1 0 0 0
HEALTHY AGING OPEN
This course will examine the research of healthy aging and the results of improving the quality of life in advancing years. Prerequisite: Instructor approval

ASM 180 1 1 0 0 0
CULTURAL DIVERSITY OPEN
This course will explore cultural diversity as it relates to race, national origin, gender and culture in the aging population. Prerequisite: Instructor approval

ASM 200 1 1 0 0 0
DEPRESSION, DEATH & GRIEVING OPEN
This course will cover depression, death, loss and the grieving process for both the family and the professional caregiver. Prerequisite: Instructor approval

ASM 238 3 3 0 0 0
FINANCIAL MANAGEMENT IN AS 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 the student have taken ACC 111 or ACC 131 prior to this course.

ASM 239 2 2 0 0 0
INFO 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.

ASM 251 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 that govern the long-term health care services. This will include the agencies that originate, implement and monitor the regulations.

ASM 252 2 2 0 0 0
GOVERNANCE OF SUPPORTED 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.

ASM 253 2 0 0 0 9
LTC PRACT: 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.

ASM 254 2 0 0 0 9
LTC PRACT: 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.

ASM 255 2 0 0 0 9
LTC PRACT: 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 in carrying out his/her roles and responsibilities.

ASM 256 2 0 0 0 8
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.

COURSE DESCRIPTIONS

ASM 257 **21030**
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. Students will investigate potential capstone projects with instructor.

ASM 274 **33000**
LAW & ETHICS IN HEALTH CARE **OPEN**
An introduction to law and its relationship to senior 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.

ASM 278 **33000**
MANAGEMENT IN SENIOR CARE SERV **OPEN**
Relates fundamental management principles in the senior care setting. Focuses on management processes and organizational behavior in senior care organizations, health care facilities and other senior health services agencies.

ASM 279 **33000**
HEALTH CARE HUMAN RESOURCES **OPEN**
Study of 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.

ASM 280 **22000**
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.

ASM 282 **22000**
AGING SERVICES **OPEN**
Aging Services 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.

ASM 283 **22000**
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.

ASM 295 **33000**
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 emphasis upon appropriate resolution and adjustment.

ASM 800 **11000**
SEMINAR I **OPEN**
The seminar will meet twice to discuss topics, issues and methods for applying the knowledge acquired from the modules as they relate to the elderly population. Prerequisite: Instructor approval

ASM 805 **11000**
SEMINAR II **OPEN**
The seminar will meet twice to discuss topics, issues and the application of knowledge from the modules as they relate to the elderly population. Prerequisite: Instructor approval

ATC 312 **42400**
CHRYSLER ELECTRIC/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. Prerequisites: Admission to CAP (Chrysler Automotive Program)

ATC 317 **43200**
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 maintenance related to automotive task competencies. Prerequisite: Admission to Cap (Chrysler Automotive Program)

ATC 318 **43200**
BASIC BRAKES **VOC/TECH**
Instruction in the theory of operation and service procedures of Chrysler brakes. Prerequisite: Admission to CAP (Chrysler Automotive Program)

ATC 320 **300018**
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 coursework. A task list will be issued to each dealer. ATC 328 and ATC 329 are required the same semester.

ATC 328 **43200**
CHRYSLER ELEC SYSTEMS REPAIR **VOC/TECH**
Instruction in the diagnosis, repair and service of electrical and electronic components and accessories used on current Chrysler vehicles. Prerequisite: ATC 312, MAT 772

ATC 329 **31400**
CHRYSLER STEERING & SUSPENSION **VOC/TECH**
Instruction in the theory of operation and service procedures of Chrysler steering and suspension systems. Prerequisite: ATC 317, 318

ATC 330 **300018**
TECHNICAL INTERNSHIP II **VOC/TECH**
Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous coursework. Prerequisite: ATC 328, 329

ATC 335 **53400**
SERVICE/REPAIR CHRYSLER ENGINE **VOC/TECH**
Principles and operations of Chrysler engines. Service procedures and engine component repair or replacement will be emphasized. Diagnosis of engine problems will also be covered. Prerequisite: ATC 317

ATC 336 **31400**
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: ATC 328

ATC 340 **300018**
TECHNICAL INTERNSHIP III **VOC/TECH**
Work experience at a sponsoring dealership. The tasks will be consistent with the technician's ability and previous coursework. Prerequisite: ATC 335

ATC 346 **53400**
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: ATC 335, 336

ATC 347 **31400**
CHRYSLER HEATING & AC **VOC/TECH**
Theory and operation of Chrysler air conditioning systems leading to the diagnosis, service and repair of current models of Chrysler vehicles. Prerequisite: ATC 312, 317

ATC 350 **300018**
TECHNICAL INTERNSHIP IV **VOC/TECH**
Work experience at a participating dealership. Tasks will be consistent with the technician's ability and previous coursework. ATC 340

ATC 354 **42400**
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: ATC 340

ATC 355 **42400**
CHRYSLER AUTOMATIC DRIVETRAINS **VOC/TECH**
Provides an understanding of the principles of operation in automatic transmission and transaxles including electronic controls. Proper diagnosis, service and repair procedures of these systems are studied and practiced. Prerequisite: ATC 317, 346

ATC 356 **53400**
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: ATC 346

ATC 360 **200012**
TECHNICAL INTERNSHIP V **VOC/TECH**
Work experience at a participating dealership. Tasks will be consistent with the technician's ability and previous coursework. Prerequisite: ATC 350

ATF 280 **41600**
FORD STEERING/SUSP/BRAKES **VOC/TECH**
Instruction in the theory of operational service procedures used in the maintenance and repair of Ford Motor Company's base steering, suspension and brakes systems. Prerequisite: Admission to ASSET program.

ATF 290 **21200**
ADV. FORD STEERING/SUSP/BRAKE **VOC/TECH**
Instruction in the theory and operation service procedures used in the maintenance and repair of Ford Motor Company's base steering, suspension and brake systems. Prerequisite: Admission to Automotive Student Service Ed Training and ATF 328, ATF 280

ATF 312 **53400**
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

ATF 317 **32200**
FORD SHOP FUND & MINOR SVC **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

ATF 320 **300018**
TECHNICAL INTERNSHIP I **VOC/TECH**
Work experience at a sponsoring dealership. The tasks will be consistent with the technician's ability and previous coursework. Prerequisite: Admission to Automotive Student Service Ed Training (ASSET) and ATF 312, 317

ATF 326 **32200**
FORD AUTO AC 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 (ASSET) ATF 328

ATF 328 **53400**
DIAGNOSIS/REPAIR FORD ELEC SYS **VOC/TECH**
Instruction in the diagnosis, repair and service of electrical and electronic components and accessories used on current Ford Motor Company vehicles. Required: Admission to Automotive Student Service Ed Training. Prerequisite: ATF 312

ATF 330 **300018**
TECHNICAL INTERNSHIP II **VOC/TECH**
Work experience at a participating dealership. The tasks will be consistent with the technician's ability and previous coursework. Prerequisite: Admission to Automotive Student Service Ed Training (ASSET) and ATF 318, 320, 328

ATF 333 **42400**
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 (ASSET) and ATF 317

ATF 336 **32200**
FORD FUEL SYSTEMS & INJECTION **VOC/TECH**
Theory of carburetion 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 (ASSET) and ATF 328 Corequisite; ATF 337

ATF 337 **43200**
FORD TUNE-UP PROC & EMIS CNTRL **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 (ASSET) and ATF 328; Corequisite: ATF 336

COURSE DESCRIPTIONS

ATF 340 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 coursework. Prerequisite: Admission to Automotive Student Service Ed Training (ASSET) and ATF 330, 326, 336, 337, PHY 710

ATF 344 2 1 2 0 0
FORD DRIVELINE & 4X4 DIAG/RPR 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 (ASSET)

ATF 345 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 (ASSET)

ATF 346 4 3 2 0 0
FORD TRANSMISSION & TRANSAXLE VOC/TECH
This is the study of Ford automatic transmissions and transaxles including design, operation, diagnosis and repair. Prerequisite: Admission to Automotive Student Service Ed Training (ASSET)

ATF 350 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 coursework. Prerequisite: Admission to Automotive Student Service Ed Training (ASSET) and ATF 333

ATF 354 5 3 4 0 0
FORD ADV ENGINE CNTRLS, 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 and ATF 333

ATG 312 4 3 2 0 0
GM SPECIALIZED ELECTRONICS TRN 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 (ASEP)

ATG 316 4 2 4 0 0
GM SHOP FUND & MINOR SERVICE VOC/TECH
A study of dealership organizational structure as it relates to the technician. Students use service manuals, electronic troubleshooting manuals and service bulletins. Also provides entry-level automotive task competencies. Prerequisite: Admission to Automotive Service Educational Program

ATG 320 4 2 4 0 0
GM BRAKE SYSTEMS VOC/TECH
Instruction in the theory of operation and service procedures used in the maintenance and repair of General Motors brake systems. Prerequisite: Admission to Automotive Service Educational Program

ATG 322 3 1 4 0 0
GM STEERING & SUSPENSION VOC/TECH
Instruction in the theory of operation and service procedures used in the maintenance and repair of General Motors steering and suspension systems. Prerequisite: Admission to Automotive Service Educational Program

ATG 326 3 2 2 0 0
GM AUTO AC 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: Admission to Automotive Service Educational Program, ATG 312, 316

ATG 327 3 2 2 0 0
MINOR SVC/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: Admission to Automotive Service Educational Program, ATG 316

ATG 328 3 2 2 0 0
DIAGNOSIS/REPAIR-GM ELECT SYS VOC/TECH
Instruction in the diagnosis, repair and service of electrical and electronic components and accessories used on current GM vehicles. Prerequisite: Admission to Automotive Service Educational Program, MAT 772, ATG 312, ATG 316

ATG 329 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 coursework. A task list will be issued to each dealer. Prerequisite: Admission to Automotive Service Educational Program, MAT 772, ATG 312, ATG 316, ATG 320 and ATG 322.

ATG 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 coursework. Prerequisite: ATG 329, 328

ATG 333 3 2 2 0 0
MAJOR SERVICE PROC/GM ENGINES VOC/TECH
Evaluating, reconditioning and replacing of major components of GM engines. Instruction will also include diagnostic routines. Prerequisite: ATG 327

ATG 336 3 2 2 0 0
GM FUEL SYSTEMS VOC/TECH
Theory of carburetion principles and current model fuel delivery systems to include diesel fuel systems, electro-mechanical carburetors and gasoline fuel injection. Prerequisite: Admission to Automotive Service Educational Program and ATG 328

ATG 337 4 3 2 0 0
GM TUNE-UP PROC & EMSSN CNTRL 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: ATG 336

ATG 340 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 coursework. Prerequisite: ATG 330, 344, 345

ATG 344 4 2 4 0 0
GM MANUAL DRIVETRAINS VOC/TECH
Provides an understanding of the principles of operation in manual powertrains 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: ATG 317, AUT 109

ATG 345 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: ATG 317, AUT 109

ATG 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 coursework. Prerequisite: ATG 340

ATG 354 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: ATG 350

AUT 109 3 2 2 0 0
AUTO MEASUREMENT & TOOLS VOC/TECH
This course provides instruction in the correct selection and use of mechanics' tools and precision measuring devices. Shop safety will be emphasized.

AUT 140 2 0 4 0 0
WELDING FOR AUTOMOTIVE MECHANI 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.

AUT 163 3 2 2 0 0
AUTOMOTIVE ENGINE REPAIR 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: AUT 109

AUT 173 3 1 4 0 0
ADV AUTOMOTIVE ENGINE REPAIR 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: AUT 163

AUT 242 6 3 6 0 0
BASIC AUTOMOTIVE POWERTRAIN 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.

AUT 243 6 2 8 0 0
ADV AUTOMOTIVE POWERTRAIN VOC/TECH
The student will study powertrain and drive-line systems. Proper diagnosis procedures, service and repair will be emphasized through hands-on experience. Prerequisite: AUT 242

AUT 404 4 2 4 0 0
BASIC SUSPENSION & STEERING VOC/TECH
Instruction in the theory of operation and service procedures of automotive alignment and suspension systems.

AUT 503 3 2 2 0 0
AUTOMOTIVE BRAKE SYSTEMS VOC/TECH
Instruction in the theory of operation and service procedures of automotive brakes.

AUT 535 5 2 6 0 0
ADVANCED AUTO BRAKES & ALIGNME VOC/TECH
The student will study advanced brakes and alignment theory, practice proper diagnosis, service and repair procedures through hands-on experience. Prerequisite: AUT 503, 404

AUT 603 3 1 4 0 0
BASIC AUTOMOTIVE ELECTRICITY VOC/TECH
Provides instruction in theory and operation of automotive electrical circuits. Safety, meters and service information will be emphasized.

AUT 652 3 1 4 0 0
ADV AUTOMOTIVE ELECTRICITY VOC/TECH
Provides instruction in the diagnosis, repair and service of electrical and electronic components found on current vehicles. Prerequisite: AUT 603

AUT 704 4 2 4 0 0
AUTO HEATING & AC 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.

AUT 823 4 2 4 0 0
ADVANCED AUTOMOTIVE 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: AUT 844

AUT 834 4 2 4 0 0
AUTOMOTIVE 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.

AUT 844 6 3 6 0 0
AUTO ELECTRONIC ENGINE CONTROL 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: AUT 834

AUT 845 2 1 2 0 0
ELECTRICAL SYSTEMS DIAGNOSIS VOC/TECH
Instruction in techniques and procedures required to diagnose and service microprocessor-controlled body electrical systems. Prerequisite: AUT 603, 652, 844

AUT 870 2 1 2 0 0
AUTOMOTIVE SERVICE MANAGEMENT VOC/TECH
Provides instruction in customer relations, service sales, shop management and business practices in the automotive shop.

COURSE DESCRIPTIONS

AVI 130 3 3 0 0 0
PRIVATE PILOT GROUND SCHOOL VOC/TECH
Provide aeronautical knowledge to meet the prerequisite in FAR Part 61 for the FAA Private Pilot Exam.

AVI 213 3 3 0 0 0
INSTRUMENT FLIGHT THEORY VOC/TECH
To provide the student with the necessary aeronautical knowledge to meet the prerequisites specified in FAR Part 61 for the FAA instrument pilot written examination.

AVM 100 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.

AVM 103 2 1 2 0 0
AIRCRAFT-MATERIALS/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.

AVM 104 2 1 2 0 0
REGULATIONS AND 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.

AVM 107 1 0 2 0 0
WEIGHT AND BALANCE VOC/TECH
The student will be given instruction concerning aircraft specifications, aircraft weight and balance records, weighing procedures, jacking and leveling, moment arms, reading scales, recording weights, nomenclature and algebraic signs.

AVM 111 1 0 2 0 0
GROUND OPERATIONS & 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.

AVM 112 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.

AVM 121 1 1 0 0 0
WEATHER AND WARNING SYSTEMS VOC/TECH
The course will cover systems associated with positioning, warning and weather control. Topics covered will include inspection, servicing, configuration, electrical brakes, anti-skid systems, landing gear indicators, warning systems and airframe ice and rain control systems.

AVM 124 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.

AVM 125 5 3 4 0 0
AIRFRAME STRUCTURE AND REPAIR VOC/TECH
A course for students in aviation that 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.

AVM 129 2 1 2 0 0
LANDING GEAR & BRAKE SYSTEMS VOC/TECH
The 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.

AVM 132 2 1 2 0 0
AIRFRAME/POWERPLANT INSPECTION VOC/TECH
The course covers inspections related to aircraft engines and airframes. Airframe and engine conformity and air-worthiness inspections will be units of instruction.

AVM 133 3 1 4 0 0
HYDRAULIC/PNEUMATIC POWER SYS VOC/TECH
This course will involve a complete study of the hydraulic and pneumatic systems contained within aircraft. Components of each area will be covered to include identification, installation, repair, inspection, troubleshooting and replacement of the systems.

AVM 139 1 0 2 0 0
INSTRUMENTS/FIRE PROTECTION-PP VOC/TECH
The course will cover aircraft instrument systems, engine fire protection systems and smoke and carbon monoxide detection systems.

AVM 141 1 0 2 0 0
CONTROL SYSTEMS VOC/TECH
The course covers heating, cooling, pressurization, air cycling and oxygen systems.

AVM 142 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.

AVM 145 1 0 2 0 0
AIRCRAFT WELDING VOC/TECH
The 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.

AVM 147 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.

AVM 148 1 0 2 0 0
ENGINE LUBRICATION SYSTEMS VOC/TECH
The 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.

AVM 151 2 1 2 0 0
ENGINE FUEL/METERING VOC/TECH
A course designed to cover the fuel metering system of aircraft. Topics include inspection, service, trouble-shooting, repair, replacement of various types of fuel metering systems.

AVM 154 8 2 1 2 0 0
AIRCRAFT ENGINES: RECIPROCATING VOC/TECH
Aircraft engines that 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.

AVM 155 3 1 4 0 0
AIRCRAFT PROPELLER SYSTEMS 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.

AVM 157 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, trouble-shooting, 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.

AVM 160 2 0 4 0 0
AIRCRAFT ELECTRICAL SYSTEMS VOC/TECH
The course is a study of electrical systems of the aircraft engine. Units to be covered include troubleshooting, wiring controls, switches, indicators, protective devices and components repair.

AVM 161 3 1 4 0 0
AIRCRAFT IGNITION SYSTEMS VOC/TECH
The 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: AVM 112

AVM 165 2 1 2 0 0
COMMUNICATION AND NAVIGATION VOC/TECH
Basic units will involve study of autopilots, systems, servos systems, approach coupling systems, navigation systems, electronic communication systems, antenna systems, static pressure systems, flight instrument systems and all position indicating systems.

AVM 168 1 1 0 0 0
FLUID LINES AND 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.

AVM 170 2 1 2 0 0
AIRCRAFT DRAWINGS VOC/TECH
A course to develop understanding of aircraft drawings, symbols and schematics. Blueprint information, graphing, charting and drawing will be topics covered as they relate to aircraft.

BCA 111 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.

BCA 113 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: CSC 110

BCA 122 1 0 2 0 0
BASIC WORD PROCESSING VOC/TECH
Hands-on instruction using WORD in the Windows environment. Special features include working with Windows, speller, Thesaurus, merge and sort.

BCA 133 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 25 NWPM for three minutes.

BCA 137 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: BCA 133.

BCA 146 1 0 2 0 0
BASIC SPREADSHEETS VOC/TECH
Orientation to Excel. Topics include spreadsheet layout and terminology, charting, enhancing a worksheet and chart. Designed for beginning users of Excel.

BCA 164 1 0 2 0 0
BASIC DATABASES VOC/TECH
Introduction to Access database management system. Topics include creating, editing, querying, using forms, reports, customizing and managing data and files.

BCA 174 1 0 2 0 0
BASIC PRESENTATION SOFTWARE 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.

BCA 212 3 2 2 0 0
INTRO COMPUTER BUSINESS APPL 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.

BCA 213 3 2 2 0 0
INTERMED COMPUTER BUSINESS APP VOC/TECH
Develop a proficiency in decision making using computer software applications. Producing final documents for real business applications such as file integration, online forms, linked spreadsheets and desktop publishing are emphasized. Prerequisite: BCA 212 or CSC 110

COURSE DESCRIPTIONS

BCA 214 3 2 2 0 0
ADV COMPUTER BUSINESS APPL 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 administering a database and creating complex presentations are emphasized. Prerequisite: BCA 213

BCA 250 3 2 2 0 0
DESKTOP PUBLISHING 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: BCA 212 or CSC 110

BIO 100 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.

BIO 104 3 2 2 0 0
INTRODUCTORY BIOLOGY W/LAB 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 experiences.

BIO 112 4 3 2 0 0
GENERAL 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

BIO 113 4 3 2 0 0
GENERAL BIOLOGY II CORE
Second semester of biology for majors. Topics covered include: fungi, plants, animals and ecology. It is recommended that BIO 112 be taken prior to this course. Prerequisite: H.S. biology and H.S. chemistry or equivalent

BIO 138 3 2 2 0 0
FIELD ECOLOGY 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.

BIO 145 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.

BIO 146 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: BIO 112 or BIO 187

BIO 156 3 2 2 0 0
HUMAN BIOLOGY W/LAB CORE
A study of Biology that 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.

BIO 164 5 3 4 0 0
ESSENTIALS 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

BIO 168 4 3 2 0 0
ANATOMY & PHYSIOLOGY I CORE
Anatomy & Physiology I covers the structure and function of the human body from the cellular level to organ systems. Topics at the cellular level include the fundamental basics of chemistry, cell structure and cellular metabolism, genetics and histology. The organ systems studied are the skin and integumentary system, the skeletal and muscular systems, the nervous system and the senses. Lecture and lab must be taken concurrently. Prerequisite: A grade of "C" or better in BIO 156 Human Biology or a "C" or better in high school anatomy within the last five years

BIO 173 4 3 2 0 0
ANATOMY & PHYSIOLOGY II CORE
Anatomy and Physiology II is a continuation of Anatomy & Physiology I. The following organ systems are covered: the endocrine system, blood and the cardiovascular system, the lymphatic system and immunity, the respiratory system, the urinary system, the digestive system including nutrition and the reproductive system. Other topics included in the course are: the body's balance of water; electrolytes and acids and bases; and an introduction to human growth and development. Lecture and lab must be taken concurrently. Prerequisite: A grade of "C" or better in BIO 168 Anatomy and Physiology I

BIO 187 4 2 4 0 0
MICROBIOLOGY W/LAB CORE
A general microbiology course with laboratory designed for the science major. Emphasis is placed on microbial morphology, physiology, microbial genetics, virology and basic immunology. Prerequisite: One semester of any college-level biology course

BIO 225 4 3 2 0 0
MARINE BIOLOGY I GENERAL
Students will study polar, temperate and tropical marine organisms and their environmental and ecological relationships. They will also examine the structure and function of marine flora and fauna using preserved and live specimens. The course includes hands-on laboratory activities, comparative anatomy, field observations, marine aquarium care, snorkeling, kayaking and introductory scuba. Prerequisite: High school or college biology

BIO 227 4 3 2 0 0
MARINE BIOLOGY II GENERAL
This course is the second in a series of two courses. The students will continue the study of polar, temperate and tropical marine organisms and their environmental and ecological relationships. They will also examine the structure and function of marine flora and fauna using preserved and live specimens. The course includes hands-on laboratory activities, comparative anatomy, field observations, marine aquarium care, snorkeling, kayaking and introductory scuba. Prerequisite: BIO 225

BIO 243 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: BIO 250

BIO 249 3 0 0 0 12
BIOTECHNOLOGY INTERNSHIP OPEN
This internship is the final requirement for the 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

BIO 250 5 2 6 0 0
CELL & MOLEC BIO-NUCLEIC ACIDS OPEN
This course is designed to provide training in requirement for biotechnology majors. Topics will include DNA and RNA structure, function and regulation. Strategies and tools used in genetic engineering will also be included. The lab component of the course will include lab safety, media preparation, cell culture techniques, solution preparation and other basic lab skills. Students will get hands-on training in the isolation, characterization and manipulation of nucleic acids, as well as PCR and Southern blotting. Prerequisite: BIO 104 and 112; Corequisite: BIO 187

BIO 251 5 2 6 0 0
CELL & MOLECULAR BIO-PROTEINS OPEN
This course is designed to provide training in techniques related to protein Chemistry and is a requirement for biotechnology majors. The course will focus on processes related to synthesis, control of synthesis and trafficking of proteins within the cell. Protein structure and function will be studied with special emphasis on enzymes and immunoproteins. The study of differential protein expression and regulatory mechnaisms will also be included. The lab component of the course will train the student in purification, characterization, handling and storage of proteins, enzyme mechanisms and kinectics, immunoassays and two-dimensional gel electrophoresis. Prerequisites: BIO 104, BIO 250, CHM 132, MAT 157; Corequisite: BIO 112

BIO 260 3 3 0 0 0
BIOLOGY OF AGING GENERAL
This course is designed for individuals planning to work with the elderly population. It covers changes that occur in body systems during 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.

