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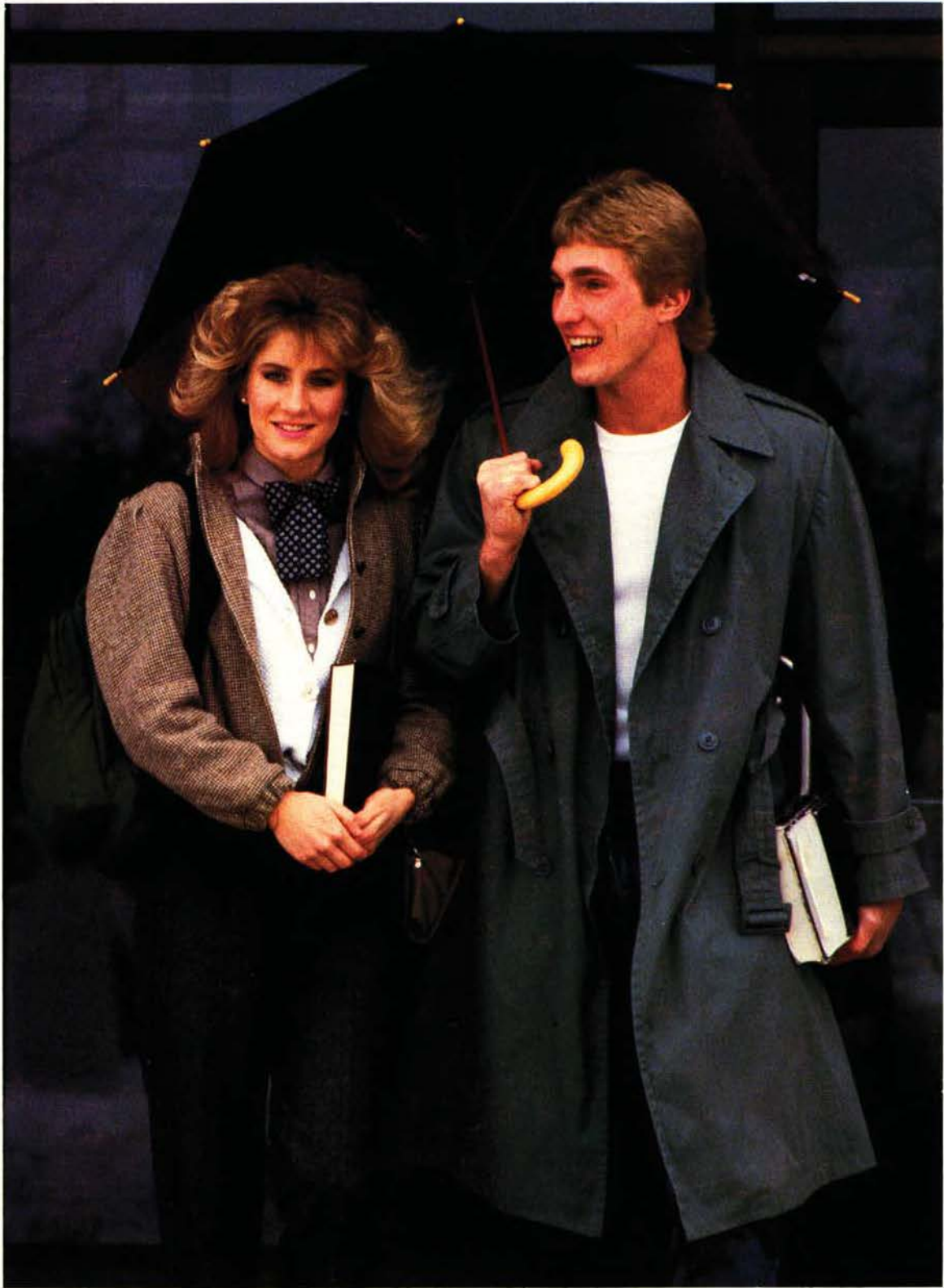
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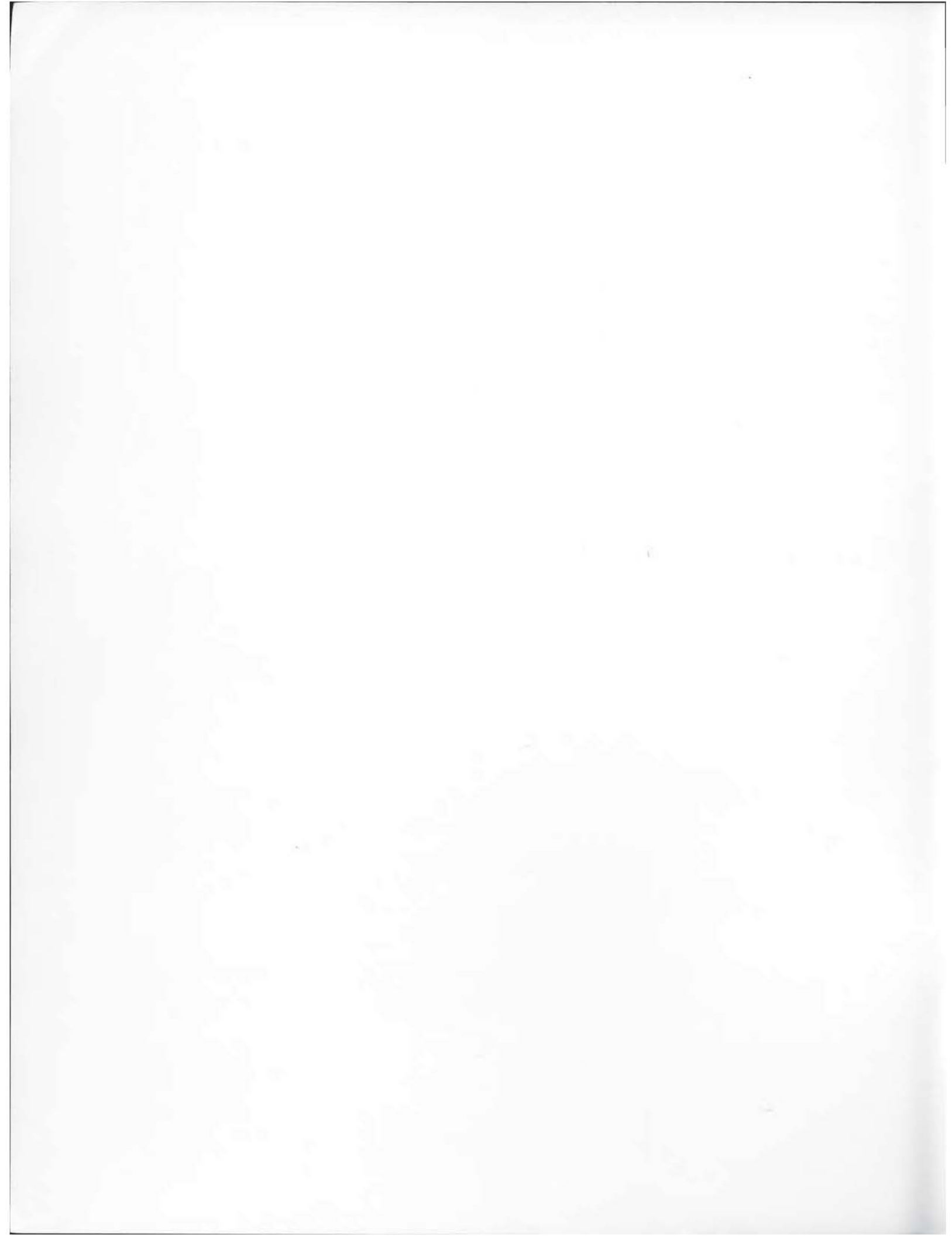


DES MOINES AREA



COMMUNITY COLLEGE

CATALOG 1985-86



GENERAL INFORMATION

PRESIDENT'S MESSAGE



Welcome to Des Moines Area Community College. We are a people-oriented institution dedicated to serving the citizens of Iowa. We offer quality education while meeting the changes and challenges of the future.

This catalog contains a comprehensive guide to the educational programs, services, and courses we offer. What it cannot convey, however, is the level of satisfaction you will derive from attending a college where facilities, faculty, and staff have an uncommonly deep concern for the welfare and the future of its students.

I am pleased that you are considering Des Moines Area Community College to fulfill your personal and educational objectives.

Joseph A. Borgen

ANKENY CAMPUS

2006 South Ankeny Boulevard
Ankeny, Iowa 50021
(515) 964-6200
or, toll-free in Iowa
1-800-362-2127
1-800-362-2132

BOONE CAMPUS

1125 Hancock Drive
Boone, Iowa 50036
(515) 432-7203

CARROLL CAMPUS

Director's Office
229 N. Main
Carroll, Iowa 51401
(712) 792-1755

Carroll Nursing
South Clark Street
Carroll, Iowa 51401
(712) 792-1424

URBAN CAMPUS

1100 - 7th Street
Des Moines, Iowa 50314
(515) 244-4226

Des Moines Area Community College is a publicly supported community college serving the Iowa counties of Merged Area XI. The college is fully accredited by the North Central Association of Colleges and Secondary Schools, and is approved by the Iowa Department of Public Instruction and Board of Regents.

Des Moines Area Community College is an educational institution which admits academically qualified students without regard to sex, age, race, color, national origin or handicap, to all the rights, privileges, programs and opportunities generally available to students at the College; does not discriminate on the basis of sex, age, race, color, national origin or handicap in administration of its educational policies or programs, and is also an Equal Employment Opportunity, Affirmative Action employer, and complies with all applicable laws and regulations including Title IX of the Educational Amendment of 1972 and Section 504 of the Rehabilitation Act of 1973, regarding non-discrimination. Persons who wish additional information about this policy or assistance to accommodate individual needs should contact the Manager of Human Resources (Building 1, Telephone (515) 964-6301) who is the Title IX and Section 504 program coordinator. Des Moines Area Community College has an established procedure available to both staff and students for filing complaints in these regards. Complaint forms are available in the coordinator's office.

The Official Catalog of Des Moines Area Community College is defined as this document, together with official amendments and changes which are made from time to time. These official changes are contained in the master curriculum file available in the office of the Executive Vice President, Educational Services.

The college catalog is produced by Word Processing and College Relations. Photographs by Mike Dixon - College Relations.

BOARD OF DIRECTORS

Jasper Risdal, President
DeVere Bendixen
Susan Clouser
Lloyd Courter
Eldon Leonard
Theodore Nemmers
Herbert L. Ritland
Donald P. Rowen
Douglas Shull

TABLE OF CONTENTS

	Pages
General Information.....	1 - 6
Admissions.....	7 - 9
Tuition and Fees.....	10 - 11
Student Activities and Services.....	12 - 15
Academic Regulations.....	16 - 18
Educational Programs.....	19 - 58
Specialist Certificates.....	59 - 69
Description of Courses.....	70 - 104
Faculty/Professional Staff.....	105 - 108
Index.....	109
Ankeny Campus Map.....	110
Application for Admission.....	111

GENERAL INFORMATION

IMPORTANT PHONE NUMBERS

Toll-Free.....	1-800-362-2127	Financial Aid.....	964-6282
Alumni Affairs.....	964-6376	GED.....	964-6384
Bookstore.....	964-6302	Handicapped Services (Nurse).....	964-6352
Career Development.....	964-6246	Housing	
College Information Center		Ankeny.....	964-6347
Ankeny.....	964-6241	Boone.....	432-7203
Boone.....	432-7203	Iowa College Aid Commission.....	281-3501
Urban.....	244-4226	Job Placement.....	964-6215
Carroll Campus.....	712-792-1755	Job Service.....	964-6395
Learning Centers		Library.....	964-6317
Ankeny.....	964-6255	Nurse.....	964-6352
Boone.....	432-7203	Student Records.....	964-6224
Urban.....	244-6297	Veteran's Affairs.....	964-6284
Evening College (after 4:30 p.m.).....	964-6286	Vocational Rehabilitation.....	964-6366

COLLEGE CALENDAR 1985-86

FALL TERM

Labor Day Holiday - College Offices Closed.....	September 2
Classes Begin.....	September 3
Thanksgiving Vacation - College Offices Closed.....	November 28 - 29
Last Day of Classes.....	December 19
College Offices Closed.....	December 24 - January 1

SPRING TERM (tentative)

Classes Begin.....	January 13
Spring Vacation.....	March 10 - 14
Last Day of Classes.....	May 6

SUMMER TERM (tentative)

Classes Begin.....	May 19
Holiday - College Offices Closed.....	May 26
Holiday - College Offices Closed.....	July 4
Last Day of Classes.....	July 29

INTERIM TERM (tentative)

	July 31 - August 27
(Conferences, seminars, classes on a specially scheduled basis only)	

FALL TERM, 1986

Classes Begin.....	September 2
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GENERAL INFORMATION

HISTORY

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

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

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

In 1968, the Board of Directors adopted Des Moines Area Community College as the official name of the institution. The first classes were held at the new Ankeny Campus location in 1968. Administrative and operational control of Boone Junior College was assumed in 1969. The Western Attendance Center in Carroll started 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.

Paul Lowery was the first superintendent/president of the college, and was succeeded by Dr. Joseph A. Borgen in 1981.

PHILOSOPHY AND PURPOSE

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 provide, on a non-discriminatory, open-door basis, a variety of educational options.

Des Moines Area Community College 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.
- prepare students for transfer, typically as juniors, to four-year colleges and universities.
- assist students to become 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 pro-

grams of study which best meet their needs and interests.

- provide counseling and other student support services which improve a student's chances for success in their educational endeavors.
- provide learning experiences and co-curricular activities which promote the personal, social, academic, and vocational development of students.
- 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.



GENERAL INFORMATION

ACCREDITATION

Des Moines Area Community College is fully accredited by the North Central Association of Universities and Secondary Schools. The college is also approved by the Iowa State Department of Public Instruction 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.

The college also holds membership in the American Association of Community and Junior Colleges.

THE CAMPUSES

Ankeny Campus is located on a 320 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.

Boone Campus is located on a 23-acre site at the southeast edge of the city of Boone. Constructed in 1968, the campus is comprised of two buildings — the academic building which includes a 500 seat auditorium, and the physical education building.

Urban Campus is located on a six acre site at Seventh and Laurel Streets in Des Moines.

Carroll Campus is based in a leased facility located at 229 North Main Street, Carroll. A variety of educational programs is offered in that facility and other locations, including St. Anthony's Hospital.

Credit classes have been offered on the basis of need in other locations throughout the area, including Ames, Guthrie Center,



Knoxville, Nevada, Newton, Perry, Winterset and Woodward. Community Services and continuing education classes are offered in many additional communities within the college district.

THE ECONOMIC DEVELOPMENT GROUP

The Economic Development Group of Des Moines Area Community College assists in the growth and development of business enterprises, government agencies, communities and individuals in central Iowa through quality training services tailored to specific needs. Services include: contracted training; training for new employees; consulting services; conferences-seminars-workshops; Conference Center; Computer Literacy Institute; and Quality of Work Life Institute.

For more information about services, or for answers to questions about training for business, industry and government in central Iowa, call (515) 964-6397, or Iowa toll-free 1-800-248-4413, or write: Economic Development Group, Des Moines Area Community College, 2006 South Ankeny Boulevard, Ankeny, Iowa 50021.

DISTRICT CAMPUS

The District Campus provides educational activities for adults. The curriculum is comprised of a wide range of credit and non-credit courses. Programming is delivered through a community-based approach and uses local facilities and planning at various locations.

Programs under the responsibility of the District Campus Department are:

- Adult Basic Education
- English as a second language
- High School Equivalency
- VET's Agriculture in Stuart, Iowa
- Electrical Trades in Knoxville, Iowa
- Building Trades at Carroll Public and Kuemper Schools in Carroll, Iowa
- Automotive at Carroll Public and Kuemper Schools in Carroll, Iowa
- LPN at Carroll Campus in Carroll, Iowa
- All credit classes conducted at Carroll Campus in Carroll, Iowa.



Class size CETA programs: a. Building Maintenance b. Administrative Clerk c. Bookkeeping

Adult Education programs in cooperation with local schools

EVENING COLLEGE

To accommodate many people who would like to study college subjects, but who are prevented from attending classes at conventional times because of work or other obligations, Des Moines Area Community College has created its "Evening College."

A wide selection of subjects is offered in extended sessions so that a student can complete a full term of a regular college course. Consult the College Information Center for details.

DIVISIONAL STRUCTURE

Most of the curricula of the college are divided among four divisions: Business Management, Health Services and Sciences, Industrial and Technical, Public and Human Services.

LIBRARY

The library at the Ankeny Campus provides printed and non-printed resource material to students and staff members. The library collection of 53,000 volumes relates to the humanities, social science, natural and

GENERAL INFORMATION

health science, business and technology. In addition, the library maintains subscriptions to approximately 500 current periodicals and houses collections of audiovisual materials including videotapes of TV courses. Materials from other libraries can also be borrowed by the library for use by DMACC students.

The library at the Boone Campus is located in the Academic Building. It features open stack book shelving, individual study carrels, a periodical reading area, and a reserve book room. Almost 16,000 volumes and 100 periodicals are available to students and faculty members.

The library at the Urban Campus has a collection of 6,000 volumes particularly relevant to the courses offered at that campus. If an Urban Campus student needs additional material, the library staff may request any available material from the Ankeny Campus library.

LEARNING CENTERS

Learning Centers are available to all students and staff members. Instructors will help in diagnosing basic academic skill difficulties, to establish individual programs of study, and to assist in the learning process. Student progress in the Centers is set at a

pace based on student ability, student interest, needs and time available for learning.

The following types of students are served in the Centers:

1. Full-time and part-time college students.
2. Adults working toward high school completion (G.E.D. or adult high school diploma).
3. Students pursuing studies for academic upgrading, program prerequisites, or enrichment.

FOOD SERVICE

The Ankeny Campus has a snack bar/grill in Building 5 and a cafeteria in Building 7. The snack bar is open for breakfast, lunch and evening meals. The cafeteria serves a continental breakfast beginning at 7:30 a.m. and a full luncheon menu from 10:30 a.m. to 1:30 p.m. Special luncheons or catered events may also be scheduled.

Snacks and beverages may be purchased on all campuses through vending machines.

For more formal dining, the Food Service students on the Ankeny Campus operate the College Inn in Building 7.

COLLEGE BOOKSTORE

The college bookstore, which has an administrative office at Ankeny Campus, has branch sales offices at the Boone Campus, Urban Campus, and the Carroll Campus in Carroll, Iowa.

A cash register receipt is required for a return item. All course books must be returned within the first two weeks of each term for a cash refund.

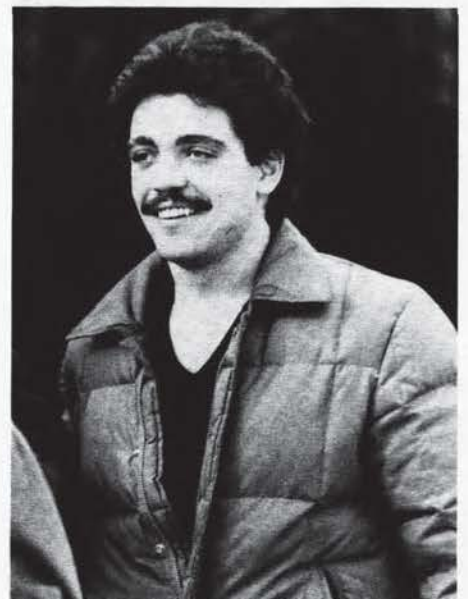
The bookstore offers textbook "buy-back" services the last two days of each term at Ankeny, Urban and Boone Campuses.

Bookstore hours are established by student demand at each campus.

COLLEGE INSTRUCTIONAL CALENDAR

The college instructional calendar is comprised of three terms. The fall term (which begins in early September) and the spring term (mid January) are each 15 weeks in length with 55 minute class periods. The summer term features one 10 week session and two 5 week sessions. The summer session usually begins in mid-May.

Students in vocational/technical programs may need to attend a college designated sequence of terms which could include the summer session. Other students may attend various term arrangements depending on course availability and sequencing.



GENERAL INFORMATION

UNIT OF CREDIT

The unit of credit at Des Moines Area Community College is the semester hour. One semester hour of credit is normally one class period or two periods of laboratory work. Program curriculum outlines in this catalog give specific information about the number of instructional hours required in each program.

CLASSIFICATION OF STUDENTS

Freshman - a student with fewer than 32 semester hours of credit or is in the first year of a vocational/technical program.

Sophomore - a student with 32 or more semester hours of credit or is in the second year of a vocational/technical program.

Full-time - a student registered for 12 or more semester hours.

Part-time - a student registered for 11 or fewer semester hours.

Guest - a full-time credit student attending DMACC on an interim basis who has already been accepted for admission to another college or whose primary enrollment is at another college. Normal admissions procedures and the admissions fee will be waived. Guest student status can be claimed for one term only.



PARKING AND TRAFFIC CONTROL

Every vehicle is required to display a parking registration permit in accordance with rules and regulations as set out in the "Parking and Traffic Regulations" booklet. Each driver is required to know all parking regulations for the campus attended.

Ankeny, Boone, and Urban Campuses have parking lots assigned to staff, students, and visitors. Pedestrians on campus have the right-of-way at all times.

Failure to abide by the rules and regulations of the college will be cause to issue a

traffic violation ticket.

Regulations are available at the Physical Plant Office in Building 12, Ankeny Campus, the Business Office at Urban and Boone Campuses or during registration.

STUDENT HOUSING

The college does not have on-campus housing facilities. Housing is available in private homes and apartments in the area surrounding each campus. Information regarding housing may be obtained at the College Information Center, Building 1, Ankeny Campus.



ADMISSIONS

ADMISSIONS POLICIES

Des Moines Area Community College is committed to assisting individuals in reaching their educational and vocational goals. Admission of full-time students is based on an open door admissions policy. An open door policy allows the College to accept applicants into educational programs, providing that the program requirements have been met and there are vacancies in the program.

With the "rolling admissions process," acceptance of an applicant is granted as soon as all admissions procedures and requirements have been completed. If a program is at capacity enrollment, eligible applicants will be placed on standby status until an enrollment opportunity exists.

Each program establishes the minimum entrance requirements for applicants who wish to attend full-time. Applicants should have earned at least a high school diploma or have demonstrated an equivalent level of achievement.

Prospective students may apply at any time after the completion of their junior year in high school. Consideration will be given to admitting high school age individuals with their high school's cooperation. Credit for work completed at other colleges will be accepted to the extent that it is compatible with Des Moines Area Community College curricula and grade point policies.

ADMISSIONS REQUIREMENTS AND PROCEDURES

Admission begins with application.

You may apply for admission to DMACC at your convenience. The procedures are simple.

1. Complete a DMACC admissions application form.
2. Attend all required orientation/information sessions. You will be notified if your program requires attending such sessions.
3. Complete all program prerequisites.

After completing all entry requirements you will be notified of your acceptance status.



It is possible that the program you are interested in will be full. Because DMACC accepts students on a first come, first served basis, you could be notified that you are a standby student. When space is available in the program you selected, you will be notified.

Regular admissions procedures do not apply for community service/continuing education students and part-time students.

All admissions materials are to be submitted to the appropriate office, as indicated below:

Student Enrollment Services:

Ankeny Campus and Urban Campus
Des Moines Area Community College
2006 South Ankeny Boulevard
Ankeny, Iowa 50021

Boone Campus
Des Moines Area Community College
1125 Hancock Drive
Boone, Iowa 50036

Carroll Campus
Des Moines Area Community College
229 North Main
Carroll, Iowa 51401

COLLEGE INFORMATION

Often individuals need general information about specific programs before they submit an application. Requests for this type of information should be made to:

College Information Office
(515) 964-6241 or toll free
1-800-362-2127, ext 241

Individual appointments can also be made with the counseling staff: (515) 964-6246.

TRANSFER OF CREDITS

Students intending to transfer to another college or university should make plans during the first year of their college program. A typical preparation would include the following:

1. Decide on a major field of study. If you would like assistance, contact a member of the Career Development staff.
2. Identify colleges which offer your major field, study their catalogs, and visit with their college representative when they visit our campus. For further assistance, contact the Career Development Office.
3. Narrow your choice to three or four colleges and visit their campuses. Be sure to make an appointment to visit with their admissions personnel and major department chairpersons.
4. Confer with a DMACC educational advisor or faculty member for further assistance in course planning to meet the senior institutions requirements.

NOTE: Students transferring to four year institutions are required to maintain a grade point average of at least a 2.0 for work to be accepted as transfer credit. In the student's major area, many colleges require a 2.5 grade point average.

Des Moines Area Community College accepts credits transferred from other accredited colleges and universities in which passing grades have been received, with the limitation that the total grade point average of the credits transferred must equal 2.00. Courses which correspond to an equivalent course at DMACC are transferred at face value and may be used to fulfill all major requirements. For college transfer students, courses for which there is no equivalent will

ADMISSIONS

be designated as electives. When a question exists as to the equivalency of courses, a request will be made for a description of that course from the awarding college. Students may transfer a maximum of 43 semester hours of academic credit toward fulfillment of requirements for an associate-level degree. There is no charge for credit granted through transfer.