BIO 732 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

BIO 733 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. This accompanying lab will reinforce lecture with cat dissection. Prerequisite: H.S. biology and chemistry or equivalent

BIO 734 3 2 2 0 0
HEALTH SCIENCE PHYSIOLOGY OPEN
Detailed explanation of human physiology including the nervous, cardiovascular, respiratory, digestive, urinary, lymphatic, skeletal, muscular and reproductive systems. Prerequisite: BIO 733, 164 or equivalent

BMA 165 1 1 0 0 0
BOILER ROOM MAINTENANCE VOC/TECH
Boiler accessories, fittings, controls, water treatment and fundamentals for beginners.

BMA 167 2 2 0 0 0
STEAM PLANT OPERATIONS VOC/TECH
High-pressure steam boilers, operation, controls, burning equipment instruments. Prerequisite: BMA 165

BMA 175 2 2 0 0 0
BASIC PLUMBING VOC/TECH
Plumbing, plumbing components, plumbing codes and reading blueprints.

BMA 177 3 2 2 0 0
INDUS. PLUMBING & 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.

BPT 102 2 2 0 0 0
INTRO TO BIOMASS PROCESS TECH VOC/TECH
This course describes the standard roles and responsibilities of the process technician to include mastering an understanding of basic equipment, design, operation and maintenance of a process control plant.

BPT 111 3 2 2 0 0
BIOMASS EQUIPMENT AND SYSTEMS VOC/TECH
Biomass Equipment and Systems is designed to cover the basic equipment and technologies associated with the processing of renewable energy fuels in the biomass industry.

BPT 112 3 2 2 0 0
BIOMASS TECH HEALTH/SAFETY VOC/TECH
This course is designed to focus on the key elements that contribute to the subject of Process Safety, Personnel Safety, Occupational Health and Safety, Transportation and Movement of Process Materials and safety in general.

BPT 125 2 2 0 0 0
PIPING & INSTRUMENT DIAGRAMS VOC/TECH
This course is designed to provide the basic fundamentals of how to read a Piping and Instrumentation Diagram (P & ID) beginning with symbols of individual components, numbering systems and line diagrams.

BPT 128 3 2 2 0 0
OPERATOR BIOMASS LAB PROCESS VOC/TECH
Biomass Laboratory Process and Techniques is designed to cover the different laboratory testing processes, sampling techniques and quality control requirements required for both the internal lab technician as well as the process plant operator.

BUS 102 3 3 0 0 0
INTRODUCTION 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.

COURSE DESCRIPTIONS

BUS 112 3 3 0 0 0
BUSINESS 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.

BUS 131 3 3 0 0 0
SMALL BUSINESS MGMT STRATEGIES VOC/TECH
Emphasizes human resource concepts and their applications to small business operations. Leadership development, management styles and decisionmaking strategies are stressed.

BUS 138 3 3 0 0 0
SMALL BUSINESS MARKETING VOC/TECH
Discussions and focus are on marketing applications. Workshops and strategies such as market research, product development, pricing, distribution, promotion, marketing campaigns and budgets.

BUS 141 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.

BUS 148 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.

BUS 150 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.

BUS 181 2 2 0 0 0
BASIC LAW FOR ENTREPRENEURS 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.

BUS 185 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.

BUS 186 3 3 0 0 0
BUSINESS LAW II GENERAL
Provides for overview of negotiable instruments, debtor/creditor law (collecting judgments), secured transactions, agency relationships and selecting the right business formation. Prerequisite: BUS 185

BUS 211 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 MAT 157, credit will not be granted for both BUS 211 and MAT 157. Prerequisite: 2 years of H.S. algebra or MAT 073 or department permission

BUS 213 2 2 0 0 0
STATISTICAL BUSINESS APPL. 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, hypotheses testing and computer analysis. Same content as MAT 160, credit will not be granted for both. Prerequisite: BUS 211 or MAT 157

BUS 215 1 1 0 0 0
INVESTING IN REAL ASSETS OPEN
This 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.

BUS 216 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.

BUS 218 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 lifestyle 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. Healthcare and housing issues are examined.

BUS 220 3 3 0 0 0
INTRO 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.

BUS 231 4 4 0 0 0
QUANTITATIVE METHODS/BUS DECNS GENERAL
An introduction to management research methods used in business. Topics include probability, breakeven analysis, inventory control, statistics and transportation models. Prerequisite: MAT 073 or intermediate Algebra or 2 years of high school Algebra or department permission

BUS 240 3 1 4 0 0
VIRTUAL BUSINESS FIRM OPEN
The Virtual Business Firm is a virtual business 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 organization 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 permission of instructor

BUS 250 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.

BUS 260 3 3 0 0 0
INTRODUCTION TO 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.

BUS 278 3 3 0 0 0
EMPLOYMENT LAW OPEN
Emphasis is on the principles of business law as it pertains to the human resource function. The course covers laws applicable to selection, testing, hiring, discipline, personnel policies and procedures. The course also covers Equal Employment laws and related discrimination issues. The Occupational Safety and Health Act, Family and Medical Leave Act and workers compensation topics are discussed as they relate to the business environment. Prerequisite: BUS 185

BUS 904 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. Corequisite: BUS 185 or POL 111 or CRJ 132 or instructor permission.

CAD 119 3 2 2 0 0
INTRO 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

CAD 125 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: CAD 119

CAD 126 3 2 2 0 0
INTERMED 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: CAD 119

CAD 139 3 2 2 0 0
INTRO TO CAD/CAM VOC/TECH
The objectives of this course will be to apply computer-aided design software and computer-aided manufacturing software for numerically controlled (CNC) machine tools.

CAD 148 3 2 2 0 0
INTRO TO FINITE ELEMENT ANALYS VOC/TECH
This course will introduce CAD students to the analysis of simple structures. Analysis will be examined then verified using computer analysis software in conjunction with CAD. Basic engineering statics will be taught. Prerequisite: CAD 152, 153, 246, MAT 773

CAD 151 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: CSC 110 or equivalent

CAD 152 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: CAD 151, MAT 772

CAD 153 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: CAD 152, MAT 773

CAD 154 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 covered. Hydraulic symbology will be covered. Mechanical power transmission will be a subject of study. Bearings, bearing seals and sealing systems will be addressed. Prerequisite: CAD 153, MAT 773

CAD 155 3 2 2 0 0
NETWORKING SYS 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.

COURSE DESCRIPTIONS

CAD 162 3 2 2 0 0
INTRO 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: CAD 119

CAD 182 3 2 2 0 0
SOLIDWORKS CAD I VOC/TECH
Parametric solid model (3D) CAD basics will be taught using SolidWorks. Parametric concepts will be covered. Solid CAD models will be built and edited in SolidWorks. Assemblies of solid parts will be examined. Part drawings will be created and plotted. Prerequisite: CAD 152, CAD 240, MAT 773

CAD 196 3 2 2 0 0
ENGINEERING DISCIPLINES & PRAC 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: CAD 151

CAD 215 3 2 2 0 0
MECHANICAL SYSTEMS VOC/TECH
Standard and nonstandard 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: CAD 152, MAT 773

CAD 240 3 2 2 0 0
APPLIED MATERIALS & 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.

CAD 242 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: MAT 772

CAD 246 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: CAD 152, 240, MAT 773

CAD 248 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: CAD 153, 252, MAT 773

CAD 252 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. Design process and procedures will be discussed. The student will conform to industry standards for their design project. Prerequisite: CAD 152, 196, 240, MAT 773

CAD 254 5 2 6 0 0
DESIGN PROJECT II VOC/TECH
Continuation of CAD 252, 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 will conform to industry standards for their design project. Prerequisite: CAD 153, 215, 252

CAT 430 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: DSL 366, 546, 605, 145

CAT 431 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: DSL 366, 546, 605

CAT 432 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 diagnostics of LS/PC hydraulics. Experienced individuals may contact the instructor to gain admittance to this course. Prerequisite: DSL 605, 145

CAT 433 2 2 0 0 0
CATERPILLAR SERV INFO SYSTEM 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.

CAT 434 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 coursework. Prerequisite: DSL 366, 546, 605, 145

CAT 435 2 0 4 0 0
CATERPILLAR MULTI-MEDIA VOC/TECH
The student will complete Caterpillar computerized tests and review modules. Prerequisite: DSL 366, 546, 605, 145

CET 102 3 3 0 0 0
FUND 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 119 3 2 2 0 0
SURVEY I VOC/TECH
This course will develop working knowledge of surveying fundamentals. Topics will include introduction to surveying instruments and equipment, measurement of distances and angles, determining elevation, note keeping, traversing, triangulation, mapping and the researching of monuments and benchmarks.

CET 135 3 3 0 0 0
MATERIALS I VOC/TECH
Students will develop a working knowledge of sampling and testing basic materials used in the highway construction industry (aggregate and concrete). Iowa Department of Transportation materials certifications (AGG I, AGG II and PCC I) will be given to students upon successful completion of state certification exams given during the course.

CET 138 3 3 0 0 0
CONSTRUCTION I VOC/TECH
This course will develop a working knowledge of construction inspection fundamentals. Topics will include an introduction to construction reviews, preconstruction planning, permits processes, embankment construction, drainage solutions, stabilization methods, equipment used in construction, placement work, paving procedures and estimating time and materials. Prerequisite: CET 102 or department approval

CET 169 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 119 or department approval

CET 173 4 4 0 0 0
HIGHWAY DESIGN I VOC/TECH
Students will develop a working knowledge of civil design. 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 and environmental project information. GEOPAK will be utilized. Prerequisite: CET 102 or department approval

CET 178 4 4 0 0 0
AUTOMATED DESIGN I 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. 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 102 or department approval

CET 192 4 4 0 0 0
STATICS VOC/TECH
This course is designed to acquaint the student with basic structural concepts. Emphasis is placed on the use of free body diagrams in understanding the forces acting on a structural member. Prerequisite: MAT 773 or instructor approval

CET 219 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 and construction surveying. Electronic data collection and global positioning will be utilized. Prerequisite: CET 169 or department approval.

CET 222 3 2 2 0 0
SOILS AND FOUNDATIONS VOC/TECH
The student will learn to recognize soil relationships with landforms and the effect on engineered construction. Concepts of geology and engineering properties including soil type, classification, strength and deformation will be covered. Principles of soil mechanics and construction observation techniques will be learned and applied to real world examples. Prerequisite: MAT 773 or instructor approval

CET 235 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 138 or department permission

CET 244 3 2 2 0 0
MATERIALS II VOC/TECH
To 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 135 or department approval

CET 278 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. Required: CET 178 or department approval

CET 283 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 173 or department approval

CET 291 3 3 0 0 0
STRUCTURE DESIGN & CONST 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 and bearing plates. Prerequisite: CET 102

COURSE DESCRIPTIONS

CET 305 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 students' career objectives, skills and knowledge. Prerequisite: Successful completion of 32 credit hours of CET credit courses and/or department approval

CET 307 2 2 0 0 0
FIELD ORIENTATION VOC/TECH
This course is required for students who do not take the Field Coop. It 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 projects to observe construction procedures. Prerequisite: Successful completion of 32 credit hours of CET credit courses. Written permission from the CET faculty is required to substitute this course for 2 credits of the 5-credit CET 305 requirement.

CHM 105 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. The course is for students who need one semester of laboratory science.

CHM 122 4 3 2 0 0
INTRO 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 nonscience majors and students in health-related programs. Prerequisite: 1 year H.S. algebra or MAT 063

CHM 132 4 3 2 0 0
INTRO TO ORGANIC/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: CHM 122 or equivalent

CHM 165 4 3 3 0 0
GENERAL/ INORG 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 year H.S. Chem. or CHM 122 & 2 years H.S. algebra or MAT 073

CHM 175 4 3 3 0 0
GENERAL/ INORG CHEMISTRY II CORE
A continuation of General and Inorganic Chemistry I. Prerequisite: CHM 165 or equivalent

CHM 263 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: CHM 132 or 175 or 1 year college-level general chemistry

CHM 273 5 3 4 0 0
ORGANIC CHEMISTRY II CORE
A continuation of Organic Chemistry I. Prerequisite: CHM 263 or equivalent

CIS 125 3 3 0 0 0
INTRO TO PROGRAMMING LOGIC W/L 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 solution.

CIS 130 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.

CIS 152 3 3 0 0 0
DATA STRUCTURES 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: CIS 125 or equivalent

CIS 154 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: CIS 125

CIS 161 3 3 0 0 0
C++ 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: CIS 125 or equivalent

CIS 164 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 a code for both DOS and Windows applications. Prerequisite: CIS 161

CIS 169 3 3 0 0 0
C# VOC/TECH
This course is an introduction to the C# language. Object- oriented programs will be developed by students. Prerequisite: CIS 125

CIS 171 3 3 0 0 0
JAVA 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 graphic techniques. Gain practical experience creating and modifying Java applications and applets and embedding Java applets in web pages. Prerequisite: CSC 110

CIS 178 2 2 0 0 0
JAVA PROGRAMMING I VOC/TECH
Learn Java programming techniques related to information technology and network administration. Prerequisite: NET 223, 623, 628

CIS 179 2 2 0 0 0
JAVA PROGRAMMING II VOC/TECH
Learn advanced Java programming techniques related to information technology and network administration. Prerequisite: CIS 178

CIS 182 3 3 0 0 0
JSP AND SERVLETS 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: CIS 171, CIS 207

CIS 204 3 3 0 0 0
INTRO TO 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: CSC 110

CIS 207 3 2 2 0 0
FUND OF WEB PROGRAMMING 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 websites. Prerequisite: CSC 110 or BCA 212

CIS 210 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 website authoring. Students will learn to use state of the art technology and software in this course. Students are introduced to relational databases and how to use SQL to access them. 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: NET 223, 623, 628

CIS 211 3 3 0 0 0
WEB DEVELOPMENT II VOC/TECH
This course is designed to teach students how to create a website where customers can purchase products over the internet (E-commerce). Students will learn to work with the most widely used server side scripting languages and Common Gateway Interfaces including, SSI, ASP, JSP, C, Perl and PHP. After completing this course students will be able to install a Web Server, a Relational Database and create dynamic web content for e-commerce. Prerequisite: CIS 210

CIS 215 3 3 0 0 0
SERVER SIDE WEB PROGRAMMING VOC/TECH
This course introduces the students to a current selection of application-programming languages referred to as "scripting languages." These languages are used to create small self-contained programs that are used to add unique functions and special handling capabilities to website applications. The students will learn the basic concepts and applications of these languages and how they can be included within a website. Prerequisite: CIS 207 or BCA 113

CIS 240 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. Prerequisite: CIS 207

CIS 247 3 3 0 0 0
INTRO TO 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: CSC 110

CIS 303 3 3 0 0 0
INTRODUCTION TO DATA BASE VOC/TECH
This course provides a comprehensive foundation that enables students to understand and use commercially available relational DBMS products effectively. Prerequisite: CSC 110, CIS 125, CIS 402 or instructor approval

CIS 332 3 2 2 0 0
DATA BASE AND 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: CIS 303

CIS 338 3 2 2 0 0
SQL/ORACLE VOC/TECH
Students will use advanced techniques to retrieve data, format reports and create script files to generate SQL. The course also provides the opportunity to students to write COBOL programs that utilize embedded SQL statements. Prerequisite: CIS 332

CIS 346 3 3 0 0 0
DATA BASE 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: CIS 303

CIS 402 3 3 0 0 0
COBOL OPEN
Introduces the programming language COBOL. Topics include move, logical testing, control, page breaks, totals and others. Emphasis is given to business applications.

CIS 413 4 4 0 0 0
COBOL II OPEN
Introduces advanced COBOL programming techniques. Emphasis is given to the SORT verb, multiple-level tables and ISAM file access techniques. Prerequisite: CIS 402

COURSE DESCRIPTIONS

CIS 421 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: CIS 402

CIS 431 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: CIS 593, 421

CIS 435 3 3 0 0 0
COBOL ON THE WORLD WIDE WEB VOC/TECH
Apply COBOL to the WWW using NetExpress from Merant. Topics include CGI Programs. Data access on the Web Server, GUI development for HTML-based applications. Prerequisite: CIS 402

CIS 463 4 4 0 0 0
CICS VOC/TECH
Provides theory and working knowledge of telecommunication programming. Students will code programs using CICS. Prerequisite: CIS 431

CIS 485 6 4 4 0 0
PROGRAMMING PROJECTS-MAINFRAME VOC/TECH
Individual projects are assigned that require the student to apply the programming knowledge gained in prerequisite courses to the design and implementation of assigned business applications. Prerequisite: CIS 463

CIS 505 4 4 0 0 0
STRUCTURED 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: CSC 110, CIS 402

CIS 583 4 3 2 0 0
ASSEMBLER VOC/TECH
An introductory course in the syntax rules of Assembler language programming. Business problems are analyzed and programmed. Prerequisite: CIS 402; Corequisite: CIS 593

CIS 588 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: CIS 125 and CIS 154

CIS 593 4 3 2 0 0
MAINFRAME OPERATIONS VOC/TECH
Provides an individual with a working knowledge of Disk Operating Systems/Virtual Storage Extended (DOS/VSE) job control language. Prerequisite: CIS 402

CIS 604 3 3 0 0 0
VISUAL BASIC 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 including file processing. Prerequisite: CIS 125 or equivalent

CIS 612 3 3 0 0 0
ADVANCED VISUAL BASIC GENERAL
An applications approach developed around data file programming. Manipulation of string variables, data entry, formats, error checking routines, SQL data-based processing. Prerequisite: CIS 604

CIS 720 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 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 environment. Prerequisite: CSC 110

COM 703 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.

CON 333 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.

CON 334 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.

CON 336 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.

CON 337 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 experience.

CON 338 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: CON 337 should be taken concurrently or prior to this course

CON 341 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: CON 337

CON 342 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: CON 334

CON 346 4 1 6 0 0
CONCRETE SYSTEMS & FORMING VOC/TECH
An introduction to concrete as a material and to concrete design, placement and finish. Identification and application to forming systems will be studied in the classroom and applied in the lab. Prerequisite: CON 336

CON 480 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: CON 333, 346, 342

CON 481 5 0 10 0 0
CONSTR PROC & APPLICATIONS II VOC/TECH
This course includes exterior wall construction, interior wall construction, ceiling joist framing, rafter framing, exterior trim, window installation and roofing. (5-week session) Prerequisite: CON 480

CON 482 5 0 10 0 0
CONSTR PROC & APPLICATIONS III VOC/TECH
This course includes concrete flatwork, insulation, drywall application, cabinet work and interior trim. (5-week session) Prerequisite: CON 481

CRJ 100 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.

CRJ 101 3 3 0 0 0
ETHICS IN CRIMINAL JUSTICE 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.

CRJ 107 3 2 2 0 0
SURVEY CRIM JUSTICE AGENCIES OPEN
Study of the criminal justice system through an examination of actual agencies, focusing on theoretical vs. real roles and functions of the agencies. Includes on-site visits. Prerequisite: 24 hours of CRJ courses or instructor permission

CRJ 109 3 3 0 0 0
THEORIES OF INTERVIEWING OPEN
The process of gathering information from others: the interviewee, the setting, types of questions, nonverbal communication, deception and theories of communication.

CRJ 119 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.

CRJ 130 3 3 0 0 0
CRIMINAL LAW GENERAL
An examination of the elements of offenses and the procedural safeguards in the criminal process.

CRJ 132 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 vs. state government through focus on the incorporation issue and examination of the evolution of civil liberties guarantees.

CRJ 136 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.

CRJ 137 3 3 0 0 0
JUVENILE LAW GENERAL
The social and legal aspects plus theories of juvenile delinquency, examination of procedures, legislation, juvenile court and prevention programs.

CRJ 141 3 3 0 0 0
CRIMINAL INVESTIGATION OPEN
Rudiments of criminal investigation: techniques, principles, problems, sources of information and evidentiary processes.

CRJ 165 3 3 0 0 0
INTRO TO ELECTRONIC CRIME OPEN
This course examines the sources of electronic evidence, the process of gathering and documenting electronic evidence and the associated hardware and software. Topics include hands-on assembly and disassembly of basic computer components; computer applications; tools available for data extraction from seized hardware and software; and courtroom presentation of the data.

CRJ 167 3 2 2 0 0
OPERATING SYS. FOR FORENSICS OPEN
This course provides a comparative study of popular PC-class operating systems. Upon completion of this course, students will be familiar with the interface, file management, resource allocation and common administration procedures of various popular operating systems. Additionally, the course describes data organization and file properties that contribute to forensic investigation. Many discussion topics are reinforced with hands-on exercises and assignments.

CRJ 176 3 2 2 0 0
COMPUTER FORENSICS I OPEN
This course serves as a technical introduction to the search, seizure and processing of electronic evidence. Topics covered in the course include a strong emphasis on investigative documentation, recognition of potential evidence sources, sterile evidence acquisition and analysis and data recovery methodologies. State-of-the-art hardware and software will be used in hands-on labs and case-studies. Prerequisite: CRJ 167

CRJ 178 3 3 0 0 0
E-CRIME INVESTIGATIVE METHODS OPEN
This course identifies electronic crime, instructs the student on current laws and teaches the investigative methods used in law enforcement today to gather evidence to prosecute and testify regarding these criminal acts.

CRJ 195 4 0 8 0 0
CRIME SCENE INVESTIGATION OPEN
An in-depth study into the nature of physical evidence including descriptions of forensic analysis, techniques for proper collection and preservation of evidence and interpreting the significance of scientifically evaluated evidence. Corequisite: CRJ 141

COURSE DESCRIPTIONS

CRJ 222 3 3 0 0 0
CORRECTIONAL TREATMENT METHODS OPEN
Institutional options for preventing recidivism. Introduction to therapeutic techniques. Comparison of punishment, Freudian treatments and behavior modification systems. Student presentation required.

CRJ 229 3 3 0 0 0
PENOLOGY OPEN
The social organization and goals of correctional programs. Principles of institutional corrections and the social structure within institutions. Examination of noninstitutional alternatives including probation and parole.

CRJ 248 3 3 0 0 0
SCIENTIFIC INVESTIGATION OPEN
An introduction to investigative techniques that stresses the identification and examination of physical evidence from the time of its discovery until a final disposition by the courts.

CRJ 276 3 2 2 0 0
COMPUTER FORENSICS II OPEN
This course is a continuation of study relating to computer forensics and data recovery topics. Topics discussed in this course include the investigation and analysis of password-protected/encrypted data, slack space, swap files and portable data storage/communication devices including PDAs and mobile phones. Software and hardware tools are widely used through various case-studies and exercises to reinforce discussion topics. Prerequisite: CRJ 176

CRJ 277 4 2 4 0 0
ADV DIGITAL FORENSIC METHODS OPEN
This course provides a forum for discussion and experimentation with contemporary topics relating to digital/computer forensics. Topics include evidence analysis specific to networked environments and non-conventional data devices, low-level data recovery procedures, advanced cryptography and steganography, "live" analysis and recovery of server-oriented storage technologies. Software and hardware tools are widely used through various casestudies and exercises to reinforce discussion topics. Prerequisite: CRJ 276

CRJ 932 3 0 0 0 12
INTERNSHIP OPEN
Involves 150 hours of active internship for students in an agency other than one in that they may be employed. Synthesis paper required. (P/F) Prerequisite: Criminal History Background Check to determine eligibility.

CRR 101 2 0 4 0 0
SHEET METAL WELDING VOC/TECH
Basic skills will be developed in oxygen-acetylene fusion welding and flame cutting. Gas metal arc (MIG) welding equipment and basic understanding of procedures related to auto collision area. Safety is emphasized.

CRR 150 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.

CRR 202 3 2 2 0 0
PLASTIC REPAIR VOC/TECH
The wide variety of solid plastics, flexible panels, plastic compounds and 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 the lab. Prerequisite: CRR 841

CRR 325 5 2 6 0 0
SHEET METAL FUNDAMENTALS VOC/TECH
Automobile design, the materials used in construction, collision, corrective forces, procedures for repair and services are analyzed through class and lab study. Prerequisite: CRR 101 must be taken concurrently or prior to this course

CRR 502 2 1 2 0 0
FRAME DAMAGE ANALYSIS 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 new technologies

CRR 655 5 1 8 0 0
ADVANCED COLLISION 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: CRR 502, 101

CRR 742 2 1 2 0 0
ESTIMATING THEORY 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 emphasize.

CRR 760 2 2 0 0 0
ADVANCED ESTIMATING 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 costs and profits will be studied. Customer and employee relations will be studied. Prerequisite: CRR 742

CRR 841 5 3 4 0 0
PRINCIPLES OF REFINISHING 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.

CRR 876 6 3 6 0 0
REFINISHING PRODUCTION VOC/TECH
Industry application of colors and clear coats require the latest information on repair and refinishing of today's vehicles. This course covers the latest manufacturers' preferred methods for repair using current colors and chemicals. Color matching will be emphasized. Prerequisite: CRR 877, 202

CRR 877 7 3 8 0 0
REFINISHING APPLICATIONS 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: CRR 841

CSC 110 3 2 2 0 0
INTRO TO COMPUTERS 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.

DEA 253 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: DEA 256 must be taken concurrently or prior to this course.

DEA 256 2 2 0 0 0
DENTAL ANATOMY VOC/TECH
The study of head, neck and dental anatomy is combined to give the student background information for application in dental assisting courses.

DEA 263 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, DEA 253, 256

DEA 297 1 1 0 0 0
ETHICS/JURISPRUDENCE SEMINAR VOC/TECH
Continuation of DEA 591. 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: DEA 577

DEA 321 2 1 2 0 0
DENTAL RADIOGRAPHY II VOC/TECH
A continuation of Dental Radiography I. Weekly seminars for basic interpretation of radiographics and laboratory experience to develop student competence in making oral radiographic surveys. Prerequisite: DEA 253, 256, 507, DHY 161

DEA 424 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: DEA 256

DEA 507 6 4 4 0 0
PRINCIPALS OF 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: DEA 253, 256, 424; DHY 221 must be taken concurrently or prior to this course

DEA 576 3 0 0 0 12
DENTAL ASSISTING CLINIC I 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, DEA 253, 256, 507, 424, DHY 221, 161; Corequisite: DEA 591

DEA 577 4 0 0 0 16
DENTAL ASSISTING CLINIC II VOC/TECH
Continuation of DEA 576. Corequisite: DEA 297

DEA 591 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: DEA 253, 256, 507, 424. DHY 221, 161; Corequisite: DEA 576

DEA 615 5 3 4 0 0
CLINICAL DENTAL ASSISTING VOC/TECH
A continuation of Preclinical Dental Assisting (DNA507) with emphasis on operative dentistry, dental specialties and advanced functions. The laboratory phase develops students' competencies in clinical assisting. Prerequisite: DEA 253, 256, 507, 424, DHY 221, 161

DEA 702 2 2 0 0 0
DENTAL OFFICE PROCEDURES 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

DHY 114 4 4 0 0 0
DENT HYG ANATOMICAL SCIENCE OPEN
Programmed dental anatomy supplemented by lectures, quizzes and discussions on the development, morphology and functions of the teeth. Anatomy and physiology of the head and neck including mastication. Prerequisite: BIO 164

DHY 121 2 2 0 0 0
ORAL HISTOLOGY & EMBRYOLOGY OPEN
General and oral histology beginning with a consideration of cytology that is followed by a study of the fundamentals of oral embryology and the normal microscopic anatomy of oral tissues. Prerequisite: BIO 164

DHY 133 3 3 0 0 0
PHARMACOLOGY OPEN
The study of drugs and their action on living tissue including their use as an aid in the diagnosis, treatment and prevention of disease or to control or improve any physiological or pathological condition. Prerequisite: CHM 132, DHY 114, 181, 182

DHY 141 3 3 0 0 0
GENERAL & ORAL PATHOLOGY OPEN
Basic concepts of disease process and the oral manifestations of inflammation, degenerative changes, neoplasms and developmental anomalies of the oral cavity. Prerequisite: BIO 164, DHY 121, 114

COURSE DESCRIPTIONS

DHY 161 3 2 2 0 0
ORAL RADIOLOGY 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: DEA 256 and DEA 507 or DHY 114

DHY 164 2 1 2 0 0
ORAL RADIOLOGY II OPEN
A continuation of Dental Radiography I. Weekly seminars for basic interpretation of radiographs and laboratory experience to develop student competence in taking oral radiographic surveys. Prerequisite: DHY 161; Corequisite: DHY 182

DHY 170 2 2 0 0 0
PRINCIPLES OF DENTAL HYGIENE OPEN
Basic principles of clinical dental hygiene are introduced. The etiology of deposits and their effect on oral tissue and the theory and techniques of instrumentation in removal of deposits are emphasized in the practicum portion. Prerequisite: BIO 154, CHM 122; Corequisite: DHY 171

DHY 171 3 0 6 0 0
PRINCIPLES OF DENTAL HYG PRACT OPEN
See DHY 170. Prerequisite: BIO 164, CHM 122; Corequisite: DHY 170

DHY 181 2 2 0 0 0
DENTAL HYGIENE I OPEN
A continuation of instrumentation techniques. Emphasis is placed on patient assessment and principles of patient education in chairside instruction. Topics include polishing techniques, topical application of fluoride and supplementary procedure. Prerequisite: DHY 170, 171; Corequisite: DHY 182

DHY 182 4 0 8 0 0
CLINICAL DENTAL HYGIENE I OPEN
See DHY 181. Prerequisite: DHY 170,171; Corequisite: DHY 181, 164

DHY 211 2 2 0 0 0
PERIODONTOLOGY OPEN
The clinical characteristics, histopathology, etiology and treatment of periodontal diseases are presented. Special emphasis is placed on the role of the dental hygienist in the prevention and management of periodontal diseases. Prerequisite: DHY 121, 181, 182 Corequisite: DHY 282

DHY 221 2 2 0 0 0
DENTAL MATERIALS OPEN
A study of materials utilized in the practice of dentistry. Properties of dental materials and ADA requirements are presented. Corequisite: DEA 256 and DEA 424 or DHY 114 and DHY 223 must be taken concurrently or prior to this course

DHY 223 1 0 2 0 0
DENTAL MATERIALS LAB OPEN
Through laboratory experience,the student learns techniques in preparation and utilization of dental materials. Corequisite: DHY 221

DHY 232 4 4 0 0 0
NUTRITION/PREVENTIVE 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: BIO 164, CHM 132

DHY 234 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: BIO 164, CHM 132, HCM 236

DHY 251 3 2 2 0 0
COMMUNITY ORAL HEALTH OPEN
The course relates the concepts of dental public health and preventive dentistry including principles of biostatistics, epidemiology, dental manpower and delivery systems. Students plan, implement and evaluate a community dental health project. Prerequisite: DHY 261

DHY 261 3 2 2 0 0
DENTAL HEALTH EDUCATION OPEN
An introduction to the principles of instruction in health care. The course will include developing, presenting and evaluating dental health education programs for public schools and community groups. Prerequisite: DHY 170, 171

DHY 281 2 2 0 0 0
DENTAL HYGIENE II OPEN
A continuation of clinical practices. Further instruction and application in techniques for a complete oral prophylaxis and Phase 1 therapy. Topics include smoking cessation, intraoral photography, sonic scaling and air polishing. Prerequisite: DHY 181, 182; Corequisite: DHY 282

DHY 282 2 0 0 6 0
CLINICAL DENTAL HYGIENE II OPEN
See DHY 281. Prerequisite: DHY 181, 182; Corequisite: DHY 281

DHY 291 2 2 0 0 0
DENTAL HYGIENE III OPEN
A continuation of clinical practices. Topics include dental hygiene care for individuals with special needs, care planning, third-party payment applications, substance abuse and dependent adult abuse. Prerequisite: DHY 281, 282. Corequisite: DHY 292

DHY 292 5 0 0 1 5 0
CLINICAL DENTAL HYGIENE III OPEN
See DHY 291. Prerequisite: DHY 281, 282; Corequisite: DHY 291

DHY 301 2 2 0 0 0
DENTAL HYGIENE IV OPEN
A continuation of clinical practices. Legal, ethical and management aspects of the dental care system are considered. Career alternatives and job-seeking skills are demonstrated. Prerequisite: DHY 292, 291; Corequisite: DHY 302

DHY 302 5 0 0 1 5 0
CLINICAL DENTAL HYGIENE IV OPEN
See DHY 301. Prerequisite: DHY 292, 291; Corequisite: DHY 301

DRA 101 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.

DRA 130 3 3 0 0 0
ACTING I GENERAL
Training of the body, voice and mind as acting instruments. Course includes acting exercises, scene analysis and performance.

DRA 147 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.

DRA 945 2 0 4 0 0
PRACTICUM I 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.

DRA 946 3 0 6 0 0
PRACTICUM II GENERAL
See DRA 945

DRA 948 4 0 8 0 0
PRACTICUM III GENERAL
See DRA 945

DSL 145 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.

DSL 155 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: DSL 145

DSL 356 6 1 1 0 0 0
DIESEL ENGINES I VOC/TECH
Instruction provided in the technical and nontechnical aspects of diesel engines. This information will give the students the basic understanding needed to continue in the Diesel Mechanic program.

DSL 366 6 1 1 0 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: DSL 356

DSL 407 6 1 1 0 0 0
DIESEL FUEL SYSTEMS VOC/TECH
The student will be introduced to basic fuel system principles and operational theory of some commonly used systems as well as general repair and diagnostic procedures. Prerequisite: DSL 366

DSL 409 5 2 6 0 0
DIESEL ELECTRONICS VOC/TECH
A study of electronic fundamentals, lab work with electronic components and testing equipment. Diesel engines that are computer-controlled are used in lab to demonstrate applications of electronics on diesel power that meet the demands of the future. Experienced individuals may contact the instructor to gain admittance to this course. Prerequisite: DSL 145

DSL 546 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.

DSL 555 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. Prerequisite: DSL 546, 605

DSL 605 5 1 8 0 0
HYDRAULICS AND 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.

DSL 733 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.

DSL 830 5 1 8 0 0
OPERATION & MAINTENANCE VOC/TECH
Instruction in the proper methods of maintaining all equipment. Safety will be emphasized.

DSL 845 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: DSL 366, 546, 605, 145

DSL 855 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: DSL 366, 546, 605, 145

DTM 350 1 1 0 0 0
HEALTH FIELD VOC/TECH
Roles of dietary personnel in health facilities and state and federal guidelines. Explore managerial aspects within facilities.

DTM 351 1 0 2 0 0
FOOD PREPARATION VOC/TECH
Basic principles and development of techniques as they apply to preparation of each food group and the criterion for evaluating product quality. Laboratory experience.

DTM 352 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.

DTM 353 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.

DTM 354 1 1 0 0 0
MODIFIED DIETS VOC/TECH
An assessment of special diets, using the approved diet manual, a review of food guidelines and hints for making modified diets more appetizing.

COURSE DESCRIPTIONS

DTM 355 **11000**
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.

DTM 356 **22000**
FOOD SERVICE MANAGEMENT **VOC/TECH**
The management functions required to organize and maintain an efficient, quality, dietary department are developed.

DTM 361 **10004**
FOOD PREP FIELD EXPERIENCE **VOC/TECH**
Application and evaluation of food preparation in a health care facility. Practical experience in a selected health care facility supervised by a registered dietitian. (P/F)

DTM 362 **10004**
SANITATION/MEAL SRVC FIELD EXP **VOC/TECH**
Application and evaluation of sanitation and meal service in health care facilities. Practical experience in a selected health care facility supervised by a registered dietitian. (P/F)

DTM 363 **10004**
NUTRITION LIFE CYCLE FIELD EXP **VOC/TECH**
Application and evaluation of nutritional aspects in health care facilities. Practical experience in a selected health care facility supervised by a registered dietitian. (P/F)

DTM 364 **10004**
MODIFIED DIET/FIELD EXPERIENCE **VOC/TECH**
Application and evaluation of modified diets in health care facilities. Practical experience in a selected health care facility supervised by a registered dietitian. (P/F)

DTM 365 **10004**
FOOD PRODUCTION FIELD EXP **VOC/TECH**
Application and evaluation of food production in health care facilities. Practical experience in a selected health care facility supervised by a registered dietitian. (P/F)

DTM 366 **10004**
FOOD SERVICE MGMT FIELD EXP **VOC/TECH**
Application and evaluation of food service management in health care facilities. Practical experience in a selected health care facility supervised by a registered dietitian. (P/F)

ECE 101 **11000**
INTRO TO EARLY CHILDHOOD ED **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.

ECE 121 **22000**
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, professional associations and educational opportunities.

ECE 130 **11000**
EMERGENCY CARE **OPEN**
Cardio-pulmonary resuscitation according to Iowa Heart Guidelines. Childhood diseases, immunization laws and environmental safety for children are discussed. Designed for day care personnel. Certification for first aid and CPR are awarded upon successful completion. Course may be repeated for a maximum of 3 credits.

ECE 133 **33000**
CHILD HEALTH, SAFETY & NUTRITI **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.

ECE 147 **11000**
ASSESS PLAN-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, individual education plans and individual family service plans.

ECE 148 **22000**
GP EXP 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.

ECE 149 **33000**
CURRICULUM-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.

ECE 173 **33000**
EARLY CHILDHOOD 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.

ECE 220 **33000**
INFANT/TODDLER CARE & EDUC. **OPEN**
Course focuses on best practices for care and education of children birth through two years of age in an integrated setting. Health, safety, cultural and communication issues as well as developmentally appropriate activities are covered.

ECE 242 **22000**
EARLY CHILDHOOD GUIDANCE **OPEN**
Course covers various philosophies of and techniques for the application of development and individually appropriate guidance for typically and atypically developing young children.

ECE 265 **30090**
STUDENT PARTICIPATION I **OPEN**
Participation with children in the child care center on the Ankeny campus under the supervision of a mentor as well as a lead teacher. Students have limited responsibilities for curriculum planning. Daily student-teacher conferences are held. Corequisite: ECE 101, 148, 149 and 242, or instructor permission.

ECE 266 **30090**
STUDENT PARTICIPATION II **OPEN**
A continuation of Student Participation I in which students assume full responsibility for teaching in the child care center on the Ankeny campus under the supervision of a mentor as well as a lead teacher. Prerequisite: ECE265 (minimum grade of "C"); Corequisite: ECE147 or instructor permission

ECE 267 **300012**
EARLY CHILDHOOD ED ASSOC PRAC **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 ECE 290. Prerequisite: ECE 281

ECE 281 **20008**
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 with a 2.0 GPA or permission of instructor

ECE 290 **33000**
EARLY CHILDHOOD PROGRAM ADMIN **OPEN**
Course covers basic principles involved in setting up and administering an early childhood program. Emphasis placed on funding, bookkeeping, business procedures, insurance, enrollment and record keeping. Designed for second-year students and persons interested in becoming a center director.

ECN 120 **33000**
PRINCIPLES OF MACROECONOMICS **CORE**
This course is an introduction to basic macroeconomic concepts and principles. It deals with 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. ECN 120 is not a prerequisite for ECN 130.

ECN 130 **33000**
PRINCIPLES OF MICROECONOMICS **CORE**
Course covers survey of demand and supply conditions, cost structure, market structure and how these elements affect individual household, business firms, government and global trade. ECN 120 is not a prerequisite for ECN 130.

EDU 213 **33000**
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.

EDU 218 **20008**
INITIAL FIELD EXPERIENCE **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: EDU 213

EDU 245 **33000**
EXCEPTIONAL LEARNER **OPEN**
A survey of exceptional learners in the classroom will be explored. History, philosophy, current issues, trends and mainstreaming will be discussed.

EGR 100 **11000**
ENGINEERING ORIENTATION **OPEN**
Introduction to the engineering disciplines and the engineering profession. Considerations in choosing an engineering curriculum. Information concerning college policies, procedures and resources. Opportunities to interact with engineering departments at a four-year institution.

EGR 150 **22000**
ENGINEERING FORTRAN **OPEN**
The FORTRAN language in batch and interactive modes with an emphasis on solutions to engineering problems. Prerequisite: MAT 130 must be taken concurrently with or prior to this course

EGR 155 **22000**
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: MAT 130 must be taken concurrently with or prior to this course

EGR 161 **22000**
ENGINEERING COMPUTATIONS **OPEN**
This course includes the organization, solution and presentation of engineering problems. Topics include S.I. units and selected engineering topics. Prerequisite: MAT 130 must be taken concurrently or prior to this course.

EGR 166 **42400**
ENGR GRAPHICS/CONCPTL 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: MAT 130 must be taken concurrently with or prior to this course.

EGR 180 **33000**
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: PHY 213; Corequisite: MAT 217 must be taken concurrently with or prior to this course

ELE 141 **32200**
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: ELT 303, 134

COURSE DESCRIPTIONS

ELT 093 **11000**
CONCEPTS ELECTRONICS/COMPUTERS **VOC/TECH**
This course is designed for students who need additional practice and technical skills to succeed in electronics and computer networking programs. Skills that will be developed include learning how to approach problems and manipulating formulas to solve problems. College preparatory courses cannot be used to fulfill degree requirements. Corequisite: ELT 108

ELT 106 **33000**
BASIC MATH FOR ELECTRONICS **VOC/TECH**
Mathematics related to basic electronics. It includes basic algebra, right triangle trigonometry, scientific notation, with applications to DC and AC circuitry.

ELT 108 **44000**
MATH - ELECTRONICS & COMPUTERS **VOC/TECH**
Introduction to mathematical skills needed by electronics/computer technicians.

ELT 119 **32200**
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: ELT 134

ELT 125 **32200**
ADVANCED PLC **VOC/TECH**
This course is designed for the student who is already proficient with ladder logic and the loading programs into PLCs. The course will introduce the student to both hardware and software operator control panels, analog sensor interfacing, analog programming and exchange of data over networks. A hands-on lab component will give the student the opportunity to install, program and troubleshoot networked PLC hardware.

ELT 126 **22000**
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: ELT 134

ELT 134 **32200**
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.

ELT 143 **32200**
MECHANISMS **VOC/TECH**
This introductory course covers linear and angular displacement, velocities and accelerations of linkages, gear trains and belt and friction drives. Included topics are vectors, simple and complex machines and toggle and intermittent motions mechanisms. Corequisite: ELT 144

ELT 144 **20400**
MECHANISMS LAB **VOC/TECH**
The principles of drives and linkages discussed in ELT143 are evaluated using precision components. Major principles evaluated are speed ratios, torque, power and efficiency. Lab projects are applications of principles of process control and robotics interfacing mechanical motion and energy requirements with programmable control concepts. Corequisite: ELT 143

ELT 158 **33000**
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.

ELT 159 **30600**
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.

ELT 172 **33000**
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.

ELT 173 **41600**
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 commercial and industrial electrical installations from simplistic to complicated wiring.

ELT 174 **22000**
ELECTRICAL GROUNDING **VOC/TECH**
The understanding of grounding and eliminating the misconceptions when dealing with NEC requirements for installation.

ELT 181 **11000**
ADV MATH FOR ELECTRONICS TECH **VOC/TECH**
This course is a continuation of concepts covered in MATH FOR ELECTRONICS & COMPUTERS. Topical emphasis includes applications involving trigonometry of vectors and oblique triangles and logarithms.

ELT 209 **33000**
MOTOR CONTROL **VOC/TECH**
Troubleshoot electro-mechanical motor controls and gain an understanding of ladder diagrams. Students should have a general knowledge of electricity to take this course.

ELT 303 **32200**
PRINCIPLES OF ELECTRICITY **VOC/TECH**
For beginners, theory, controlling electricity, voltage, amps, resistance, wattage, series and parallel circuits, DC & AC, batteries, electric lighting, generators and motors.

ELT 307 **22000**
DIGITAL CIRCUITS **VOC/TECH**
An analysis of those circuits that form basic building blocks for a digital system, including logical gates such as OR, NOR and and NAND, storage registers and counters. Corequisite: ELT 308

ELT 308 **20400**
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 multiplexors. Corequisite: ELT 307

ELT 325 **33000**
DIGITAL ELECTRONICS **VOC/TECH**
An analysis of those circuits that form basic building blocks for a digital system, to include logical gates, such as OR, NOR and and NAND, storage registers, counters and microprocessors. Corequisite: ELT 326

ELT 326 **30600**
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: ELT 325

ELT 368 **33000**
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.

ELT 369 **30600**
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: ELT 368 must be taken concurrently with or prior to this course

ELT 385 **44000**
ELECTRIC 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, Kirchhoff's law, Thevenin-Norton and Superposition theorems, impedance, resonance, series and parallel circuits, resistors, capacitors, inductors, batteries and meters. Corequisite: ELT 386

ELT 386 **20400**
ELEC CIRCUIT ANALYSIS I LAB **VOC/TECH**
Basic experiments in AC and 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: ELT 385

ELT 387 **33000**
ELECTRIC 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: ELT 385, 386; Corequisite: ELT 388

ELT 388 **30600**
ELEC CIRCUIT ANALYSIS II LAB **VOC/TECH**
An analysis of solid state circuitry. It includes both 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: ELT 385, 386; Corequisite ELT 387

ELT 389 **31400**
FABRICATION TECHNIQUES **VOC/TECH**
Rendering of isometric and orthographic projection drawings. Soldering techniques, fabrication of sheet metal enclosures and production of printed circuit boards using photographic and etching methods.

ELT 474 **33000**
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: ELT 387, 388; Corequisite: ELT 475

ELT 475 **30600**
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: ELT 387, 388; Corequisite: ELT 474

ELT 478 **33000**
BASIC IMAGING DEVICES **VOC/TECH**
An 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: ELT 387, 388; Corequisite: ELT 479

ELT 479 **30600**
BASIC IMAGING DEVICES LAB **VOC/TECH**
Experience in troubleshooting, service and repair of copiers, laser printers, fax machines, scanners and peripherals, monitors, cameras, LCD displays. Prerequisite: ELT 387, 388; Corequisite: ELT 478

ELT 482 **33000**
SECURITY SYSTEMS **VOC/TECH**
Analysis of video monitoring systems, fire and intruder alarm systems, climate control systems. Prerequisite: ELT 781, 782; Corequisite: ELT 483

ELT 483 **40800**
SECURITY SYSTEMS LAB **VOC/TECH**
Installation, maintenance and troubleshooting of various security systems. Prerequisite: ELT 781, 782; Corequisite: ELT 482

ELT 484 **33000**
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, ICN, CCU central station monitoring systems and the respiratory instrumentation. Included will be a self-paced study of medical terminology. Prerequisite: ELT 781, 782; Corequisite: ELT 485

ELT 485 **30600**
MEDICAL ELECTRONICS SYSTEM LAB **VOC/TECH**
This course covers repair, calibration and preventive maintenance of critical care, diagnostic and life support equipment in a hands-on, lab environment. Prerequisite: ELT 781, 782; Corequisite: ELT 484

ELT 611 **22000**
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: ELT 307, 308; Corequisite: ELT 612

COURSE DESCRIPTIONS

ELT 612 3 0 6 0 0
MICROPROCESSORS LAB VOC/TECH
Includes experiments that 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 that may take place outside of regular class time. Prerequisite: ELT 307, 308; Corequisite: ELT 611

ELT 643 3 3 0 0 0
PROCESS CONTROL INSTRUMENT 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: ELT 611, ELT 612; Corequisite: ELT 644

ELT 644 2 0 4 0 0
PROCESS CONTROL INSTR LAB VOC/TECH
This lab includes experiments on transducers used in process control as well as experiments on proportional, integral and derivative control. Prerequisite: ELT 611, 612; Corequisite: ELT 643

ELT 652 4 2 4 0 0
COMPUTER REPAIR & NETWORKING VOC/TECH
This course is designed for the student whois already proficient with computers and electronic circuitry. The course follows the recommendations of CompTIA on the subjects 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: ELT 387, 331

ELT 721 2 1 2 0 0
ROBOTICS VOC/TECH
The course provides an introduction to robotic fundamentals. The student will examine parameters of robot operation and program robots for various applications.