SERVICEMEMBERS OPPORTUNITY COLLEGES

DMACC has been designated as an institutional member of Servicemembers Opportunity Colleges (SOC), a group of over 400 colleges and universities providing voluntary postsecondary education to members of the military throughout the world. As a SOC member, DMACC recognizes the unique nature of the military lifestyle and has committed itself to easing the transfer of relevant course credits, providing flexible academic residency requirements, and crediting learning from appropriate military training and experiences. SOC has been developed jointly by educational representatives of each of the Armed Services, the Office of the Secretary of Defense and a consortium of thirteen leading national higher education associations; it is sponsored by the American Association of State Colleges and Universities (AASCU) and the American Association of Community and Junior Colleges (AACJC).



PART-TIME STUDENTS

Students who wish to enroll in courses on a part-time basis may register for up to 11 credit hours of classes without applying for admission. Registration by telephone and mail is also available to part-time students. Such students assume responsibility for their own educational planning unless they choose to take advantage of the available college counseling services. Registration for course work beyond a cumulative maximum of 16 semester credits requires payment of a one-time, non-refundable acceptance fee.

RESIDENCY REGULATIONS

A student shall be considered a resident of Iowa for tuition and fee purposes if he/she is permanently domiciled in Iowa and has resided in the state for a period of not less than ninety (90) days. When residency is in question, the burden of proof of domicile is the responsibility of the student.

To apply for reclassification from non-resident to resident status, the student shall complete the "Request for Residency Status" form and submit it to the Student Records and Enrollment Services Office for approval with any three of the following supporting documents:

- rent receipts
- tax receipts, ownership of property
- Iowa income tax return
- Iowa vehicle registration
- Iowa drivers license
- other similar documents

Reclassification of residency status is not retroactive. Foreign students cannot establish residency while studying in this country on a temporary visa.

FOREIGN STUDENTS

Foreign applicants applying for admission must:

1. Complete an application for admission to the college.
2. Complete a Foreign Student Data Sheet.
3. Show evidence of the English proficiency required by the college by providing one of the following:
 - a. TOEFL (Test of English as a Foreign Language) results.
 - b. Michigan test results (test is administered in the DMACC Development Center).
 - c. Official transcript showing completion of freshman level English at an approved U.S. college or university.
4. Submit completed Statement of Financial Support to provide evidence of ability to meet educational and living expenses while attending the college.

Other conditions are similar to those of American students. Upon acceptance and payment of Admissions/Processing fee, the college will issue an I-20 (Certificate of Eligibility for Nonimmigrant "F-1" student status) which must be submitted for approval to the U.S. Immigration and Naturalization Service before enrolling in classes.

ADMISSIONS

Foreign students are charged double tuition. Foreign students are not eligible for U.S. or state-of-Iowa financial aid, and work permits are difficult to obtain. Information and forms can be obtained by contacting the Foreign Student Office.

REGISTRATION

Dates of registration for new and returning students are publicized each term. A late fee is charged to students who register during the late registration period designated each term. Registration after the announced late registration period is possible only with authorization from the program chairperson or the appropriate dean. The late registration fee applies only to courses that follow the term schedule of classes.

CHANGES IN REGISTRATION

Adding Courses - Students may add courses through the first five class days each term. Students desiring such a change should obtain a "Drop-Add Notice" from the counselor, advisor, or the Student Records and Enrollment Services Office.

Dropping Courses - Students may drop a course at any time prior to the close of the 50th class day during all normal-length terms. A grade of "W" will be recorded. For summer sessions, the last date to drop a course may vary depending upon the length of the session. In such cases, the appropriate date will be publicized.

If conditions warrant, an instructor may initiate a course drop procedure for a student no longer in attendance.

Withdrawal from College - Students may withdraw from college at any time prior to the close of the 50th class day in all normal-length terms and receive a grade of "W" for all courses. If a student withdraws after the deadline, the actual grade earned for each course will be recorded.

In unusual circumstances (death, disability, etc.), the college may initiate withdrawal for a student retroactively.

Drops and withdrawals are not effective or valid until the completed form is received in the Student Records and Enrollment Services Office. If a grade of "W" is to be recorded, the form must be received by the deadline date.

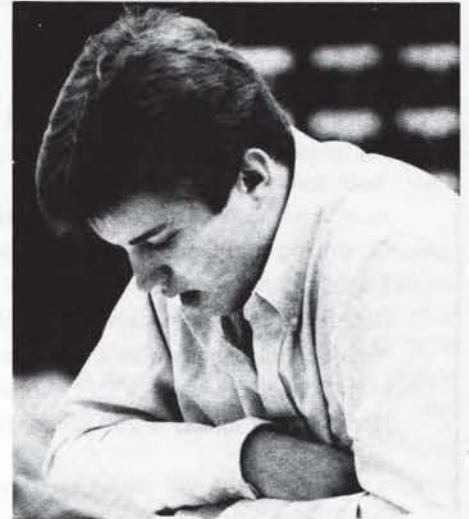
READMISSION

Students who have withdrawn and who wish to be readmitted should apply to the Student Records and Enrollment Services Office.

ATTENDANCE OF SELECTED HIGH SCHOOL STUDENTS

The college offers the opportunity for qualified high school students to attend credit courses when recommended and approved by the student's parents, guidance counselor, principal and the college.

These students will be required to meet the same standards as any other student and will be awarded the same credit for courses successfully completed.



TUITION AND FEES

TUITION 1985-86

Tuition for credit offerings (resident students)

Full or part-time enrollment (per credit).....	\$28.00
Audit (per credit).....	\$28.00
Adult Education Certificate of Specialization Program (per credit).....	\$28.00
Continuing and General Adult Ed (per contact hour).....	\$ 1.25
English as a Second Language (per contact hour).....	\$.25
Career Supplemental non-credit courses (per contact hour).....	\$ 1.50
High School Diploma (per contact hour).....	\$.50
High School Equivalency (per contact hour).....	\$.50

Non resident tuition is 200 percent of resident rate

FEES

Activity fee (each term).....	\$.95 per credit
Admission (one time only).....	\$25.00
Service fee per credit.....	\$ 3.50
Service fee per contact hour.....	\$.20
Graduation fee (one time fee).....	\$20.00
Late Registration.....	\$ 5.00
Foreign student processing.....	\$100.00

ALL FEES ARE NON REFUNDABLE



FINANCIAL AID

All financial assistance available to DMACC students is administered by the college Financial Aid Office. Students may receive aid in the form of scholarships, grants, loans, and/or part-time employment.

HOW TO APPLY: To apply for financial aid at DMACC you must complete the FAMILY FINANCIAL STATEMENT. Applications are available from high school counselors or at any DMACC campus.

WHEN TO APPLY: Priority consideration will be given students who apply by **March 1** prior to the fall term. Please be reminded that for each year a student wants to be considered for financial aid it is necessary to reapply.

Grants and Scholarships

Pell Grants. Awarded to students who need money to pay for their education or

training after high school. You must be enrolled at least half-time. For undergraduates without a bachelor's degree.

Supplemental Educational Opportunity Grants (SEOG). You must be an undergraduate who does not already have a Bachelor's Degree and be enrolled at least half-time.

Iowa Vocational-Technical Grant (IVT). For Iowa students enrolled full-time in vocational-technical courses.

State of Iowa Scholarship Program. For Iowa residents with proven high academic ability. The purpose of the program is to give academic recognition and, if needed, financial help. To be considered, a student must: (1) be a designated State of Iowa Scholar, (2) be entering as a freshman or a sophomore, and (3) plan to enroll full-time. See your high school counselor for assistance.

TUITION AND FEES

Maytag Company Foundation Career Education Awards. You must either be high school seniors who are children of Maytag Company employees residing in Iowa, or seniors at Newton High School and planning to enroll in a vocational-technical program in an Iowa Community College. Application forms may be obtained from the Maytag Company Foundation Inc., Newton, Iowa 50208.

DMACC Scholarships and Grants. Various agencies, organizations and individuals donate money to DMACC for the purpose of financial aid for students.

DMACC Alumni Association Scholarships. DMACC's Alumni Association annually awards scholarships to outstanding DMACC students. These scholarship awards are made possible through special alumni fundraising activities and gifts to the Association for scholarship purposes.

Loans

National Direct Student Loans (NDSL). These loans are made through DMACC's Financial Aid Office. You must attend college half-time. Repayment begins six months after ceasing college enrollment.

Guaranteed Student Loans (GSL). Loans made by a bank or credit union. Repayment of these begins six months after terminating enrollment. You must attend college at least half-time. The loans are \$2,500 maximum yearly with \$12,500 maximum for undergraduates.

Nursing Loans. Made to Associate Degree Nursing (ADN) students enrolled at least half-time.

Short-Term Loan Fund. Available to students who encounter unanticipated expenses during the school year. These loans are interest free up to \$25 and payment in full is due within six weeks from the date of the loan.

Employment

College Work Study (CWS). To be eligible, you must be an undergraduate and enrolled at least half-time.

Veterans Affairs

The primary function of the Veterans Of-

fice is to aid students in applying for veterans educational benefits and to act as a liaison between the student and the Veterans Administration if problems arise.

Application for veterans benefits should be completed at the time of admission application. It generally takes six to eight weeks for the Veterans Administration to issue a check, so appropriate paperwork should be submitted as early as possible.

It is the student's responsibility to keep the college posted on all changes in status, address changes, changes in number of dependents, change in major, etc., as your benefits may be affected.

Career and degree programs, High School Completion, and GED programs are approved for V.A. benefits. The amount of monthly payments will depend on course type, number of hours enrolled, and number of dependents. Details may be obtained at the college or Veterans Administration regarding full-time requirements, payment procedures, and eligibility for veterans, spouses, or children.

STUDENT INSURANCE (Accident & Health)

Des Moines Area Community College makes available a low cost accident and sickness insurance plan that may be purchased for the student and family. Insurance applications are available at all DMACC attendance centers. Contact the Campus Nurse for more information.

STUDENT ACCOUNTS

Indebtedness Policy. A student who has prior unsettled indebtedness to the college may not register while the indebtedness remains unsettled and no evidence of attendance or other official credentials will be processed. Indebtedness shall include tuition and fees, library and parking fines, and any other charges incurred by the student and owed to the college.

Tuition Refund Policy. Students who complete formal withdrawal procedures or officially drop a credit class within the first 30 days after the start of a class, during the fall and spring terms, will be eligible for a tuition refund.

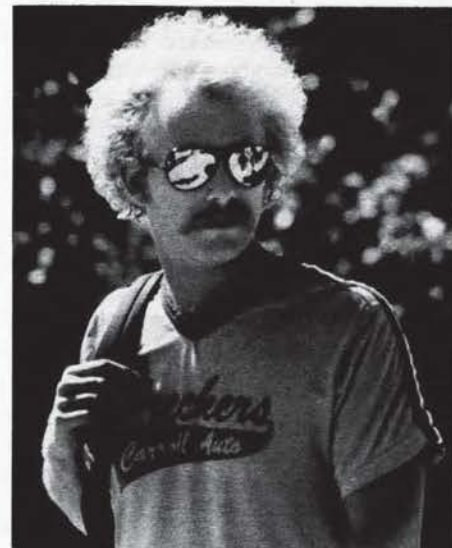
The amount of refund will be determined by the number of credits dropped and the number of class days that have elapsed at the date of withdrawal or drop. The table below indicates the percentage of tuition that will be refunded per credit hour dropped. Fees are non-refundable once classes start.

Day of term	Tuition Refund
1 - 10 days	75%
11 - 20 days	50%
21 - 30 days	25%
31 or over	0%

The tuition refund schedule for summer sessions may vary depending upon the length of the session. Refund information will be included in the Summer Session Course Announcement.

Full refunds will be made on withdrawals prior to the start of classes and in cases where classes are cancelled due to insufficient enrollment. Students are not required to complete class drop forms when classes are cancelled by the college.

Payment of Charges. Students are responsible for payment of tuition and fees by the published due date and failure to do so will result in cancellation of Registration. Payments ARE NOT deferred pending processing of V.A. records and/or the receipt of checks.



STUDENT ACTIVITIES/SERVICES

STUDENT ACTIVITIES

Much of student growth is the result of participation in activities, clubs and organizations. It is the philosophy of the college that co-curricular activities complement the academic program. The activities are financed by your activity fee which is charged each term in addition to regular tuition. Student representatives elected to the student government are responsible for assessment and disbursement of this activity fee.

STUDENT CENTERS

Student lounge and recreation areas are provided for your 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 GOVERNMENT ASSOCIATION

The Student Government Association, as the primary student governing body, is an integral part of the college. Through its work, you are provided an opportunity to participate in the democratic process. Meetings are held at regularly stated intervals. The SGA serves as a liaison between the faculty and the student body in areas of mutual interest.

The purposes of the organization are to promote college spirit, provide a focal point for discussion between students and the college staff, and to give you a representative voice in college affairs. Any student, administrator, or faculty member may attend meetings of the SGA and take part in discussion, but only members may vote.

STUDENT CLUBS AND ORGANIZATIONS

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

- 1. Pre-professional and Departmental Clubs** are joined by students wishing to pursue interests which contribute to the development of career fields.
- 2. Service Organizations** have as their pri-



mary purpose activities which will contribute positively to the college and the community.

- 3. Scholastic Honorary Organizations** offer membership on the basis of academic excellence and performance.
- 4. Special interest Organizations** are planned by students who desire to develop or broaden their interest in some

particular aspect of their lives.

- 5. The Student Newspaper** is published by students under the direction of a Communications Board and with the sponsorship of a faculty advisor. The student newspaper expresses student opinion and reports college events, the college calendar, and other information of interest to the college community.

STUDENT ACTIVITIES/SERVICES

SOCIAL ACTIVITIES

The social program emphasizes meaningful social activities as a way of providing students with a well-rounded college experience. Each year administration, faculty and student representatives cooperatively plan a sequence of social events. These events vary from year to year, but include a balanced program of formal and informal activities.

STUDENT IDENTIFICATION

If you attend classes for credit at the Ankeny, Boone and Urban locations, you are required to have a Des Moines Area Community College student ID/Activity card. The ID/Activity card will be mailed to each student usually four to five weeks after the term begins. You should carry your ID/Activity card with you at all times. It is required for services at various college offices and by campus security.

STUDENT HANDBOOK

The student handbook is developed to assist you in becoming informed about Des Moines Area Community College. You should be familiar with its contents, which include a general overview of college policies and procedures as they relate to you and your college life — student conduct and discipline, grievances and other items of student concern.

INTRAMURAL SPORTS AND ATHLETICS

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

The college is a member of the National Junior College Conference. Currently, the college offers intercollegiate athletics in basketball, baseball, softball and golf on the Boone Campus.

ALUMNI

Des Moines Area Community College values its alumni constituents and strives to remain in contact and provide service to

them after graduation. A variety of services and benefits is offered to alumni — for more information call 964-6376.

LIFE PLANNING FOR HEALTH

The Student Health Service is located on the Ankeny Campus in building 5 with some services extended to the Urban Campus and Boone Campus. Emphasis is placed on education for a lifetime of good health. Students and staff members are invited to keep in shape through weight/blood pressure control and fitness programs sponsored by the Health Service. Confidential counseling or referral for health-related problems is available from the Campus Nurse.

The Health Service also offers emergency treatment for injury and illness and assistance in obtaining the services of a physician. The nurse will also cooperate in the carrying out of instructions of the student personal or family physician whenever appropriate. A physician is available twice weekly on the Ankeny Campus. For appointments, contact Health Service.

COUNSELING SERVICES

The Career Development staff is a group of people consisting of educational advisors, secretaries and counselors who can assist you in a variety of ways. Those include:

Placement Services for job seeking skills, resume' writing, and part-time or full-time employment.

Tutorial Services.



Academic Advising for aid in selecting a transfer university, transfer information, the value of an A.A. or A.S. degree at DMACC for transferring, course selection and college representative visitation.

Counseling Services will assist you in time management, stress management, career planning and decision making, personal counseling, assertiveness training and value clarification.

SOS (See Our School) is a program offered on most Friday mornings for prospective students, parents and others wishing to inquire about the educational opportunities and services offered at DMACC. Arrangements must be made by calling the Tour Coordinator at 964-6222 or 1-800-362-2127, ext. 222.

SUPPORT SERVICES FOR HANDICAPPED STUDENTS

This is a resource for students who are physically handicapped or who experience learning disabilities. Students in need of counseling or other support services such as test-writers, readers and some special equipment, may contact the Career Development Office.

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

Facilities constructed by the college have been designed to be accessible for students with mobility problems.

STUDENT ACTIVITIES/SERVICES

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT

The Family Educational Rights and Privacy Act of 1974, as amended, is a federal law which states (a) that a written institutional policy must be established, and (b) that a statement of adopted procedures covering the privacy rights of students be made available. The law provides that the institution will maintain the confidentiality of student education records.

Des Moines Area Community College accords all the rights under the law to students who are declared independent. No one outside the institution shall have access to nor will the institution disclose any information from student's education records without the written consent of students except to personnel within the institution, to officials of other institutions in which students seek to enroll, to persons or organizations providing students financial aid, to accrediting agencies carrying out their accreditation function, to persons in compliance with a judicial order, and to persons in an emergency in order to protect the health or safety of

students or other persons. All these exceptions are permitted under the act.

Within the DMACC community, only those members, individually or collectively, acting in the students' educational interest are allowed access to student records. These members include personnel in the Student Records/Services, Student Development, and academic personnel within the limitations of their need to know.

At its discretion the institution may provide Directory Information in accordance with provisions of the Act to include: student name, address, telephone number, date and place of birth, major field of study, dates of attendance, degrees and awards received, the most recent previous educational agency or institution attended by the student, participation in officially recognized activities and sports, and weight and height of members of athletic teams. Students may withhold Directory Information by notifying the Student Records/Services Office in writing within one week of the beginning of the term.

Request for non-disclosure will be honored by the institution for only one academic year;



therefore, authorization to withhold Directory Information must be filed annually in the Student Records/Services Office.

The law provides students with the right to inspect and review information contained in their education records, to challenge the contents of their education records, to have a hearing if the outcome of the challenges is unsatisfactory, and to submit explanatory statements for inclusion in their files if the decisions of the hearing panels are unacceptable. The Manager, Student Records/Services at DMACC has been designated by the institution to coordinate the inspection and review procedures for student education records, which include admissions, personal, academic, and financial files, and academic, cooperative education, and placement records. Students wishing to review their education records must make written requests to the Manager, Student Records/Services listing the item or items of interest. Only records covered by the Act will be made available within forty-five days of the request. Students may have copies made of their records with certain exceptions, (e.g., a copy of the academic record for which a financial "hold" exists, or a transcript of an original or source document which exists elsewhere). These copies would be made at the students' expense for \$1.00/each. Education records do not include records of instructional, administrative, and educational personnel which are the sole possession of the maker and are not accessible or revealed to any individual except a temporary substitute, records of the law enforcement unit, student health records, employment records or alumni records. Health records, however, may be reviewed



STUDENT ACTIVITIES/SERVICES

by physicians of the students' choosing.

Students may not inspect and review the following as outlined by the Act: financial information submitted by their parents; confidential letters and recommendations associated with admissions, employment or job placement, or honors to which they have waived their rights of inspection and review; or education records containing information about more than one student, in which case the institution will permit access only to that part of the record which pertains to the inquiring student. The institution is not required to permit students to inspect and review confidential letters and recommendations placed in their files prior to January 1, 1975, provided those letters were collected under established policies of confidentiality and were used only for the purposes for which they were collected.

Students who believe that their education records contain information that is inaccurate or misleading, or is otherwise in violation of their privacy or other rights may discuss their problems informally with the Coordinator of Enrollment Services. If the decisions are in agreement with the students' requests, the appropriate records will be amended. If not, the students will be notified within a reasonable period of time that the records will not be amended; and they will be informed by the Enrollment Services Office of their right to a formal hearing. Student requests for a formal hearing must be made in writing to the Executive Vice-President for Management Services who, within a reasonable period of time after receiving such requests, will inform students of the date, place and the time of the hearings. Students may present evidence relevant to the issues raised and may be assisted or represented at the hearings by one or more persons of their choice, including attorneys, at the students' expense. The hearing panels which will adjudicate such challenges will be five members of the DMACC staff appointed by the Executive Vice-President for Management Services.

Decisions of the hearing panels will be final, will be based solely on the evidence presented at the hearing, and will consist of

written statements summarizing the evidence and stating the reasons for the decisions, and will be delivered to all parties concerned. The education records will be corrected or amended in accordance with the decisions of the hearing panels, if the decisions are in favor of the students. If the decisions are unsatisfactory to the students, the students may place with the education records statements commenting on the information in the records, or statements setting forth any reasons for disagreeing with the decisions of the hearing panels. The statements will be placed in the education records, maintained as part of the students' records, and released whenever the records in question are disclosed.

Students who believe that the adjudications of their challenges were unfair or not in keeping with the provisions of the Act may request, in writing, assistance from the President of DMACC to aid them in filing complaints with The Family Educational Rights and Privacy Act Office (FERPA), Department of Education, Room 4074, Switzer Building, Washington, D.C. 20202.

Revisions and clarifications will be published as experience with the law and institution's policy warrants.

Students attending the Boone Campus will exercise all rights expressed above through the Student Services Office at the Boone Campus.



ACADEMIC REGULATIONS

GRADING SYSTEM

The grading scale is as follows:

A - Superior	B - Above Average
C - Average	D - Below Average
F - Failing	W - Dropped or Withdrew
I - In progress	N - Audit. No Credit
X - Course Repeated	T - Credit by Testing
P - Pass	
L - Credit for prior educational or occupational experience	

IN PROGRESS AND FAILING MARK POLICIES

Should a student be unable to complete some portion of assigned course work during the regular term, a mark of "I" (In progress) may be assigned. In such cases the student must then complete the course by the midterm date of the following term. Should there be an unusual emergency, such as serious injury or illness, an extension of this period may be granted by approval of the instructor. "In progress" grades automatically remain unless the work is satisfactorily completed within the time period specified.

Should a student fail a required course, he/she must repeat and pass that course in



order to fulfill graduation requirements. Should an elective course be failed, the student has the option of repeating the same course or choosing a different course during a later term. When another grade is earned in a previously failed course, only the latter grade is included in the computation of the grade point average. This privilege does not pertain to courses failed while in attendance at other colleges and universities. Des Moines Area Community College cannot make changes in the grades issued by other institutions.

Students may repeat courses taken at DMACC in which they have earned a grade of "C" or less if they wish. When a course is repeated, only the final grade earned will be included in computation of the grade point average.

AUDITING

A student may enroll in any course on an audit basis if space is available. Priority is given to students who wish to enroll for credit. Each audited course will appear on the student's transcript with no credit or grade. Students auditing courses are not required to complete regular assignments or examinations.

A student may change a course from "credit" to "audit" status through the day designated as midterm. The completion of a "Drop-Add Notice" form is required.

GRADE REPORTING

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

SCHOLASTIC STANDARDS

Associate Degree Programs: The cumulative grade point must average (GPA) 2.0 in all course work taken at DMACC which is applicable to that particular degree.

Diploma Programs: Passing grades are required in all courses as outlined in the program of study. The cumulative grade point average must be 2.0 in all course work taken at DMACC which is applicable to the diploma.

Certificate of Specialization: Passing grades must be received in all required



courses as outlined in the program of study. The cumulative grade point average of 2.0 in all course work applicable to the certificate is required for satisfactory completion.

Students who have enrolled in 12 or more credits at Des Moines Area Community College are subject to the following academic progress standards:

- A. Any student maintaining a cumulative grade point average of 2.000 or higher is considered in "good academic standing." Individual programs of study may require a cumulative GPA higher than 2.000 or may specify additional requirements. In such programs, the program chair will notify enrolled students of such requirements.
- B. If a student's cumulative GPA falls below 2.000 at the end of any term, the student is placed on "probationary status." A probationary student is eligible to re-enroll for the subsequent term, but is urged to seek help with his/her course load and course selection from the Career Development Staff.
Any student on probationary status will continue on probationary status if his/her term GPA for the term following placement on probationary status is 2.000 or higher, but the cumulative

ACADEMIC REGULATIONS



GPA remains below 2.000. The same rule will apply for subsequent terms.

- C. A student on probationary status who earns a term GPA of less than 2.000 will be placed on "suspended" status. A student on suspended status will not be allowed to re-enroll in credit classes at Des Moines Area Community College for a period of one term **except** for purposes of remediation. Approval from designated officials will be required for the exception.

After one term, a student on suspended status may be readmitted to a career education or paraprofessional program of study if he/she meets the standards for readmission established by that program. A student will be eligible for readmission to a general studies program after one term of suspended status.