ELT 725 2 1 2 0 0
INTRODUCTION TO FMS CELL VOC/TECH
This course introduces the student to all aspects of a flexible manufacturing cell. It will familiarize the student with cell software and hardware. It includes labs on all cell components. Prerequisite: ELT 134 or 119

ELT 781 2 2 0 0 0
ELECTRO-MECHANICAL SYSTEMS VOC/TECH
The basic theories, concepts and principles of electro-mechanical 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. Also covered will be basic sensors. Prerequisite: ELT 387, 388; Corequisite: ELT 782

ELT 782 2 0 4 0 0
ELECTRO-MECHANICAL SYSTEMS LAB VOC/TECH
Application of the basic theories, concepts and principles of electro-mechanical 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 that may take place outside of regular class time.
Prerequisite: ELT 387, 388; Corequisite: ELT 781

ELT 791 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: ELT 792

ELT 792 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: ELT 791

ELT 816 2 2 0 0 0
SYSTEMS TROUBLESHOOTING VOC/TECH
A study of electronic systems troubleshooting theory, methods and techniques. Prerequisites: ELT 478, 479, 474, 475, 482, 483; Corequisite: ELT 817

ELT 817 3 0 6 0 0
SYSTEMS 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: ELT 478, 479, 474, 475, 482, 483; Corequisite: ELT 816

ELT 870 3 1 4 0 0
ELECTRONICS CAPSTONE PROJECT VOC/TECH
This course provides hands-on experience in a significant design project involving technological competence, open-ended Problem solving, teamwork and both written and oral communication skills. Prerequisite: Successful completion of requirements of first 4 terms of the Electronics, Robotics & Automation Program or instructor permission

ELT 932 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 employees in his/her field. The student will write a resumé suitable for employment applications. Prerequisite: Earn grades of "C" or higher in courses pertaining to the student's chosen internship area. The courses pertaining to the internship areas are as follows: ELT 474, 475 or 482; ELT 483 or 478; ELT 479 or 484 and ELT 485.

EMS 105 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 Services team.

EMS 112 3 2 2 0 0
FIRST RESPONDER VOC/TECH
A 60-hour emergency care course that emphasizes life threatening emergencies, wounds, fractures, medical and environmental emergencies and other emergency situations as outlined by the U.S. Department of Transportation.

EMS 210 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.

EMS 311 4 2 4 3 0
EMT INTERMEDIATE 85 VOC/TECH
An advanced EMT training program developed by the Iowa Dept. of Public Health, Bureau of EMS, 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

EMS 429 6 4 4 0 0
EMT IOWA PARAMEDIC I VOC/TECH
An advanced care EMT training program developed by U.S. Department of Transportation and approved by the Iowa Department of Public Health. Course 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

EMS 433 7 5 4 0 0
EMT IOWA PARAMEDIC II VOC/TECH
Continuation of EMT Iowa Paramedic I with emphasis on respiratory emergencies, diabetic and allergic reactions, poisonings, environmental, OB/GYN, neonatal and pediatric emergencies. Prerequisite: Successful completion of EMS 429 and current certification by State of Iowa as EMT Basic or EMT Intermediate. Current CPR Healthcare Provider course completion

EMS 438 6 0 0 0 18
EMT IOWA PARAMEDIC III VOC/TECH
Clinical and field experience that emphasizes skills, knowledge and theory acquired in EMS 429 and EMS 433. Prerequisite: Successful completion of EMS 433 and current certification by State of Iowa as EMT Basic or EMT Intermediate. Current CPR Healthcare Provider course completion

ENG 060 3 3 0 0 0
COLLEGE PREPARATORY WRITING I COLLEGE PREPARATORY
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 ENG 061 and 105

ENG 061 3 3 0 0 0
COLLEGE PREPARATORY WRITING II COLLEGE PREPARATORY
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 ENG 060 or met course's objectives. Preparation for ENG 105

ENG 104 1 1 0 0 0
THE WRITING STUDIO GENERAL
This course is a supplemental course to ENG 105, 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 ENG 105 and is intended for students with weak writing skills as identified by diagnostic testing.

ENG 105 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

ENG 106 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: ENG 105

ENG 108 3 3 0 0 0
COMP II: TECHNICAL 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: ENG 105

ENG 221 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.

ENG 225 3 3 0 0 0
CREATIVE WRITING: POETRY 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.

ENG 230 3 3 0 0 0
CREATIVE WRITING: FICTION 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.

ENG 235 3 3 0 0 0
PLAYWRITING AND SCREENWRITING GENERAL
A course devoted to the advanced study and writing of stage-worthy plays and/or marketable screen plays emphasizing appropriate techniques to each dramatic form and expanded understanding of contemporary practitioners.

ENV 115 3 3 0 0 0
ENVIRONMENTAL SCIENCE 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.

COURSE DESCRIPTIONS

ENV 116 1 0 2 0 0
ENVIRONMENTAL SCIENCE LAB CORE
This lab supplements discussion in BIO 115. 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 ENV 115 or equivalent

ENV 160 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: ENV 115, 116, 138 or instructor permission

ESL 093 3 2 2 0 0
HIGH INTER ESL LISTENING/CONV COLLEGE
PREPARATORY
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 requirements.

ESL 094 3 2 2 0 0
ADV ESL LISTEN/CONVERS
SKILLS COLLEGE PREPARATORY
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.

ESL 095 3 2 2 0 0
COMMUNICATIVE GRAMMAR FOR ESL COLLEGE
PREPARATORY
This course provides non-native 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. This course cannot be used to fulfill degree requirements. Prerequisite: Minimum scores on the TOEFL or Michigan Test

ESL 096 3 2 2 0 0
READ ENGLISH AS A 2ND LANGUAGE COLLEGE
PREPARATORY
This course is designed for non-active 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. Cannot be used to fulfill degree requirements. Prerequisite: Minimum scores on the TOEFL or Michigan Test

ESL 097 3 3 0 0 0
INTRO TO WRITING SKILLS-ESL COLLEGE PREPARATORY
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.

ESL 103 4 4 0 0 0
ADVANCED ACADEMIC ESL GRAMMAR GENERAL
This is an advanced-level academic English grammar course for students whose first language is not English. This course emphasizes the usage of systematic functional grammar through the practice of studying complex grammatical structures as used in authentic academic settings integrated with writing skills. This course addresses the linguistic and instructional needs of non-native English speaking students. It may be taken concurrently with carefully selected college courses. Prerequisite: 84 or above on ESL Compass Grammar Usage Test

ESL 104 3 3 0 0 0
ADVANCED ACADEMIC ESL WRITING GENERAL
This course develops academic writing skills for students whose first language is not English. The course emphasizes familiarizing students with writing academic essays in the traditional modes: observing, describing, informing, explaining process and/or classifying and explaining cause(s) and/or effect(s). This course addresses the linguistic and instructional needs of non-native English-speaking students. It focuses on sentence expansion and modification, the writing process and developing research skills. It may be taken concurrently with carefully selected college courses. Prerequisite: 84 or above on ESL Compass Grammar Usage test

FIN 101 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.

FIN 121 3 3 0 0 0
PERSONAL FINANCE OPEN
This course emphasizes family financial planning including financial statements, budgeting, taxes, risk management and retirement.

FIN 180 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.

FIN 214 1 1 0 0 0
STOCKS, BONDS AND INVESTMENTS 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.

FIR 124 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: FIR 230

FIR 138 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 is also covered. Other topics are the importance of fire prevention records and recordkeeping, personnel and financial management. Prerequisite: FIR 230, 152, 220

FIR 152 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: FIR 230

FIR 182 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: CHM 122 and FIR 230

FIR 200 3 3 0 0 0
OCCU S/H IN EMERGENCY SERVICES OPEN
The firefighting 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 and Health Administration (OSHA) regulations and National Fire Protection Association (NFPA) standards.

FIR 212 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 and other areas are addressed in incident command system.

FIR 220 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.

FIR 230 3 3 0 0 0
FIRE BEHAVIOR & INVESTIGATION OPEN
Course 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.

FIR 232 3 3 0 0 0
PROPERTY INSURANCE-FRAUD INVES OPEN
Covers principles of property insurance and investigation of incendiary fires with an emphasis on the investigation insurance fraud fires.

FIR 290 4 0 0 0 16
FIRE FIGHTER I CERTIFICATION 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 Firefighter 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

FIR 291 3 0 0 0 12
FIRE FIGHTER II CERTIFICATION 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 Firefighter 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: FIR 290

FLA 141 4 4 0 0 0
ELEMENTARY ARABIC I CORE
This course is an introduction to learning the Arabic language, with emphasis on acquiring basic skills in reading, writing and conversational communications. Thus, recognizing the Arabic alphabet will be strongly dealt with during the class as a basis for future Arabic classes.

FLA 142 4 4 0 0 0
ELEMENTARY ARABIC II CORE
Continue to acquire an elementary level of Arabic language skills of reading, writing, grammar and conversational communications. Reading and conversation will be emphasized. Prerequisite: FLA 141 or permission of instructor

FLA 241 4 4 0 0 0
INTERMEDIATE ARABIC I CORE
Continue to acquire a higher level of Arabic language skills of reading, writing, grammar and conversational communications. Writing, grammar and conversation will be emphasized. Prerequisite: FLA 142 or permission of instructor

FLA 242 4 4 0 0 0
INTERMEDIATE ARABIC II CORE
Continue to acquire a higher level of Arabic language skills of reading, writing, grammar and conversational communications. Writing, grammar and conversation will be emphasized within cultural context. Prerequisite: FLA 241 or permission of instructor

FLC 141 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.

FLC 142 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: FLC141 or instructor permission

COURSE DESCRIPTIONS

FLC 241 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: FLC142 or instructor permission

FLC 242 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: FLC241 or instructor permission

FLF 151 5 5 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.

FLF 152 5 5 0 0 0
ELEMENTARY FRENCH II CORE
Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. Prerequisite: FLF 151 or instructor permission

FLF 241 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: FLF152 or permission of instructor

FLF 242 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: FLF 242 or permission of instructor

FLG 141 4 4 0 0 0
ELEMENTARY GERMAN I CORE
Development of the basic skills of understanding, speaking, reading and writing German. Grammar analysis, classroom conversational practice and some exploration of the German culture.

FLG 142 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: FLG 141 or instructor permission

FLG 241 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: FLG 142 or instructor permission

FLG 242 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 permission. Prerequisite: FLG 241 or instructor permission

FLI 141 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.

FLI 142 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: FLI 141 or instructor permission

FLI 241 4 4 0 0 0
INTERMEDIATE ITALIAN I CORE
Review of essential grammatical constructions emphasizing major area of difficulty for English speakers. Use of Italian cultural and literary materials to develop conversational skills. Prerequisite: FLI 142 or instructor permission

FLI 242 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: FLI 241 or instructor permission

FLJ 141 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.

FLJ 142 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: FLJ 141 or instructor permission

FLJ 241 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: FLJ 142 or instructor permission

FLJ 242 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: FLJ 241 or instructor permission

FLS 151 5 5 0 0 0
ELEMENTARY SPANISH I CORE
This course addresses the skills of listening, speaking, reading and writing. The language is based on themes of everyday life. Speech will be modeled by instructors who will monitor and correct for pronunciation and accent. Students will be asked to engage in simple conversations on a controlled basis using the themes presented in the curriculum. Much class time is spent practicing speech. Students will also be expected to use software available with texts to hone listening and speaking skills.

FLS 152 5 5 0 0 0
ELEMENTARY SPANISH II CORE
Emphasis is on the understanding and production of oral and written Spanish presented in culturally appropriate settings. The language learned is based on themes of everyday life. Students will be asked to engage in more complex conversations using the themes presented in the curriculum. Speech will be monitored for pronunciation and accent and much class time is devoted to practicing speech. Students will also be expected to use the software accompanying the text to hone listening and speaking skills. Prerequisite: FLS 151 or instructor permission

FLS 181 4 4 0 0 0
SPANISH FOR HERITAGE SPKRS I CORE
This course is designed to address the needs of Hispanic/Latino students who can communicate in Spanish but need to develop their reading, writing and speaking skills in a more accelerated environment than a traditional Spanish course. It will provide students the grammatical tools they need to write effectively with respect to register of language. Students become more familiar with accentuation rules and develop improved spelling skills through grammar drills and directed composition. Prerequisite: Instructor permission

FLS 241 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: FLS 152 or instructor permission

FLS 242 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: FLS 241 or instructor permission

FLS 281 4 4 0 0 0
SPANISH FOR HERITAGE SPKRS II CORE
This course is the continuation of FLS 181 and is intended for students who can communicate in Spanish, but need to further develop reading, writing and speaking skills in a more accelerated environment than a traditional Spanish course. It provides further practice of writing and speaking with respect to language register. This course further develops the Spanish speaker's skills in intermediate reading and writing through a series of more extensive readings, grammar drills and directed compositions and continues study of more formal Spanish. Prerequisite: FLS 181 or FLS 152 or permission of instructor

GEO 111 3 3 0 0 0
INTRO TO GEOGRAPHY CORE
This course utilizes the basic concepts of cultural geography (area, landscape, ecology, diffusion and integration) in a systematic examination of the contemporary world. The course is intended to provide an elementary acquaintance with the field of geography.

GEO 124 3 3 0 0 0
REG GEOG OF THE NONWEST 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).

GEO 125 3 3 0 0 0
REGIONAL GEOG OF THE DEV 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).

GLS 199 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.

GLS 200 3 3 0 0 0
COUNTRY STUDY GENERAL
Course is a single and specific study of a selected country, its culture and people in respect to historical, geographic economic, political and societal development. The country study course offering is dependent upon instructor selection and student interest. This course may be repeated for a maximum of 6 credits provided that each study is of a different country.

GLS 220 3 3 0 0 0
THE MIDDLE EAST AND ISLAM GENERAL
This course surveys the civilization of the Middle East from Muhammad and Islam to the Islamic caliphate and civilization, Ottomans, modernism, Western empires, Arab-Israeli conflict, contemporary Islamic revival, instability and terrorism, Muslim diaspora and the strategic importance of the Middle East to the United States and world economy.

GLS 230 3 3 0 0 0
LATIN AMERICA GENERAL
This course examines the varied history, diverse peoples and cultures of Latin America and the Caribbean beginning with the geography, pre-Columbian peoples, the European intrusion, colonial societies, independence, modernization, American influence, economic, political, cultural and social developments in the recent past and the present.

GLS 235 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, geographical, political, cultural, economic, health, human rights, gender and ethnic communities around the world.

GRD 301 3 1 4 0 0
INTRO TO DESKTOP PUBLISHING VOC/TECH
This course introduces the student to the operating system of the Macintosh computer. Industry standard electronic layout program is used to introduce the student to the field of electronic desktop publishing. Prerequisite: ADM 105 or equivalent

GRD 401 3 3 0 0 0
GRAPHIC DESIGN ORIENTATION VOC/TECH
A prerequisite for all commercial art courses. Commercial art terminology, tools and techniques are practiced.

GRD 403 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 and the principles of design. Applications of design theories in design projects include basics of advertising design and corporate identity.

COURSE DESCRIPTIONS

GRD 404 3 2 2 0 0
TYPOGRAPHY II VOC/TECH
Use typography to visually communicate ideas combining images and symbols in a variety of formats. Apply typographic principles and rules learned in Typography I. Explore font choices, formatting and usage. Learn a variety of special creative type effects. Prerequisite: GRD 405

GRD 405 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.

GRD 407 3 2 2 0 0
PRODUCTION ART I VOC/TECH
First of a two-part course that 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.

GRD 410 3 2 2 0 0
ILLUSTRATION 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 drawing skills.

GRD 411 3 2 2 0 0
COMMUNICATION DESIGN II VOC/TECH
Lab and lecture study will develop a solid base in use of appropriate technical and creative skills necessary in the field of graphic design. Emphasis on packaging design and editorial design. Prerequisite: GRD 403

GRD 414 3 2 2 0 0
ILLUSTRATION II VOC/TECH
Lab and lecture study of tools and skills necessary to create color 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. Prerequisite: GRD 410

GRD 415 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 2-color & advance camera-ready art for printing. Prerequisite: GRD 407

GRD 419 2 0 4 0 0
LETTERING AND 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.

GRD 421 2 2 0 0 0
INTERNSHIP PREPARATION VOC/TECH
Plan an effective job search strategy by developing necessary skills and materials such as a resumé, cover letter and follow-up letter. Learn to emphasize skills and special knowledge gained in your present educational program. Develop professional interpersonal skills by participating in related class activities including interviews.

GRD 424 3 1 0 0 8
GRAPHIC DESIGN INTERNSHIP I VOC/TECH
On-the-job training for Graphic Design students. Included is a weekly seminar for exchange of information, review and evaluation. Prerequisite: GRD 421

GRD 425 3 1 0 0 8
GRAPHIC DESIGN INTERNSHIP II VOC/TECH
Second semester elective on-the-job training for graphic design students. Included is a weekly seminar for the exchange of advanced techniques and skills learned on the job. Prerequisite: GRD 424

GRD 426 3 2 2 0 0
COMMUNICATION DESIGN III VOC/TECH
An advanced course using skills and understanding developed in Communication Design I and II. Application of design in advanced communication problems, with emphasis on image generation, integration of type and design, direct mail and outdoor advertising. Prerequisite: GRD 411

GRD 428 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: GRD 414

GRD 430 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: GRD 415

GRD 436 3 3 0 0 0
PORTFOLIO PREPARATION I VOC/TECH
Students seeking employment must have a well-prepared portfolio. A professional portfolio will be prepared by each student and reviewed by the Graphic Design advisory committee.

GRD 437 3 2 2 0 0
COMMUNICATION DESIGN IV VOC/TECH
Lab and lecture study of advanced design problems with emphasis on a Capstone Project. Prerequisite: GRD 426

GRD 440 3 2 2 0 0
PRODUCTION ART IV VOC/TECH
To complete the study of production art, emphasis will be on the preparation of portfolio projects. Prerequisite: GRD 430

GRD 444 3 3 0 0 0
PORTFOLIO PREPARATION II VOC/TECH
Students will be required to conceptualize and produce portfolio quality projects. "Portfolio Day" is the highlight of completing this course. Students will be required to present a completed portfolio to graphic design professionals and prospective employers at the annual event. Prerequisite: GRD 436

GRD 449 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.

GRD 451 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: GRD 449

GRD 459 3 2 2 0 0
COMPUTER GRAPHICS 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.

GRD 462 3 1 4 0 0
COMPUTER GRAPHICS II VOC/TECH
Students will learn the tools and workflow necessary to create a website from the initial visual design and user interface to going "live" on the web. Students will use industry-standard software to create web pages, optimize images and generate HTML and JavaScript. This course includes instruction and practice creating media-rich animation and web pages with Macromedia Flash. Prerequisite: Permission of instructor

GRD 463 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: GRD 301

GRT 400 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 areas of lithography, screen printing and flexography. Bindery and finishing methods will also be covered.

GRT 401 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.

GRT 406 3 2 2 0 0
DIGITAL PUBLISHING 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.

GRT 409 3 3 0 0 0
PROJECT PLANNING & 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: GRT 400, 401

GRT 410 4 2 4 0 0
PRINTING METHODS I VOC/TECH
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: GRT 400, 401

GRT 416 3 2 2 0 0
DIGITAL PUBLISHING II VOC/TECH
This intermediate level desktop publishing course will stress creation of complex multiple page documents using Adobe InDesign. Students will learn to build and control documents, format text and use text utilities, work with images and graphic tools and prepare documents for professional print production. Prerequisite: GRT 406 or instructor approval

GRT 420 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 including folding, cutting and stitching. Prerequisites: GRT 400, 401, 409, 410

GRT 421 4 2 4 0 0
ELECTRONIC PREPRESS I VOC/TECH
This course is an introduction to the process of preparing digital files for professional print production with the focus on digital imaging. Students will learn to scan various images and procedures of using a digital camera. Additionally, students will learn to use Adobe Photoshop to modify, color correct and work with color profiles. Finally, students will learn to prepare and output digital files to various media. Prerequisites: GRT 400, 401, 406

GRT 425 4 2 4 0 0
ELECTRONIC IMAGE CONTROL VOC/TECH
An advanced level course in digital image enhancement and color control. Students will learn advanced digital image manipulation and colorization skills utilizing Adobe Photoshop. Instruction will focus on image enhancement, restoration and color correction for both print and internet publication. Prerequisite: GRD 301, GRT 416, 421

GRT 426 4 2 4 0 0
DIGITAL PUBLISHING III VOC/TECH
An advanced digital publishing course for students pursuing a digital publishing emphasis for either the AAS degree or diploma. This course is designed to expand and develop graphic design skills. Students will explore trademark, corporate identity, brochure design, book design and advertising design. Students will utilize computers and desktop publishing software to develop and produce various projects.
Prerequisite: GRT 406, 416, 421

GRT 427 4 2 4 0 0
SPECIALTY PRINTING METHODS VOC/TECH
A course in specialty printing focusing on flexography and screen printing. The student will work in a lab environment to complete multiple color printed projects advancing their skills in both printing technologies. Prerequisite: GRT 400, 401, 409, 410

GRT 431 4 2 4 0 0
ELECTRONIC PREPRESS II VOC/TECH
This course is a continuation of Electronic Prepress I. Students wills study more in-depth principles of electronic prepress including digital workflows, file analysis and repair and digital scanning techniques. Students will learn to operate electronic prepress equipment in a workshop setting. Prerequisite: GRT 421

GRT 453 4 2 4 0 0
PRINTING METHODS CAPSTONE VOC/TECH
This course is for students pursuing a Graphic Technology emphasis in printing technologies. Students work collaboratively to produce a capstone project utilizing their skills in print production. Resumé and portfolio preparation are also covered. Prerequisite: Completion of terms 1 and 2 of the Graphic Technologies program and GRT 420, 427

GRT 455 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. Resumé and portfolio preparation are also covered. Prerequisite: Completion of terms 1 and 2 of the Graphic Technologies program and GRT 425, 426

COURSE DESCRIPTIONS

GRT 932 3 1 0 0 8
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

HCM 100 2 2 0 0 0
SANITATION & SAFETY VOC/TECH
Principles and methods of sanitation safety and equipment. Equipment selection and facilities planning. Also includes preventive maintenance.

HCM 104 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)

HCM 110 2 0 4 0 0
BAKING (LAB) VOC/TECH
This course offers instruction in the baking fundamentals and procedures as applied to bread, rolls, cakes, pastries and cake decorating. Practical experience in sanitation, safety and the use of large equipment is also emphasized in this course. Prerequisite: HCM 143, 144 or instructor permission

HCM 124 2 0 4 0 0
ADV BAKING/BUFFET DECORATING VOC/TECH
Advanced principles and procedures of producing baked goods, decorative work and display pieces. Prerequisite: HCM 110, 270

HCM 143 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: HCM 144

HCM 144 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: HCM 143

HCM 152 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, entrees and desserts. Emphasis is on organization and recipe standardization. Prerequisite: HCM 143, 144

HCM 153 2 0 4 0 0
FOOD PREPARATION II LAB VOC/TECH
The production of quick breads, desserts, salads, vegetables, soups and main entrees to be sold to the public. Time is spent on an individual recipe production project. Prerequisite: HCM 143, 144

HCM 167 3 0 6 0 0
CULINARY SKILLS 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: HCM 152, 153

HCM 168 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: HCM 167; Corequisite: HCM 169

HCM 169 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: HCM 167; Corequisite: HCM 168

HCM 172 3 0 6 0 0
INTERNATIONAL CUISINE (LAB) 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: HCM 152, 153; Corequisite: HCM 173

HCM 173 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: HCM 152, 153; Corequisite: HCM 172

HCM 175 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: HCM 172, 173

HCM 200 2 0 4 0 0
DINING ROOM SERVICE VOC/TECH
A dining room service course in an actual restaurant experience with emphasis on using sound management techniques and quality customer service.

HCM 210 2 2 0 0 0
DINING 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: HCM 152, 153

HCM 231 2 2 0 0 0
NUTRITION VOC/TECH
An overview of nutrition-related topics including the psychology of eating and evaluation of food intake.

HCM 236 3 3 0 0 0
HUMAN NUTRITION VOC/TECH
Understanding and implementing present-day knowledge of nutrition; the use of food for health and satisfaction of the individual and family.

HCM 240 2 2 0 0 0
MENU PLANNING & DESIGN VOC/TECH
This course applies the principles of menu planning and layout to the development of menus for a variety of types of facilities and service.

HCM 250 2 2 0 0 0
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.

HCM 270 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: HCM 143, 144

HCM 300 2 2 0 0 0
BEVERAGE MANAGEMENT VOC/TECH
This course will familiarize the student with all aspects of beverage service including wine and alcohol laws. The basic mechanics of beverage preparation, sales and promotion will be covered.