In all instances, a suspended student who is subsequently readmitted, will be placed on probationary status.

- D. A student placed on either probationary or suspended status, may appeal that placement to the college's judicial committee by following the procedures established by that committee.

GRADUATION APPLICATION

Each student who plans to earn an Associate Degree, Diploma or Certificate of Specialization must file a "Graduation Application" with the Office of Student Records by midterm of the term preceding the term in which the student expects to complete graduation requirements. A student will be considered a candidate for graduation only upon proper completion and filing of the "Graduation Application" form.

While a student may complete requirements for graduation during any term, commencement exercises will be held only at the end of spring and summer terms.

ACADEMIC AND GRADUATION HONORS

A. Phi Theta Kappa (Boone Campus)

Phi Theta Kappa is a national scholastic honor society for students of two-year colleges. Membership is conferred upon full-time students who have completed at least 30 semester hours of community college work with a 3.25 grade point average and who are judged to have high moral character and desirable qualities of citizenship and leadership.

B. Dean's List

Full-time students who earn a 3.50

grade point average in any term are honored by being named to the Dean's List issued each term.

C. Graduation With Honors

Candidates for graduation who have maintained a cumulative grade point average of at least 3.50 in their program of study are recognized by inclusion of their names on the list of those who have graduated with honors. The grades for courses which are accepted by Des Moines Area Community College as transfer credit from other institutions are included in the computation of grade point averages for this honor.

REQUESTS FOR TRANSCRIPTS

Transcripts of work taken at Des Moines Area Community College are issued, upon written request by the student, to the Office of Academic Records. Request forms for this purpose are available at that office. While a student is enrolled in the college, transcripts will be supplied free of charge. A charge will be made for all transcripts after graduation or withdrawal from college. Records are confidential, and transcripts will be issued only upon written request by the student or graduate.

ACADEMIC REGULATIONS

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 much greater depth a topic covered in a class. 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. A maximum of six hours of credit in any one term, and twelve hours in total, may be earned through independent study. Students may register for course work in independent study at any time during the term.

CHALLENGE TESTING

Des Moines Area Community College recognizes that, because of previous education or experience in a particular field, students may possess sufficient knowledge to complete their instructional programs at an accelerated rate. As a result, the college has adopted a policy of allowing students to receive college credit for courses which they challenge and successfully pass by examination.

Credit will be granted only to students who meet the entrance requirements of the college and who are in a program of study leading to a certificate, diploma or degree.

A minimum of twelve hours of credit must be earned before challenge test credit will be placed on the official transcript.

A student may not take a specific challenge test more than once. If a student is enrolled in a course and wishes to challenge test out of that course, the test must be completed prior to midterm. Only grades of P will be entered on the student's transcript. Challenge test grades will not be used in computing grade point averages. The challenge test **can not** be used as a course retake.

A fee is charged for the test. For details about challenge test procedures, contact program chairpeople or the appropriate department dean.

COLLEGE LEVEL EXAM PROGRAM

Any student who has been accepted by

the college may be eligible to receive credit based on scores achieved on the five C.L.E.P. general examinations or the C.L.E.P. subject examinations. Earned credit will be officially recognized only after the student has successfully completed a minimum of **twelve hours** of credit course work at the college.

Procedures for C.L.E.P. tests acceptance, together with credit hours allowed, are available in the Office of Student Records and Services.

GENERAL EDUCATIONAL DEVELOPMENT (GED) TESTS

General Educational Development Tests (High School Level) are administered to adults who desire certification of high school equivalency. Those who pass the tests are entitled to receive the Iowa High School Equivalency Diploma. GED testing services are available throughout the year at seven different testing centers. For more information, contact the Ankeny Campus Information Center.

UNITED STATES ARMED FORCES INSTITUTE (U.S.A.F.I.) AND OTHER MILITARY SCHOOLS

The college grants credit to veterans for educational training completed in the Armed Forces and for college work completed through the United States Armed Forces and for college work completed through the United States Armed Forces Institute (U.S.A.F.I.), provided such credit is not a duplication of work previously taken.

Veterans must petition the Veterans Office for such credit and present authentic military service and training records, including separation papers, D.D. Form 214, to the Admissions Office at the time of initial application to the college.

U.S.A.F.I. college level credit courses taken by correspondence or by extension through another accredited college are accepted under regular transfer credit provisions. Official reports of the educational achievement must be mailed directly to the college from U.S.A.F.I. at Madison, Wisconsin.

The college is a participant in the Serviceman's Opportunity College. Information



about this program can be obtained by contacting the Veterans Office. The college is also involved in the evaluation of selected educational experiences conducted by the Army Reserve and the Iowa National Guard.

STUDENT RIGHTS AND RESPONSIBILITIES

Student Responsibility for Catalog Information:

Each student is responsible for knowledge of the information in this catalog, any published addenda, and the most current issue of the Student Handbook. The official catalog of the college is understood to include this catalog, plus any published addenda. The college reserves the right to change regulations and policies or to revise curricula as may be deemed necessary and desirable. The official college curriculum is that contained in the master curriculum file.

Des Moines Area Community College reserves the right to make any changes in the published schedule and to cancel classes with a determined low enrollment.

EDUCATIONAL PROGRAMS

OCCUPATIONAL CAREERS

Educational programs offer instruction in a variety of areas which require education beyond high school but do not require four years of college preparation. Programs vary in length from 15 weeks to 21 months.

Outstanding features of the programs include modern equipment and facilities common to the trade, business or industry, and a strong faculty with many years of experience in shops, industries, businesses or in medical services.

The objectives of the programs are:

- To teach the essential skills and operational theory needed by the student to insure occupational competency.
- To develop correct habits of work safety.
- To cultivate desirable civic attitudes, such as integrity, dependability, resourcefulness, and cooperation.

COLLEGE TRANSFER

The college offers over three-hundred courses in thirty-three different disciplines to provide a variety of educational opportunities.

- **General Education** courses are designed for students who intend to transfer to a four-year institution. Students may also take these courses for enrichment or with the intention of terminating after two years of general educational study.
- **Para-professional** programs prepare students for employment in a variety of human service/public service fields upon attainment of the Associate in Science degree. Graduates may also elect to transfer to a baccalaureate program at a four-year institution.
- **Pre-professional** programs provide the recommended courses for the first two years of study in various professions.
- **College Adaptor** programs provide developmental courses which aid the student whose educational background requires additional strengthening to achieve success in regular college transfer courses. Up to four credits of Adaptor courses (numbered 080-099) may be used as elective credit for the AA or AS degree.



PARA-PROFESSIONAL PROGRAMS (College Parallel/Career Option)

The para-professional programs are designed for students who want an education that is relevant to solving problems and those relating to the quality of our society.

Almost all public and private social service agencies, schools, and other community organizations have a need for qualified workers, especially those who can work effectively to meet human needs. Particularly in demand are people whose education has combined practical experience in the field with relevant academic studies.

Each program provides the graduate with the skills and knowledge needed to function at a high level of effectiveness. All programs lead to an Associate in Science degree and then either to immediate full-time employment or to further studies at a four-year college.

Para-professional employees in public service careers have several options. Many continue their education on a part-time basis. Others advance in their work by virtue of their experience. Some choose to return to school full-time and work for advanced degrees.

PROFESSIONAL PREPARATION

Des Moines Area Community College offers a wide range of pre-professional preparation designed to prepare students to enter the junior year at four-year colleges and universities. Graduates are awarded the Associate in Arts degree.

Four-year colleges and universities vary in the required number and nature of pre-professional and general education courses which should be taken during the freshman and sophomore years. The recommended pre-professional 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 a college counselor or faculty advisor, the student can develop a curriculum best suited to satisfy the particular transfer objectives.

Some examples of professional preparation programs available include:

- | | |
|------------------------|---------------------|
| Dentistry | Nursing |
| Engineering | Pharmacy |
| Journalism/Advertising | Social Work |
| Law | Teacher Education |
| Medicine | Veterinary Medicine |

EDUCATIONAL PROGRAMS

ADULT AND CONTINUING EDUCATION

Adult Education is the fastest growing segment in America's educational system today. The need to continue one's education is brought into sharp focus when community problems, leisure time, updating individual skills and breaking the chains of unemployment or under employment are considered.

The Adult and Continuing Education program provides the opportunity to enroll in a comprehensive program of basic education, high school completion, personal enrichment, classes for updating job skills, English as a Second Language and specialist certificate programs which award college credit.

Classes are offered at schools and other public buildings throughout the college district as well as at our four major locations in Ankeny, Boone, Des Moines, and Carroll.

ADULT LEARNING CENTERS

Three learning centers: Ankeny Campus Learning Center, Urban Campus Learning Center, and Boone Campus Learning Center provide individualized instruction in the basic skill areas at all levels. Instructors work with students who desire to complete high school, or who are interested in enriching their skills and academic backgrounds in reading, mathematics, English grammar, composition and science. Students may enroll in course work which is considered to be a prerequisite to admission to the college in either the Career or College Transfer programs. Students enrolled in college programs who are having difficulty with their studies may drop into the centers for assistance.

ADAPTOR COURSES

The purpose of college Adaptor courses is to provide students with a series of developmental courses in reading, oral and written English language, and mathematics. Students may apply up to four credits toward the associate degree. Courses available include:

ENGL:	080	Study Skills	3
ENGL:	081	Developmental Reading	3
ENGL:	082	English Fundamentals	3
ENGL:	083	College Preparatory Writing	3
ENGL:	084	English as a Second Language I	3
ENGL:	085	English as a Second Language II	3
ENGL:	086	Writing Tutorial	1
MATH:	091	Arithmetic	2
MATH:	092	Introductory Algebra	4
MATH:	093	High School Geometry	3

ADULT BASIC EDUCATION

The Adult Basic Education program provides individualized instruction to adults who need development or review of basic reading, language and mathematic skills. Adult Basic Education (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 every-day living skills. Classes are also offered in many locations throughout the college district.



ADULT HIGH SCHOOL DIPLOMA

The following courses are required of all students enrolled in the Adult High School Diploma program:

- Two credits in American history
- One credit in American government
- Two credits in mathematics
- Two credits in science
- Four credits in English

Elective courses shall be completed to meet the minimum requirement of 32 credits.

IOWA HIGH SCHOOL EQUIVALENCY DIPLOMA

The Iowa High School Equivalency Diploma is awarded by the State of Iowa through the Iowa Department of Public Instruction. Eligible adults may earn the Diploma by achieving passing scores on the General Education Development (G.E.D.) test administered by Des Moines Area Community College.

EDUCATIONAL PROGRAMS

SUPPLEMENTAL (SHORT COURSES)

The Career Supplemental program offers short-term courses which are occupationally oriented. These courses are available to provide persons with initial training for direct entry into an occupation or training to upgrade present job skills. Out of this program, several new specialist certificate programs are offered to provide short-term career education for the working person. Many short courses are offered on a part-time, evening schedule. The college maintains a staff of educational specialists in occupational fields who can assist companies, associations and institutions interested in structuring specific educational programs for their employees. Short-term courses can be offered almost anytime and anywhere within the college district.

One and two-day seminars are scheduled periodically and are often in cooperation with professional associations, labor and business groups.

PERSONAL ENRICHMENT

Personal enrichment classes fall into two distinct classifications. The first is general interest which includes courses that are designed to assist persons in their self development. These courses are generally educational in nature and provide the participant with information and knowledge over a wide range in subject matter. The second classification is leisure or avocational and tends to assist persons in the development of hobbies or recreational skills for use during their leisure time.

COOPERATIVE EDUCATION

Cooperative Education is an educational program that combines classroom instruction with paid, practical work experience which is directly related to the student's program curriculum. Combining classroom study and work experience is a meaningful way for students to learn, to gain valuable work experience, and to make career choices. Cooperative Education is an integral part of the learning process as it enhances the student's academic knowledge, personal development, and professional preparation.

Cooperative Education works in partnership with students, employers, and all college programs through campuses at Ankeny, Boone, Carroll, and Urban, Des Moines. Over 600 students working with more than 200 Iowa employers benefit from the cooperative partnerships each year at Des Moines Area Community College. The growing number of students and employers work together preparing tomorrow's professionals.

Cooperative Education offers a pre-employment seminar course in skills development to assist the student in making a successful transition from school to a beginning professional career. The Pre-employment course presents theory, principles, and practices on the development of a personal portfolio that covers all aspects of professional job placement procedures. Attention is focused on self and employer assessments, job networking, resume writing, pre-employment communications and interviewing techniques.

ASSOCIATE IN ARTS (AA) DEGREE

The Associate in Arts (AA) Degree at Des Moines Area Community

College is primarily a general education degree intended for transfer. General education is education which is baccalaureate oriented and normally includes courses within communications, social and behavioral sciences, mathematics and sciences.

To receive an AA degree a student must:

- A. Maintain a 2.0 grade point average on all work applicable for the AA Degree. "F" grades are not applicable to the degree, but do count in the GPA.
- B. Take at least 21 semester hours of work at DMACC.
- C. Take the last 10 semester hours of work at DMACC.
- D. Complete a **minimum of 64 semester credit hours.**
- E. Include **at least 48 semester hours of Core Transfer courses.**
- F. ELECTIVES
 1. May include **no more than 8** semester credit hours of Vocational courses.
 2. May include **no more than 4** semester credits of Adaptor courses (designated as "A").
 3. May include **no more than 8** semester credits of Independent Study courses; no more than 4 semester credits of Independent Study may be earned in any single semester.
- G. Following are examples of the many degree options which exist within the proposed AA degree: *

C	G	O	V
64	0	0	0
48	16	0	0
48	8	8	0
48	8	0	8
48	0	8	8
48	0	16	0

COURSE CLASSIFICATIONS

Core Transfer courses represent the first two years of a liberal arts education and will transfer to four-year institutions. Core transfer courses are taught by faculty members certified by the Department of Public Instruction for arts and sciences instruction.

General Education Transfer courses represent courses which have been and are generally accepted for transfer credit by four-year institutions. General Education Transfer courses are taught by faculty members certified by the Department of Public Instruction for arts and sciences instruction.

Open courses represent courses which may or may not be accepted for transfer credit by four-year institutions. Open courses may be taught by faculty members certified by the Department of Public Instruction for either arts and sciences or vocational-technical instruction.

Vocational courses represent occupationally - specific courses. Vocational courses are taught by faculty members certified by the Department of Public Instruction for vocational-technical instruction.

Adaptor courses represent developmental courses which aid the student whose educational background requires additional strengthening to achieve success in regular academic coursework.

EDUCATIONAL PROGRAMS

CORE REQUIREMENTS

A. COMMUNICATIONS - 9 credits

NOTE: Students who intend to transfer to four-year institutions are advised to take ENGL 117 and 118.

ENGL: 115 }
 ENGL: 117 } Choose two courses
 ENGL: 118 }
 and
 SPCH: 110

B. SOCIAL AND BEHAVIORAL SCIENCES - 9 credits

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

ANTH: 120, 121 PLSC: 111, 112, 121, 122
 ECON: 101, 102 PSCH: 101, 102, 103, 104, 108
 GEOG: 141, 147 SOCY: 101, 102, 103, 105
 HIST: 121, 122, 124, 125

C. MATHEMATICS AND SCIENCES - 9 credits

1. Student must take one laboratory science course (designated with "L") from BIOL, CHEM or PHYL as part of the 9 credits.

2. Student must have taken two years of high school algebra OR take at least one math course numbered 100 or above.

BIOL: 121, 122, 126, 127, 128, 130, 145, 146, 147, 148, 149
 CHEM: 120, 131, 132, 151, 152, 161, 162
 MATH: 115, 118, 119, 121, 123, 124, 129, 130, 132
 PHYL: 102, 103, 106, 111, 112, 121, 122
 BSAD: 152

D. HUMANITIES - 9 credits

Select from the following:

ARTS: 101 HIST: 121, 122
 DRAM: 110 LITR: 120, 121, 122, 123, 125
 FORL: 120, 121, 122, 130, 131 MUSI: 130, 131
 PHIL: 110, 111, 112, 113

E. DISTRIBUTED REQUIREMENT - 12 credits

Select the remainder from any of the courses in the above categories A, B, C, D.

CORE REQUIREMENT - 48 credits

F. ELECTIVES - 16 credits

1. Student may include **no more than 8 semester credits** of Vocational courses.
2. Student may include **no more than 4 semester credits** of Adaptor courses (designated as "A").
3. Student may include **no more than 8 semester credits** of Independent Study courses; no more than 4 semester credits of Independent Study may be earned in any single semester.

Total AA Degree Requirements - 64 credits

ASSOCIATE IN SCIENCE (AS) DEGREE

The Associate in Science (AS) degree at Des Moines Area Community College is a college transfer degree designed especially for students desiring additional career specialization during their first two years of college. Curricular offerings include all of the college's general education courses (numbered from 100 to 199) plus collegiate level courses tailored to fulfill a variety of professional and occupational goals (numbered from 200 to 299). This degree is especially appropriate for students wishing to complete a para-professional or college parallel/career option program with the intention of either seeking employment or continuing studies at a baccalaureate degree-granting institution.

To receive an AS degree a student must:

- A. Maintain a 2.0 grade point average (GPA) on all work applicable for the AS degree. "F" grades are not applicable to the degree, but do count in the GPA.
- B. Take at least 21 semester credit hours of work at DMACC.
- C. Take the last 10 semester credit hours of work at DMACC.
- D. Complete a **minimum of 64 semester credit hours.**
- E. Satisfy the following **Core Transfer requirements:**

(See AA core requirement listing for correct course selection)

Communications - 9 credits

Social and Behavioral Sciences - 6 credits

Math and Sciences - 4 credits (Students who have not completed two years of high school algebra must take one math course numbered 100 or above).

Humanities - 3 credits

(See sections A, B, C, & D of the AA degree for specific courses.)

Total of 22 credit hours.

F. ELECTIVES:

1. Student may include **no more than 16 semester credit hours** of Vocational courses.
2. Student may include **no more than 4 semester credits** of



EDUCATIONAL PROGRAMS

Adaptor courses (designated as "A").

3. Student may include **no more than 8** semester credits of Independent Study courses; no more than 4 semester credits of Independent Study may be earned in any single semester.
- G. Following are examples of the many degree options which exist within the proposed AS degree:

C	G	O	V
22	42	0	0
48	0	0	16
22	26	0	16
22	0	42	0

ASSOCIATE IN APPLIED ARTS AND ASSOCIATE IN APPLIED SCIENCE DEGREE

The Associate in Applied Arts (AAA) or Associate in Applied Science (AAS) degree is awarded to those individuals who satisfactorily complete an approved two-year preparatory vocational-technical program. A minimum grade point average of 2.00 and passing grades in all required courses in the curriculum must be achieved. The program of study will be at least four semesters and 64 credits in length. Because these curricula vary considerably in content, each curricula should be checked for graduation requirements. The AAA degree has more general education courses than the AAS degree.

To receive an Associate in Applied Arts degree the student must:

- Maintain a 2.0 grade point average (GPA) on all work applicable for the AAA degree. "F" grades are not applicable to the degree, but do count in the GPA.
- Take at least 21 semester credit hours of work at DMACC.
- Take the last 10 semester credit hours of work at DMACC.
- Complete a **minimum of 64 semester credit hours**.
- Satisfy the following **Core Transfer requirements**:
 - Communications - 6 credits**
 - Either ENGL 115 or ENGL 117.
 - SPCH 110.
 - Social & Behavioral, Math & Sciences, Humanities - 3 credits**
(See sections B,C & D of the AA Degree)
 - Students must choose one course from:
 - Social & Behavioral Sciences
 - or
 - Math & Sciences (2 years of high school algebra will satisfy the mathematics requirement)
 - or
 - Humanities

To receive an AAS degree the student must:

- Maintain a 2.0 grade point average (GPA) on all work applicable for the AAS degree. "F" grades are not applicable to the degree, but do count in the GPA.

- Take at least 21 semester credit hours of work at DMACC.
- Take the last 10 semester credit hours of work at DMACC.
- Complete a **minimum of 64 semester credit hours**.
- Complete, at minimum, the following core:
 - 1 Communications Course: ENGL410, ENGL117, ENGL115, OFFC205, or BSAD227
 - 1 Math course: any MATH or RCMA, or BSAD223 (One year of high school algebra will satisfy the mathematics requirement)
 - 1 Professional Relations course: SOCY101, SOCY302, PSCH101, PSCH106, MGMT203

DIPLOMA

The diploma is awarded to those individuals who satisfactorily complete a curricula of at least 30 semester hours of credit or two semesters of full-time enrollment, with a minimum cumulative grade point average of 2.0 and passing grades in all courses in the curricula. Specific course requirements for each curriculum are listed elsewhere in this catalog.

To receive a diploma the student must:

- Maintain a 2.0 grade point average (GPA) on all work applicable for the diploma. "F" grades are not applicable to the degree, but do count in the GPA.
- Take at least 10 semester credit hours of work at DMACC.
- Take the last 5 semester credit hours of work at DMACC.
- Complete a minimum of 30 semester credit hours.
- Complete, at a minimum, the following:
 - 1 Communications course: ENGL410, ENGL115, ENGL117, OFFC205 or BSAD227
 - and
 - 1 Professional Relations course: SOCY101, SOCY302, PSCH101, PSCH106, MGMT203
 - or
 - 1 Math course: any MATH, RCMA, or BSAD223 (One year of high school algebra will satisfy the mathematics requirement)

CERTIFICATE OF SPECIALIZATION

The certificate of specialization is awarded to those individuals who satisfactorily complete a (credit) curriculum of study in selected areas of study. Students must achieve a minimum cumulative grade point average of 2.0 and passing grades in all required courses. Specific requirements for the programs leading to certificates of specialization are listed elsewhere in this catalog.

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 course of study.

EDUCATIONAL PROGRAMS

ACCOUNTING SPECIALIST

The Accounting Specialist program prepares the student for a career in the field of accounting. Upon graduation, the student will be able to distinguish, analyze, summarize, communicate and record economic events for a profit oriented entity at the entry level. The student will show sensitivity and awareness of interpersonal relationships with co-workers, supervisors, and the public.

The program offers technical courses in intermediate accounting, cost accounting, computers, and auditing allowing students to seek advanced level placement in some cases. Fluency in oral and written communications is stressed throughout. The internship part of the program provides "real-world" experience under the combined guidance of a faculty member and a cooperating employer. Actual job experience is obtained where many of the skills and procedures studied in the classroom are observed and practiced.

Employment opportunities are currently found in commercial businesses, government offices, public accounting firms, and similar establishments.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To earn the AAS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Required Courses

ACCT101	Principles of Accounting I	4
ACCT102	Principles of Accounting II	4
ACCT103	Intermediate Accounting I	4
ACCT104	Intermediate Accounting II	4
ACCT203	Cost Accounting I	4
ACCT205	Auditing Procedures	3
ACCT206	Income Tax	3
ACCT350	Personal Computer Accounting Applications I	3
ACCT403	Accounting Internship	3
BKKA482	Typing for Accountants	2
BSAD150	Introduction to Business	3
BSAD153	Office Management	3
BUSL101	Business Law I	3
COOP220	Pre-Employment Seminar	2
DATA101	Introduction to Data Processing	3
OFFC311	Business Math & Calculators	3
SPCH110	Fundamentals of Speech	3

Option Courses

Select one course from each option			
MGMT203	Human Relations in Business	Opt1	3
PSCH101	General Psychology	Opt1	3
MATH115	Finite Mathematics	Opt2	4
MATH119	Intermediate Algebra	Opt2	4
ENGL117	Composition I	Opt3	3
OFFC205	Business English	Opt3	3
BSAD243	Quantitative Methods	Opt4	4
MATH121	Elementary Statistics	Opt4	4
ENGL115	Technical & Business Writing	Opt5	3
ENGL118	Composition II	Opt5	3

Elective Courses

Elective-Mathematics	4
Approved Elective	3
Elective	3

AGRI-BUSINESS

The Agri-Business program is designed to train people for the rapidly expanding fields of agricultural supply, distribution and services.

The program provides the student with training in the latest developments in technical agriculture in both the classroom and industry settings and actual experiences in agricultural business through on-the-job employment experience. Entry level jobs the graduate will be capable of filling include: technical representative for the chemical, fertilizer, feed or supply industry; agricultural supply representative contacting farmers and agricultural suppliers; assistant or manager of agricultural supply centers handling feed, seed, grain, fertilizer, chemicals or petroleum products; and account specialists for commodity brokers.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start fall term.

Graduation Requirements

To earn the AAS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Term 1

AGRI201	Feeding & Animal Nutrition I	3
AGRI219	Soils & Fertilizers	5
BUSL101	Business Law I	3
SOCY302	Industrial Relations	3
SPCH110	Fundamentals of Speech	3

Term 2

AGRI203	Feeding & Animal Nutrition II	3
AGRI204	Animal Science I	3
AGRI205	Commodities I	3
AGRI421	Chemical Technology	3
AGRI430	Employment Experience I	4
COOP220	Pre-Employment Seminar	2

Term 3

AGRI202	Soil Fertility	3
AGRI214	Animal Science II	3
AGRI215	Commodities II	3
AGRI453	Employment Experience II	3

Term 4

ACCT301	Accounting Fundamentals	3
AGRI435	Physical Facilities	2
AGRI436	Grain Management	2
AGRI463	Employment Experience III	5
RCMA400	Related Math	3

Term 5

AGRI206	Crop Management	3
AGRI411	Agricultural Economics	2
AGRI454	Agriculture Seminar	1
AGRI473	Employment Experience IV	3
BSAD227	Business Communications	3
DATA101	Introduction to Data Processing	3
MKTG103	Principles of Selling	3

AGRICULTURE EQUIPMENT TECHNOLOGY

The Agriculture Equipment Technology program will develop in its graduates the knowledge and skills needed to diagnose, adjust, and repair the individual pieces of equipment found on midwestern farms. The program covers tractors, combines, planting, tillage, and haying

EDUCATIONAL PROGRAMS

equipment. Shop and field adjustments of this equipment are incorporated into the program. The diagnosis and repair of hydraulic, electrical, and air conditioning systems are covered. Gas and diesel engines, transmissions, differentials, and final drives are also covered.

Graduates enter the farm equipment industry with jobs such as farm equipment or component mechanic at a retail dealership or large corporate farms, or technical representative for a farm equipment manufacturer.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start fall term.

Graduation Requirements

To earn the AAS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Term 1

AGPE470	Technical Publications	2
AGPE476	Planting & Tillage Equipment	5
AGPE479	Basic Electricity	5
ENGL410	Communication Skills	3
RCMA400	Related Math	3

Term 2

AGPE474	Hydraulic	10
AGPE480	Advanced Electricity	3
AGPE482	Shop Management	2
WELD477	Ag Equipment Welding	3

Term 3

AGPE475	Harvesting Systems	7
AGPE477	Air Conditioning	2
AGPE478	Basic Engines	3

Term 4

AGET479	Advanced Engines	10
AGET481	Diesel Fuel Systems	5
SOCY302	Industrial Relations	3

Term 5

AGET471	Power Trains	10
AGET485	Power Unit Testing	7

Graduation Requirements

To earn an Agriculture Power and Equipment diploma, complete all course work as prescribed and attain a 2.0 grade point average.

Term 1

AGPE470	Technical Publications	2
AGPE476	Planting & Tillage Equipment	5
AGPE479	Basic Electricity	5
ENGL410	Communication Skills	3
RCMA400	Related Math	3

Term 2

AGPE474	Hydraulic	10
AGPE480	Advanced Electricity	3
WELD477	Ag Equipment Welding	3

Term 3

AGPE475	Harvesting Systems	7
AGPE477	Air Conditioning	2
AGPE478	Basic Engines	3



AGRICULTURE POWER AND EQUIPMENT

The Agriculture Power and Equipment program provides the graduate with the skills to adjust, maintain and, on a limited basis, repair components and systems on farm equipment.

The machines, components, and systems covered in this program are the ones that can easily be serviced without expensive tools or elaborate facilities, or are the ones that are the most often the source of aggravating problems for the owner or operator. Examples of equipment covered include planters, tillage equipment, combines, and balers. Systems and components covered include hydraulics, electrical, and air conditioning systems for tractors and combines, basic engines, and their systems.

Graduates would be prepared to return to the farm to maintain their own equipment, work as a component or systems repair person in a service department or large corporate farm.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start fall term.

EDUCATIONAL PROGRAMS

ARCHITECTURAL DRAFTING

The Architectural Drafting program is designed to develop the proper skills and knowledge required for satisfactory entrance into the field of building construction, drafting, and detailing.

Graduates are employed by architects, structural, mechanical and electrical engineers, contractors, sub-contractors, building equipment and material suppliers, and building code officials. Students periodically visit construction sites to observe actual construction practices.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Submit evidence of completion of one term of high school algebra or equivalent with the grade "C" or above. Students start summer term.

Graduate Requirements

To earn the Architectural Drafting diploma, complete all course work as prescribed and attain a 2.0 grade point average.

Term 1		
ARCH410	Architectural Drafting I	2
ARCH460	Architectural Drafting I Lab	3
ARCH464	Construction Techniques I	2
ARCH472	Construction Estimating	2
SOCY302	Industrial Relations	3
Term 2		
ARCH420	Architectural Drafting II	3
ARCH461	Architectural Drafting II Lab	5
ARCH470	Construction Techniques II	2
ARCH473	Building Equipment I	2
ARCH474	Drafting Math Algebra	3
ENGL410	Communication Skills	3
Term 3		
ARCH462	Architectural Drafting III	3
ARCH463	Architectural Drafting III Lab	5
ARCH465	Building Equipment II	2
ARCH471	Construction Techniques III	3
ARCH475	Technical Reports and Specifications	2
ARCH476	Drafting Math Trigonometry	3



AUTO MECHANICS TECHNOLOGY

This program is designed to prepare students for employment in the new technological automotive industry and to update those already employed.

There are two separate diploma options which can be taken individually or in combination. One option prepares graduates for entry in current automotive technology tune-up and engine repair. The other option prepares graduates to enter the automotive industry in the latest power train and chassis repair techniques. By completing the two degree options plus one course, students may receive an AAS degree.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To qualify for the AAS degree, complete all courses as prescribed and attain a 2.0 grade point average.

NOTE: Example shown is for a student starting fall term. Students entering spring and summer terms will take courses in a similar sequence.

Automotive Engines & Tune-Up

Required Courses		
AUTO461	Related Science	3
AUTO463	Automotive Measurement, Fasteners & Tools	3
AUTO465	Fuel Systems	3
AUTO467	Automotive Electricity	8
AUTO469	Air Conditioning	3
AUTO471	Automotive Engines	6
AUTO473	Electronic Engine Controls	4
AUTO475	Advanced Tune-Up	5
AUTO477	Advanced Engines	5
AUTO479	Service Management	2
ENGL410	Communication Skills	3
RCMA400	Related Math	3

Automotive Chassis and Power Train

Required Courses		
AUTO481	Small Business Management	2
AUTO483	Basic Power Train	8
AUTO485	Basic Alignment & Brakes	8
AUTO487	Advanced Power Train	7
AUTO489	Advanced Brake & Alignment	7
AUTO491	Auto Chassis Design & Diagnosis	5
ENGL410	Communication Skills	3
SOCY302	Industrial Relations	3

Automotive Technology

Required Courses		
Complete one of the following Options		
AUTO493	Intro to Diesel	Opt1 2
AUTO495	Automotive Welding	Opt2 2
	Engine and Tune-up DIPLOMA	45
	Auto Chassis and Frame DIPLOMA	35

AUTOMOTIVE COLLISION REPAIR

The automobile-body professional repairs damaged car bodies and body parts according to repair manuals. The job is to remove upholstery, accessories, electrical and hydraulic window-and-seat operating equip-

EDUCATIONAL PROGRAMS

ment, and trim to gain access to vehicle body and fenders.

A feature of the program allows individuals to progress at a pace equal to their ability. Also, state-of-the-art unibody collision repair systems are used to instruct in the latest technological repair practices.

Technical courses during the three-term program prepare the graduate for entry level positions such as glass installer, body and frame helper, and automobile painter. Graduates may also choose to become self-employed, continue their education, or work in retail supply stores.

Related course work in communication skills, math, and human relations provides valuable information needed to round out the technical skills of the automobile-body professional.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start fall or spring term.

Graduation Requirements

To earn the Automotive Collision Repair diploma, complete all course work as prescribed and attain a 2.0 grade point average.

Required Courses

AUTC401	Fundamentals of Sheet Metal Repair	6
AUTC403	Fundamentals of Paint Refinishing	4
AUTC405	Collision Analysis and Measuring	3
AUTC407	Collision Damage Appraisal Estimating	3
AUTC409	Collision Correction	5
AUTC411	Automotive Paint Refinishing	4
AUTC413	Unibody Wheel Alignment	2
AUTC415	Major Collision Repair	5
AUTC417	Collision Repair Specialization	5
AUTC419	Fundamentals of Auto Electrical Components	2
ENGL410	Communication Skills	3
RCMA400	Related Math	3

BOOKKEEPING & ACCOUNTING

The Bookkeeping and Accounting program prepares students for a career in the field of bookkeeping and recordkeeping. Upon graduation, the successful candidate will be able to distinguish, analyze, summarize, communicate, and record economic events for a profit oriented entity as an entry-level bookkeeper. The student will show sensitivity and awareness of interpersonal relationships with co-workers, supervisors, and the public.

Technical courses in taxes, payroll, computers, and cost accounting allow students to seek advanced level placement. The internship part of the program provides on-the-job training under the combined guidance of a faculty member and a cooperating employer. Actual job experience is obtained where many of the skills and procedures studied in the classroom are observed and practiced.

Employment opportunities are currently found in commercial businesses, government offices, public accounting firms, and similar establishments.

Location: Ankeny, Boone

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start fall term.

Graduation Requirements

To earn the Bookkeeping and Accounting diploma, complete all course work as prescribed and attain a 2.0 grade point average.

Required Courses

ACCT101	Principles of Accounting I	4
ACCT350	Personal Computer Accounting Applications I	3
BKKA401	Accounting Applications I & Cost Accounting	4
BKKA402	Accounting Applications II	3
BKKA410	Taxes/Payroll	3
BKKA460	Principles of Accounting Lab	2
BKKA461	Accounting Applications I Lab	3
BKKA482	Typing for Accountants	2
BKKA490	Bookkeeping Internship	3
COOP220	Pre-Employment Seminar	2
DATA101	Introduction to Data Processing	3
MGMT203	Human Relations in Business	3
OFFC205	Business English	3
OFFC206	Written & Oral Communications	3
OFFC301	Typing I	2
OFFC311	Business Math & Calculators	3

BUILDING TRADES

The Building Trades program is designed to provide students with the skills and knowledge necessary to enter the residential construction field. At the end of the program students will have basic knowledge of construction techniques and design to produce an energy efficient home.



EDUCATIONAL PROGRAMS



Classroom work focuses on information designed to familiarize the student with basic knowledge of construction materials. Students also have the opportunity in labs to practice various carpentry skills.

The last term is devoted to applying skills in the construction of a home. All homes constructed focus on energy efficient construction methods. Construction includes application of masonry, concrete placement, framing, insulating, drywall installation, construction of kitchen and vanity cabinets, and interior finish work.

When the program is completed students are employed with carpentry and masonry contractors, lumber yards, and other construction enterprises.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start fall or spring term.

Graduation Requirements

To earn a Building Trades diploma, complete all courses as prescribed and attain a 2.0 grade point average.

Term 1		
BLDG451	Residential Materials & Construction Theory	5
BLDG452	Residential Construction Techniques	7
BLDG453	Care & Use of Hand & Power Tools	1
BLDG455	Blueprint Reading & Estimating	2
RCMA400	Related Math	3
Term 2		
BLDG461	Masonry Technology & Practices	4
BLDG462	Residential Drafting & Design	2
BLDG464	Residential Practices	3
ENGL410	Communication Skills	3
Term 3		
BLDG480	Residential Const Proced & Applications I	5
BLDG481	Residential Const Proced & Applications II	5
BLDG482	Residential Const Proced & Application III	5

BUSINESS AND COMPUTERS

The program is designed to allow students to transfer to a four-year program and additionally qualifies the students for positions as programmer 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: Boone

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Submit transcript to show proof of two terms of high school algebra or equivalent. Students start any term.

Graduation Requirements

To earn the AS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Required Courses

ACCT101	Principles of Accounting I	4
ACCT350	Personal Computer Accounting Applications I	3
BSAD150	Introduction to Business	3
BSAD152	Business Statistics	4
COMS125	Business Programming COBOL I	3
COMS126	Business Programming Cobol II	4
COMS174	Applied Programming I (Pascal)	3
COMS176	Applied Business Programming II	4
DATA101	Introduction to Data Processing	3
ENGL115	Technical & Business Writing	3
ENGL117	Composition I	3
ENGL118	Composition II	3
MATH115	Finite Mathematics	4
SPCH110	Fundamentals of Speech	3

Option Courses

Select one course from Option 1		
COMS172	Computer Programming in FORTRAN	Opt1 2
DATA231	RPG/II	Opt1 3

Elective Courses

Elective - Social Science	3
Elective - Humanities	3
Elective - Social Science	3
Elective - Humanities	3



EDUCATIONAL PROGRAMS

CHILD DEVELOPMENT - DIPLOMA

The Child Development program prepares students for careers working with children. By the end of the program, they can assume a position of responsibility in early childhood education.

Course work includes instruction in human development, observation and guidance techniques, curriculum planning, nutrition, and emergency care.

Students will have the opportunity each term to participate in the Des Moines Area Community College Day Care Center and will also complete a Practicum for one-half of a term in a community child care program.

When course work is complete, students will be qualified to work in day care centers, preschools, or public and private schools working with infants, preschoolers, or school-aged children. A second career option, Child Development Associate, is also available.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To qualify for a diploma in Child Development, a student must complete the credit hours prescribed and maintain a grade point average of 2.0.

Required Courses

CHLD160	Human Growth	4
CHLD240	Emergency Care	1
CHLD260	Observation & Guidance of Children	3
CHLD262	Curriculum & Activities I	4
CHLD264	Child Nutrition & Health	3
CHLD265	Curriculum & Activities II	4
CHLD460	Student Participation I	3
CHLD461	Student Participation II	3
CHLD462	Practicum	3
PSCH106	Psychology of Human Relations & Adjustment	3
	Communications requirement	3

CHILD DEVELOPMENT ASSOCIATE

The Child Development Associate program is designed to build on those skills developed in the Child Development program and to broaden the students' background in general education. Further competence in early childhood education is developed through course work in administration of programs for children and field practicum settings.

Students completing the Child Development program plus the additional requirements listed, will earn a Child Development Associate in Science degree; they may choose to transfer to a four-year institution or work with children in one of the many options available in early childhood education.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To qualify for the Child Development Associate AS degree, a student must complete the standard core requirements for the degree, plus the Child Development base and electives, and maintain a grade point average of 2.0.



Required Courses

	Complete AS Degree Core Requirements	25
CHLD160	Human Growth	4
CHLD240	Emergency Care	1
CHLD260	Observation & Guidance of Children	3
CHLD261	Observation & Guidance Lab	1
CHLD262	Curriculum & Activities I	4
CHLD263	Professional Relationships	2
CHLD264	Child Nutrition & Health	3
CHLD265	Curriculum & Activities II	4
CHLD266	Administration of Programs for Children	3
CHLD460	Student Participation I	3
CHLD461	Student Participation II	3
CHLD462	Practicum	3
CHLD463	Child Development Associate Practicum	4

CLERICAL

The Clerical program will prepare students for entry-level employment as clerical office workers.

A program of instruction implementing simulated working experience and classroom instruction prepares the graduates for employment as general office clerks, file clerks, receptionists, and other clerical positions.

Location: Ankeny, Boone, Urban

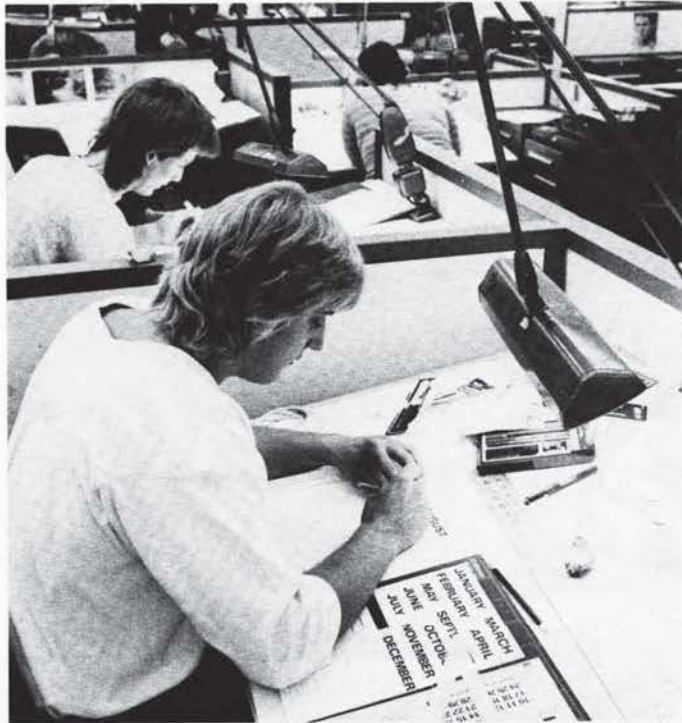
Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To earn a Clerical diploma, complete all course work as prescribed and attain a 2.0 grade point average.

EDUCATIONAL PROGRAMS



Required Courses

COOP220	Pre-Employment Seminar	2
MGMT203	Human Relations in Business	3
OFFC204	Office Procedures	4
OFFC205	Business English	3
OFFC207	Introduction to Computers	3
OFFC301	Typing I	2
OFFC302	Typing II	2
OFFC303	Typing III	2
OFFC306	Information Processing I	2
OFFC309	Office Accounting	2
OFFC311	Business Math & Calculators	3
OFFC401	Model Office	3
OFFC403	Professionalism I	1
OFFC404	Professionalism II	1

COMMERCIAL ART

The Commercial Art program prepares students for a career in commercial art. By the end of the program, students will be able to design and produce creative communications to play a significant role in the profession.

Technical courses prepare for entry level positions. Required courses in design, production, illustration, and business management allow students to seek advanced level placement. Optional courses in computer graphics, animation, and airbrush provide additional training opportunities. The development of a portfolio is stressed throughout the program.

The coop/internship program is a valuable part of the "real world" training offered. Most of the instructors are employed full-time as commercial artists, and teach courses related to their professional responsibilities.

When the program is completed, employment may be in art studios,

advertising agencies, in-house art departments, printing companies, publishing firms, and other establishments in need of creative communications.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Attend a Commercial Art Realities Exploration Day, obtain a passing score on art portfolio. Students start fall term.

Graduation Requirements

To qualify for the AAA degree in Commercial Art, a student must complete course work as prescribed and attain a grade point average of 2.0.

Term 1

CART401	Commercial Art Orientation	3
CART403	Communication Design I	4
CART405	Drawing I	4
CART407	Production Art I	4
	Communications requirement	3

Term 2

CART411	Communication Design II	4
CART413	Drawing II	4
CART415	Production Art II	4
CART417	Typography	2
CART421	Internship Preparation	2
	Communications requirement	3

Term 3

CART409	Advertising	3
CART424	Commercial Art Internship	6
	Social/Behavioral, Math/Science, or Humanities requirement	3

Term 4

CART425	Communication Design III	4
CART427	Illustration I	3
CART429	Production Art III	4
CART431	Photography I	3
CART433	Trademark Systems	2
CART435	Portfolio Preparation I	2

Term 5

CART437	Communication Design IV	3
CART439	Production Art IV	3
CART441	Illustration II	3
CART443	Portfolio Preparation II	2
CART445	Photography II	3
CART447	Business Management	3

COMMERCIAL COOKING

The Commercial Cooking program prepares students to enter the food service industry at a job entry level position.

At the end of the program the graduates will complete courses in food preparation, sanitation and safety, buffet decorating, purchasing/cost control, business math and pre-employment seminar. Positions that are filled by graduates are: line cooks, salad area, and preparation cook.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/infor-

EDUCATIONAL PROGRAMS

mation sessions. Students start fall term.

Graduation Requirements

To earn a Commercial Cooking diploma, complete all course work as prescribed and attain a 2.0 grade point average.

Term 1

HRMT315	Sanitation & Equipment	2
HRMT316	Food Preparation I	3
HRMT319	Sanitation & Equipment Lab	1
HRMT320	Food Preparation I Lab	3
HRMT348	Purchasing/Cost Control	3
MATH091	Arithmetic	2
MGMT203	Human Relations in Business	3

Term 2

Select one course from option 1

BSAD227	Business Communications	Opt1	3
ENGL117	Composition I	Opt1	3
COOP220	Pre-Employment Seminar		2
CULA375	Buffet Decorating I		2
CULA376	Buffet Decorating I Lab		4
HRMT325	Food Preparation II		3
HRMT328	Food Preparation II Lab		2
HRMT349	Nutrition & Menu Planning		3

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.

Jobs the graduate will be capable of filling include: 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 grounds, commercial, public and recreation; 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; garden center merchandising and management; merchandising of flowers and foliage plants.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start fall term.

Graduation Requirements

To earn the AAS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Term 1

Select one course from option 1

COMH494	Horticulture Production Alternatives	Opt1	1
COMH495	Merchandising & Display Flowers & Plants	Opt1	1
AGRI219	Soils & Fertilizers		5
COMH437	Turf I		3
COMH479	Nursery Production I		3
COMH488	Plant Materials & Landscape Drafting		3
ENGL410	Communication Skills		3

Term 2

COMH410	Greenhouse Production I		3
COMH411	Horticulture Chemical Technology		2

COMH440	Landscape Design I	2
COMH450	Botany	2
COMH460	Supervised Employment Experience I	4
COMH478	Plant Propagation I	2
RCMA400	Related Math	3

Term 3

COMH452	Arboriculture & Plant Propagation II	2
COMH453	Landscape Design & Plant Materials II	2
COMH455	Turf II	2
COMH490	Greenhouse Production II	3
COMH492	Supervised Employment Experience II	3

Term 4

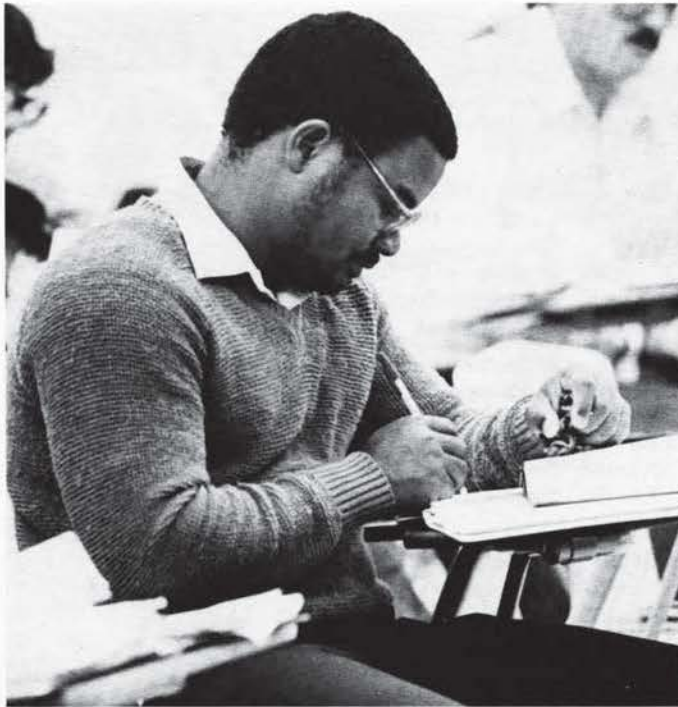
ACCT301	Accounting Fundamentals	3
COMH439	Landscape Construction & Equip Maintenance	2
COMH456	Foliage Plant Production & Display	2
COMH458	Cost of Production, Estimating & Contracting	1
COMH468	Commercial Horticulture Marketing	2
COMH480	Supervised Employment Experience III	7

Term 5

BUSL101	Business Law I	3
COMH457	Fruit & Vegetable Science	2
COMH469	Garden Center Management	2
COMH491	Supervised Employment Experience IV	4
MGMT203	Human Relations in Business	3
MKTG103	Principles of Selling	3



EDUCATIONAL PROGRAMS



COMPUTER PROGRAMMING

The Computer Programming curriculum prepares students for positions as computer programmers or programmer analysts. With additional experience, graduates can advance to positions as systems analysts and programming managers.

The major curriculum focus is on technical courses which lead to proficiency in designing, writing and testing computer programs. The program also emphasizes the understanding of business and accounting principles since the majority of programming applications relate to specific business problems.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start fall or spring term.

Graduation Requirements

To earn the AAS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Required Courses

ACCT101	Principles of Accounting I	4
BSAD150	Introduction to Business	3
COOP220	Pre-Employment Seminar	2
DATA101	Introduction to Data Processing	3
DATA301	DOS Job Control	4
DATA304	COBOL-Beginning	4
DATA306	COBOL-Intermediate	4
DATA310	Program Logic Design	4
DATA319	Assembler-Beginning	4
DATA321	Assembler-Intermediate	4
DATA334	Applications Programming	8
DATA341	Data Base Language (DL/I)	3
DATA352	Telecommunications/ CICS Programming	4
DATA382	Systems Analysis	4

Option Courses

Select one course each from options 1 and 2			
BSAD223	Business/Financial Math	Opt1	3
MATH119	Intermediate Algebra	Opt1	4
DATA308	COBOL-Advanced	Opt2	4
DATA327	Assembler-Advanced	Opt2	4
Select 6 credits from Option 3			
DATA103	BASIC	Opt3	3
DATA211	FORTRAN	Opt3	3
DATA221	PL/I	Opt3	3
DATA231	RPG/II	Opt3	3

Elective Courses

Elective-Social Science	3
Elective-English	3
Elective	3

COMPUTER SCIENCE TECHNOLOGY

The program is designed to allow students to transfer to a four-year program and additionally qualifies the students for positions as programmer and programmer analysts. The program emphasizes technical 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: Boone

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Submit transcript to show proof of two years of high school algebra or MATH:119, Intermediate Algebra. Students start any term.