HCM 320 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 three primary areas of hospitality-food and beverage, lodging and tourism, along with an introduction to business basics.

HCM 510 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)

HCM 600 2 2 0 0 0
INTRO TO LODGING OPERATIONS VOC/TECH
An in-depth look at the management and operations of key services within hotel properties. Included are guest services, housekeeping, maintenance and security. Course will examine the intricacies of these services from a management perspective.

HCM 604 5 0 0 0 20
HOTEL SERVICE INTERNSHIP VOC/TECH
An approved program of work experience in one of the many hotel/motel properties in the area. Prerequisite: HCM 320 Corequisite: HCM 600

HCM 605 2 2 0 0 0
HOTEL ADMINISTRATION VOC/TECH
A management course that introduces the student to advanced studies of property management, catering, sales, legal aspects, security and maintenance of all departments of the hotel.

HCR 253 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: HCR 307

HCR 256 5 2 6 0 0
APPLIED HEATING & AC VOC/TECH
This course covers installation and troubleshooting techniques dealing with residential heating, cooling and refrigeration systems. Prerequisite: HCR 253

HCR 260 3 1 4 0 0
HVAC TRADE SKILLS I VOC/TECH
This course covers all types of soldering and brazing used in the heating, air conditioning refrigeration industry.

HCR 270 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: HCR 256

HCR 290 5 2 6 0 0
COMMERCIAL HVAC/REFRIGERATION VOC/TECH
Course covers basic commercial refrigeration systems, components and their use, applications, methods of installation, maintenance, diagnosis and repairs. Prerequisite: HCR 270, 506

HCR 307 5 2 6 0 0
FUNDAMENTALS OF REFRIGERATION VOC/TECH
This course consists of the principles of refrigeration, domestic systems and equipment.

HCR 404 5 2 6 0 0
ELECTRICITY VOC/TECH
A study of basic electricity principles: Ohm's law, series and parallel circuits as applied to HVAC & refrigeration. Course also includes hands-on practice with training boards in the lab.

HCR 440 5 2 6 0 0
ELECTRICAL CONTROLS & CIRCUITS VOC/TECH
The application of motor control circuits used in industrial application, in particular 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: HCR 404

HCR 506 3 2 2 0 0
AIR DISTRIBUTION VOC/TECH
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: HCR 256

HCR 515 3 1 4 0 0
SHEET METAL FABRICATION VOC/TECH
This course covers all types of sheet metal fabrications pertaining to the HVAC profession. Prerequisite: HCR 260

HCR 717 3 2 2 0 0
BLUEPRINT READING VOC/TECH
A study of blueprint reading related to the HVAC/R trade. Drafting symbols and terminology will be covered, along with skills needed to make simple scaled drawings.

HCR 803 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: HCR 307, 440, 506; Corequisite: HCR 290

HCR 840 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: HCR 506

HCR 932 4 0 0 0 16
INTERNSHIP VOC/TECH
On the job training for Heating, Air Conditioning, Refrigeration program students who have a "C" average or better in the program. Must have valid driver's license. Prerequisite: HCR 253, 440, 515

COURSE DESCRIPTIONS

HIS 112 4 4 0 0 0
WEST CIV: ANCIENT TO EARLY MOD 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.

HIS 113 4 4 0 0 0
WEST CIV: EARLY MODERN TO PRES 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.

HIS 150 4 4 0 0 0
U.S. HISTORY 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 presettlement, Colonial, Revolutionary, Antebellum Civil War and Reconstruction eras.

HIS 153 4 4 0 0 0
U.S. HISTORY SINCE 1877 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.

HIS 201 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.

HIS 257 3 3 0 0 0
AFRICAN-AMERICAN HISTORY CORE
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.

HIS 266 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.

HSC 102 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) Certification.

HSC 105 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.

HSC 109 3 3 0 0 0
INTRO TO HEALTH CAREERS VOC/TECH
Students will discover the many options available, including roles and responsibilities in health careers. This course is designed to provide the student with the information necessary to make their health career choice.

HSC 120 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.

HSC 121 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: HSC 120

HSC 172 3 2 0 3 0
NURSE AIDE 75 HOURS VOC/TECH
Entry-level skills to seek employment in Iowa skilled facilities. Meets OBRA87 standards.

HSC 182 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 or HSC 172

HSC 183 1 1 0 0 0
CCDI-DEMENTIA ILLNESS TRAINING 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 patient and the importance of appropriate communication. Explanation of the stages of Alzheimer's disease and appropriate interventions will be introduced.

HSC 281 5 4 0 3 0
LIMITED RADIOLOGY VOC/TECH
IBN#22 State-required course for people employed in a clinic to take chest and extremities, sinus or spinal x-rays.

HSV 109 3 3 0 0 0
INTRO 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.

HSV 130 3 3 0 0 0
INTERVIEWING/INTERPER RELATION 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.

HSV 135 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.

HSV 185 3 3 0 0 0
DISCRIMINATION AND DIVERSITY OPEN
This course will address theoretical and historical perspectives on racism, sexism, other forms of discrimination; applications to social work, culturally competent practice, change strategies and intercultural communication strategies. Students will explore and process their own personal prejudices and biases in class. Students will learn skills to increase cultural competency and work effectively with persons from diverse backgrounds.

HSV 220 3 3 0 0 0
SURVEY MENTAL HEALTH TREATMENT OPEN
Introduction to major counseling theories including psychoanalysis, gestalt, existential, family systems, reality therapy, behavioral therapy and person centered therapy. Applications in mental health and social services settings are considered.

HSV 230 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

HSV 255 3 3 0 0 0
ADDICTIVE DISEASE CONCEPTS 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.

HSV 286 3 3 0 0 0
INTERVENTION THEORIES/PRAC I OPEN
Study of several management and planning theories and practices thst are used to assess client needs, establish goals, identify resources and make appropriate referrals. Community resources are explored. Only offered Fall and Spring semesters. Prerequisite: HSV 109, 130

HSV 287 3 3 0 0 0
INTERVENTION THEORIES/PRAC 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. Only offered Spring and Summer semesters. Prerequisite: HSV 286 Corequisite: HSV 802

HSV 802 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. Only offered Spring and Summer Semesters. Prerequisite: HSV 286 Corequisite: HSV 287

HSV 813 3 0 0 0 12
PRACT: CHEM 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: Acceptance into an approved practicum site

HSV 814 3 0 0 0 12
PRACT: CHEM DEPEND COUNSEL II OPEN
Supervised experience in one of the following treatment programs for chemically dependent people: inpatient, outpatient, residential or family services. Prerequisite: Acceptance into an approved practicum site

HUM 116 3 3 0 0 0
ENCOUNTERS IN HUMANITIES 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.

HUM 120 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.

HUM 121 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.

IND 124 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.

IND 144 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.

IND 146 3 2 2 0 0
MECH 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 driven equipment. This will include the sizing of belts and pulleys, determining speed ratios and the importance of proper sizing for process control.

IND 147 4 3 2 0 0
MECHANICAL POWER TRANS 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: IND 146

INT 124 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.

INT 125 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: INT 124

COURSE DESCRIPTIONS

ITP 123 **3 3 0 0 0**
INTRO TO ASL INTERPRETING **VOC/TECH**
This course is an overview regarding the field in sign language interpretation for the Deaf Community. The course provides a basic historical framework related to the principles, ethics, roles, responsibilities and standard practices of the sign language profession. Prerequisite: Admission to the American Sign Language Interpreter Program or permission from the department chair

ITP 133 **3 3 0 0 0**
DEAF CULTURE AND COMMUNITY **VOC/TECH**
This course provides students with the opportunity to explore American Deaf Culture and Community: its existence, characteristics, institutions, organizations, key historical figures and events, contemporary leaders and contributions to the larger society. Diversity within the community and realities of life as a cultural minority will also be discussed. The course takes a comparative approach by integrating concepts of American Deaf Culture to the students' own experiences with culture and community plus a comparison and contrast between American Mainstream Culture and American Deaf Culture.

ITP 146 **3 3 0 0 0**
ASL INTERP VOICE TO SIGN I **VOC/TECH**
This course is organized to provide tools to the students for effectively demonstrating an accurate interpretation of meaning from spoken English to American Sign Language. Objectives include developing signing skills with a focus on chunking, dynamic equivalence, concept selection, register receptive skills, proper location of sign interpreters, team interpreting, the use of a Certified Deaf Interpreter (CDI) and other aspects of signing. Special requirements of sign interpreting will also be included, such as methods and techniques of signing for deaf individuals who are members of the Deaf Community and use ASL, as well as deaf individuals who may not use ASL and use an English Code Variation. Prerequisite: Admission to the American Sign Language Interpreter Program or permission from the department chair

ITP 148 **3 3 0 0 0**
ASL INTERP VOICE TO SIGN II **VOC/TECH**
This course is organized to provide tools to the students for effectively demonstrating an accurate interpretation of meaning from spoken English to American Sign Language. Objectives include developing signing skills with a focus on chunking, dynamic equivalence, concept selection, register receptive skills, proper location of sign interpreters, team interpreting, the use of a Certified Deaf Interpreter (CDI) and other aspects of signing. Special requirements of sign interpreting will also be included, such as methods and techniques of signing for deaf individuals who are members of the Deaf Community and use ASL, as well as deaf individuals who may not use ASL and use an English Code Variation. Voice to Sign in American Sign Language Interpreting II is unique from VSASLI in that it provides a broader base of basic elements acquired and learned previously. The challenging and detailed nature and expectations of this course build on Level I understanding and skill sets. Prerequisite: Admission to the American Sign Language Interpreter Program or permission from the department chair

ITP 152 **3 3 0 0 0**
ASL INTERP SIGN TO VOICE I **VOC/TECH**
This course is organized to provide tools to the students for effectively demonstrating an accurate interpretation of meaning from American Sign Language to spoken English. Objectives include developing voicing skills with a focus on chunking, dynamic equivalence, word selection, register receptive skills, proper location of voice interpreters, team interpreting, the use of a Certified Deaf Interpreter (CDI) and other aspects of voicing. Special requirements of voice interpreting will also be included, such as methods and techniques of voice-over, voicing for deaf individuals who use ASL, as well as deaf individuals who may not use ASL. Prerequisite: Admission to the American Sign Language Interpreter Program or permission from the department chair

ITP 154 **3 3 0 0 0**
ASL INTERP SIGN TO VOICE II **VOC/TECH**
This course is organized to provide tools to the student for effectively demonstrating an accurate interpretation of meaning from American Sign Language to spoken English. Objectives include developing voicing skills with a focus on chunking, dynamic equivalence, word selection, register receptive skills, proper location of voice interpreters, team interpreting, the use of a Certified Deaf Interpreter (CDI) and other aspects of voicing. Special requirements of voice interpreting will also be included, such as methods and techniques of voice-over, voicing for deaf individuals who use ASL, as well as deaf individuals who may not use ASL. Sign to Voice in American Sign Language Interpreting II is unique from SVASLI in that it provides a broader base of basic elements acquired and learned previously. The challenging and detailed nature and expectations of this course build on Level I understanding and skill sets. Prerequisite: ASL Interp Sign to Voice I and Admission to the American Sign Language Interpreter Training Program or permission from the department chair

ITP 190 **3 3 0 0 0**
ETHICS IN ASL INTERPRETING **VOC/TECH**
This course will set forth standards toward principles of ethical behavior and professional interpreting practices in regard to general guidelines, ideals and/or expectations that need to be taken into consideration regarding an interpreter's professional behavior. Particular circumstances are inherently unique to the American Sign Language interpreter culture, a variety of situations will be examined, discussed and analyzed. Prerequisite: admission to the American Sign Language Interpreter Training Program or permission from the department chair

ITP 932 **6 0 0 24 0**
ASL INTERPRETING INTERNSHIP **VOC/TECH**
This course provides real-time experience within the professional field of interpreting. The experience will include 360 hours of real-time experience with an established interpreter and/or agency. The student will self-select an internship site and submit weekly journals and evaluations regarding participation, activities and other assigned and experiential learning moments of related interpreting contact. Other requirements specific to internship site may apply. Students will be evaluated on their ability to carry out professional responsibilities, to apply knowledge and skill in working with various groups of people across the life-span, to identify and accommodate various language preferences and to apply various service delivery models reflective of current practices in the profession. Prerequisite: Satisfactory completion of the DMACC ASL-ITP pProgram or equivalent and authorization by the department chair

ITR 101 **3 3 0 0 0**
INTRO INTERPRET & TRANSLATION **OPEN**
A general introduction to the field of oral language interpreting and translation (I/T) including linguistic theory of communication, translation approaches, problems and processes, cultural competency and ethics, the role of the interpreter, modes of interpretation and interpreter errors. Taught in English; students need not be bilingual in other languages to take this introductory course.

ITR 102 **3 3 0 0 0**
TOOLS INTERPRET & TRANSLATE **OPEN**
In-depth training in the research and technological tools that interpreters and translators use in their field. Extensive use of monolingual and bilingual dictionaries and thesauri. Features of Microsoft Word and Excel for language work and glossary development. Internet tools for vocabulary research and enrichment. Interpretation equipment. Digital recorders for modified consecutive interpretation. Introduction to TRADOS translation memory program. Corequisite: ITR 101 or permission of instructor

ITR 111 **3 3 0 0 0**
FUNDAMENTALS OF INTERPRETATION **OPEN**
Study and practice of the basic theory and techniques of language interpretation, applied to general topics of current events. The modes of interpreting. Simultaneous Interpreting, Consecutive Interpreting, Sight Translation. Introduction to Lexicography and Vocabulary Development. Students are required to be functionally bilingual in English and at least one other language to take this course. Corequisite: ITR 101 or instructor permission

ITR 115 **3 3 0 0 0**
FUNDAMENTALS OF TRANSLATION **OPEN**
Study and practice of the basic theory and techniques of language translation, applied to general topics of current events. Basic concepts. Translation as product. Translation as process. Cultural problems. Denotative vs. connotative meanings. Formal properties of texts. Language variety. Glossary development. Prerequisite: ITR 101 or instructor permission and a functional proficiency in English and a second language

ITR 120 **1 1 0 0 0**
ETHICS FOR THE INTERP/TRANS **OPEN**
This course provides an introduction to basic interpreter and translator ethics, including accuracy, representation of qualifications, avoidance of conflicts of interest, professional demeanor, confidentiality, maintaining a proper role, competency, reporting ethical violations, professional development, disputes with clients, collegiality and contracts. Model scenarios are used for developing and applying ethical judgments. Prerequisite: Minimum of "C" in all ITR courses and complete minimum of three ITR courses

ITR 128 **3 3 0 0 0**
LEGAL TERM & SIGHT TRANSLATION **OPEN**
Identification of the origins of legal terminology. Advanced sight translation training focusing on court/law enforcement documents. Lexicographical training in locating, understanding and using frequently used legal terminology in criminal proceedings. Intensive practice in sight translating the following types of court/law enforcement documents: warrants, trial information, indictments, waivers of detention hearings, plea agreements, informal letters, presentencing reports and pro se pleadings. Prerequisite: Complete the six ITR required courses with a grade of "C" in each course. Corequisite: PRL 103 or instructor permission

ITR 130 **3 3 0 0 0**
JUDICIARY INTERPRETING I **OPEN**
Advanced consecutive interpreting training–listening, analysis, memorization and interpreting–as applied to court/law enforcement situations. Intensive practice in interpreting for the following events: police interrogations, attorney-client interviews, proffer interviews, witness testimony. Advanced use of note-taking techniques. Corequisite: ITR 128

ITR 132 **3 3 0 0 0**
JUDICIARY INTERPRETING II **OPEN**
Advanced simultaneous interpreting training-dual tasking, shadowing, paraphrasing and interpreting–as applied to court proceedings. Intensive practice in interpreting for the following court proceedings: initial appearances, bail/detention hearings, change of plea hearings, trials and sentencing hearings. Advanced use of simultaneous interpreting equipment. Prerequisite: ITR 130

ITR 137 **3 3 0 0 0**
JUDICIARY TRANSLATION **OPEN**
Advanced written translation training focusing on legal documents. Advanced lexicographical training in legal terminology in criminal and civil proceedings. Intensive practice in translating the following types of legal documents: plea agreements, birth certificates, contracts, wills. Corequisite: ITR 128

ITR 148 **3 3 0 0 0**
HEALTHCARE TERM & SIGHT TRANS **OPEN**
Identification of the origins of health care terminology. Advanced sight translation training focusing on healthcare/medical documents. Lexicographical training in locating, understanding and using frequently used legal terminology in healthcare environments. Intensive notifications, patient letters, instructions for taking medication. Prerequisite: Complete the six ITR required courses with a minimum grade of "C" in each course. Corequisite: BIO 156 or instructor permission

ITR 150 **3 3 0 0 0**
HEALTHCARE INTERPRETING I **OPEN**
Advanced consecutive interpreting training - listening, analysis, memorization and interpreting - as applied to healthcare situations. Intensive practice in interpreting for the following events: admitting interviews, well baby visits and standard doctor visits. Advanced use of note-taking techniques. Prerequisite: ITR 148

ITR 152 **3 3 0 0 0**
HEALTHCARE INTERPRETATION II **OPEN**
Advanced simultaneous interpreting training–analysis, prediction, shadowing, decalage and interpreting–as applied to healthcare settings in which the interpreter should be more invisible to allow for a better rapport between providers and patients. Intensive practice in interpreting for the following healthcare proceedings: emergency room (cardiovascular, trauma, childbirth, sexual assault, infectious diseases) and mental health consultations/interventions. Continued development of healthcare terminology. Proper positioning and situational control for simultaneous interpreting. Advanced use of simultaneous interpreting equipment. Prerequisite: ITR 150

ITR 158 **3 3 0 0 0**
HEALTHCARE TRANSLATION **OPEN**
Advanced written translation training focusing on healthcare/medical documents. Advanced lexicographical training in healthcare terminology. Intensive practice in translating the following types of documents: discharge information, living will, patient educational materials. Corequisite: ITR 148

COURSE DESCRIPTIONS

ITR 168 **3 3 0 0 0**
HUM SERV TERM & SIGHT TRANS **OPEN**
Identification of the origins of human services terminology. Advanced sight translation training focusing on human/social services documents. Lexicographical training in locating, understanding and using common human services terminology in social services contexts. Intensive practice in sight translating selected human services applications/financial affidavits, release of information forms, informational materials and notice of decision letters. Prerequisite: Complete the 6 ITR required courses with a minimum grade of "C" in each course; HSV 109 or instructor permission

ITR 170 **3 3 0 0 0**
HUM SERV INTERPRETATION I **OPEN**
Advanced consecutive interpreting training--listening, analysis, memorization, note-taking and interpreting--as applied to common human services situations. Intensive practice in interpreting for client/social worker interviews in the following areas/programs: Iowa Dept. of Human Services, HAWK-I, WIC, General Relief, Title XIX (Medicaid), Child Support Recovery Unit, Bureau of Refugee Affairs and substance abuse treatment facilities. Corequisite: ITR 168

ITR 800 **2 1 0 3 0**
JUDICIARY I/T INTERNSHIP **OPEN**
Application of the knowledge skills and attitudes gained in the classroom by interning under qualified/certified interpreters and translators in a variety of court/law enforcement situations. Interns will begin by shadowing their mentor and then move into actual interpreting/translating assignments in appropriate monitored situations. (P/F) Prerequisite: Minimum grades of "C" in all ITR courses. Corequisite: ITR 132 or ITR 137

ITR 805 **2 1 0 3 0**
GENERALIST I/T INTERNSHIP **OPEN**
Application of the knowledge, skills and attitudes gained in the classroom by interning under qualified interpreters and translators in a variety of general work and volunteer situations. Interns will begin by shadowing their mentor and then move into actual interpreting/translating assignments in appropriate monitored situations. (P/F) Prerequisite: Minimum cumulative GPA of 2.5 in all Interpretation and Translation Generalist Certificate coursework. Corequisite: ITR 120

ITR 810 **2 1 0 3 0**
HEALTHCARE I/T INTERNSHIP **OPEN**
Application of the knowledge, skills and attitudes gained in the classroom by interning under qualified/certified interpreters and translators in a variety of healthcare environments. Interns will begin by shadowing their mentor and then move into actual interpreting/translating assignments in appropriate monitored situations. (P/F) Prerequisite: Minimum grades of "C" in all ITR courses. Corequisite: ITR 152 or ITR 158

ITR 820 **2 1 0 3 0**
HUM SERV I/T INTERNSHIP **OPEN**
Application of the knowledge, skills and attitudes gained in the classroom by interning under qualified/certified interpreters and translators in a variety of human services situations. Interns will begin by shadowing their mentor and then move into actual interpreting/translating assignments in appropriate monitored situations. (P/F) Corequisite: Minimum of "C" in all ITR courses; ITR 172 or ITR 177 or instructor permission.

ITR 910 **3 3 0 0 0**
EMPHASIS SEMINAR **OPEN**
A survey of specialized fields of judiciary interpretation/translation, healthcare interpretation/translation, human services interpretation/translation, educational interpretation/translation and business translation/interpretation. Introduction to typical texts and interpreting situations in each specialty area. Students must take this course before enrolling in a specialty emphasis plan. Corequisite: ITR 111 or ITR 115, bilingual or instructor permission

JOU 110 **3 3 0 0 0**
INTRO TO MASS MEDIA **OPEN**
An introduction to mass communication in a global marketplace. Emphasizes print and electronic media, advertising and public relations, ethics and new technology.

JOU 121 **3 3 0 0 0**
BASIC REPORTING PRINCIPLES **OPEN**
Designed to provide students with experiences in gathering, organizing and writing news stories.

JOU 125 **3 1 4 0 0**
NEWSPAPER 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.

JOU 163 **3 3 0 0 0**
ADVANCED REPORTING: POLITICS **OPEN**
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 general election and its coverage. Prerequisite: JOU 110; Corequisite: POL 127

JOU 165 **3 3 0 0 0**
PRINCIPLES OF ADVERTISING **OPEN**
Course explores advertising as a tool and socio economic force.

LIT 101 **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.

LIT 105 **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.

LIT 110 **3 3 0 0 0**
AMER LITERATURE TO MID 1800S **CORE**
In-depth study of works of selected major writers (including Native American) particularly from Puritan times to 1865. Basic critical approaches are emphasized.

LIT 111 **3 3 0 0 0**
AMER LITERATURE SINCE MID 1800 **CORE**
Examines American literature from early 20th century through contemporary America. Emphasizes major literary works and their social and cultural contexts.

LIT 130 **3 3 0 0 0**
AFRICAN 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.

LIT 142 **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.

LIT 166 **3 3 0 0 0**
SCIENCE FICTION **CORE**
A survey of speculative fiction from Frankenstein to literature of the 21st Century. Examines major influential works in their literary, social and cultural contexts. Critical analysis is emphasized.

LIT 180 **3 3 0 0 0**
MYTHOLOGY **GENERAL**
An introduction to world mythology. The course explores Classical, Nordic, Eastern, African and American/British myths.

LIT 185 **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.

LIT 188 **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.

LIT 190 **3 3 0 0 0**
WOMEN WRITERS **CORE**
Introduction to the study and appreciation of literature written by women. Examines major influential works from a variety of historical, social and cultural contexts. Critical analysis is emphasized.

LIT 193 **3 3 0 0 0**
HUMOR IN LITERATURE **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.

MAP 110 **2 1 2 0 0**
MEDICAL OFFICE MANAGEMENT I **VOC/TECH**
Emphasizes administrative responsibilities. Includes bookkeeping, letter writing, mail, grammar and word usage, records management, banking and payroll. Introduction to the computer with word processing.

MAP 118 **4 3 2 0 0**
MEDICAL OFFICE MANAGEMENT II **VOC/TECH**
Study of health insurance, HMOs, Workers' Compensation, Medicare, Tricare and Medicaid. Includes insurance filing, CPT and ICD coding. Proper use of telephone, appointment scheduling and recordkeeping. Through computer applications, students keep medical and financial records and transcribe medical dictation. Prerequisite: Grade of "C" or better in MAP 110

MAP 129 **1 0 2 0 0**
MEDICAL TERMINOLOGY **VOC/TECH**
Basic prefixes, suffixes and root words related to all body systems are studied. Spelling, pronunciation and definitions are included.