Graduation Requirements

To earn the AS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Required Courses

COMS111	Computers & Programming I	3
COMS112	Computers & Programming II	3
COMS160	Computational Structures	3
DATA101	Introduction to Data Processing	3
DATA319	Assembler - Beginning	4
ENGL117	Composition I	3
ENGL118	Composition II	3
MATH119	Intermediate Algebra	4
MATH121	Elementary Statistics	4
MATH129	Calculus I	5
MATH130	Calculus II	5
SPCH110	Fundamentals of Speech	3

Option Courses

Select one course from Option 1			
COMS172	Computer Programming in FORTRAN	Opt1	2
DATA231	RPG/II	Opt1	3

Elective Courses

Elective	4
Elective - Social Science	3
Elective - Social Science	3
Elective - Humanities	3
Elective - Humanities	3

EDUCATIONAL PROGRAMS

CONDITIONED AIR

The Conditioned Air program provides the theory, knowledge, and skills of refrigeration, air conditioning, 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 conditioned air field.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start summer term.

Graduation Requirements

To earn the Conditioned Air diploma, complete all course work as prescribed and attain a 2.0 grade point average.

Term 1

CONA451	Fundamentals of Refrigeration	3
CONA452	Electricity I	3
CONA454	Fundamentals of Heating	3
RCMA400	Related Math	3

Term 2

CONA461	Advanced Refrigeration & Heating	5
CONA462	Year Round Air Conditioning I	8
CONA463	Blueprint Reading	2
CONA464	Related Physics	3

Term 3

CONA471	Air Distribution	5
CONA472	Year Round Air Conditioning II	7
ENGL410	Communication Skills	3
SOCY302	Industrial Relations	3

COOPERATIVE EDUCATION

The Cooperative Education curriculum is designed for students who want to gain work experiences relevant to their academic and career plans. These supervised work experiences encourage students to apply what they are studying. Students may earn up to six academic credits.

Opportunities are available year-round to qualified students in a wide variety of organizations.

Cooperative Education offers a course in job seeking skills. The Pre-employment Seminar course presents principles and practices of marketing yourself to employers. Attention is focused on developing a plan and personal portfolio for a job winning campaign. Topics include job market assessment, personal assessment, resume writing, and interviewing.

Program Entry Requirements

Each college program has individual eligibility requirements. To participate in Coop Ed, students should gain clarification from their program advisors or the Cooperative Education office.

CRIMINAL JUSTICE

The Criminal Justice program prepares students for a career in such areas as law enforcement, corrections, and juvenile justice. The program allows students to choose either an AA or an AS degree. All students complete Criminal Justice base requirements, then select other Criminal Justice classes in areas of primary interest.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To qualify for the Criminal Justice AA or AS degree, students must complete the standard core requirements for the degree, plus the Criminal Justice base and electives, and maintain a grade point average of 2.0. See chairperson of Social & Behavioral Sciences for specific requirements.

Criminal Justice (AA Degree)

Required Courses

CRIM101	Introduction to Criminal Justice	3
CRIM103	Community Relations	3
CRIM105	Constitutional Law	3
CRIM235	Survey of Criminal Justice Agencies	3
PLSC126	Introduction to Public Administration	3
SOCY107	Criminology	3

Option Courses

Select 12 Credits from Option		
CRIM104	Criminal Law	Opt 3
CRIM106	Juvenile Law	Opt 3
CRIM107	Theories of Interviewing	Opt 3
CRIM110	Penology	Opt 3
CRIM211	Correctional Treatment	Opt 3
CRIM212	Correctional Law	Opt 3
CRIM214	Criminal Investigation	Opt 3
CRIM226	Retail Security Investigations	Opt 3
CRIM230	Seminar	Opt 3
CRIM236	Internship	Opt 3
CRIM250	General Identification	Opt 3
CRIM260	Fingerprinting	Opt 3
CRIM270	Weapons & Firearms	Opt 3
CRIM280	Physiological Fluids, Hair & Fibers	Opt 3

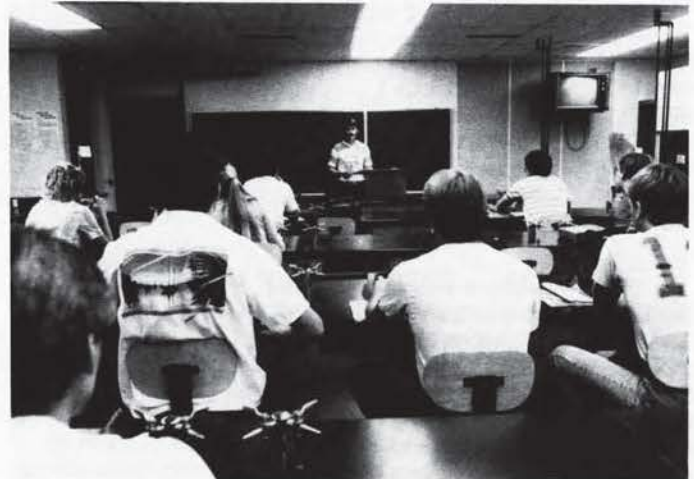
Elective Courses

Complete AA Degree Core Requirements	40
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Criminal Justice (AS Degree)

Required Courses

Elective	3	
CRIM101	Introduction to Criminal Justice	3



EDUCATIONAL PROGRAMS

CRIM103	Community Relations		3
CRIM105	Constitutional Law		3
CRIM235	Survey of Criminal Justice Agencies		3
CRIM236	Internship		3
PLSC126	Introduction to Public Administration		3
SOCY107	Criminology		3

Option Courses

Select 15 credits from Option

CRIM104	Criminal Law	Opt	3
CRIM106	Juvenile Law	Opt	3
CRIM107	Theories of Interviewing	Opt	3
CRIM110	Penology	Opt	3
CRIM211	Correctional Treatment	Opt	3
CRIM212	Correctional Law	Opt	3
CRIM214	Criminal Investigation	Opt	3
CRIM226	Retail Security Investigations	Opt	3
CRIM230	Seminar	Opt	3
CRIM250	General Identification	Opt	3
CRIM260	Fingerprinting	Opt	3
CRIM270	Weapons & Firearms	Opt	3
CRIM280	Physiological Fluids, Hair & Fibers	Opt	3

Elective Courses

Complete AS Degree Core Requirements			25
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CULINARY ARTS

Most graduates of Culinary Arts enter the industry in culinary positions with hotels, restaurants, clubs, or institutional feeding.

Some select jobs in dining room service, catering, or management. By the end of the program, graduates will have taken courses in food preparation, sanitation and equipment, purchasing/cost control, and buffet decorating. International cuisine, restaurant management, and advanced culinary cuisine are practicum courses and a valuable part of the training. These courses are management designed courses and offer the student practical knowledge of the restaurant industry.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start fall term.

Graduation Requirements

To earn the AAS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Term 1

HRMT315	Sanitation & Equipment		2
HRMT316	Food Preparation I		3
HRMT319	Sanitation & Equipment Lab		1
HRMT320	Food Preparation I Lab		3
HRMT348	Purchasing/Cost Control		3
MATH091	Arithmetic		2
MGMT203	Human Relations in Business		3

Term 2

	Select one course from Option 1		
BSAD227	Business Communications	Opt1	3
ENGL117	Composition I	Opt1	3
COOP220	Pre-Employment Seminar		1
CULA375	Buffet Decorating I		2
CULA376	Buffet Decorating I Lab		4
HRMT325	Food Preparation II		3
HRMT328	Food Preparation II Lab		2

HRMT349	Nutrition & Menu Planning		3
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Term 3

HRMT341	Work Experience		10
HRMT342	Work Experience Seminar		1

Term 4

CULA437	International Cuisine Lab		3
CULA443	International Cuisine		2
HRMT337	Restaurant Management		3
HRMT357	Restaurant Management Lab		5
MGMT101	Personnel Supervision		3

Term 5

BSAD229	Small Business Management		3
CULA351	Advance Culinary Cuisine Lab		8
CULA383	Buffet Decorating II		1
CULA384	Buffet Decorating II Lab		2
CULA450	Advance Culinary Cuisine		3

DENTAL ASSISTANT

The program in dental assisting education prepares the student as a member of the dental health team, qualified 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 Assisting 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 and attend any required orientation/information sessions. Submit proof of having achieved a grade of "C" or better in two terms of high school biology or equivalent completed in the past 5 years. Equivalent = Learning Center Biology 112 or college level biology course - 1 term. Submit proof of basic typing skills by cer-



EDUCATIONAL PROGRAMS

tification of 45 wpm typing speed with no more than 5 errors. Submit proof of high school graduation or the completion of a GED prior to enrollment. Students start fall term.

Graduation Requirements

To earn the Dental Assistant diploma, complete all course work as prescribed and attain a 2.0 grade point average.

Term 1

DENA302	Dental Science I	4
DENA304	Dental Anatomy	2
DENA325	Dental Materials Lab	1
DENA320	Preclinical Dental Assisting	6
DENH201	Dental Materials	2
DENH257	Dental Radiography I	3

Term 2

DENA305	Dental Radiography II	2
DENA309	Dental Assisting Seminar	1
DENA310	Dental Assisting Clinical	3
DENA312	Dental Science II	2
DENA322	Clinical Dental Assisting	5
DENA323	Dental Business Office Procedures	2
ENGL117	Composition I	3

Term 3

DENA316	Ethics & Clinical Seminar	1
DENA317	Dental Assisting Clinical II	5
PSCH106	Psychology of Human Relations & Adjustment	3
SPCH110	Fundamentals of Speech	3

DENTAL HYGIENE

The Dental Hygiene curriculum is designed to prepare graduates for positions in general and specialty dental offices, hospitals, schools, public health agencies and industrial agencies.

Students are trained in educational methods and preventive clinical services which qualify them as dental health educators and competent clinicians. Emphasis is placed on the correlation between prevention, education, and the clinical phases of dental hygiene practice and the 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 and schedule an individual orientation with faculty/counselor as soon as possible after application. Attend any other required orientation/information sessions. Submit proof of achieving a grade of "C" or better in one term of college level chemistry and anatomy and physiology equivalent to BIOL130, General Anatomy and Physiology, and CHEM131, General Chemistry I. Submit proof of obtaining a composite of 20 or above on the ACT test. Submit proof of high school graduation or completion of a GED prior to enrolling in the program. Students start fall term.

Graduation Requirements

To earn the AAS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Term 1

	CPR Certification	
CHEM132	General Chemistry II	4



DENH208	Principles of Dental Hygiene	2
DENH209	Principles of Dental Hygiene Practicum	3
DENH210	Oral Histology & Embryology	2
DENH230	Dental Anatomy	4
DENH257	Dental Radiography I	3

Term 2

BIOL149	General Microbiology	4
DENH228	Dental Hygiene I	2
DENH229	Dental Hygiene I-Practicum	4
DENH240	Nutrition & Preventive Dentistry	4
DENH259	Dental Radiography II	2
DENH293	General and Oral Pathology	3

Term 3

DENH278	Dental Hygiene II	2
DENH279	Dental Hygiene II Practicum	2
DENH280	Periodontology	2
DENH282	Dental Pharmacology	2
PSCH101	General Psychology	3

Term 4

DENH201	Dental Materials	2
DENH203	Dental Materials Lab	1
DENH227	Dental Health Education	3
DENH288	Dental Hygiene III	2
DENH289	Dental Hygiene III Practicum	7
SOCY101	Introduction to Sociology	3

Term 5

DENA323	Dental Business Office Procedures	2
DENH290	Community Health Issues	3
DENH298	Dental Hygiene IV	2
DENH299	Dental Hygiene IV Practicum	7
SPCH110	Fundamentals of Speech	3
	Must be taken anytime prior to completion	
ENGL117	Composition I	3

DEVELOPMENTAL DISABILITIES - DIPLOMA

The Developmental Disabilities - Diploma program prepares students to serve as a member of a multi-disciplinary team in institutions or community settings serving the handicapped.

Course work includes instruction in human growth, speech and hearing problems, health care techniques, and program planning for the mentally retarded, emotionally disturbed, learning disabled and physically handicapped individual.

EDUCATIONAL PROGRAMS



Practical experience is a key component of the Developmental Disabilities - Diploma program; students will complete a practicum each term within various programs for handicapped persons.

When the program is completed, students may be employed in positions such as group leader, cottage parent, program or educational assistant, or teacher's aide. A second career option, the Developmental Disabilities - Associate degree is also available for those wishing further education.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To qualify for a diploma in Developmental Disabilities - Diploma, a student must complete the credit hours prescribed and maintain a grade point average of 2.0.

Required Courses

DEVD203	Beginnings: Handicapped Children	Opt	2
CHLD160	Human Growth		4
CHLD240	Emergency Care		1
CHLD260	Observation & Guidance of Children		3
DEVD260	The Exceptional Individual		3
DEVD261	Programs for the Mentally Retarded		3
DEVD262	Health Care		3
DEVD264	Programs for the Physically Handicapped		3
DEVD265	Multicategorical Disorders		3
DEVD266	Speech & Hearing Disorders		2
DEVD460	Practicum I		2
DEVD461	Practicum II		4
PSCH106	Psychology of Human Relations & Adjustment		3
	Communications requirement		3

DEVELOPMENTAL DISABILITIES DEGREE - ASSOCIATE

The Developmental Disabilities Associate Degree is designed to build on those skills acquired in the Developmental Disabilities Diploma Program and to broaden a student's background in general education. Further competence in working with the handicapped is developed through additional field practicum experience.

Students who have completed the Developmental Disabilities - Diploma program and the requirements below will be awarded a Developmental Disabilities Associate in Science degree; graduates of the program may choose to transfer to a four-year institution or work in one of the many areas providing services to the developmentally disabled individual.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To qualify for the Developmental Disabilities AS degree, a student must complete the standard core requirements for the degree, plus the Developmental Disabilities Degree base and electives, and maintain a 2.0 grade point average.

Required Courses

	Complete AS Degree Core Requirements	25
CHLD160	Human Growth	4
CHLD240	Emergency Care	1
CHLD260	Observation & Guidance of Children	3
CHLD261	Observation & Guidance Lab	1
DEVD260	The Exceptional Individual	3
DEVD261	Programs for the Mentally Retarded	3
DEVD262	Health Care	3
DEVD263	Professional Relationships	2
DEVD264	Programs for the Physically Handicapped	3
DEVD265	Multicategorical Disorders	3
DEVD266	Speech & Hearing Disorders	2
DEVD460	Practicum I	2
DEVD461	Practicum II	4
DEVD462	Developmental Disabilities Assoc. Practicum	4

DIESEL EQUIPMENT MECHANIC

The Diesel Equipment Mechanic program prepares students for a career in the diesel repair field. Instruction is in the repair, maintenance, and testing of diesel engines, power trains, and components of trucks and construction equipment.

Employment opportunities exist in the servicing and repair of equipment such as buses, trucks, tractors, and heavy construction equipment.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To earn the AAS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Term 1

DISL401	Diesel Engines	15
RCMA400	Related Math	3

EDUCATIONAL PROGRAMS

		Term 2	
DISL404	Power Trains		8
DISL406	Hydraulics		5
DISL408	Basic Electricity		5
		Term 3	
DISL420	Air Conditioning		3
DISL428	Operation & Maintenance		6
DISL430	Dynamometer Testing		3
		Term 4	
DISL402	Diesel Electronics		3
DISL407	Diesel Fuel Systems		15
		Term 5	
DISL470	Advanced Electricity		2
DISL476	Truck and Heavy Equipment Repair		14
WELD476	Diesel Welding		2
		Term 6	
DISL405	Computer Literacy		3
DISL460	Shop Management		2
ENGL410	Communication Skills		3
SOCY302	Industrial Relations		3

ELECTRONICS MAINTENANCE

The Electronics Maintenance curriculum is designed to prepare the student for entry level positions as an electronics service person.

Students who have completed the program should be able to perform the routine maintenance of electronic systems. The curriculum places emphasis on servicing of consumer products, e.g., color TV, radio, video cassette recorders, video discs, and other related consumer product devices.

Upon program completion, students seek employment in TV service shops, stereo shops, audio-visual businesses, major retail outlets, as well as other related electronic service positions.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start fall term.

Graduation Requirements

To qualify for the AAS degree, complete all courses as prescribed and attain a 2.0 grade point average.

		Term 1	
		Select one course from Option 1	
ENGL115	Technical & Business Writing	Opt1	3
ENGL117	Composition 1	Opt1	3
ENGL410	Communication Skills	Opt1	3
SPCH110	Fundamentals of Speech	Opt1	3
ELEM450	Related Math		3
ELEM451	DC & AC Fundamentals		3
ELEM452	DC & AC Fundamentals Lab		3
ELEM453	Basic Electrical Practices		3
ELEM454	Basic Electrical Practices Lab		3
		Term 2	
ELEM460	Applied Electronics		3
ELEM461	Applied Electronics Lab		3
ELEM462	Digital Electronics		3
ELEM463	Digital Electronics Lab		3
ELEM464	Industrial Electronics		3
ELEM465	Industrial Electronics Lab		3

		Term 3	
		Select one course from Option 2	
PSCH106	Psychology of Human Relations	Opt2	3
PSCH101	General Psychology	Opt2	3
SOCY101	Introduction to Sociology	Opt2	3
SOCY302	Industrial Relations	Opt2	3
ELEM470	Communications		3
ELEM471	Communications Lab		2
ELEM472	Color Systems I		3
ELEM474	Color Systems I Lab		1
		Term 4	
ELEM480	Consumer Products		6
ELEM481	Consumer Products Lab		3
ELEM482	Color Systems II		6
ELEM483	Color Systems II Lab		3

EXECUTIVE ASSISTANT

The executive assistant is a person who possesses a mastery of office skills, demonstrates the ability to assume responsibility without direct supervision, exercises initiative and judgment and makes decisions within the scope of assigned authority.

The executive assistant student selects electives such as accounting, shorthand, or word processing to emphasize their personal preferences and then combines all the office skills with management techniques. Those techniques would help in supervisory positions.

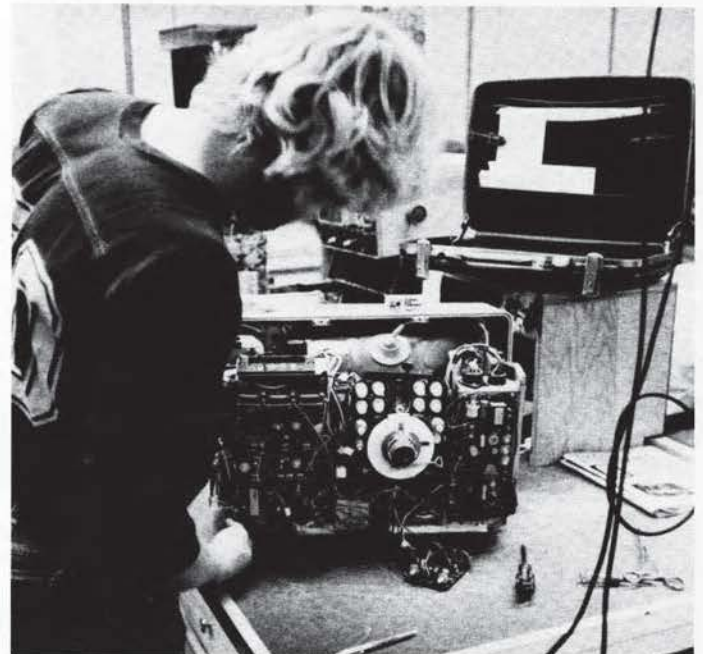
Location: Ankeny, Boone

Program Entry Requirements

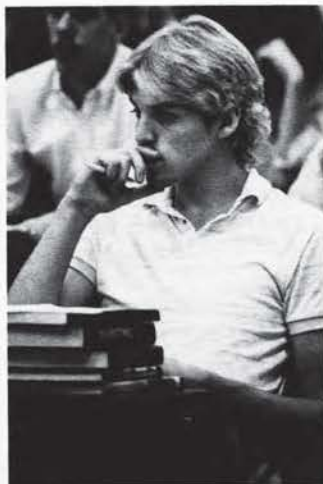
Complete an application and attend any required orientation/information sessions. Submit proof of beginning typing skills. Students start any term.

Graduation Requirements

To earn the diploma, complete all course work as prescribed and attain a 2.0 grade point average.



EDUCATIONAL PROGRAMS



Required Courses

Elective	3
BUSL101 Business Law I	3
COOP220 Pre-Employment Seminar	2
ECON101 Principles of Macro-Economics	3
MGMT101 Personnel Supervision	3
MGMT203 Human Relations in Business	3
OFFC201 Information/Word Processing Concepts	2
OFFC203 Administrative Office Management	3
OFFC204 Office Procedures	4
OFFC205 Business English	3
OFFC206 Written & Oral Communications	3
OFFC207 Introduction to Computers	3
OFFC302 Typing II	2
OFFC303 Typing III	2
OFFC306 Information Processing I	2
OFFC307 Information Processing II	2
OFFC309 Office Accounting	2
OFFC310 Professional Development	3
OFFC311 Business Math & Calculators	3
OFFC403 Professionalism I	1
OFFC404 Professionalism II	1
OFFC405 Professionalism III	1
OFFC406 Professionalism IV	1
OFFC408 Internship	5

FASHION MERCHANDISING

Fashion Merchandising offers opportunities at all levels of the fashion industry. Progressive individuals who like people contact, challenge, and variety find many rewards in this career.

The course work gives you in-depth knowledge in buying, promoting, and selling products. Emphasis is on retail business management. Training includes developing selling, communication, human relations, and management skills.

Special attention is paid to keeping up to date with the constant changes taking place in fashion through such courses as: clothing selection, principles of fashion merchandising, display, advertising, textiles, fashion show procedures, and a study tour of a major fashion market.

Fashion Merchandising graduates are found in positions as store managers and assistant managers, buyers and assistants, department managers, manufacturers' sales representatives, sales supervisors, fashion coordinators and consultants, and bridal consultants.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start fall or spring term.

Graduation Requirements

To earn the AAS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Required Courses

MKTG345 Fashion Study Tour	3
BSAD223 Business/Financial Math	3
BSAD227 Business Communications	3
COOP220 Pre-Employment Seminar	2
ECON101 Principles of Macro-Economics	3
MGMT101 Personnel Supervision	3
MGMT203 Human Relations in Business	3
MGMT322 Office Procedures	1
MGMT340 Business Internship	7
MGMT342 Internship Seminar I	2
MGMT357 Business Internship II	5
MGMT358 Business Internship II Seminar	1
MGMT405 Human Potential Seminar	1
MKTG102 Principles of Marketing	3
MKTG103 Principles of Selling	3
MKTG104 Advertising & Sales Promotion	3
MKTG231 Principles of Clothing Selection	3
MKTG321 Retail Management I	3
MKTG322 Retail Management II	3
MKTG323 Display & Visual Merchandising	2
MKTG324 Buying & Merchandise Control	3
MKTG332 Textiles	3
MKTG333 Fashion Show Procedures	3
MKTG334 Principles of Fashion Merchandising	3
SPCH110 Fundamentals of Speech	3

Option Courses

Choose all of Option 1 or all of Option 2	
MGMT365 Business Internship III	Opt1 5
MGMT367 Business Internship III Seminar	Opt1 1
2 Electives	Opt2 6
Select one course from Opt 3 and Opt 4	
ACCT101 Principles of Accounting I	Opt3 4
ACCT301 Accounting Fundamentals	Opt3 3
DATA101 Introduction to Data Processing	Opt4 3
DATA103 BASIC	Opt4 3

EDUCATIONAL PROGRAMS

FINANCIAL SERVICES

Upon completion of the Financial Services program, the successful student will be prepared for a career in the financial services industry.

Specialized courses in principles of bank operations, introduction to data processing, installment credit, management fundamentals, real estate finance, money and banking, and field experience provide the basic content areas. A good background in general business courses is included with the options of specializing in a specific area of interest.

The field experience program in the last two terms gives the student "hands-on" practical experience in a financial institution.