MAP 130 **1 0 2 0 0**
TRANSCRIPTION **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 MAP118

MAP 141 **3 3 0 0 0**
MEDICAL INSURANCE **VOC/TECH**
This course provides a practical approach in medical insurance billing. Emphasis will be 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: HSC 120

MAP 150 **3 2 2 0 0**
ADV. MEDICAL BILLING/CODING **VOC/TECH**
This course provides a practical approach to expanding the knowledge of specialty-specific coding issues. Emphasis will be placed on identifying the specific circumstances and rules for coding in the specialty physician practices. Prerequisite: MAP 141

MAP 225 **4 3 2 0 0**
MED LAB 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: MAP 347

MAP 228 **3 2 2 0 0**
MED LAB PROCEDURES II **VOC/TECH**
Venipuncture and finger puncture. Experience performing hematology, blood chemistries and EKGs. Emphasis on OSHA regulations and quality control in the medical laboratory. Prerequisite: Grade of "C" or better in MAP 225; Corequisite: MAP 348

MAP 250 **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: MAP 225

MAP 252 **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" of better in MAP 250; Corequisite: MAP 624

MAP 347 **3 2 2 0 0**
MEDICAL OFFICE PROCEDURES I **VOC/TECH**
Clinical skills including vital signs, patient exam preparation, charting and patient education. Students perform vision and hearing tests and sterilization procedures. Medical asepsis and emphasis on OSHA regulations. Corequisite: MAP 225

COURSE DESCRIPTIONS

MAP 348 **3 2 2 0 0**
MEDICAL OFFICE PROCEDURES II **VOC/TECH**
Student learns how to assist with examinations, tests and treatments. Inventory and use of medical and surgical supplies. Includes principles of pharmacology, injections, theory of IV therapy, sterile procedures, pulmonary functions, bandaging and patient education. Outpatient scheduling, referral, prior authorizations and documentation. Prerequisite: Grade "C" or better in MAP 347; Corequisite: MAP 228

MAP 423 **3 3 0 0 0**
PROFESSIONAL DEVELOPMENT **VOC/TECH**
Emphasizes professionalism and responsibilities of the certified medical assistant. Medical specialties, first aid procedures, medical ethics and law and HIPPA are studied.

MAP 532 **3 3 0 0 0**
HUMAN BODY-HEALTH & 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: HSC 120

MAP 544 **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.

MAP 554 **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 MAP 544

MAP 606 **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 services available to the patient. Corequisite: MAP 624

MAP 624 **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: MAP 252

MAP 803 **3 0 0 0 12**
INTERNSHIP-MEDICAL OFFICE SPEC **VOC/TECH**
Work in a medical facility to learn the many office procedures and policies as they exist in a job situation. Prerequisites: HSC 121, MAP 532, MTR 121, ADM 215

MAT 034 **3 3 0 0 0**
ARITHMETIC **COLLEGE PREPARATORY**
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.

MAT 053 **4 4 0 0 0**
PRE-ALGEBRA **COLLEGE PREPARATORY**
A review of arithmetic and an introduction to algebra. This is a college preparatory course designed to strengthen arithmetic skills and introduce basic concepts of algebra in preparation for MAT 063. College preparatory courses cannot be used to fulfill degree requirements.

MAT 063 **4 4 0 0 0**
ELEMENTARY ALGEBRA **COLLEGE PREPARATORY**
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 prep course designed for students with no algebra background or for students who need review. College preparatory courses cannot be used to fulfill degree requirements.

MAT 073 **4 4 0 0 0**
ELEMENTARY ALGEBRA II **COLLEGE PREPARATORY**
A review of elementary algebra along with the new topics including exponents and radicals, functions and graphs, quadratic equations, inequalities and systems of equations. This course cannot be used to fulfill degree requirements. Prerequisite: One year H.S. algebra, department permission or MAT 063

MAT 093 **1 1 0 0 0**
MATH STUDY SKILLS **COLLEGE PREPARATORY**
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

MAT 110 **3 3 0 0 0**
MATH FOR LIBERAL ARTS **CORE**
The student will begin to think critically by studying logic, sets and statistical reasoning. The student will examine Problem solving and decision making by studying probability, application of statistical data, modeling and financial mathematics. The student will become aware of possible abuses of mathematics. Finally, the student will understand the broad usefulness of mathematics by studying history of mathematics and application of mathematics in art, music, business and/or politics. Prerequisite: 1 year of high school algebra or MAT 063

MAT 114 **3 2 2 0 0**
ELEMENTARY EDUCATORS MATH I **CORE**
This is the first of two courses focusing on math concepts taught in K-6. Topics will be covered from both a practical and theoretical standpoint, with an emphasis on practical understanding using concrete examples. Course content includes Problem solving, systems of whole numbers, numeration, algorithms for computation, topics from number theory and topics from geometry including measurement, polygons, polyhedra, congruence and transformations. This course is for students in education fields and is not appropriate for students majoring in other areas. This is not a methods course. Prerequisite: Two years of H.S. algebra or MAT 073 or department permission

MAT 116 **3 2 2 0 0**
ELEMENTARY EDUCATORS MATH II **CORE**
This course is a continuation of MAT 114. Course content includes basic 2D and 3D geometry and measurement, elementary probability, data analysis and statistics, operations and algorithms for computing with fractions, decimals, percents and integers. Prerequisite: MAT 114 with a grade of "C-" or better

MAT 121 **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: Two years of high school algebra or MAT 073.

MAT 129 **5 5 0 0 0**
PRECALCULUS **CORE**
Polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, analytic trigonometry, vectors, complex numbers, elementary theory of equations, linear systems, matrices and analytic geometry. Prerequisite: MAT 130 or equivalent or department permission

MAT 130 **3 3 0 0 0**
TRIGONOMETRY **CORE**
Circular functions and their inverses, trigonometric identities, trigonometric equations, solving triangles and graphing. Prerequisite: Two years H.S. algebra, department permission or MAT 073

MAT 141 **4 4 0 0 0**
FINITE MATH **CORE**
A general education course in practical mathematics for those students not majoring in mathematics or science. This course will 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: One year H.S. algebra or MAT 063.

MAT 148 **4 4 0 0 0**
LINEAR ALGEBRA W/APPLICATIONS **GENERAL**
A study of the use and application of matrices in the solution of systems of linear equations, determinants, vector spaces, linear transformations, eigenvalues, eigenvectors, bases and projections. Linear algebra is a core course in many engineering, physics, mathematics and computer science programs. This course makes heavy use of computing technology. Graphing calculators required. Prerequisite: MAT 211 or equivalent.

MAT 157 **4 4 0 0 0**
STATISTICS **CORE**
Tabular and graphical presentation, measures of central tendency and variability, standard elementary procedures involving the binomial, normal, student's T, chi-square and F distributions, correlation, regression, analysis of variance and several nonparametric procedures. Students will not receive credit for both MAT 157 and BUS 211. Prerequisite: Two years H.S. algebra, department permission or MAT 073

MAT 160 **2 2 0 0 0**
STATISTICAL BUSINESS APPL. **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. Prerequisite: BUS 211 OR MAT 157

MAT 162 **4 3 2 0 0**
PRIN. OF BUSINESS STATISTICS **CORE**
Make inferences about population parameters. Conduct regression inferential analyses. Obtain, present and organize statistical data using measures of location and dispersion; the Normal distribution; sampling distributions; estimation and confidence intervals; inference for simple linear regression analysis. Use computers to visualize and analyze data. Prerequisite: MAT 141 or MAT 157 or equivalent

MAT 166 **4 4 0 0 0**
CALCULUS FOR BUSN/SOCIAL SCI **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 MAT 211 and MAT 217. Prerequisite: Two years H.S. algebra and MAT 141; or MAT 073 and MAT 141.

MAT 211 **5 5 0 0 0**
CALCULUS I **CORE**
Absolute values, inequalities, functions, limits, continuity, differentiation, definite integral, exponential and logarithmic functions. Prerequisite: MAT 129 or equivalent or department permission

MAT 217 **5 5 0 0 0**
CALCULUS II **CORE**
Continuation of Calculus I. Topics include applications of integration, integration techniques, L'Hopital's rule, improper integrals, infinite sequences, series, Taylor and Maclaurin series, the calculus of plane curves, parametric equations and polar equations. Prerequisite: MAT 211

MAT 219 **4 4 0 0 0**
CALCULUS III **CORE**
Continuation of Calculus II. Topics include vectors and vector-valued functions, tangent and normal vectors, arc length and curvature, vector fields, line and surface integrals, Green's theorem, the divergence theorem and Stokes's theorem, multi-variable functions, partial derivatives, directional derivatives and gradients, optimization of multi-variable functions. Prerequisite: MAT 217 or equivalent

MAT 227 **4 4 0 0 0**
DIFF EQUATIONS WITH LAPLACE **CORE**
Ordinary differential equations, systems of ordinary differential equations, Laplace transforms, numerical methods and applications. Prerequisite: MAT 217 or equivalent must be taken concurrently or prior to this course

MAT 772 **3 3 0 0 0**
APPLIED MATH **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.

MAT 773 **3 3 0 0 0**
APPLIED MATH 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: MAT 772

COURSE DESCRIPTIONS

MFG 105 3 2 2 0 0
MACHINE SHOP MEASURING VOC/TECH
A study of measurements as used in industry. Units of instruction include tools, gauges, comparators, gauge blocks and inspection practices.

MFG 121 2 0 4 0 0
MACHINE TRADE PRINTREADING 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.

MFG 132 3 1 4 0 0
MACHINE TRADE PRINTREADING 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: MFG121

MFG 140 1 1 0 0 0
GEOMETRIC DIMENSION/TOLERANCE VOC/TECH
A basic course explaining the GD & T system and the symbols used within it.

MFG 152 1 1 0 0 0
REL WELD BLUEPRINT-MFG TECH VOC/TECH
Basic skills will be developed in reading welding blueprints with emphasis on welding symbols.

MFG 171 2 0 4 0 0
MANUFACTURING WELDING I VOC/TECH
Basic skill 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.

MFG 172 3 0 6 0 0
RELATED WELDING-INDUST MAINT VOC/TECH
A related welding course for industrial maintenance technicians to include the following topics: Theory and operation of welding equipment, related safety issues, metallurgy and related properties.

MFG 200 3 3 0 0 0
INTRO 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.

MFG 250 1 1 0 0 0
ENGINE LATHE THEORY VOC/TECH
An introductory-level course explaining the theory of the basic operation and care of an engine lathe.
Corequisite: MFG 251

MFG 251 2 0 4 0 0
ENGINE LATHE OPERATIONS LAB VOC/TECH
An introductory-level course for the metal cutting lathe. During this course students will become familiar with the basic setups, as well as safe operation and care of a lathe in a lab environment. Prerequisite: MFG 250

MFG 252 2 2 0 0 0
ENGINE LATHE THEORY II VOC/TECH
An advanced-level course explaining complex setups and procedures for lathes. Prerequisite: MFG 250;
Corequisite: MFG 253

MFG 253 3 0 6 0 0
ENGINE 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: MFG 251; Corequisite: MFG 252

MFG 260 1 1 0 0 0
MILL OPERATIONS THEORY VOC/TECH
An introductory-level course explaining the theory of the basic operation and care of vertical milling machines.
Prerequisite: MFG 261

MFG 261 2 0 4 0 0
MILLING OPERATIONS LAB 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 a milling machine in a lab environment. Corequisite: MFG 260

MFG 270 1 1 0 0 0
GRINDERS THEORY VOC/TECH
Theoretical explanation of procedures in surface grinding.
Corequisite: MFG 271

MFG 271 3 0 6 0 0
GRINDERS 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: MFG 270

MFG 273 2 2 0 0 0
MILL 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: MFG 260 Corequisite: MFG 274

MFG 274 3 0 6 0 0
MILL OPERATIONS LAB 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: MFG 261 Corequisite: MFG 273

MFG 276 1 0 2 0 0
HAND & BENCH 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.

MFG 290 1 1 0 0 0
HEAT TREATMENTS VOC/TECH
An introduction to the physical and mechanical characteristics of metals directly associated with the area of heat treatment. Includes structure and composition of metals, testing, hardening, tempering and annealing.

MFG 330 1 1 0 0 0
CNC MILL OPERATIONS THEORY VOC/TECH
An introductory-level course explaining the theory behind the basic operation and programming of a CNC vertical machining center. Corequisite: MFG 331

MFG 331 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: MFG 330

MFG 340 1 0 2 0 0
BASIC LATHE OPERATION VOC/TECH
Course covers setup and operation of the metal lathe, including lathe parts, materials and safety procedures.

MFG 341 1 0 2 0 0
VERTICAL MILL OPERATION VOC/TECH
Vertical mill operation is explained and reinforced with practical experience using vertical milling machines.

MFG 350 1 1 0 0 0
CNC LATHE OPERATIONS THEORY VOC/TECH
An introductory-level course explaining the theory behind the basic operation and programming of a CNC lathe.
Corequisite: MFG 351

MFG 351 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: MFG 350

MFG 381 3 2 2 0 0
EDM FUNDAMENTALS VOC/TECH
Operation of both conventional and wire EDM machines. Construction of EDM electrodes.

MFG 402 4 4 0 0 0
BASIC DIEMAKING THEORY VOC/TECH
Introduction to diemaking principles covering die sets, die components, cutting and forming applications and material utilization. Experienced individuals may contact instructor to gain admittance to this course. Prerequisite: MFG 270, 271, 350, 351, 330, 331; Corequisite: MFG 403

MFG 403 6 0 12 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. Required: MFG 270, 271, 350, 351, 330, 331,; Corequisite: MFG 402

MFG 411 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: CAD 119, Corequisite: MFG 412

MFG 412 4 4 0 0 0
ADVANCED DIEMAKING THEORY VOC/TECH
Complex die making procedures, including CAM actuated dies and exposure to cost estimating and quoting.
Prerequisite: MFG 402

MFG 413 6 0 12 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: MFG 403; Corequisite: MFG 412

MFG 452 3 2 2 0 0
MOLDMAKING VOC/TECH
The student is presented with the basic fundamentals of plastic mold construction and molding processes. Experienced individuals may contact instructor to gain admittance to this course. Prerequisite: MFG 402, 403

MFG 502 3 3 0 0 0
INTRO STATISTICAL PROCESS CNTL 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.

MFG 510 3 3 0 0 0
PRACTICES-CONTINUOUS IMPROVE VOC/TECH
Provide understanding of the theories, methods and concepts of continuous improvement. Includes detailed, in-depth study of the current theories and practices used in business and provides the student with the knowledge to implement these techniques. Prerequisite: MFG 507

MFG 512 3 3 0 0 0
INTRO QUALITY CONTROL MGMT. 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: MFG 502, 510

MFG 521 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.

MFG 522 3 3 0 0 0
APPL OF STATISTICAL METHODS VOC/TECH
An in-depth study in applying the concepts of MFG 502. Additional areas of concentration include sampling plan theory, FMEA study, alpha and beta calculations, reliability, values and applying these concepts in case studies.
Prerequisite: MFG 502

MFG 523 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 an individual has on costs on a day-to-day basis.

MFG 524 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. Provides fundamental troubleshooting methods and concepts.

MFG 818 5 0 0 0 20
IMT INTERNSHIP VOC/TECH
Supervised work experience with employer based upon individual training plan that enables student to apply skills and knowledge. Prerequisite: Successful completion of courses in terms 1, 2 and 3 of the Integrated Manufacturing Technology program.

MGT 101 3 3 0 0 0
PRINCIPLES OF 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.

MGT 115 3 3 0 0 0
ADMINISTRATIVE 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.

COURSE DESCRIPTIONS

MGT 120 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.

MGT 128 3 3 0 0 0
ORGANIZATIONAL BEHAVIOR VOC/TECH
This course introduces the basic 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.

MGT 130 3 3 0 0 0
PRINCIPLES OF SUPERVISION 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.

MGT 145 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, verbal and nonverbal communication and defensiveness.

MGT 147 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.

MGT 164 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.

MGT 170 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.

MGT 194 2 2 0 0 0
RELATIONSHIP STRATEGIES IN BUS VOC/TECH
Includes the awareness of communication styles and how to manage successful interpersonal and organizational relationships.

MGT 248 3 3 0 0 0
SYSTEMS & INFORMATION MGMT. 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.

MGT 800 6 0 0 0 24
BUSINESS INTERNSHIP I VOC/TECH
One semester of full-time successful introductory on-the-job training in a cooperating retail training station. Emphasis is placed on customer service and sales promotion strategies. (P/F) Corequisite: MGT 802

MGT 802 2 1 2 0 0
BUS. 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: MGT 800

MGT 805 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 an instructor/coordinator. (P/F) Corequisite: MGT 807

MGT 807 1 1 0 0 0
BUS. INTERNSHIP SEMINAR II VOC/TECH
Students are exposed to areas of sales promotion through guest speakers, visual aids and discussion of business. Corequisite: MGT 805

MGT 810 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 given to merchandising control and supervision. Supervision of the training plan will be made by an instructor/coordinator. (P/F) Corequisite: MGT 812

MGT 812 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: MGT 810

MGT 903 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: MGT 920

MGT 920 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: MGT 903

MKT 110 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.

MKT 115 3 3 0 0 0
BUSINESS TO BUSINESS MARKETING OPEN
Presents functional methods of business-to-business marketing. Examines all forms of wholesaler service and manufacturer-type marketing activities.

MKT 120 3 3 0 0 0
E-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.

MKT 140 3 3 0 0 0
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.

MKT 141 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: MKT 140

MKT 145 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.

MKT 150 3 3 0 0 0
PRINCIPLES OF ADVERTISING OPEN
The area of promotional communication is studied to achieve an understanding of the marketplace, the various advertising media and the development of an effective promotional message.

MKT 160 3 3 0 0 0
PRINCIPLES OF RETAILING VOC/TECH
Course examines development of retailing, organization of retail institutions, the merchandise handling process, understanding the retail customer and future directions in retailing.

MKT 165 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: MKT 160

MKT 182 3 3 0 0 0
CUSTOMER RELATIONSHIP MGMT VOC/TECH
Customer Relationship Management provides an overview of a business process used by over half of all retail organizations. This course outlines the steps in the process, the technology and marketing components included and explains the fundamental benefits to a business with an effective CRM program. Prerequisite: MKT 160

MKT 184 3 3 0 0 0
CUSTOMER SERVICE 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.

MKT 199 3 3 0 0 0
SPORTS/ENTERTAINMENT MKTG. VOC/TECH
Exploration of the essentials of effective sports/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.).

MLT 115 3 2 2 0 0
CLINICAL LAB FUNDAMENTALS OPEN
A course designed to acquaint the student with the field of laboratory medicine. Basic lab math, testing methods and quality control are presented. This course also incorporates an introduction to blood collection and the study of common blood cells and blood cell disorders. Prerequisite: Acceptance into the Medical Laboratory Technology program

MLT 120 3 2 2 0 0
URINALYSIS OPEN
This course includes the study of urine formation and the methodology of determining the physical, chemical and microscopic properties of urine in normal and abnormal states. Basic lab skills, safety and quality control in urinalysis are presented. Prerequisite: Acceptance into the Medical Laboratory Technology program

MLT 180 1 0 0 0 0
CLINICAL LAB PRACTICUM I OPEN
Students report to a local hospital to join the phlebotomy team to practice patient approach and to draw blood specimens. Prerequisite: MLT 115

MLT 232 5 3 4 0 0
ADV. 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 course includes an in-depth study of various anemias, leukemias and other hematological and coagulation disorders. Prerequisite: Grade of "C" or higher in both MLT 115 and MLT 120

MLT 242 8 6 4 0 0
CLINICAL CHEMISTRY OPEN
Study and analysis of electrolytes, proteins, lipids, enzymes, hormones, drugs and various other biochemical compounds found in the human body. Test results are correlated with patients' conditions. Laboratory math, statistics and quality control are presented. Prerequisite: Grade of "C" or better in MLT 115I and MLT 120. Successful completion of the following courses: BIO 164 or equivalent; CHM 122 or equivalent and CHM 132 or equivalent

COURSE DESCRIPTIONS

MLT 251 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 higher in MLT 115 and MLT 120. Successful completion of the following courses: BIO 164 or equivalent; BIO 732 or equivalent; CHM 122 or equivalent and CHM 132 or equivalent.

MLT 261 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 MLT 232; MLT 270 must be taken prior to or concurrently & Serology must be taken prior to or concurrently with MLT 261. Successful completion of the following courses: BIO 164 or equivalent; BIO 732 or equivalent; CHM 132 or equivalent.

MLT 270 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 higher in MLT 232

MLT 282 12 0 0 0 48
CLINICAL LAB PRACTICUM II 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 4 terms of MLT program with a GPA of 2.0 or higher.; Corequisite: MLT 290

MLT 290 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 in the Med Lab Tech program with a GPA of 2.0 or higher.; Corequisite: MLT 282

MLW 440 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.

MLW 441 3 2 2 0 0
MATERIAL IDENTIFICATION/USAGE VOC/TECH
An introduction to the materials used in making architectural millwork products.

MLW 442 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.

MLW 443 4 2 4 0 0
STATIONARY EQUIPMENT VOC/TECH
The purpose of this course is to train the student in the identification, operation and the maintenance of stationary equipment.

MLW 444 3 2 2 0 0
ADVANCED EQUIPMENT TECHNIQUES VOC/TECH
Advanced Equipment Techniques gives the student the opportunity to become proficient on the following equipment and associated software: CNC router operation and programming; Point to Point Machine Center operation and programming; Molder operation including template making, setup and maintenance; Beam saw programming, operation and maintenance; Edgebander operation programming and maintenance. Prerequisite: MLW 440, MLW 441, MLW 442, 443

MLW 445 3 2 2 0 0
MILLIMETER CABINET TECH VOC/TECH
This course is an introduction to the rationale of cabinet making and millwork. Prerequisite: MLW 440, 441, 442, 443

MLW 446 4 2 4 0 0
MILLWORK TECHNIQUES VOC/TECH
An introduction to the initial steps of applying various millwork techniques to projects. Prerequisite: MLW 440, 441, 442, 443

MLW 447 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: MLW 440, 441, 442, 443

MLW 448 5 1 8 0 0
ADV MILLWORK APPLICATION I VOC/TECH
This course will combine the skills learned from the previous courses to begin producing completed projects. Prerequisite: MLW 444, 445, 446, 447

MLW 449 5 1 8 0 0
ADV MILLWORK APPLICATION II VOC/TECH
This course will combine the students' previous courses to produce a completed project from beginning to installation. Prerequisite: MLW 448

MOR 305 2 2 0 0 0
HISTORY OF FUNERAL SERVICE VOC/TECH
Students will trace the history of funeral services 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

MOR 310 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

MOR 315 3 3 0 0 0
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

MOR 320 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 services will be explored. Prerequisite: Admission to the Mortuary Science program

MOR 325 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

MOR 330 3 3 0 0 0
FUNERAL 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

MOR 335 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 BIO 733 or BIO 164

MOR 336 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: BIO 733 and Admission to the Mortuary Science program Corequisite: MOR 335

MOR 340 3 3 0 0 0
EMBALMING II VOC/TECH
This course is a continuation of MOR 335. 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 MOR 335

MOR 341 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: MOR 335 and admission to the Mortuary Science program; Corequisite: MOR 340

MOR 345 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: MOR 335 and admission to the Mortuary Science program

MOR 346 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: MOR 335; Corequisite: MOR 345

MOR 350 2 1 2 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 services 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 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 that are part of the day-to-day operations of a funeral home. Prerequisite: Admission to the Mortuary Science program Corequisite: MOR 325

MOR 354 1 0 2 0 0
FUNERAL HOME OPERATIONS I 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 the role and function of the funeral director as an effective manager, with emphasis placed on small business management functions of planning, organizing, motivation, direction and controlling in the funeral home setting. In addition, the role of inventory knowledge, management and presentation will be addressed. Prerequisite: Admission to the Mortuary Science Program; Corequisite: MOR 330

MOR 355 1 0 2 0 0
FUNERAL HOME OPERATIONS II 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 services forms, death benefits and vital statistics; an introduction, through a hands-on approach, to the basic computer applications that are part of the day to day operations of the funeral home; and conducting non-religious funeral ceremonies. Prerequisite: Admission to the Mortuary Science program; Corequisite: MOR 325

MOR 360 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 personal, 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: MOR 335

MOR 365 2 2 0 0 0
SURVEY OF INFECTIOUS DISEASES VOC/TECH
This course provides a survey of infectious disease processes, nonspecific and specific defense mechanisms and principles of infection control and epidemiology. Safe handling of infectious materials and personal protective equipment are emphasized. Prerequisite: Admission to the Mortuary Science program

COURSE DESCRIPTIONS

MOR 941 **4 1 0 9 0**
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.