Financial services institutions favor promoting from within, and continuing the education of their employees in industry classes, college and graduate school, while working at occupations such as teller, management trainee, internal auditor, public relations manager, credit analyst, loan officer, customer service representative, administrative secretary, trust administrator, proof operator, cashier, and market researcher.
Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To earn AAS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Required Courses

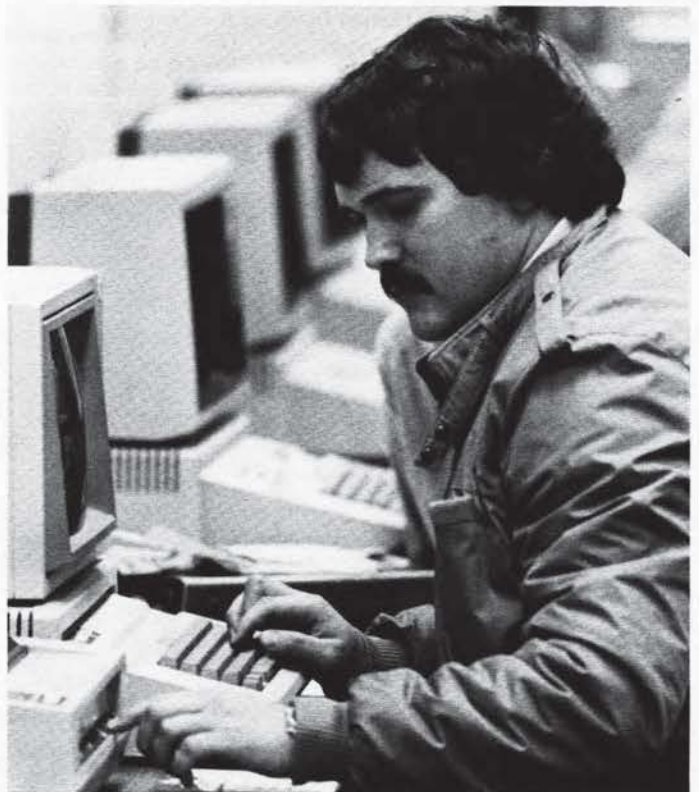
	2 Electives - Department Approved	6
ACCT101	Principles of Accounting I	4
ACCT102	Principles of Accounting II	4
BSAD150	Introduction to Business	3
BSAD223	Business/Financial Math	3
BSAD227	Business Communications	3
BUSL101	Business Law I	3
BUSL102	Business Law II	3
COOP220	Pre-Employment Seminar	2
DATA101	Introduction to Data Processing	3
ECON101	Principles of Macro-Economics	3
ENGL117	Composition I	3
FNSR201	Principles of Banking	3
FNSR203	Real Estate Finance	3
FNSR204	Management Fundamentals	3
FNSR205	Money and Banking	3
FNSR237	Consumer Lending	3
FNSR392	Field Experience I	5
FNSR394	Field Experience II	5
MGMT101	Personnel Supervision	3
MGMT203	Human Relations in Business	3
MGMT322	Office Procedures	1
MKTG102	Principles of Marketing	3
MKTG103	Principles of Selling	3
SPCH110	Fundamentals of Speech	3

FIRE SCIENCE TECHNOLOGY

The Fire Science program is designed to provide a fundamental knowledge base 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 examines the causes of behavior of fire, and the means of minimizing its destructive effects through design, detection, suppression, and prevention.

Instruction in the Fire Science program is provided by Iowa State



EDUCATIONAL PROGRAMS

University Fire Science Extension instructors. These courses are available only in the evening.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To qualify for the Fire Science Technology AS or AA degree, a student must complete the standard core requirements for the degree, plus the Fire Science Technology base and electives, and maintain a 2.0 grade point average.

Required Courses

	Elective - Social Science	3
	Elective - Humanities	4
	Electives - Two Dept. Approved	6
BSAD225	Principles of Insurance	3
CHEM131	General Chemistry I	4
ENGL117	Composition I	3
ENGL118	Composition II	3
FIRE231	Introduction to Fire Science	2
FIRE232	Fire Behavior	3
FIRE233	Building Construction	3
FIRE234	Fire Protection Systems	3
FIRE235	Hazardous Materials	3
FIRE236	Fluid Flows	3
FIRE237	Planning for Fire Protection	3
FIRE238	Fire Investigation	2
MGMT102	Introduction to Management	3
PHYL106	Survey of Physical Science	4
PLSC112	State & Local Government	3
PSCH106	Psychology of Human Relations & Adjustment	3
SPCH110	Fundamentals of Speech	3

HEALTH CARE ADMINISTRATION

The Health Care Administration program trains students for entry level administrative positions in a rapidly growing health care field. Administrators play a vital role in planning, organizing, directing and controlling the operation of a health care facility.

Students in the program complete general education core requirements, Business Law, and Accounting. Health Care Administration courses are offered on an independent study basis. Independent study, as defined in this program, means a combination of classes, group meetings, written assignments mailed to the instructors on a regular basis, and examinations.

All students complete a Practicum supervised by a licensed administrator, who helps the student apply theoretical knowledge gained in the classroom.

Completion of the AS degree qualifies the graduate to apply and sit for nursing home administrator licensure exam. Students may attend full or part-time.

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To qualify for the Health Care Administration AS degree, students must complete the standard core requirements for the degree, plus the Health Care Administration base.

Required Courses

	Complete AS Degree Core Requirements	25
ACCT101	Principles of Accounting I	4
ADHC226	Management of Services/Mentally Disabled	3
ADHC227	Management of Services/Mentally III	3
ADHC228	Field Projects in Services/Mentally Disabled	1
ADHC229	Field Projects in Services/Mentally III	1
ADHC237	Principles of Accounting II for Health Care	3
ADHC251	Practicum: Social Services	3
ADHC252	Practicum: Dietary	3
ADHC253	Practicum: Legal Aspects & Govt. Organization	3
ADHC254	Practicum: Nursing	3
ADHC255	Practicum: Housekeeping/Laundry/Maintenance	3
ADHC256	Practicum: Activities & Community Resources	3
ADHC257	Practicum: Business Administration	3
ADHC258	Practicum: Administrative Organization	3
ADHC259	Practicum: Personnel Administration	3
ADHC275	Administration of Long Term Care Facilities	6
ADHC276	Services for Long Term Care Patients	6
ADHC281	Seminar in Health Care	3
BUSL101	Business Law I	3
SOCY201	Introduction to Social Gerontology	3
SOCY202	Practical Application of Social Gerontology	1

HEALTH SERVICES AND SCIENCES CURRICULUM

The Health Services and Sciences Curriculum is designed for the student who will be entering a health occupations program at Des Moines Area Community College or planning to transfer to another institution. It is designed to meet the needs of five groups of students.

1) Students who need to complete prerequisites for a specific career preparation program in a health occupation area such as dental hygiene or associate degree nursing.

2) Students who wish to explore career options available in health care. There are currently eight different one and two-year allied health programs, as well as several certificate programs of shorter duration.



EDUCATIONAL PROGRAMS

3) Current or former health care workers who wish to obtain training in a different allied health career.

4) Students who have completed the prerequisite courses in their chosen allied health field, but have applied too late to be admitted to the complete set of recommended courses for the coming term.

5) Preprofessional students such as pre-medicine, pre-veterinary, pre-pharmacy, etc., that wish to receive academic counseling and long range curricular advice.

The curriculum will allow flexibility in scheduling course and program prerequisites, core requirements, program requirements, and elective courses.

Courses such as microbiology, anatomy and physiology, chemistry, math, and psychology may be completed part time or full time, day or evening. Some of the prerequisites and adaptor courses may be scheduled on an independent basis through the Learning Center.

For additional information, contact the Career Development Office.

HIGH TECH - BIOMEDICAL EQUIPMENT TECHNOLOGY

This program prepares you for a career as a biomedical electronic technician. By the end of the program you will be able to troubleshoot and repair medical electronic instrumentation such as patient monitoring EEG equipment as well as clinical lab instrumentation such as Ph meters, spectrophotometers, and blood cell counters. The technical curriculum is also supported by courses from the health field such as health care delivery and integrated sciences.

Upon program completion you may seek employment in hospitals or as a technician for a manufacturer of medical electronic equipment.

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Submit evidence of completion of two terms of high school algebra or its equivalent. Obtain a satisfactory score on an algebra aptitude test. Recommend two years of high school algebra. Students start fall term.

Graduation Requirements

To qualify for the AAS degree, students must complete the courses as prescribed and attain a grade point average of 2.0.

Term 1

ELHT311	Circuit Analysis I	6
ELHT312	Circuit Analysis I Lab	3
ELHT313	Technical Math I	3
ELHT315	Fabrication Techniques	2
ENGL115	Technical & Business Writing	3

Term 2

ELHT321	Circuit Analysis II	6
ELHT322	Circuit Analysis II Lab	3
ELHT323	Technical Math II	3
ELHT324	Computer Programming	3
	Professional relations requirement	3

Term 3

ELHT330	Digital Circuits I	3
ELHT331	Circuit Analysis III	3
ELHT342	Calculus for Electronics	3
ELHT362	Digital Circuits Lab	1
ELHT363	Circuit Analysis III Lab	2

Term 4

CHEM120	Survey of Chemistry	3
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ELHT340	Digital Circuits II	5
ELHT341	Digital Circuits II Lab	5
ELHT345	Data Communication & Laser	3
ELHT346	Data Communication & Laser Lab	2

Term 5

BIOL127	Human Biology	3
ELET347	Physics for Electronics	3
HTBM353	Biomed Instrumentation I	3
HTBM354	Biomed Instrumentation I Lab	5
HTBM357	Internship	4

Term 6

HTBM355	Electro-Mechanical Systems I	3
HTBM356	Electro-Mechanical Systems I Lab	3
HTBM362	Health Care Delivery	3
HTBM363	Biomed Instrumentation II	2
HTBM364	Biomed Instrumentation II Lab	2

HIGH TECH - COMPUTER TECHNOLOGY

This program prepares you for a career as a computer technician. At the end of the program, you should be able to diagnose and repair digital electronic equipment, including computers, microprocessor-based instrumentation and peripheral equipment such as floppy disk drives, terminals, and various interface devices. These skills will qualify you for positions such as computer field engineer, customer engineer, or as a test technician prototyping microprocessor-based instrumentation for a variety of industrial uses.

Highly technical courses will train you in state-of-the-art digital electronics and the use of specialized test equipment used for both circuit design and to diagnose and repair digital and microprocessor circuits.

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Submit evidence of completion of two terms of high school algebra or its equivalent. Obtain a satisfactory score on an algebra aptitude test. Recommend two years of high school algebra. Students start fall term.

Graduation Requirements

To qualify for the AAS degree, students must complete the courses as prescribed and attain a grade point average of 2.0

Term 1

ELHT311	Circuit Analysis I	6
ELHT312	Circuit Analysis I Lab	3
ELHT313	Technical Math I	3
ELHT315	Fabrication Techniques	2
ENGL115	Technical & Business Writing	3

Term 2

ELHT321	Circuit Analysis II	6
ELHT322	Circuit Analysis II Lab	3
ELHT323	Technical Math II	3
ELHT324	Computer Programming	3
	Professional relations requirement	3

Term 3

ELHT330	Digital Circuits I	3
ELHT331	Circuit Analysis III	3
ELHT343	Physics for Electronics	3
ELHT362	Digital Circuits Lab	1
ELHT363	Circuit Analysis III Lab	2

EDUCATIONAL PROGRAMS

Term 4

	Elective - Business	3
ELHT340	Digital Circuits II	5
ELHT341	Digital Circuits II Lab	5
ELHT345	Data Communication & Laser	3
ELHT346	Data Communication & Laser Lab	2

Term 5

HTCT351	Major Computer Systems I	5
HTCT352	Major Computer Systems I Lab	5
HTCT353	Microprocessors	5
HTCT354	Microprocessors Lab	2

Term 6

HTCT361	Major Computer Systems II	3
HTCT362	Major Computer Systems II Lab	3
HTCT364	Microcomputer Systems	3
HTCT365	Microcomputer Systems Lab	3

HIGH TECH - ROBOTICS AND PROCESS CONTROL

This program prepares you for a career as a technician in industrial manufacturing. At the end of the program, you should be able to diagnose and repair industrial equipment ranging from the basic motor control devices used in hard automation to the more sophisticated industrial robots that utilize microprocessors for programming and servo control.

The curriculum includes both the fundamental technologies such as pneumatics and hydraulics as well as system applications such as process control and robotics. Upon program completion you may seek employment with area manufacturers maintaining plant equipment or with companies that produce process control or robotic devices.

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Submit evidence of completion of two terms of high school algebra or its equivalent. Obtain a satisfactory score on an algebra aptitude test. Recommend two years of high school algebra. Students start fall term.

Graduation Requirements

To qualify for the AAS degree, students must complete the courses as prescribed and attain a grade point average of 2.0

Term 1

ELHT311	Circuit Analysis I	6
ELHT312	Circuit Analysis I Lab	3
ELHT313	Technical Math I	3
ELHT315	Fabrication Techniques	2
ENGL115	Technical & Business Writing	3

Term 2

ELHT321	Circuit Analysis II	6
ELHT322	Circuit Analysis II Lab	3
ELHT323	Technical Math II	3
ELHT324	Computer Programming	3
	Professional relations requirement	3

Term 3

ELHT330	Digital Circuits I	3
ELHT331	Circuit Analysis III	3
ELHT342	Calculus for Electronics	3
ELHT362	Digital Circuits Lab	1
ELHT363	Circuit Analysis III Lab	2



EDUCATIONAL PROGRAMS

Term 4

	Elective - Business	3
ELHT340	Digital Circuits II	5
ELHT341	Digital Circuits II Lab	5
ELHT345	Data Communication & Laser	3
ELHT346	Data Communication & Laser Lab	2

Term 5

HTPC351	Hydraulics & Pneumatics	3
HTPC352	Hydraulics & Pneumatics Lab	3
HTPC354	Motor Control & PLC'S	3
HTPC355	Process Control Instrumentation	3
HTPC356	Motor Control & PLC'S Lab	3
HTPC357	Process Control Instrumentation Lab	2

Term 6

HTPC360	Industrial Electronics	2
HTPC361	Robotics	3
HTPC362	Robotics Lab	2
HTPC363	Mechanisms	3
HTPC364	Mechanisms Lab	2

HOSPITALITY APPRENTICE

This program prepares students to enter either the food service field or lodging industry at a job entry level position.

Students who have completed the program will have taken courses in food preparation, sanitation/safety, accounting, purchasing/cost control, business math, and pre-employment seminar. Positions that are filled by graduates are: front desk clerk, night auditor, and cooks. Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start fall term.

Graduation Requirements

To earn a Hospitality Apprentice diploma, complete all course work as prescribed and attain a 2.0 grade point average.

Term 1

	Select one course from Option		
BSAD227	Business Communications	Opt	3
ENGL117	Composition I	Opt	3
HRMT315	Sanitation & Equipment		2
HRMT316	Food Preparation I		3
HRMT319	Sanitation & Equipment Lab		1
HRMT320	Food Preparation I Lab		3
HRMT348	Purchasing/Cost Control		3
MGMT203	Human Relations in Business		3

Term 2

BSAD223	Business/Financial Math		3
COOP220	Pre-Employment Seminar		2
HRMT325	Food Preparation II		3
HRMT328	Food Preparation II Lab		2
HRMT349	Nutrition & Menu Planning		3
MGMT101	Personnel Supervision		3

HOTEL & RESTAURANT MANAGEMENT

The Hotel & 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 have completed the program will have taken courses in food preparation, sanitation and equipment, purchasing/cost control, marketing courses, principles of accounting, and house administration.

Restaurant management and house administration feature practical courses. These courses are management designed and offer the student practical knowledge of the hotel and restaurant management industry.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start fall term.

Graduation Requirements

To earn the AAS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Term 1

BSAD227	Business Communications	3
HRMT315	Sanitation & Equipment	2
HRMT316	Food Preparation I	3
HRMT319	Sanitation & Equipment Lab	1
HRMT320	Food Preparation I Lab	3
HRMT348	Purchasing/Cost Control	3
MGMT203	Human Relations in Business	3

Term 2

BSAD223	Business/Financial Math	3
COOP220	Pre-Employment Seminar	2
HRMT325	Food Preparation II	3
HRMT328	Food Preparation II Lab	2



EDUCATIONAL PROGRAMS



HRMT349	Nutrition & Menu Planning	3
MGMT101	Personnel Supervision	3
Term 3		
HRMT341	Work Experience	10
HRMT342	Work Experience Seminar	1
Term 4		
ACCT301	Accounting Fundamentals	3
DATA101	Introduction to Data Processing	3
HRMT337	Restaurant Management	3
HRMT357	Restaurant Management Lab	5
MKTG102	Principles of Marketing	3
Term 5		
BSAD229	Small Business Management	3
BUSL101	Business Law I	3
HRMT344	House Administration	3
HRMT345	House Administration Lab	3
MKTG103	Principles of Selling	3
SPCH110	Fundamentals of Speech	3

HUMAN SERVICES

The Human Services program prepares students for entry level jobs or for transfer to a four-year degree program. By the end of the program students will be able to interact effectively with clients in a human services agency.

The program emphasizes skills needed in working with clients such as interviewing, determining eligibility for services, making appropriate referrals, and assisting with counseling. A supervised field experience allows students to apply their skills in a work setting.

Specializations are offered in chemical dependency counseling, mental health, and social services.

When the program is completed, students may find employment in a wide variety of settings including public and private social services agencies, treatment centers, group homes, institutions, hospitals, community centers, and state or county Department of Social Services. Location: Ankeny, Urban

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To qualify for the Human Services AS degree, a student must complete the standard core requirements for the degree, plus the Human Services base and electives, and maintain a 2.0 grade point average.

Required Courses

	Complete AS Degree Core Requirements	25
HUMS101	Introduction to Human Services	3
HUMS104	Community Organization	3
HUMS109	Survey of Mental Health Treatment	3
HUMS202	Interviewing & Interpersonal Relationships	3
HUMS205	Intervention Theories & Practice I	3
HUMS206	Intervention Theories & Practice II	3
HUMS207	Field Experience	4
PSCH103	Developmental Psychology	3
PSCH104	Abnormal Psychology	3

Option Courses

	Select three courses from Option 1	
	Elective-Any other Human Service Course	Opt1 3
	Elective-Any other Psychology course	Opt1 3
	Elective-Any other Sociology course	Opt1 3
ANTH120	Introduction to Anthropology	Opt1 3
EDCR102	Growth & Education of the Child	Opt1 3
HUMS210	Counseling Techniques	Opt1 3
HUMS211	Counseling with Women	Opt1 3
HUMS212	Survey of Chemical Dependency	Opt1 2
HUMS213	Pract. in Chem. Dependency Couns. I	Opt1 6
HUMS214	Pract. in Chem. Dependency Couns. II	Opt1 6
PHIL112	Ethical Problems	Opt1 3
PLSC112	State & Local Government	Opt1 3
	Select one course from Option 2	
SOCY101	Introduction to Sociology	Opt2 3
SOCY102	Social Issues	Opt2 3

INDUSTRIAL MANAGEMENT AND MARKETING

Industrial Management and Marketing offers you a number of career options. It is a people-oriented field. Career opportunities consist of working with professional management in solving sales, purchasing, manufacturing and transportation problems. The program includes: up-to-date curriculum which emphasizes the latest industrial management and marketing principles; "student-centered" instruction which offers seminars, labs, field trips, field study projects, and classes; opportunity to earn as you learn through on-the-job training; leadership training at the local, state, and national levels through participation in the Professional Management Club; instructors with extensive backgrounds in business and industry.

Basic subject areas for the five terms are: selling, advertising, marketing, purchasing, human relations, supervision, management, industrial organization, accounting, and information processing.

Employment and advancement opportunities exist in positions as manufacturer's representatives, purchasing agents, wholesalers, salespeople, owners of your own distribution business, traffic and transportation managers, manufacturing and distribution managers, production supervision, customers' service, parts and inventory management, and purchasing. Advanced management positions are available to those who demonstrate strong individual skills and knowledge. Location: Ankeny

EDUCATIONAL PROGRAMS

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To earn the AAS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Required Courses

BSAD227	Business Communications	3
BUSL101	Business Law I	3
COOP220	Pre-Employment Seminar	2
ECON101	Principles of Macro-Economics	3
MGMT101	Personnel Supervision	3
MGMT203	Human Relations in Business	3
MGMT322	Office Procedures	1
MGMT343	Field Experience I	7
MGMT344	Field Experience I Seminar	2
MGMT356	Field Experience II Seminar	1
MGMT366	Field Experience II	5
MGMT405	Human Potential Seminar	1
MKTG102	Principles of Marketing	3
MKTG103	Principles of Selling	3
MKTG104	Advertising & Sales Promotion	3
MKTG211	Industrial Marketing	3
MKTG212	Purchasing	3
MKTG335	Industrial Product Analysis	3
MKTG336	Industrial Management Operations	3

Option Courses

Choose Option 1 or Option 2		
2 Electives		Opt1 6
MGMT368	Field Experience III	Opt2 5
MGMT369	Field Experience III Seminar	Opt2 1
Select one course each from Opt3, Opt4, Opt5, Opt6, Opt7		
DATA101	Introduction to Data Processing	Opt3 3
DATA103	BASIC	Opt3 3
MGMT102	Introduction to Management	Opt4 3
MGMT103	Sales Management	Opt4 3
ACCT101	Principles of Accounting I	Opt5 4
ACCT301	Accounting Fundamentals	Opt5 3
MATH092	Introductory Algebra	Opt6 4
	Elective-Math/Science	Opt6 3
BSAD223	Business/Financial Math	Opt7 3
MATH092	Introductory Algebra	Opt7 4

Elective Courses

Elective-English/Speech	3
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INFORMATION/WORD PROCESSING

The Information/Word Processing program is designed to give students the knowledge needed for today's high technology office.

Workers are in demand in almost every type of business, and graduates of this program will have skills in English, grammar, and text-editing equipment operation.

Location: Ankeny, Boone

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

A student must complete all required classes in the program with

at least a 2.0 grade average to receive a diploma.

Required Courses

COOP220	Pre-Employment Seminar	2
MGMT203	Human Relations in Business	3
OFFC201	Information/Word Processing Concepts	2
OFFC204	Office Procedures	4
OFFC205	Business English	3
OFFC206	Written & Oral Communications	3
OFFC207	Introduction to Computers	3
OFFC301	Typing I	2
OFFC302	Typing II	2
OFFC303	Typing III	2
OFFC306	Information Processing I	2
OFFC307	Information Processing II	2
OFFC309	Office Accounting	2
OFFC310	Professional Development	3
OFFC311	Business Math & Calculators	3
OFFC401	Model Office	3
OFFC403	Professionalism I	1
OFFC404	Professionalism II	1
OFFC405	Professionalism III	1



EDUCATIONAL PROGRAMS

INTERNATIONAL TRADE STUDIES

Upon completion of the International Trade Studies program, the student is prepared for a number of roles in business and industry, such as expeditor, freight forwarder, procurement officer, documentation specialist, rate officer, or international marketing specialist.

Specialized courses in principles of international business, marketing and documentation, as well as general business, accounting, economics, data processing and foreign language courses provide the student with the technical background necessary to participate effectively in international trade.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To earn the AS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Required Courses

ACCT101	Principles of Accounting	4
BSAD150	Introduction to Business	3
DATA101	Introduction to Data Processing	3
ECON101	Principles of Economics	3
FNSR213	International Banking	3
ITSP111	International Business	3
ITSP130	International Marketing	3
ITSP150	International Documentation	3
MKTG102	Principles of Marketing	3

Option Courses

	Choose either Option 1 or Option 2	
FORL120	Elementary Spanish I	Opt1 4
FORL121	Elementary Spanish II	Opt1 4
FORL130	French I	Opt2 4
FORL131	French II	Opt2 4

Elective Courses

Elective - Communications	9
Elective - Social/Behavioral Sciences	6
Elective - Math and Science	4
Elective - Humanities	3
Electives	6

JOB SHOP MACHINIST

The Job Shop Machinist program is designed for students who desire employment in general machine shop work.

Students gain practical experience on the latest, most up-to-date equipment in the trade. Classroom work is strongly emphasized in order to understand the theory and principles of the processes involved.

The Job Shop Machinist program is the same as the first year of the Tool & Die program. Students who successfully complete the Job Shop Machinist program will receive credit for the first year of the Tool & Die program.

Career opportunities include work in job shops, machine shops, production departments, experimental departments, maintenance departments, and quality control departments. This training also provides background for the highly technical field of computer numerical control.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/infor-

mation sessions. Students start fall term.

Graduation Requirements

To earn the Job Shop Machinist diploma, complete the courses as prescribed and attain a 2.0 grade point average.

Term 1

RCMA400	Related Math	3
TOOL480	Blueprint Reading I	3
TOOL482	Machine Shop Measurements I	3
TOOL484	Machine Tool Operations I	3
TOOL486	Machine Tool Operations Lab I	5

Term 2

TOOL481	Blueprint Reading II	3
TOOL483	Machine Shop Measurements II	3
TOOL485	Machine Tool Operations II	4
TOOL487	Machine Tool Operations Lab II	7

Term 3

TOOL490	Machine Tool Operations Lab III	7
TOOL491	Machine Tool Operations III	4
	Must be taken anytime prior to completion	
ENGL410	Communication Skills	3

LABOR STUDIES

The Labor Studies program was created through the cooperative efforts of the college and organized labor in the greater Des Moines area. This program is intended for those who want to become more active or involved in their local unions, for those wanting to update their skills in trade union education, and for students interested in learning about the many facets of organized labor in the United States.

Location: Urban

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To qualify for the Labor Studies AS degree, a student must complete the standard core requirements for the degree, plus the Labor Studies base and electives, and maintain a 2.0 grade point average. See program chairperson for specific requirements.

Required Courses

	Complete AS Degree Core Requirements	25
LABS220	Survey of Labor Studies	3
LABS221	Grievance Handling & Arbitration	3
LABS222	History & Development of Labor Movement	3
LABS223	Protective & Labor Relations Legislation	3
LABS226	Labor Economics & Collective Bargaining	3
LABS227	Union Administration	3



EDUCATIONAL PROGRAMS



Option Courses

	Select 9 credits from Option 1		
LABS224	Publ.Sect.Labor Leg./Collect.Barg.	Opt1	3
LABS225	Union Psychology & Industrial Sociology	Opt1	3
LABS228	Unions, Politics & Comparative Labor Mvmt	Opt1	3
LABS229	Labor Studies Problems	Opt1	3
LABS230	Union Counseling	Opt1	3
LABS231	Advanced Union Counseling	Opt1	3

Elective Courses

Electives - Dept. Approved			12
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LEGAL ASSISTANT

The Legal Assistant program trains students to do legal work under the supervision of an attorney. A legal assistant can relieve attorneys of routine matters and assist them with more complex ones.

Students in the program complete general education core requirements and courses in substantive law. Courses in areas such as torts and litigation, family law, business law, probate, and income tax prepare students to work in many legal areas.

All students complete an internship, under the supervision of an attorney, where they apply the theoretical knowledge gained in classroom.

Instructors in the Legal Assistant program are practicing attorneys. In addition, there is a program legal assistant and a program counselor available to assist students with educational and career planning.

Graduates of the Legal Assistant program are employed in private law firms, public agencies, and legal departments of large companies. Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To qualify for the Legal Assistant AS degree, a student must complete the standard core requirements for the degree, plus the Legal Assistant base and electives, and maintain a 2.0 grade point average.

Required Courses

	Complete AS Degree Core Requirements		25
LEGA240	Introduction to Law		3
LEGA241	Legal Research & Writing		3
LEGA242	Torts & Litigation I		3
LEGA243	Torts & Litigation II		3
LEGA244	Domestic Relations		3
LEGA245	Income Tax Law		3
LEGA246	Business & Corporate Law I		3
LEGA247	Business & Corporate Law II		3
LEGA248	Real Estate Law		3
LEGA249	Probate Procedure		3
LEGA250	Legal Internship & Ethics		4

Option Courses

	Select 9 Credits from Option 1		
ACCT101	Principles of Accounting I	Opt1	4
BSAD153	Office Management	Opt1	3
CRIM104	Criminal Law	Opt1	3
CRIM105	Constitutional Law	Opt1	3
DATA101	Introduction to Data Processing	Opt1	3
LEGA251	Wills, Estate Planning & Taxation	Opt1	3
LEGA252	Administrative Practice	Opt1	3
LEGA253	Advanced Legal Research	Opt1	3
LEGA254	Evidence:Theory & Practice	Opt1	3
LEGA255	Advanced Legal Writing	Opt1	3
LEGA256	Debtor/Creditor Law	Opt1	3
LEGA257	Paralegalism in Practice	Opt1	3

MACHINE DRAFTING

The Machine Drafting program is one of several in the field of drafting. The primary aim of employment is a manufacturing company that produces home or commercial appliances, electrical/electronic equipment, agricultural implements, and/or many other items. These products are made from a wide variety of materials and are fabricated to the final form by various manufacturing processes.

The support courses include mathematics (up through trigonometry), statics, and technical report writing. Also included is a module in computer-aided drafting (CAD), with experience on two basic systems which includes all the components of a typical industrial model. The program is set up on an individual instruction basis so each student can progress as slowly or as quickly as their capabilities will allow.

When this intensive program is completed, the drafter may work as a detailer in support of a designer or engineer. As well as working in the engineering department of a firm, the graduate could work in the inspection department, manufacturing or process engineering department, or as an industrial sales representative.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To earn a Machine Drafting diploma, complete all course work as prescribed and attain a 2.0 grade point average.

Term 1

ENGL115	Technical & Business Writing		3
MACD451	Drafting Basics		3
MACD452	Basic Shape & Design Description		3
MACD453	Advanced Shape & Size Description		3

EDUCATIONAL PROGRAMS



MACD456	Materials & Processes	3
MACD458	Drafting Math I	3

Term 2

MACD461	Manufacturing Dimensions & Tolerances	3
MACD462	Mechanical Components	3
MACD463	Advanced Mechanical Components	3
MACD466	Descriptive Geometry	3
MACD468	Drafting Math II	3
SOCY302	Industrial Relations	3

Term 3

MACD471	Layouts & Working Drawings	4
MACD472	Presentation Drawings	2
MACD476	Statics	4
MACD478	Computer-Aided Drafting	2

MEDICAL ASSISTANT

The Medical Assistant program is designed to prepare the student to be employed in a private physician's office, a clinic, hospital, or laboratory as a clinical assistant, receptionist, or office manager.

The student gains a basic knowledge of anatomy and physiology, laboratory procedures, office management, and patient care techniques. These subjects are presented in the classroom, through laboratory experience, and in supervised clinical experience in the field.

Students are eligible to take the certification examination given by the certifying board of the American Association of Medical Assistants upon completion of the course of study.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Submit proof of having achieved a grade of "C" or better in two terms of high school biology or equivalent in the last five years. (Equivalent = Learning Center Biology 112 or college level biology course - 1 term.) Submit evidence of basic typing skills by certification of 35 wpm typing speed with no more than 5 errors. Submit proof of high school graduation or completion of a GED prior to enrollment. Students start fall term.

Graduation Requirements

To earn a Medical Assistant diploma, complete all course work as prescribed and attain a 2.0 grade point average.

Term 1

MEDA460	Professional Development I	2
MEDA461	The Human Body in Health & Disease I	4
MEDA462	Medical Terminology	1
MEDA463	Medical Office Management I	4
MEDA464	Medical Laboratory Procedures I	4
MEDA465	Medical Office Procedures I	3

Term 2

MEDA470	Professional Development II	2
MEDA471	The Human Body in Health & Disease II	4
MEDA472	Diagnostic Radiography I	2
MEDA473	Medical Office Management II	4
MEDA474	Medical Laboratory Procedures II	3
MEDA475	Medical Office Procedures II	3

Term 3

MEDA480	Professional Development III	1
MEDA481	Practicum	6
MEDA482	Diagnostic Radiography II	2
MEDA483	Medical Office Management III	1

MEDICAL LABORATORY TECHNICIAN

The Medical Laboratory Technician program prepares the student to perform complicated laboratory procedures with a limited amount of supervision. This training includes a six-month hospital laboratory assignment.

The program is accredited by the Committee on Allied Health Education (CAHEA) and the Committee of the American Medical Association (AMA). Graduates are eligible to take the National Certification Examination. Job opportunities are found in hospitals, clinics, doctors' offices, public health laboratories, veterinarians' offices, and industrial laboratories.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Submit proof of having achieved a grade of "C" or better in two terms of high school algebra, biology, and chemistry or equivalent. Submit proof of high school graduation or completion of a GED prior to enrollment. Students start fall and spring terms.

Graduation Requirements

To earn the AAS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Term 1

BIOL130	General Anatomy & Physiology	5
CHEM131	General Chemistry I	4
MLTS400	Introduction to the Medical Laboratory	6

Term 2

BIOL132	Health Sciences Microbiology	4
CHEM132	General Chemistry II	4
ENGL117	Composition I	3
MLTS411	Hematology	6

Term 3

MLTS422	Clinical Chemistry	8
MLTS431	Clinical Microbiology	4

EDUCATIONAL PROGRAMS

PSCH101	General Psychology	3
SOCY101	Introduction to Sociology	3

Term 4

MLTS442	Immunohematology	4
MLTS450	Clinical Practicum I	2
SPCH110	Fundamentals of Speech	3

Term 5

MLTS451	Clinical Practicum II	11
MLTS460	Clinical Seminar	1
MLTS461	Medical Laboratory Review	1

Term 6

MLTS452	Clinical Practicum III	7
MLTS463	Professional Development	1

NURSING - PRACTICAL

The Practical Nursing program is designed to prepare students to become licensed practical nurses. They provide nursing care under the supervision of a registered professional nurse or physician. Theory and practice in the care of patients are blended into a sequence of selected learning experiences, proceeding from the simple to the more complex, in such a manner as to produce an effective, safe practitioner. The program is accredited by the National League for Nursing.

Upon completion of the curriculum and attainment of the objectives of the Practical Nurse program, the student will be eligible to write the State Board Test Pool examination for practical nurse licensure.

Location: Ankeny, Boone, Carroll

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Submit proof of having achieved a grade of "C" or better in two terms of high school biology or equivalent. Submit proof of high school graduation or completion of a GED prior to enrollment. Students start fall term.

Graduation Requirements

To earn the Practical Nursing diploma, complete all course work as prescribed and attain a 2.0 grade point average.

Term 1

NURS200	Body Structure & Function	3
NURS201	Human Needs I	6
NURS209	Nursing Practicum I	6
PSCH101	General Psychology	3

Term 2

ENGL117	Composition I	3
NURS203	Human Needs II - PN	6
NURS205	Nursing Practicum II - PN	6
PSCH103	Developmental Psychology	3

Term 3

NURS206	Human Needs III	4
NURS208	Accountability in Nursing - PN	1
NURS212	Nursing Practicum III	7

NURSING - ASSOCIATE DEGREE

A career as a Registered Nurse is available to students who successfully complete the Associate Degree Nursing program. Classroom and lab concentration on the basic health sciences serves as a basis for clinical applications of nursing skills in a functioning health care agency. Students receive close support in the clinical area from college nursing instructors who provide individual and small group instruction.

ing instructors who provide individual and small group instruction.

Upon completion of the nursing curriculum and attainment of the objectives of the Associate Degree Nursing program, the student will be eligible to write the State Board Test Pool examination for registered nurse licensure.

Location: Ankeny, Boone, Carroll

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Submit proof of having achieved a grade of "C" or better in one year each of high school biology and chemistry or equivalent. Obtain a satisfactory score on a math and reading aptitude test. Submit proof of high school graduation or completion of a GED prior to enrollment. Students start fall term.

Graduation Requirements

To earn the AAS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Term 1

NURS200	Body Structure & Function	3
NURS201	Human Needs I	6
NURS209	Nursing Practicum I	6
PSCH101	General Psychology	3

Term 2

ASDN200	Human Needs II	6
ASDN201	Nursing Practicum II - ADN	6
ENGL117	Composition I	3
PSCH103	Developmental Psychology	3

Term 3

BIOL131	Health Sciences Physiology	3
BIOL132	Health Sciences Microbiology	4

Term 4

ASDN202	Human Needs III	5
ASDN207	Nursing Practicum III	10
SOCY101	Introduction to Sociology	3

Term 5

ASDN204	Human Needs IV	4
ASDN205	Management & Accountability in Nursing	1
ASDN208	Nursing Practicum IV	10
SPCH110	Fundamentals of Speech	3



EDUCATIONAL PROGRAMS

NURSING - ASSOCIATE DEGREE - ADVANCED STANDING

This program is limited to persons who are licensed as Iowa Practical Nurses. Upon completion of the final three terms of the Associate Degree Nursing curriculum and attainment of the objectives of the program, the student will be eligible to write the State Board Examination for Registered Nurse licensure.

Location: Ankeny, Boone

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Submit proof of having achieved a grade of "C" or better in two terms of high school biology and chemistry or equivalent. Submit proof of high school graduation or completion of a GED, submit copy of current LPN license and submit proof of completion of an approved practical nursing program with a cumulative 2.0 GPA. Composition I, General Psychology, Developmental Psychology (or equivalent Human Growth and Development course) must be successfully completed prior to third term. Students start summer term.

Graduation Requirements

To earn the AAS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Term 1

ASDN202	Human Needs III	5
ASDN207	Nursing Practicum III	10
BIOL131	Health Science Physiology	3
BIOL132	Health Sciences Microbiology	4
SOCY101	Introduction to Sociology	3

Term 2

ASDN204	Human Needs IV	4
ASDN205	Management & Accountability in Nursing	1
ASDN208	Nursing Practicum IV	10
SPCH110	Fundamentals of Speech	3

PHYSICIAN ASSISTANT

Des Moines Area Community College and the University of Osteopathic Medicine and Health Sciences have a cooperative agreement established to assist DMACC students in their preparation for admissions to the University's Physician Assistant (PA) program. DMACC students should include the following courses as a part of their AA degree.

Recommended DMACC courses are:

- Eight semester hours of natural sciences including lab. Biology I, II, General Microbiology
- Eight semester hours of General Chemistry with lab. General and Inorganic Chemistry I, II
- Six semester hours of Communications. Composition I, II, Fundamentals of Speech
- Six semester hours of Social Sciences. General Psychology, Developmental Psychology, Abnormal Psychology, Personality Theories and Application, Introduction to Sociology, Introduction to Social Gerontology, Introduction to Anthropology

For additional information regarding the cooperative agreement, contact the Career Development Office.

PRINTING

The Printing program is designed to provide graduates with the knowledge needed to enter the printing industry. This program provides an understanding of the materials, tools, and equipment that are used

in the production of printed material.

Instruction is accomplished in the classroom and laboratory setting, but could also include actual experience in a printing industry during the final term of the program. Classes include layout and design, printer's math, cost estimating, and press operation. The listed sequence of courses may be altered based on the term of entry.

Graduates of this program will find employment in printing companies, publishing firms, technical representatives for printing suppliers, or companies that produce their own printed material.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

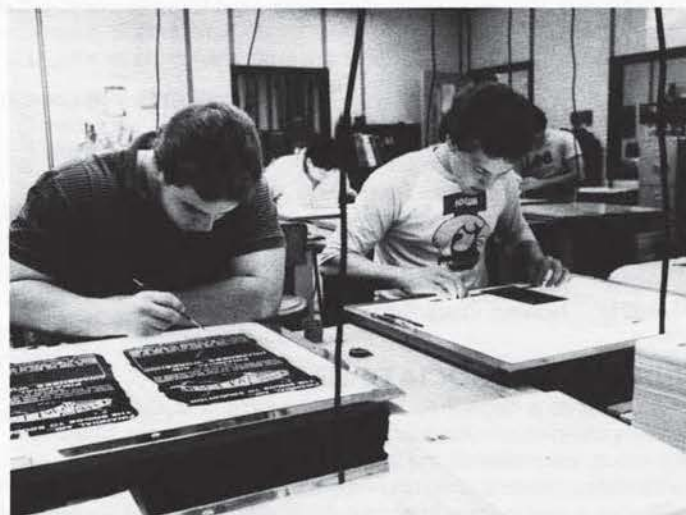
To earn a Printing diploma, you must complete courses as prescribed and attain a 2.0 grade point average.

Required Courses

ENGL410	Communication Skills	3
OFFC301	Typing I	2
PRTG400	Photo-Offset Fundamentals I	2
PRTG401	Pre-Press I	3
PRTG402	Copy Center Operation	2
PRTG403	Press I	4
PRTG404	Photo-Offset Fundamentals II	2
PRTG405	Pre-Press II	3
PRTG406	Photocomposition	2
PRTG407	Press II	5
PRTG461	Layout, Design & Pasteup	2
RCMA400	Related Math	3

Option Courses

Choose one course from Option 1		
COOP214	Pre-Employment Seminar	Opt1 2
SOCY302	Industrial Relations	Opt1 3
Choose all of Option 2 or all of Option 3		
PRTG408	Photo-Offset Fundamentals III	Opt2 2
PRTG409	Pre-Press III	Opt2 3
PRTG410	Press III	Opt2 6
COOP212	Field Experience Seminar	Opt3 1
PRTG450	Career Experience	Opt3 9



EDUCATIONAL PROGRAMS

RECREATIONAL LEADERSHIP

The Recreational Leadership program helps students to acquire the skills, training, and experience necessary to organize and lead activities in a variety of recreational settings. After completion of the program, employment opportunities are available in YMCA's, YWCA's, boys' or girls' clubs, retirement communities, resorts, swimming pools, medical facilities, schools, industries, armed forces, and public and private institutions.

The program includes courses in recreational leadership, crafts, program planning and organization, outdoor recreation, therapeutic recreation, supervised field experiences, communication, psychology, sociology, science, and the humanities.

Location: Ankeny, Boone

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To qualify for an AA or AS degree students must complete core requirements along with the program requirements and maintain a minimum grade point average of 2.0.

Required Courses

RECR141	Recreation Leadership		3
RECR142	Supervised Field Experience I		1
RECR144	Program Planning & Organization		3
RECR146	Introduction to Therapeutic Recreation		3
RECR147	Supervised Field Experience II		13
RECR151	Introduction to Recreation		2
RECR152	Recreation and Special Populations		3

Option Courses

Ankeny students select Option 1 and
Boone students select Option 2

ARTS105	Art in the Elementary School	Opt1	3
RECR143	Instruction in Crafts	Opt2	2

Elective Courses

Elective			4
Elective			3
Elective - Communications			3
Elective - Social Sciences			3
Elective - Communications			6
Elective - Social Sciences			6
Elective - Communications/Humanities			3
Elective - BIOL			6



Employment opportunities are found in hospitals, clinics, home health care agencies, equipment and supply sales, and rehabilitation and continuing care.

Location: Ankeny

Program Entry Requirements

Complete an application and schedule an individual orientation with faculty as soon as possible after application. Attend any other required orientation/information sessions. Submit proof of having achieved a minimum grade of "C" in the equivalent of one year each of high school algebra, biology and chemistry. Submit proof of high school graduation or completion of a GED prior to enrollment. Students start any term.

Graduation Requirements

To earn the AAS degree, complete all required courses, attain a minimum grade point average of 2.0, and achieve a grade of at least "C" in all courses with the RESP acronym.

Term 1

	Math requirement or elective	3
BIOL130	General Anatomy & Physiology	5
PHYL106	Survey of Physical Science	4
RESP301	Fundamentals of Respiratory Therapy	6

Term 2

BIOL131	Health Sciences Physiology	3
CHEM131	General Chemistry I	4
PHYL203	Physics for Respiratory Therapy	2
RESP305	Principles of Respiratory Therapy	4
RESP310	Cardiopulmonary Renal Pathophysiology	5

Term 3

CHEM132	General Chemistry II	4
RESP315	Respiratory Therapy Pharmacology	3
RESP360	Respiratory Therapy Practicum I	4

RESPIRATORY THERAPY

The Respiratory Therapy program provides education in the expanding career of respiratory care. This is an allied medical specialty involved with the diagnosis, treatment, and prevention of diseases and conditions which affect the respiratory and cardiovascular systems of the body. Respiratory therapists work closely with physicians and provide bedside care to patients with pulmonary diseases.

The curriculum includes 1000 hours of supervised clinical practicum experience in local hospitals. The program will prepare students with the knowledge, skills, and attitudes needed to begin a successful career in respiratory care.

The program is accredited by the American Medical Association (AMA). Graduates of the program receive an Associate of Applied Science (AAS) degree and are eligible for all credentialing examinations currently offered by the National Board for Respiratory Care (NBRC).

EDUCATIONAL PROGRAMS



Term 4

BIOL132	Health Sciences Microbiology	4
RESP320	Advanced Respiratory Therapy	5
RESP325	Neonatal & Pediatric Respiratory Therapy	3
RESP370	Respiratory Therapy Practicum II	6

Term 5

RESP330	Cardiopulmonary Diagnostics	3
RESP380	Respiratory Therapy Practicum III	9
	Communications requirement	3
	Professional relations requirement	3

Term 6

	Elective	3
RESP335	Respiratory Therapy Management & Ethics	3
RESP390	Respiratory Therapy Practicum IV	6

RETAIL MANAGEMENT

Rapid expansion in the field of retail management during the last few years has created numerous career opportunities for people who like working with people, and for those who want the challenge of a management position.

Graduates from the Retail Management program are now found in positions such as: owners of their own business; managers of clothing stores, stereo shops, building materials stores, furniture and grocery stores; and department managers and salespeople in almost all kinds of marketing businesses.

Outstanding features of the program include: an in-depth study into management principles and practices; opportunity to earn as you learn through business internship; opportunity to specialize in product line of your choice such as apparel and accessories, food marketing, automotive, home furnishings, sporting goods, building materials; up-to-date instruction based on advice from advisory committee of Retail Managers; rapid advancement opportunities resulting from promotion from within policy.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To earn the AAS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Required Courses

BSAD223	Business/Financial Math	3
BSAD227	Business Communications	3
BSAD229	Small Business Management	3
BUSL101	Business Law I	3
COOP220	Pre-Employment Seminar	2
ECON101	Principles of Macro-Economics	3
MGMT101	Personnel Supervision	3
MGMT203	Human Relations in Business	3
MGMT322	Office Procedures	1
MGMT340	Business Internship	7
MGMT342	Internship Seminar I	2
MGMT357	Business Internship II	5
MGMT358	Business Internship II Seminar	1
MGMT405	Human Potential Seminar	1
MKTG102	Principles of Marketing	3
MKTG103	Principles of Selling	3
MKTG104	Advertising & Sales Promotion	3
MKTG301	Retail Product Analysis	3
MKTG321	Retail Management I	3
MKTG322	Retail Management II	3
MKTG323	Display & Visual Merchandising	2
MKTG324	Buying & Merchandise Control	3

Option Courses

Choose Option 1 or Option 2		
2 Electives		
	Opt1	6
MGMT365	Business Internship III	Opt2 5
MGMT367	Business Internship III Seminar	Opt2 1
Select one course from Options 3, 4, and 5		
MGMT102	Introduction to Management	Opt3 3
MGMT103	Sales Management	Opt3 3
DATA101	Introduction to Data Processing	Opt4 3
DATA103	BASIC	Opt4 3
ACCT101	Principles of Accounting I	Opt5 4
ACCT301	Accounting Fundamentals	Opt5 3

Elective Courses

Electives-English/Speech	3
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RETAIL MERCHANDISING

Retail Merchandising offers rapidly growing employment opportunities. A recent government study reported that one-fourth of all job openings will be in the merchandising and distribution industry.

Graduates of the Retail Merchandising program work in positions related to sales and sales management, display and advertising, supervision and in-store merchandising. Several graduates are now operating their own businesses. The list of employment opportunities in Retail Merchandising is almost endless.

Highlights of the program: a one-year concentrated program three terms in length; opportunity to earn as you learn through business internship; student-centered instruction which offers seminars, labs, field trips, classes, and on-the-job training; up-to-date curriculum based on advice from Retail Merchandising advisory committee; opportunity to specialize in a product line of your choice such as furniture, automotive, decorator products, clothing, sporting goods.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

EDUCATIONAL PROGRAMS

Graduation Requirements

To earn a Retail Merchandising diploma, complete all course work as prescribed and attain a 2.0 grade point average.

Required Courses

BSAD223	Business/Financial Math	3
BSAD227	Business Communications	3
COOP220	Pre-Employment Seminar	2
MGMT203	Human Relations in Business	3
MGMT322	Office Procedures	1
MGMT348	Retail Internship Seminar I	1
MGMT349	Retail Internship Seminar II	2
MGMT359	Retail Merchandise Internship I	5
MGMT360	Retail Merchandise Internship II	7
MGMT405	Human Potential Seminar	1
MKTG102	Principles of Marketing	3
MKTG103	Principles of Selling	3
MKTG104	Advertising & Sales Promotion	3
MKTG301	Retail Product Analysis	3
MKTG321	Retail Management I	3
MKTG323	Display & Visual Merchandising	2

SALES AND MANAGEMENT

The Sales and Management program offers basic sales and management skill development. Many opportunities exist for the highly-motivated, people-oriented, goal-setting individual that 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 AAS degree marketing and management programs, and the satisfaction of gaining self-confidence as marketing skills are acquired.

The student will have the opportunity to enroll in the program during either days or evenings at the beginning of each term. In addition the program offers: opportunities to earn as you learn through on-the-job training; opportunities to gain advanced standing with prior occupational experience (after evaluation by the program chairperson); and leadership training at local, state, and national levels through involvement in the Sales and Management Club.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start fall or spring term.