MTR 120 **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 specialties and introduces the student to a variety of formats for medical materials. Prerequisite: ADM 157; Corequisite: HSC 120 and BCA 133.

MTR 121 **3 2 2 0 0**
MEDICAL TRANSCRIPTION II **VOC/TECH**
A continuation of Medical Transcription I. Prerequisite: MTR 120

MTR 122 **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: MTR 121

MUA 101 **1 0 2 0 0**
APPLIED 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 4 credits.

MUA 120 **1 0 2 0 0**
APPLIED PIANO I **GENERAL**
Individual instruction in piano. Weekly half-hour lessons. Beginning, intermediate and advanced students accepted. May be repeated for a maximum of 4 credits.

MUA 121 **2 1 2 0 0**
APPLIED 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.

MUA 147 **1 0 2 0 0**
APPLIED INSTRUMENTAL **GENERAL**
Individual instruction in all instruments. Weekly half-hour lessons. May be repeated for a maximum of 4 credits.

MUS 100 **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.

MUS 102 **3 3 0 0 0**
MUSIC FUNDAMENTALS **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.

MUS 106 **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.

MUS 107 **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 will include ear training, sight singing, keyboard skills and written theory assignments. Prerequisite: MUS 106

MUS 143 **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 8 credits.

MUS 150 **1 0 2 0 0**
CHAMBER ENSEMBLE **GENERAL**
This 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 4 credits. Prerequisite: Audition with director Corequisite: MUS 143

NET 123 **4 2 4 0 0**
COMPUTER HARDWARE BASICS **VOC/TECH**
This 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 hardware. It is recommended that the student have a basic understanding of computers, their use and operation.

NET 124 **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: ELT 611, 612; Corequisite: NET 125

NET 125 **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: ELT 611, 612; Corequisite: NET 124

NET 126 **2 2 0 0 0**
NETWORKING TECH-MAINFRAME **VOC/TECH**
To provide a technical level of understanding in the areas of mainframe networking connectivity, data communication concepts and protocol communication concepts.

NET 127 **2 2 0 0 0**
SERVICE & SUPPORT **VOC/TECH**
Provides technical level of competence installing network interface cards, replacing hard drives, installing communications software and hardware and troubleshooting 3.X and 4.X systems. Prerequisite: NET 488

NET 128 **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: NET 443, 444; Corequisite: NET 129

NET 129 **2 0 4 0 0**
NETWORK COMPATIBILITY PROD LAB **VOC/TECH**
Course covers installing and configuring compatibility software and hardware. Use of software to share data between dissimilar system types. Prerequisite: NET 443, 444; Corequisite: NET 128

NET 139 **4 3 2 0 0**
MCSE DESKTOP OP SYSTEM **VOC/TECH**
Course 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: NET 223 or Net Plus Certification

NET 144 **3 2 2 0 0**
DIGITAL & 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: NET 145

NET 145 **3 0 6 0 0**
DIGITAL & COMPUTER ELECT. LAB **VOC/TECH**
In the context of today's computer technology, this class continues the study of digital electronic circuits concentrating on gates, counters, registers and memory through hands-on lab experiments. Also included are lab tasks involving data communications by bus structure, parallel and serial ports and microprocessors. Corequisite: NET 144

NET 213 **4 2 4 0 0**
CISCO NETWORKING **VOC/TECH**
This course provides the student with a technical level of understanding in the areas of PC and mainframe networking connectivity, data communications and protocol communication.

NET 223 **4 2 4 0 0**
CISCO ROUTERS **VOC/TECH**
This course includes network standards, LANs, WANs, OSI models, routers, router programming, Ethernet and IP Protocol addressing and decision making and problem solving techniques. Prerequisite: NET 213

NET 233 **4 2 4 0 0**
CISCO SWITCHES **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 designs, IP addressing scheme, VLANS, IPX compatibility, access lists, TCS and TBC design. Prerequisite: NET 223

NET 243 **4 2 4 0 0**
CISCO WIDE AREA NETWORKS (WAN) **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: NET 233

NET 324 **4 3 2 0 0**
WINDOWS NETWORK MANAGEMENT **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: NET 123

NET 333 **3 3 0 0 0**
IMP WINDOWS NETWORK INFRAS **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: NET 223, 623, 628

NET 343 **3 2 2 0 0**
WINDOWS DIRECTORY SERVICE **VOC/TECH**
This course concentrates on the specifics of active directory administration. Course includes setting up, maintaining and administering the active directory services of current Windows server products. Prerequisite: NET 223, 623, 628

NET 365 **3 3 0 0 0**
DESIGN MS ACTIVE DIR & NETWORK **VOC/TECH**
This course covers the current curriculum for designing MS active directory services and network infrastructure. Prerequisite: NET 333, NET 343, NET 664

NET 376 **3 3 0 0 0**
DESIGNING SECURITY FOR MS NET **VOC/TECH**
Provides knowledge and skills to design a secure network infrastructure, to design security policies and the operations framework. Topics include assembling the design team, modeling threats, analyzing security risks in order to meet business requirements for securing computers in a networked environment, designing an acceptable use policy, designing policies for managing networks and designing an operations framework for managing security. Prerequisite: NET 333, 343, 664

NET 402 **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. For more information contact the program chairperson of the ITNA Department. Prerequisite: NET 623 or instructor permission

NET 412 **3 2 2 0 0**
LINUX SYSTEM ADMINISTRATION **VOC/TECH**
This is the second in a series of ITNA Linux courses. This course covers administration of the Linux operating system. For further information contact the program chairperson of the ITNA Department. Prerequisite: NET 402 or instructor permission.

NET 422 **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. For more information contact the program chairperson of the ITNA Department. Prerequisite: NET 412 or instructor permission

NET 432 **3 2 2 0 0**
LINUX SYSTEM 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. For further information contact the program chairperson of the ITNA Department. Prerequisite: NET 623 or instructor permission

COURSE DESCRIPTIONS

NET 434 3 2 2 0 0
LINUX SYSTEMS & CERTIFICATION VOC/TECH
This course provides the student with a thorough study into 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: NET 402, 412, 432

NET 435 3 2 2 0 0
LINUX PROGRAMMING FOR ADMIN 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: NET 422

NET 436 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: NET 435

NET 443 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: NET 444

NET 444 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 and work with management commands. Corequisite: NET 443

NET 484 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 Net, plus 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.

NET 488 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.

NET 512 3 2 2 0 0
LINUX ENTERPRISE ADMIN I VOC/TECH
Provides knowledge and skills to perform competently in the role of Network Administrator or System Manager for NetWare 5. Prerequisite: NET 213, 223

NET 521 2 2 0 0 0
NOVELL SYSTEM ADMINISTRATION VOC/TECH
Work as a design team using a case company. Create a design document for Intranet Ware and create an implementation schedule. Prerequisite: NET 512, 532

NET 532 3 2 2 0 0
LINUX ENTERPRISE ADMIN. II VOC/TECH
Provides advanced administration skills to design, configure and administer a complex NetWare 5 network. Prerequisite: NET 213, 223

NET 541 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: NET 512, 532

NET 612 3 3 0 0 0
FUND OF NETWORK SECURITY VOC/TECH
The course prepares students to recognize the threats and vulnerabilities present in existing information systems and to learn to design and develop the secure systems needed in the near future. It also prepares students for the role of decision-maker in the area of information security. Topics include legal and ethical issues, security technologies risk management, network and system security, cryptography and information security maintenance. Prerequisite: BCA 113 or instructor approval

NET 623 4 4 0 0 0
NETWORK APPLICATIONS VOC/TECH
This course will provide the student with an understanding of the software systems and applications that provide network services across differing networks and operating system platforms. Prerequisite: NET 213 Corequisite: NET 628

NET 628 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: NET 213; Corequisite: NET 623

NET 653 4 3 2 0 0
MICROSOFT EXCHANGE SERVER VOC/TECH
This course covers the current Microsoft Curriculum in the Microsoft Exchange Server Series.

NET 664 5 2 6 0 0
MS WINDOWS PROF/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 tests. Prerequisite: NET 223, 628, 623

NET 680 3 3 0 0 0
TCP/IP FOR 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: NET 443, 444; Corequisite: NET 681

NET 681 1 0 2 0 0
TCP/IP FOR NETWORKING LAB VOC/TECH
Hands-on command manipulation of a TCP/IP network. Also includes installation and management. Corequisite: NET 680; prerequisite: NET 443, 444

NET 711 3 3 0 0 0
SQL DATABASE VOC/TECH
This course covers the current curriculum for implementing a database in Microsoft SQL Server. For more information, contact the program chairperson of the ITNA program. Prerequisite: NET 333, 664, 343

NET 715 3 3 0 0 0
DATABASE SECURITY & AUDITING VOC/TECH
This course is intended for students preparing for careers as developers, systems analysts, business analysts, database administrators or system development managers working with database applications. Students learn to implement database security and auditing in order to protect data. Prerequisite: CIS 303

NET 730 3 2 2 0 0
COMPUTER FORENSICS & INV. VOC/TECH
An introductory course intended for system administrators providing training in detecting and analyzing data stored or often hidden on computer systems. The course prepares students to use computer forensics tools to uncover violations of company policy, embezzlement, e-mail harassment, leaks of proprietary information and criminal activity. Prerequisite: NET 612

NET 932 3 0 0 0 12
INTERNSHIP VOC/TECH
A semi-structured experience in the student's chosen field of information technology working as an intern with a sponsoring organization. The student has the opportunity to network with professionals and employers in his or her field. The student will write a resumé suitable for employment applications.

PEA 102 1 0 2 0 0
AEROBIC FITNESS I OPEN
Introduces aerobic concept of physical fitness. Includes aerobic activities, aerobic exercising and aerobic dance. Course designed for men and women.

PEA 110 1 0 2 0 0
BADMINTON I OPEN
Introduction to basic skills (serve, clear, drop, drive and smash) and basic knowledge of game play.

PEA 117 1 0 2 0 0
BOWLING I OPEN
Beginning skills only.

PEA 134 1 0 2 0 0
GOLF I OPEN
Beginning skills only.

PEA 144 2 1 2 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.

PEA 146 1 0 2 0 0
PHYSICAL FITNESS I OPEN
Various exercises and activities to improve physical fitness.

PEA 164 1 0 2 0 0
SWIMMING I OPEN
Recreational swimming at Heartland Health Center. Some swimming experience expected.

PEA 174 1 0 2 0 0
TENNIS I OPEN
Introduction to basic skills (forehand, backhand, service and volley) and basic knowledge of game play.

PEA 176 1 0 2 0 0
VOLLEYBALL I OPEN
Beginning skills only.

PEA 184 3 1 4 0 0
WATER SAFETY INST/LIFEGUARD TR 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.

PEA 187 1 0 2 0 0
WEIGHT TRAINING I OPEN
Introduction to basics of weight training. Emphasizes increasing physical capacity; that is, increased muscular strength and power.

PEA 234 1 0 2 0 0
GOLF II OPEN
Expansion of basic golf skills. Prerequisite: PEA 134 or equivalent skill

PEA 284 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. Required: Students must pass a swim test

PEC 110 1 1 0 0 0
COACHING ETHICS, TECH & THEORY OPEN
Course covers techniques and theory of coaching in addition to sports physiology, preparation for competition and issues in coaching.

PEC 161 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.

PEH 102 3 3 0 0 0
HEALTH OPEN
Physical, emotional and social factors as they relate to our state of personal health. To better understand and aid in the alleviation of communicable and chronic diseases, drug use and environmental problems.

PEH 110 2 2 0 0 0
PERSONAL WELLNESS VOC/TECH
This course will aid 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.

PEH 120 3 3 0 0 0
PRINCIPLES: PERSONAL TRAINING I OPEN
Entry-level course designed to introduce the field of personal training. Basic exercise assessment and prescription concepts will be used to discuss and demonstrate safe and appropriate fitness programs with an emphasis on preparing students for taking a nationally recognized certification exam.

PEH 141 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.

PEH 162 3 3 0 0 0

COURSE DESCRIPTIONS

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.

PEH 178 **33000**
SPORTS DIVERSITY **VOC/TECH**
This course examines diversity in sports and in sports organizations: how individuals differ, how differences influence organizations, how to manage diversity in the workplace, how to understand legal issues and manage diversity training.

PEH 190 **22000**
SPORTS NUTRITION **VOC/TECH**
Basic principles of human nutrition and nutritional needs for athletes and/or physically active populations. Issues discussed include ergogenic aids, carbohydrate loading/manipulation, eating disorders, protein supplements and hydration. Practical application will include dietary analysis and composition for people in various activities and conditions.

PEH 255 **33000**
PRINCIPLES-SPORTS MANAGEMENT **OPEN**
The foundation and principles of sport management. Theory, ethics and practice of management are discussed in relation to the fitness and sport industries.

PEH 262 **33000**
WELLNESS PROG/PLANNING/ORGANIZ **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.

PEH 265 **21200**
LEADERSHIP TECH FITNESS PROG **OPEN**
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: PEA 144

PEH 920 **20008**
FIELD EXPERIENCE **OPEN**
Supervised experience in fitness or sports management agency. The student will be able to apply their own knowledge and skills in a professional setting.

PET 110 **21200**
INTRO 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.

PEV 115 **10200**
VARSITY 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 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 the head coach

PEV 121 **10200**
VARSITY BASKETBALL, MEN **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 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 the head coach

PEV 122 **10200**
VARSITY BASKETBALL, WOMEN **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 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 the head coach

PEV 130 **10200**
VARSITY CROSS COUNTRY **OPEN**
Provides experience and instruction in cross country. Course is designed for the varsity athlete in terms of conditioning, practice, game preparation and weight training. Limit 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. Pre-requisite: permission of the head coach.

PEV 140 **10200**
VARSITY GOLF **OPEN**
Provides experience and instruction in 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 the head coach

PEV 170 **10200**
VARSITY 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 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 the head coach

PEV 190 **10200**
VARSITY SPIRIT SQUAD **OPEN**
Men and women desiring to be basketball cheerleaders for varsity basketball season.

PHB 113 **32200**
PRINCIPLES OF PHLEBOTOMY **VOC/TECH**
An orientation course designed to give students a thorough background in blood collection, including demonstrations of and practice performing venipuncture and skin puncture techniques. This course is required for students who wish to obtain certification in Phlebotomy. Students must also enroll in the Phlebotomy Clinical course (PHB 280). Corequisite: PHB 280

PHB 280 **20035**
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 experience and independent clinical learning experiences. Students MUST also take PHB 113.

PHI 101 **33000**
INTRODUCTION TO PHILOSOPHY **CORE**
Exploration of basic questions in epistemology, metaphysics and ethics. Emphasis on western philosophy tradition.

PHI 105 **33000**
INTRODUCTION TO ETHICS **CORE**
Comparative study of different traditional moral theories. Application of moral theories to different contemporary moral problems.

PHI 110 **33000**
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.

PHS 152 **43200**
ASTRONOMY **CORE**
The student is introduced to a scientific overview of stars, planets, galaxies and other inhabitants of the universe and the forces that determine their behavior. The history of discovery and the methods used to study distant objects are included.

PHY 106 **43200**
SURVEY OF PHYSICS **CORE**
The student is exposed to the scientific method with an emphasis on elementary problem solving. Along with a review of basic mathematics, the topics of weights and measures, mechanics, heat, gas laws, electricity, magnetism, sound, light and modern physics are covered.

PHY 160 **54200**
GENERAL 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: MAT 130 or HS equivalent.

PHY 161 **54200**
GENERAL PHYSICS II **CORE**
This course is the second semester of a two-semester sequence in non-calculus physics. Topics include electricity, magnetism, optics and modern physics. Prerequisite: PHY 160 or instructors permission

PHY 213 **65200**
CLASSICAL PHYSICS I **CORE**
This course is calculus-based and intended for engineering and science majors. Topics covered include statics, dynamics, kinematics, fluid behavior, wave motion, vibrating systems, heat and thermodynamics. Corequisite: MAT 211 or equivalent must be taken concurrently with or prior to this course

PHY 223 **65200**
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: PHY 213 or equivalent; Corequisite: MAT 217 must be taken concurrently or prior to this course

PHY 710 **32200**
TECHNICAL PHYSICS **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: MAT 772 or equivalent

PNN 151 **42400**
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.

PNN 152 **42230**
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: PNN 151

PNN 153 **22000**
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 settings and health/illness/hospitalization will be discussed. Strategies for success in nursing will be applied.

PNN 351 **11000**
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: PNN 151, 152, 153, PSY 121, BIO 734

PNN 605 **53060**
NURSING PRACTICE II **OPEN**
Theory and practicum in caring for clients with predictable health needs involving sexuality, reproduction, sensory/perception/cognition, health promotion, illness prevention, self concept, mobility and bowel elimination alterations. Prerequisite: PNN 151, 152, 153, PSY 121, BIO 734

PNN 606 **53060**
NURSING PRACTICE III **OPEN**
Theory and practicum in caring for clients with predictable health needs involving comfort, circulation, oxygenation, nutrition, endocrine and urinary alterations. Prerequisite: PNN 151, 152, 153, PSY 121, BIO 734

POL 111 **33000**
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.

POL 112 **33000**
AMER STATE & LOCAL GOVERNMENT **CORE**
A study of the organization, operations and politics of state and local governments. Emphasis on an analysis of the legislative, executive and judicial roles and processes.

POL 121 **33000**
INTERNATIONAL RELATIONS **CORE**
The international system is examined from several perspectives including the United States, Russia and China. Emphasis is placed upon ideology, national interest, the use of power, international law and organization.

COURSE DESCRIPTIONS

POL 125 **33000**
COMPARATIVE GOV'T & POLITICS **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.

POL 127 **33000**
NEWS MEDIA-ELECTORAL POLITICS **GENERAL**
Course will examine the role the news media play in electoral strategy and outcomes. Focus will be on the relationship between the voting public, television and print media and public officials. The most recent election will be assessed. The course is designed for prospective journalism and political science majors. Corequisite: JOU 163

POL 129 **33000**
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.

POL 171 **33000**
INTRO TO PUBLIC ADMINISTRATION **CORE**
Study of the theory and practice of public administration examining alternate organization theories and practices, personnel administration, problems of communications within organizations and styles of leadership. Course emphasizes the interrelationships of professional and political influences on decision making.

PRL 103 **33000**
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.

PRL 112 **33000**
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: ENG 105

PRL 113 **33000**
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: PRL 103, 112

PRL 114 **33000**
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: PRL 113

PRL 118 **11000**
COMPUTERIZED LEGAL RESEARCH **OPEN**
Introduction to computer assisted legal research. Training in legal research search strategies using both the Lexis and Westlaw systems. Prerequisite: PRL 112

PRL 125 **33000**
EVIDENCE: THEORY & PRACTICE **OPEN**
A study of the substantive and procedural laws of evidence. Introduction to the rules of evidence. Methods of discovering, preserving and presenting evidence in civil and criminal trials. Prerequisite: PRL 131 or instructor permission

PRL 131 **33000**
TORTS & LITIGATION I **OPEN**
A study of the basic law relating to personal and property damage. Topics include intentional tort, negligence, nuisance, strict liability and automobile law. Principles of trial practice including drafting basic pleadings and organization of materials for trial. Prerequisite: PRL 103, 112 or instructor permission

PRL 132 **33000**
TORTS & LITIGATION II **OPEN**
A continuation of Torts & 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: PRL 131

PRL 137 **33000**
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: PRL 103, 112 or instructor permission

PRL 141 **33000**
BUSINESS & CORPORATE LAW I **OPEN**
A study of the fundamentals of the law of contracts, the uniform commercial code and the rights of creditors in transactions.

PRL 142 **33000**
BUSINESS & CORPORATE LAW II **OPEN**
Continuation of Business & 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: PRL 141

PRL 151 **33000**
REAL ESTATE LAW **OPEN**
A study of the law of real property and a survey of the more common types of real estate transactions. Emphasis is on the preparation of the instruments necessary to complete various real estate transactions. Prerequisite: PRL 103, 112 or instructor permission

PRL 161 **33000**
FAMILY LAW **OPEN**
The legal aspects of the family relationship. The 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: PRL 103, 112 or instructor permission

PRL 167 **33000**
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: PRL 103, 112 or instructor permission

PRL 169 **33000**
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: PRL 167

PRL 171 **33000**
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: PRL 103, 112 or instructor permission

PRL 182 **33000**
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: PRL 103, 112 and/or instructor permission

PRL 280 **410015**
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 that utilizes attorneys. Students will participate in seminars concerning their internship experiences and legal ethics. Total internship requirement is 225 hours. (P/F) Prerequisite: Minimum grades of "C" in all PRL courses and complete a minimum of eight PRL courses

PSY 102 **33000**
HUMAN AND WORK RELATIONS **GENERAL**
Emphasizes an awareness of the factors inherent in human relationships and psychological adjustment patterns of individuals and groups. Effort is made to develop the techniques of interpersonal relations and coping.

PSY 111 **33000**
INTRODUCTION TO 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.

PSY 121 **33000**
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.

PSY 140 **33000**
EXPLORING MENTAL HEALTH **GENERAL**
Explores the basic causes, manifestations and treatment of common psychological disorders. The course introduces mental illness along a continuum from functional to dysfunctional.

PSY 172 **33000**
STRESS & STRESS MANAGEMENT **GENERAL**
This course provides basic instruction in understanding stress reactions, their causes and effects and the 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.

PSY 241 **33000**
ABNORMAL PSYCHOLOGY **CORE**
An introduction to the study of abnormal behavior, with emphasis on anxiety, depression, schizophrenia and personality disorders. The course includes understanding the personal dynamics of mental disorders and biopsychosocial factors involved in assessment, etiology and treatment. Recommend PSY 111 be taken prior to this course.

PSY 251 **33000**
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.

PSY 261 **33000**
HUMAN SEXUALITY **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.

PSY 281 **33000**
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.

PSY 291 **33000**
PRIN. 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.

RCP 100 **33000**
INTRO TO RESPIRATORY CARE **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: BIO 733 or BIO 164

RCP 240 **43200**
RESPIRATORY THERAPEUTICS **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: RCP 100 must be taken concurrently or prior to this course

RCP 250 **43200**
CARDIO/PULMONARY 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 effectiveness of therapies. Students will be required to demonstrate competence in procedures to succeed in this course. Corequisite: RCP 100 must be taken concurrently with or prior to this course; Corequisite: RCP 240

COURSE DESCRIPTIONS

RCP 360 5 5 0 0 0
CARDIO/PULMONARY RENAL PATHOPH OPEN
An in-depth study of the normal functioning of the cardiovascular, pulmonary and renal systems, emphasizing their interactions, is presented. Progresses to study of the common adolescent and adult diseases affecting the three systems. Interpretation of the results of arterial blood gas pH data will be taught. Prerequisite: RCP 250 and BIO 734 must be taken concurrently with or prior to this course

RCP 400 3 3 0 0 0
RESP THERAPY PHARMACOLOGY OPEN
This course provides a study of the actions and interactions of drugs with and within the body. Theories of drug action, pharmacodynamics and methods for drug administration will be taught. Drugs affecting the cardiovascular, pulmonary and renal systems will be emphasized. Prerequisite: RCP 250 and BIO 734 must be taken concurrently with or prior to this course

RCP 410 3 3 0 0 0
CARDIO/PULMONARY 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: BIO 734 or 164, RCP 360, 400

RCP 500 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 the 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: BIO 734 or BIO 164, RCP 360

RCP 600 3 3 0 0 0
NEONATAL/PEDIATRIC RESP THER 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: BIO 734 or 164, RCP 360

RCP 700 4 2 0 8 0
RESP THERAPY PRACTICUM I OPEN
This is the initial hospital experience that 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: RCP 250 Corequisite: RCP 360, 400

RCP 705 5 2 0 11 0
RESP 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: RCP 700

RCP 710 7 2 0 16 0
RESP THERAPY PRACTICUM III OPEN
The 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: RCP 600, 705

RCP 715 7 2 0 15 0
RESP 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 learned. Prerequisite: RCP 500, 710, 410 must be taken concurrently with or prior to this course

RCP 720 5 2 0 11 0
RESP 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: RCP 410, 715

RCP 800 3 3 0 0 0
RESP 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: RCP 710

RDG 038 3 3 0 0 0
COLLEGE PREPARATORY READING I COLLEGE PREPARATORY
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. College preparatory courses cannot be used to fulfill degree requirements. Prerequisite: COMPASS reading score of 35 or higher or instructor permission based on alternative test

RDG 039 3 3 0 0 0
COLLEGE PREPARATORY READING II COLLEGE PREPARATORY
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. College preparatory courses cannot be used to fulfill degree requirements. Prerequisite: Grade of "C" or higher in RDG 038 or COMPASS score of 61 or higher on the Reading section or instructor approval based on an alternative test

RDG 163 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 and levels of difficulty and reading purposes. Prerequisite: Grade of "C" or higher in RDG 039, ACT reading score of 19 or higher, COMPASS score of 81 or higher on the Reading section or instructor permission based on alternative test

REL 101 3 3 0 0 0
SURVEY OF WORLD RELIGIONS CORE
Study of major living religions, their commonalities and contrasts. How these religions enrich human lives.

RRO 101 2 2 0 0 0
RAILCAR SAFETY VOC/TECH
A fundamental course in the safe and proper operation around railroad operations on industrial property. Topics include work area hazards, railcar equipment components, safety equipment, proper and safe loading and unloading of railcars and federal (FRA) regulations.

SDV 108 1 1 0 0 0
THE COLLEGE EXPERIENCE 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.

SDV 115 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.

SDV 130 1 1 0 0 0
CAREER EXPLORATION GENERAL
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.

SDV 153 2 2 0 0 0
PRE EMPLOYMENT STRATEGIES VOC/TECH
Covers all aspects of professional job placement procedures including career goal setting, developing prospective employer lists, resumé writing, job application forms, employment tests, personal appearance, interviewing and follow-up.

SDV 157 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 resumé, reference letters, certificates, sample demonstrations of work performance, documentation that shows knowledge of subject area and other applicable items.

SDV 164 2 1 2 0 0
ELECTRONIC PORTFOLIO DEVELOPMENT GENERAL
Students will receive instruction in creating an electronic portfolio of work. Emphasis will be on selecting artifacts, reflecting on choices, formatting and displaying a web based portfolio for career or college transfer.

SDV 165 1 1 0 0 0
TRANSFER PLANNING GENERAL
Provides students with the information, resources and tools necessary to plan a successful transition from a community college to a four-year college or university. Special emphasis will be placed on developing individual transfer plans.

SDV 171 1 1 0 0 0
LIBRARY INSTRUCTION GENERAL
This course will provide students with practical knowledge of information literacy skills; specifically the process of conducting information research for academic assignments and lifelong learning. Students will learn and be able to articulate and perform the research process.

SDV 172 1 1 0 0 0
INTERNET RESEARCH TECHNIQUES GENERAL
Students will learn how information resources are organized on the internet and how to reference, search and evaluate information on particular topics. Prerequisite: Basic computer literacy

SDV 212 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: SDV 222, 223, 224, 225, 226 or 227

SDV 222 1 0 0 0 4
COOP CAREER EXPERIENCE I VOC/TECH
Supervised work experience with employers that enables students to apply their skills and knowledge. Work experiences will relate to the students' academic programs of study. (P/F) Prerequisite: SDV 212

SDV 223 2 0 0 0 8
COOP CAREER EXPERIENCE II 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: SDV212

SDV 224 3 0 0 0 12
COOP CAREER EXPERIENCE III VOC/TECH
See SDV 223. (P/F) Prerequisite: SDV 212

SDV 225 4 0 0 0 16
COOP CAREER EXPERIENCE IV VOC/TECH
See SDV 223. (P/F) Prerequisite: SDV 212

SDV 226 5 0 0 0 20
COOP CAREER EXPERIENCE V VOC/TECH
See SDV 223. (P/F) Prerequisite: SDV 212

SDV 227 6 0 0 0 24
COOP CAREER EXPERIENCE VI VOC/TECH
See SDV 223. (P/F) Prerequisite: SDV 212

SOC 110 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.

SOC 115 3 3 0 0 0
SOCIAL PROBLEMS CORE
The 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.

SOC 120 3 3 0 0 0
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.

SOC 165 3 3 0 0 0
GROUP DYNAMICS GENERAL
The study of group behavior including leadership, interaction, team building, decision making, cooperation, cohesion, power, problem solving and conflict between and within groups.

SOC 200 3 3 0 0 0
MINORITY GROUP 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. SOC 110 is recommended

COURSE DESCRIPTIONS

SOC 225 4 4 0 0 0
SOCIAL GERONTOLOGY/APPL OPEN
The influence of social factors on the aging process and experience including family, gender, ethnicity, retirement, living environments and health/elder care services. Students will complete an older adult service learning project.

SOC 226 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.

SOC 230 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: SOC 110 or instructor permission

SOC 240 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: SOC 110 or instructor permission

SOC 282 3 3 0 0 0
ENVIRONMENTAL SOCIOLOGY GENERAL
This course examines the relationships between society and the natural environment. It focuses upon human understanding of nature, the use and abuse of natural resources and what can be done to improve the relationship. It is recommended that students take SOC 110 prior to this course.

SPC 101 3 3 0 0 0
FUND OF ORAL COMMUNICATION 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.

SPC 120 3 3 0 0 0
INTERCULTURAL COMMUNICATION GENERAL
An introduction to theories and implications of intercultural communication as applied to the workplace and interpersonal relationships. Topics and activities are directed toward improving skills in intercultural competence.

SPC 126 3 3 0 0 0
INTERPERSONAL & SMALL GRP COMM CORE
An introduction to interpersonal and group communication theories and their application in relationship development, conflict resolution, group problem solving and group presentations.

SPC 170 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: SPC 101 or SPC 126 or permission of instructor

SRV 110 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 178

SRV 120 5 4 2 0 0
US 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 survey; the system of rectangular surveys; monumentation; restoration of lost or obliterated corners; resurveys; special surveys and special instructions; field notes and plats. Prerequisite: CET 102

SRV 210 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.

SRV 215 2 2 0 0 0
INTRO TO LAND INFORMATION SYS 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 119

SRV 220 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: SRV 120

SRV 225 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: SRV 120

SRV 230 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: MAT 773 or instructor approval

SRV 235 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 and computations involved in the determination of true north. Prerequisite: MAT 773 or instructor approval

SRV 240 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 locations and in resolving boundary disputes will be examined. Prerequisite: SRV 220

SRV 305 5 0 0 0 20
FIELD COOP VOC/TECH
Practical experience through on-the-job training in an approved surveying setting. Tasks will be consistent with students' career objectives, skills and knowledge. Corequisite: Successful completion of 32 credit hours of SRV program courses and/or department approval.

SUR 130 2 2 0 0 0
INTRO TO SURGICAL TECHNOLOGY VOC/TECH
Introduces the field of surgical technology. History of the profession, roles and responsibilities will be covered. Hospital administration, standards of conduct, working as a team, ethical issues, safety, laws, scope of practice and the physical environment will be reviewed. This course includes one operating room shadowing experience.

SUR 140 5 3 4 0 0
FUNDAMENTALS OF SURGICAL TECH VOC/TECH
Teaches the skills needed to work as a surgical technologist. Focuses on circulating duties. Instruction on how to admit the patient, consent and anesthesia will be discussed. Patient care, safety, transferring, positioning and draping the patient will be taught. The goal is to demonstrate the skills needed to function in a surgical setting.

SUR 150 2 2 0 0 0
MED TERMINOLOGY FOR SURG TECH VOC/TECH
This course is designed to help students gain the knowledge needed to communicate clearly with other health care team members. Instruction starts with a foundation of word parts, prefixes, suffixes and word roots and then builds words by combining the parts. The course also covers terms not built from word parts and includes specialized vocabulary for surgical technologists. Exercises are included to help recognize and define new medical terms.

SUR 200 5 3 4 0 0
SURG PROCEDURES/TECHNIQUES I VOC/TECH
Teaches the students about common surgical procedures. Focuses on the core areas of surgery including general, gynecological, orthopedic, ear, nose and throat and ophthalmology. Major and minor cases in all of these specialties will be taught. This course will discuss how and why procedures are performed, risks, benefits and outcomes.

SUR 202 3 3 0 0 0
SURG PROCEDURES/TECHNIQUES II VOC/TECH
This class will discuss advanced surgical procedures and emergency cases. All specialty areas will be included, along with neurology and cardiovascular. Helps develop the student's critical thinking skills. This course prepares the students to think about unplanned situations in the surgical setting and to develop autonomy. Prerequisites: SUR 200 with a grade of "C" or better

SUR 420 2 2 0 0 0
PHARMACOLOGY FOR THE SURG TECH VOC/TECH
In this course the student will review basic math skills. The student will learn a framework of pharmacological principles to apply in surgical situations. Commonly used medications by category, with frequent descriptions of actual surgical applications, will be identified. The student will also learn basic anesthesia concepts to function more effectively as a surgical team member

SUR 805 5 0 0 15 0
CLINICAL PRACTICUM I VOC/TECH
Clinical is spent circulating and scrubbing for minor and major procedures. The student will begin circulating and when students have demonstrated the ability to circulate, they will begin scrubbing. All specialty areas will be covered and they will scrub for a variety of cases. The goal is to expose the student to many different types of surgery. Prerequisite: SUR 130 and SUR 140 with a grade of "C" or better, BIO 733

SUR 810 5 0 0 15 0
CLINICAL PRACTICUM II VOC/TECH
The student will gain more experience in the scrub and circulating roles. Experiences in cardiovascular and neurosurgery are included. Two call or emergency experiences are included. The student should feel comfortable assisting in circulating and scrubbing independently for procedures in all specialty areas. Prerequisites: SUR 200 and SUR 805 with a grade of "C" or better

TEL 111 3 3 0 0 0
BASIC ELECTRICITY/ELECTRONIC 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.

TEL 112 2 2 0 0 0
BASIC ELECTRICITY/ELECTRON. 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.

TEL 116 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: TEL 112

TEL 118 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.

TEL 210 3 3 0 0 0
TELECOMMUNICATIONS I VOC/TECH
Provides an overview of telecommunications and covers basic telecommunications circuits, equipment & diagnostic procedures for lines, basic key systems and an understanding of the telecommunications industry. Corequisite: TEL 213

COURSE DESCRIPTIONS

TEL 213 **30600**
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: TEL 210

TEL 220 **44000**
TELECOMMUNICATIONS II **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. Corequisite: TEL 223

TEL 222 **40800**
TELECOM OUTSIDE PLANT **VOC/TECH**
Provides hands-on training in the telecommunications outside plant field. Topics covered include basic installation and repair troubleshooting, fiber and copper cable repair and troubleshooting, outside plant cable splicing and design, ladder safety, working aloft and pole climbing. Prerequisite: TEL 210; Corequisite: TEL 220

TEL 223 **30600**
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: TEL 210, TEL 213 ; Corequisite: TEL 220

TEL 230 **44000**
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. Advanced topics using high speed broadband links and fiber optics are introduced. Experienced individuals may contact the instructor to gain admittance to this course. Prerequisite: TEL 220, 223 Corequisite: TEL 233

TEL 232 **33000**
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: TEL 210, 213

TEL 233 **30600**
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: TEL 220, 223; Corequisite: TEL 230

TEL 240 **33000**
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: TEL 230, 233c ;orequisite: TEL 243

TEL 243 **30600**
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: TEL 230, 233c; Corequisite: TEL 240

VIN 101 **43200**
INTRO TO STARTING A VINEYARD **VOC/TECH**
Introduction to selecting and preparing successful vineyard sites, economics of vineyards and cultural practices for non-bearing vineyards.

VIN 102 **43200**
INTRO TO BEARING VINEYARDS **VOC/TECH**
Introduction to management of bearing vineyards: cultural practices, fertility and economics.

VIN 103 **43200**
INTRO TO VINEYARD PEST MGMT **VOC/TECH**
Introduction to pests that affect vineyards, pest management and proper use of control methods. This course will also involve preparation for students to take the test for commercial pesticide applicator's license.

VIN 149 **43200**
GRAPE AND WINE SCIENCE **VOC/TECH**
This course introduces the grape and wine industry world-wide and in the Midwest. It investigates grape origin, vine growth habit, wine production and winery quality control.

VIN 150 **33000**
INTRODUCTION TO WINE **VOC/TECH**
This course presents introductory information on wine appreciation, focusing on sensory analysis, production, classification and culture of wine.

VIN 151 **43200**
CELLAR TECH. AND OPERATIONS **VOC/TECH**
This course presents winery technology and provides practical instruction on grape processing equipment. Prerequisite: VIN 150 or industry experience

VIN 152 **43200**
INTRO TO WINE SCIENCE **VOC/TECH**
This course examines the basic scientific principles of wine production and provides instruction of wine laboratory analysis equipment. Prerequisite: VIN 150 or industry experience

VIN 189 **21200**
WINE MICROBIOLOGY **VOC/TECH**
This course examines beneficial and spoilage unicellular organisms specifically related to wine production. Prerequisite: BIO 187

VIN 190 **43200**
WINE SCIENCE **VOC/TECH**
This course focuses on principles of enology and wine laboratory analysis focusing on the most common evaluation methods utilized in a successful winery quality control program. Prerequisite: CHM 122 and VIN 149

VIN 201 **43200**
VITICULTURAL SCIENCE **VOC/TECH**
Advanced concepts in the science of viticulture. Prerequisite: VIN 149 or instructor permission

VIN 202 **43200**
VINE HEALTH **VOC/TECH**
Advanced concepts in the identification, life cycles, management and control of vineyard pests. Prerequisite: VIN 201 or instructor permission

VIN 203 **43200**
VINEYARD ESTABLISHMENT **VOC/TECH**
Advanced concepts in vineyard establishment. Prerequisite: VIN 201 or instructor permission

VIN 204 **43200**
ENGINEERING IN AGRI **VOC/TECH**
A study of engineering principles that relate to agricultural industries. Prerequisite: Instructor permission

VIN 248 **10200**
HORT/BOTANY LAB **VOC/TECH**
Laboratory exercises designed to introduce the principles of botany. Corequisite: AGH 221 or instructor permission

VIN 249 **43200**
PLANT PHYSIOLOGY **VOC/TECH**
A study of how plants function and interact with the environment. Prerequisite: AGH 221 or instructor permission

VIN 275 **43200**
SENSORY SCIENCE **VOC/TECH**
This course presents applied information on wine sensory analysis required to recognize personal sensory biases and evaluate wine types and styles critically and scientifically. Prerequisite: MAT 157

VIN 290 **43200**
COMMERCIAL WINE PROD **VOC/TECH**
This course presents applied enology and industry topics related to the production of commercial grade wines.

VIN 920 **300014**
FIELD EXPERIENCE **VOC/TECH**
This course provides viticulture work experience. The student will maintain employment at a vineyard working in the production of grapes and gain experience/ proficiency conducting vineyard operations. Prerequisite: VIN 150 or instructor permission

VIN 932 **300014**
INTERNSHIP IN ENOLOGY **VOC/TECH**
This course provides enological work experience. The student will maintain employment at a commercial winery working in the production of wine and gain experience as a cellar worker, laboratory technician, or logistic coordinator. Prerequisite: VIN 150 or instructor permission

WEL 111 **33000**
WELDING BLUEPRINT READING **VOC/TECH**
The basic skills needed to read shop drawings (including welding symbols) will be learned. Prerequisite: MAT 772

WEL 120 **20400**
OXY FUEL WELDING/CUTTING **VOC/TECH**
Skills will be developed in oxy-acetylene welding, cutting and repair. Safety is emphasized.

WEL 150 **20400**
ARC WELDING I (SMAW) **VOC/TECH**
Skills will be developed in welding beads and buildup surfacing in the flat position. Safety is emphasized.

WEL 165 **30600**
ARC WELDING II (SMAW) **VOC/TECH**
Skills will be developed in welding multiple pass tee fillet welds in the horizontal position. Safety is emphasized. Prerequisite: WEL 150

WEL 166 **20400**
ARC WELDING III (SMAW) **VOC/TECH**
Skills will be developed in welding corner fillet joints, weld arounds and sheet metal weldments in the flat positions. Safety is emphasized. Prerequisite WEL 165

WEL 167 **30600**
ARC WELDING IV (SMAW) **VOC/TECH**
Skills will be developed in welding beads, buildup surfacing and fillet weldments in the horizontal position. Safety is emphasized. Prerequisite: WEL 166

WEL 168 **30600**
ARC WELDING V (SMAW) **VOC/TECH**
Skills will be developed in welding fillet joints in the vertical downhill and vertical uphill position. Safety is emphasized. Prerequisite: WEL 167

WEL 169 **20400**
ARC WELDING VI (SMAW) **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: WEL 168

WEL 176 **20400**
ADV ARC WELDING I (SMAW) **VOC/TECH**
Skills will be developed in welding and testing vee groove joints in the flat and horizontal positions. Safety is emphasized. Prerequisite: WEL 169

WEL 177 **30600**
ADV ARC WELDING II (SMAW) **VOC/TECH**
Skills will be developed in welding and testing in the vertical and overhead positions. Safety is emphasized. Prerequisite: WEL 176

WEL 181 **20400**
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.

WEL 190 **20400**
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: WEL 120

WEL 303 **30600**
PIPE WELDING/SMAW **VOC/TECH**
Welding practice and testing on open grove 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: WEL 177

FACULTY AND STAFF

ABBOTT, MATTHEW A., 2007, Biology. B.A., Grinnell College; Ph.D. Iowa State University

AGINSKY, VERA, 2005, English as a Second Language. M.A., Minsk Pedagogical University; M.A.T., Drake University; Ph.D., Middlebury College

AGYEMAN, AHMED, 2004, Academic Advisor. B.S., M.Ed. Iowa State University

ALBERTSON, MARCIA, 1974, P.C. Applications. B.A., University of Northern Iowa

AMDAHL, MAYNARD, 1978, Tool & Die. Diploma, Dunwoody Industrial Institute; Certificate, U.S. Department of Labor Journeyman Tool & Diemaker

ANDERSON, ROBERT L., 1974, Hospitality Careers. A.O.S., Culinary Institute of America; Mankato Area Vocational Technical Institute; C.C.E.; Order of the Golden Toque Society

ANDERSON, RON D., 1999, HVAC. A.A., Arapahoe Community College; B.S. University of Colorado-Denver

ARNE, COURTNEY L., 2007, Credentials/ Graduation Specialist. B.S., Eugene Bible College

ATAL, HADI., 2002, Academic Advisor. B.A., Grinnell College

AUKES, SHIELA R., 2006, Counselor. B.A., St. Cloud State University; M.S.W., University of St. Thomas

AUSTIN, JEREMY C., 2007, Academic Advisor. B.A., M.S., Pittsburg State University

BADGER, BARBARA J., 2006, Financial Aid Advisor. B.A., University of Northern Iowa

BAILEY, GREG A., 2000, Industrial Electromechanical Technology Assoc., National Institute of Technology

BAKER-BRODERSEN, BETH M., 2005, English/Academic Achievement Center. B.A., Northwest Missouri State University; M.A., Iowa State University

BARRETT, LARRY, 1988, Respiratory Therapy. A.A.S., Des Moines Area Community College; B.S., M.Ed., Iowa State University

BARTH, VICKIE R., 2007, Director, Nursing Education. Diploma, Allen School of Nursing; B.S.N., University of Dubuque; M.S.N., University of Iowa; Ed.D., University of Northern Iowa

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BELTRAME, DAVE, 2004, Graphic Technologies. Diploma, Des Moines Area Community College

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BERGIN, TIMOTHY M., 1996, Biology. B.S., Kansas State University; M.S., University of Nebraska-Lincoln; Ph.D., Bowling Green State University

BERGLUND, ERIC J., 2000, Coordinator, Network Systems. A.A.S., DeVry Institute of Technology

BETHARDS, MELODY L., 2002, Nursing. A.D.N, Des Moines Area Community College; B.S.N., Grand View College; M.S.N., Drake University

BISHOP, PATRICK J., 1995, Diesel. A.A.S., A.S., Des Moines Area Community College; Iowa State University

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BOETEL, KARLA V., 2006, Culinary Arts. A.A.S., Des Moines Area Community College; B.P.S., The Culinary Institute of America; C.E.C.

BOOTH, CONNIE, 1982, Nursing. B.S.N., Creighton University; M.S.N., University of Nebraska Medical Center

BOUDJARANE, KHALED, 2005, Physics. B.Sc., M.Sc., University of Quebec, Trois-Rivieres; Ph.D., Laval University, Quebec, Canada

BOWLIN, DEBBIE D., 2005, Health Occupations. A.A., Southwestern Community College; B.S.N., Grand View College

BRAND, SONJA K., 1995, Academic Achievement Center. B.S., Northwest Missouri State University

BREND, JOSEPH, 1998, Building Trades.

BROCKELSBY, JOHN W., 1987, Business Administration. B.G.S., University of Nebraska at Omaha; M.A., Webster University

BROWN, GEORGIA K., 1971, Academic Achievement Center. B.A., Simpson College; M.S.E., Drake University

BROWN, LORI M., 2005, Dental Hygiene. B.S., University of Iowa

BROWN, REBECCA F., 2002, Business Administration. B.S., Meredith College; M.B.A., Bellevue University

BRUINS, CYNTHIA C., 1987, Nursing. B.A., Central College; M.Ed., East Carolina University; B.S.N., Grand View College; M.S.N., Drake University; CNM/ARNP

BRUMBACK, LISA P., 2005, Academic Achievement Center. B.A., Albright College

BURKHARDT, BRYAN A., 2001, Electronics. B.S., M.S., Iowa State University

BURNS, JERALD L., 2004, Automotive Technology. A.A.S., Des Moines Area Community College

BUTIN, PATRICIA, 1992, Coordinator, Veterans/Scholarships. A.A., Des Moines Area Community College; B.A., Drake University

CALKIN, JEFFREY B., 1988, Automotive Technology

CAMPBELL, KAREN J., 1999, Medical Laboratory Technology. B.A., M.A.T., Drake University

CAREY, PHILLIP J., 2004, Hospitality Careers. A.S., Des Moines Area Community College; B.S., Upper Iowa University

CARLSON, LISA L., 2007, Academic Advisor. B.A., University of Northern Iowa; M.S.E., Drake University

CARPENTER, CHRISTINA M., 2004, Counselor. A.A., State Fair Community College; B.S., M.S., Central Missouri State University; Kansas State University

CARPENTER, HOWARD R., 2008, Director, Program Development. B.S.B.A., M.A., Central Missouri State University

CARROLL, JOHN W., 2003, Title I Corrections. B.A., Loras College; M.A., University of Northern Iowa

CERFOGLI, FRANK M., 2007, Veterinary Technology. B.A., University of Northern Iowa; D.V.M., Iowa State University

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CHERRY, MICHAEL R., 2000, Safety/Fire Science. A.A., Des Moines Area Community College; B.A., Simpson College

CHOPARD, LOIS, 1987, Academic Advisor. B.A., University of Northern Iowa

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CIPALE, DEBORAH J., 2005, Coordinator, Nursing Resource Lab. R.N., Iowa Methodist School of Nursing; B.S.N., Grand View College; M.S.N., Nebraska Methodist College

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DAVENPORT, RITA L., 2002, Counselor. B.A., Central College; M.S.E., University of Wisconsin, Platteville

DAVIS, SUSAN M., 2003, Nursing. Diploma, St. Vincent School of Nursing; B.S.N., Briar Cliff University; M.S., Iowa State University; M.S.N., University of Wyoming

DAWSON, RICK E., 2004, Associate Provost, West Campus. A.A., Iowa Central Community College; B.A., Buena Vista College; M.S., Northwest Missouri State University; University of Iowa

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INDEX

A

B

C

D

INDEX

E

F

G

H

I

L

M

N

INDEX

NOTES