Graduation Requirements

To qualify for the diploma, complete all courses as prescribed and attain a 2.0 grade point average.

Required Courses

BSAD227	Business Communications	3
COOP220	Pre-Employment Seminar	2
MGMT101	Personnel Supervision	3
MGMT203	Human Relations in Business	3
MGMT343	Field Experience I	7
MGMT344	Field Experience I Seminar	2
MKTG103	Principles of Selling	3

Option Courses

Select one course from each option

ACCT101	Principles of Accounting I	Opt1	4
ACCT301	Accounting Fundamentals	Opt1	3
DATA101	Introduction to Data Processing	Opt2	3
DATA103	BASIC	Opt2	3

MGMT102	Introduction to Management	Opt3	3
MGMT103	Sales Management	Opt3	3
MKTG104	Advertising & Sales Promotion	Opt3	3
BSAD150	Introduction to Business	Opt4	3
MKTG102	Principles of Marketing	Opt4	3
BSAD223	Business/Financial Math	Opt5	3
MATH092	Introductory Algebra	Opt5	4

Elective Courses

Elective	3
Elective	3

SECRETARY - ADMINISTRATIVE

The administrative secretary will be prepared to assist the employer with some of the administrative details of an office as well as perform the duties of a general secretary.

After completing the program, the administrative secretary will have a variety of skills including shorthand transcription, English usage, and word processing.

Location: Ankeny, Boone

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Submit proof of beginning typing skills. Students start any term.

Graduation Requirements

A student must complete all required classes in the program with at least a 2.0 grade average to receive a diploma.



EDUCATIONAL PROGRAMS

Required Courses

COOP220	Pre-Employment Seminar	2	OFFC302	Typing II	2
MGMT203	Human Relations in Business	3	OFFC303	Typing III	2
OFFC204	Office Procedures	4	OFFC304	Introductory Shorthand	4
OFFC205	Business English	3	OFFC305	Advanced Shorthand & Transcription	4
OFFC206	Written & Oral Communications	3	OFFC306	Information Processing I	2
OFFC207	Introduction to Computers	3	OFFC307	Information Processing II	2
OFFC302	Typing II	2	OFFC309	Office Accounting	2
OFFC303	Typing III	2	OFFC311	Business Math & Calculators	3
OFFC304	Introductory Shorthand	4	OFFC331	Legal Terminology	3
OFFC305	Advanced Shorthand & Transcription	4	OFFC403	Professionalism I	1
OFFC306	Information Processing I	2	OFFC404	Professionalism II	1
OFFC309	Office Accounting	2	OFFC405	Professionalism III	1
OFFC310	Professional Development	3	OFFC406	Professionalism IV	1
OFFC311	Business Math & Calculators	3	OFFC407	Professionalism V	1
OFFC401	Model Office	3	OFFC420	Legal Internship	5
OFFC403	Professionalism I	1			
OFFC404	Professionalism II	1			
OFFC405	Professionalism III	1			

SECRETARY - LEGAL

The student in the Legal Secretary program will study the basic skills of the business office secretary. Additional training will concentrate on developing an understanding of the numerous branches of the law to help the secretary produce the paper work and provide the miscellaneous information and assistance required by an attorney.

Successful legal secretarial work experience through internship will lay the foundation for eventual qualification as a professional legal secretary, a legal assistant or legal administrator.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Submit proof of beginning typing skills. Students start any term.

Graduation Requirements

To earn the AAS degree, complete all course work as prescribed and attain a 2.0 grade point average.

Required Courses

BUSL101	Business Law I	3
COOP220	Pre-Employment Seminar	2
MGMT203	Human Relations in Business	3
OFFC201	Information/Word Processing Concepts	2
OFFC205	Business English	3
OFFC206	Written & Oral Communications	3
OFFC207	Introduction to Computers	3
OFFC209	Criminal Law-Intro to Law & Citations/Res Lab	3
OFFC210	Estate Planning/Probate/Real Estate Lab	3
OFFC211	Civil Litigation/Domestic Relations/Bus Lab	3
OFFC230	Legal Procedures	3
OFFC231	Legal Management	3
OFFC232	Real Estate	1
OFFC233	Probate	1
OFFC234	Introduction to Law & Citations/Research	1
OFFC236	Domestic Relations	1
OFFC237	Criminal Law	1
OFFC238	Civil Litigation	1
OFFC239	Business Organization	1
OFFC242	Income Tax	3
OFFC243	Estate Planning	1

SECRETARY - MEDICAL

The Medical Secretary program is designed to prepare the student to work for doctors, clinics, hospitals, or health-related businesses.

In addition to the duties of a secretary, the medical secretary acts as a liaison between the doctor and the patient, and is an important person in building and maintaining good relations with those people who are seeking medical assistance.

The medical secretary has a variety of responsibilities: is part receptionist, part bookkeeper, part stenographer, and in emergencies, part technician.

Location: Ankeny



EDUCATIONAL PROGRAMS



Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Submit proof of beginning typing skills. Students start any term.

Graduation Requirements

To earn the Medical Secretary diploma, complete all course work as prescribed and attain a 2.0 grade point average.

Required Courses

COOP220	Pre-Employment Seminar	2
MGMT203	Human Relations in Business	3
OFFC205	Business English	3
OFFC221	Medical Terminology I	3
OFFC222	Medical Terminology II	3
OFFC223	Medical Transcription III	2
OFFC302	Typing II	2
OFFC306	Information Processing I	2
OFFC309	Office Accounting	2
OFFC320	Human Body in Health & Disease	3
OFFC403	Professionalism I	1
OFFC404	Professionalism II	1
OFFC405	Professionalism III	1
OFFC430	Medical Transcription I	3
OFFC431	Medical Transcription II	3
OFFC432	Medical Office Techniques I	3
OFFC433	Medical Office Techniques II	3
OFFC435	Internship for Medical Secretary	6

SURGICAL TECHNOLOGIST

The Surgical Technologist program provides the opportunity for students to develop the knowledge and skills which contribute to the safe and competent care of a surgical patient. The curriculum proceeds from simple to more complex in the classroom and clinical area. Upon graduation from the program, the surgical technologist is qualified to function under the direct guidance of the Licensed Registered Nurse and/or surgeon.

The program is accredited by the Joint Review Committee for Surgical Technology Education (JRCSTE) for the American Medical Association. Graduates are eligible to take the National Surgical Technologist Qualifying Certification Examination given by the Association of Surgical Technologists (AST).

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Submit proof of having achieved a grade of "C" or better in two terms of high school biology and chemistry or equivalent completed within the last 5 years. Submit proof of CPR course, a first aid course, and two-hour credit medical terminology class. Students start fall term.

Graduation Requirements

To earn a Surgical Technologist diploma, complete all course work as prescribed and attain a 2.0 grade point average.

Required Courses

These or equivalent must be taken prior to entry

EMRC301	Emergency Care	1
HLCR317	Medical Terminology	2

Term 1

BIOL130	General Anatomy & Physiology	5
BIOL132	Health Sciences Microbiology	4
STOR454	Human Relations in the Operating Room	1
STOR458	O.R. Techniques	4
STOR459	Fundamentals of O.R. I	5

Term 2

STOR462	Operating Room Practicum I	7
STOR463	Surgical Pharmacology	1
STOR464	Fundamentals of O.R. II	5
STOR465	Surgical Procedures & Instruments I	5

Term 3

STOR470	Surgical Technology Seminar	2
STOR471	Surgical Procedures II	3
STOR472	Operating Room Practicum II	7



EDUCATIONAL PROGRAMS



TEACHER ASSOCIATE

This program prepares the student for work assisting the professional teacher. Two options are offered: elementary and secondary teacher associates. Credits are transferable to four-year colleges and universities.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

Students enrolled in the Teacher Associate program complete the core requirements for the AS degree along with the following program requirements.

Required Courses

EDCR101	Introduction to Education	3
EDCR102	Growth & Education of the Child	3
EDCR206	Internship/Teaching Experiences	4
LITR124	Children's Literature	3
PLSC111	American National Government	3
PSCH101	General Psychology	3
PSCH109	Educational Psychology	3
SOCY101	Introduction to Sociology	3

Option Courses

Select one course from Option 1		
MATH115	Finite Mathematics	Opt1 4
MATH118	Math for Elementary Educators	Opt1 4
Select at least 9 credits from Option 2		
ARTS105	Art in the Elementary School	Opt2 3
EDCR103	Contemporary Issues in Education	Opt2 3
EDCR104	Enriching the Curriculum	Opt2 3
MUSI131	Introduction to Music	Opt2 3
Complete Other Core and Elective Requirements		26

TELECOMMUNICATIONS

This program prepares the student for employment in the current telephone industry as a craftsman. The common industry job titles for the graduate of this program are switchperson and key system and station equipment installer.

The learning experiences in classroom and laboratory instruction for the first term provide a knowledge of telephony, outside plant, and station equipment, including buried and aerial cable, cable splicing techniques, trouble shooting procedures, installation and repair of phones, multi-channel subscriber carrier systems, key systems (electronic & digital) and current technology (Computerized Branch Exchanges--ROLM VSCBX).

The final term will include system maintenance of state-of-the-art digital switching systems, using experiences on a Northern Telecom Digital Multiplex System (DMX-10).

Graduates have been placed with numerous telephone companies, interconnect companies, and specialized common carriers.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Submit proof of one year of high school algebra or equivalent. Students start summer term.

Graduation Requirements

To qualify for the diploma, complete all courses as prescribed and attain a grade point average of 2.0.

Term 1		
TELE419	DC Fundamentals for Telephony	3
TELE439	Math for Telephony I	2
TELE481	Telephony I	2
TELE483	Telephony Experience I	5
Term 2		
TELE429	Telephony II	4
TELE440	Math for Telephony II	3
TELE451	Basic Digital Logic Electronics	4
TELE454	Telephony Experience II	7
Term 3		
ENGL115	Technical & Business Writing	3

EDUCATIONAL PROGRAMS

TELE452	AC & DC Applications	4
TELE453	Telephony III	4
TELE455	Telephony Experience III	7

ENGL410	Communication Skills	3
SOCY302	Industrial Relations	3

TOOL AND DIE

The Tool and Die program is designed to fill the demand for qualified personnel for either conventionally controlled or computer-numerically controlled (CNC) tooling industry.

A variety of career goals may be expected from the program after a suitable period of practical experience. Former students of this program are employed as tool planners who assist in making decisions on methods of production, experimental technicians who work closely with engineers in developing working models, tool makers who devise the tooling that makes quantity production possible, and program operators who plan, direct, and operate computer-numerically controlled equipment.

A solid basis of machining skills is taught in the first year, however, the second half of the program involves the familiarization and practical experience on state-of-the-art equipment in developing real industry tooling projects. Actual industrial equipment is taught including CNC turning center, machining centers, and wire electrical discharge machining (EDM).

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start fall term.

Graduation Requirements

To earn the AAS degree, students must complete the courses as prescribed and attain a 2.0 grade point average.

Term 1

RCMA400	Related Math	3
TOOL480	Blueprint Reading I	3
TOOL482	Machine Shop Measurements I	3
TOOL484	Machine Tool Operations I	3
TOOL486	Machine Tool Operations Lab I	5

Term 2

TOOL481	Blueprint Reading II	3
TOOL483	Machine Shop Measurements II	3
TOOL485	Machine Tool Operations II	4
TOOL487	Machine Tool Operations Lab II	7

Term 3

TOOL490	Machine Tool Operations Lab III	7
TOOL491	Machine Tool Operations III	4

Term 4

DIEM400	Basic Diemaking	4
DIEM401	Basic Diemaking Lab	7
DIEM402	Advance Blueprint Reading	3
TOOL489	Heat Treatment of Materials	3

Term 5

DIEM403	Progressive Die Design	4
DIEM404	Advanced Diemaking	4
DIEM405	Advanced Diemaking Lab	7
DIEM413	Electrical Discharge Machining	3

Term 6

DIEM407	Plastic Moldmaking	3
DIEM410	CNC Machine Operations	8
Must be taken anytime prior to completion		

UPHOLSTERY

The Upholstery program is designed to provide the student with the necessary knowledge to enter employment in the automotive or furniture upholstery field. The program provides a blend of shop and classroom activities utilizing laboratory projects and experiences.

Classroom instruction includes the use of machines and hand tools, pattern layout, furniture construction, color concepts and coordination, and cost estimating. The listed sequence of courses may be altered.

Graduates of this program will find employment in automotive or furniture upholstery businesses.

Location: Ankeny

Program Entry Requirements

Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To earn an Upholstery diploma, complete all courses as prescribed and attain a 2.0 grade point average.

Term 1

ENGL410	Communication Skills	3
RCMA400	Related Math	3
UPHL421	Upholstery I	10

Term 2

SOCY302	Industrial Relations	3
UPHL422	Upholstery II	10
UPHL432	Technical Problems	4
UPHL433	Recordkeeping & Filing	2

Term 3

UPHL423	Upholstery III	10
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EDUCATIONAL PROGRAMS

WELDING

Welding is the term used to describe numerous methods of joining metals. Students are provided with entry-level welding skills and knowledge essential for employment in the industrial manufacturing, job shop, and pipe welding industries.

Ferrous and non-ferrous metals are joined using the oxyacetylene, shielded metallic arc, gas metallic arc and gas tungsten arc welding processes. Freehand and machine flame cutting are also taught.

Classroom theory, blueprint reading and related math are part of the instructional program. The listed sequence of course offerings may be altered.

Location: Ankeny

Program Entry Requirements

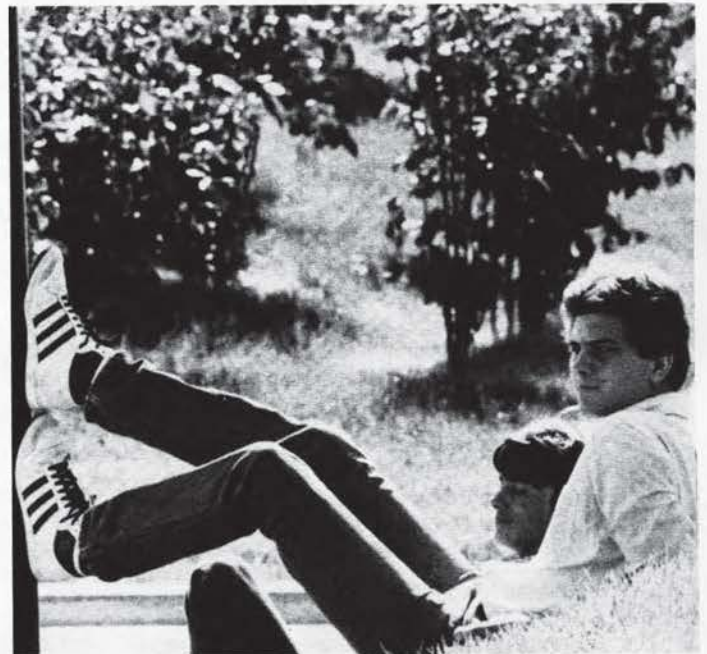
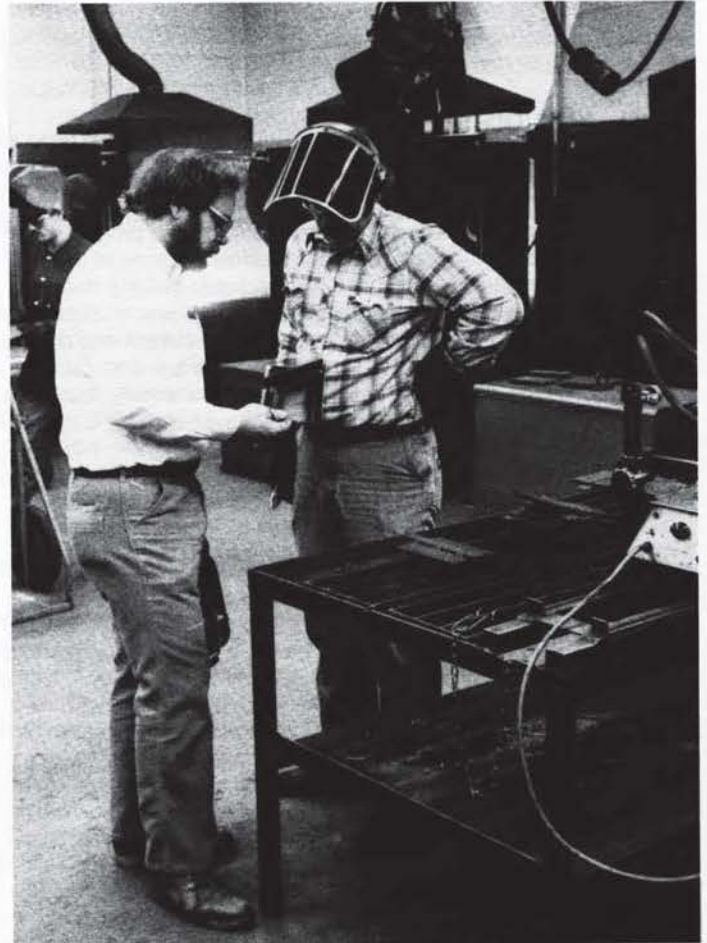
Complete an application and attend any required orientation/information sessions. Students start any term.

Graduation Requirements

To earn the Welding diploma, complete all course work as prescribed and attain a 2.0 grade point average.

Required Courses

ENGL410	Communication Skills	3
RCMA400	Related Math	3
SOCY302	Industrial Relations	3
WELD470	Welding Fundamentals & Theory	5
WELD472	Shielded Metallic Arc Welding I	7
WELD473	Oxygen-Acetylene Welding & Cutting	2
WELD480	Applied Theory & Metallurgy	5
WELD481	Blueprint Reading	3
WELD482	Shielded Metallic Arc Welding II	7
WELD483	Gas Metallic Arc Welding	2
WELD492	Shielded Metallic Arc Welding III	2
WELD493	Gas Tungsten Arc Welding	2
WELD494	Shielded Metallic Arc Welding - Pipe	3



SPECIALIST CERTIFICATES

SPECIALIST CERTIFICATE PROGRAMS

Specialist Certificate programs are short-term credit programs intended to provide individuals with the latest information and skills needed to function more effectively in their jobs.

Each Specialist Certificate program includes several courses, some required and some optional. The courses are designed to provide comprehensive up-to-date information in an occupational area.

Although individuals are encouraged to complete the entire certificate program, any course within the program may be taken individually. They will provide you and an employer with evidence of your continued education in a specific job field. The education you gain will increase your ability to function in a given area and broaden your marketable job skills.

Most classes are held late afternoons, evenings or Saturdays.

Students do not need to complete an application to enroll in any specialist program. After completing the necessary classes, students may request a certificate from the Student Records Office.

ACCOUNTING - BASIC

The Basic Certificate in Accounting option prepares the student for an entry level position in the field of bookkeeping and recordkeeping. Upon completion, the successful candidate will be able to distinguish, analyze, summarize, communicate, and record economic events for a profit oriented entity at the trainee level.

Employment opportunities are currently found in commercial businesses, government offices, public accounting firms and similar enterprises.

Required Courses

ACCT101	Principles of Accounting I	4
ACCT102	Principles of Accounting II	4
OFFC311	Business Math & Calculators	3

Option Courses

	One course required from Option 1	
ACCT105	Governmental Accounting	Opt1 3
ACCT203	Cost Accounting I	Opt1 4
	One course required from Option 2	
BKKA482	Typing for Accountants	Opt2 2
BSAD150	Introduction to Business	Opt2 3
DATA101	Introduction to Data Processing	Opt2 3

ACCOUNTING - ADVANCED

The Advanced Certificate in Accounting option 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 economic events for a profit oriented entity at the entry level.

Technical courses in intermediate accounting, computers, and cost accounting allow students to seek advanced level placement in some cases.

Employment opportunities are currently found in commercial businesses, government offices, public accounting firms, and similar establishments.

Required Courses

ACCT101	Principles of Accounting I	4
ACCT102	Principles of Accounting II	4
ACCT103	Intermediate Accounting I	4

ACCT203	Cost Accounting I	4
BSAD150	Introduction to Business	3
BSAD227	Business Communications	3
DATA101	Introduction to Data Processing	3
OFFC205	Business English	3
OFFC311	Business Math & Calculators	3

Option Courses

	One course required from Option 1	
ACCT104	Intermediate Accounting II	Opt1 4
ACCT105	Governmental Accounting	Opt1 3
ACCT204	Cost Accounting II	Opt1 4
	One course required from Option 2	
BKKA482	Typing for Accountants	Opt2 2
BUSL101	Business Law I	Opt2 3
ECON101	Principles of Macro-Economics	Opt2 3
MKTG102	Principles of Marketing	Opt2 3

ADMINISTRATIVE SUPPORT

The purpose of the Administrative Support certificate program is to provide office workers with training to assume a variety of administrative functions in today's office. Skills taught to previously trained office workers include communication, record keeping, and decision making to enhance their advancement. Jobs certificate holders may qualify for include: administrative secretary, assistant office supervisor, manager, and executive assistant.

Required Courses

OFFC205	Business English	3
OFFC206	Written & Oral Communications	3
OFFC302	Typing II	2
OFFC303	Typing III	2
OFFC304	Introductory Shorthand	4

Option Courses

	Select two courses (not both OFFC309 & 311)	
OFFC305	Advanced Shorthand & Transcription	Opt 4
OFFC306	Information Processing I	Opt 2
OFFC309	Office Accounting	Opt 2
OFFC310	Professional Development	Opt 3
OFFC311	Business Math & Calculators	Opt 3
OFFC317	Office Procedures I	Opt 2
OFFC318	Office Procedures II	Opt 2



SPECIALIST CERTIFICATES

AGRI-BUSINESS

This certificate program is based on the technical aspects of feed and grain handling with added emphasis on selling principles.

It is intended for the student needing entry-level skills or for upgrading credentials for the currently employed.

Required Courses

AGRI201	Feeding & Animal Nutrition I	3
AGRI205	Commodities I	3
AGRI319	Soils	2
AGRI320	Fertilizers	3
MKTG103	Principles of Selling	3

Option Courses

Two courses required from Option 1		
AGRI202	Soil Fertility	Opt1 3
AGRI215	Commodities II	Opt1 3
AGRI421	Chemical Technology	Opt1 3
MGMT203	Human Relations in Business	Opt1 3
OFFC207	Introduction to Computers	Opt1 3

AIRBRUSH ART

Study design theory and practice application and operational techniques of airbrush. Includes textures, spotlight effects, color techniques, photo retouching, portrait, figure, and architectural rendering.

Required Courses

CART449	Airbrush I	4
CART451	Airbrush II	4

AUTO COLLISION REPAIR

This certificate program allows for an overview of the Auto Collision Repair process.

The introduction course is for those wishing to explore the Auto Collision Repair processes, while Auto Estimating is designed for those with prior knowledge in Auto Collision Repair.

Required Courses

AUTC401	Fundamentals of Sheet Metal Repair	6
AUTC407	Collision Damage Appraisal Estimating	3

AUTO MECHANICS

Offers knowledge and skill development on certain systems of the automobile. Course can be selected to fill individual's needs. For those who have limited knowledge, it is suggested that the course Introduction to Auto Mechanics be taken first.

Option Courses

12 credits required from Option 1		
Elective - Dept. Approved		
AUTO301	Introduction to Auto Mechanics	Opt1 3
AUTO304	Carburetion	Opt1 3
AUTO305	Tune-Up - Advanced	Opt1 3
AUTO306	Automatic Transmissions	Opt1 3
AUTO308	Brakes	Opt1 3
AUTO309	Front End Alignment Machines	Opt1 3
AUTO467	Automotive Electricity	Opt1 8
AUTO471	Automotive Engines	Opt1 6
AUTO469	Air Conditioning	Opt1 3



AUTO PARTS

This certificate program provides an organized basic understanding for those considering a career in automotive parts as well as those who already may be involved in the parts distribution system.

Option Courses

Two courses required from Option 1		
AUTO301	Introduction to Auto Mechanics	Opt1 3
AUTP301	Parts & Product Analysis	Opt1 3
AUTP302	Catalogs & Nomenclature	Opt1 3

BUILDING MAINTENANCE

The Building Maintenance certificate program is a series of job related courses which provide a person with an understanding of how to keep a commercial or industrial type of building operating efficiently and effectively. Skill training enables a maintenance specialist to do the job from the first day of employment. Personnel presently working in maintenance can upgrade their skills.

Required Courses

BLDM325	Boiler Room Maintenance	1
ELEM325	General Electricity	3

Option Courses

Three credits required from Option 1		
BLDM326	Steam Plant Operation	Opt1 2
BLDM327	Plumbing, Electricity, & Hardware	Opt1 2
BLDM328	Inventory & Purchasing	Opt1 1
BLDM329	Basic Plumbing	Opt1 2
BLDM330	Building Custodian	Opt1 1
HLCR314	Emergency Care	Opt1 1

SPECIALIST CERTIFICATES

CABLE TV INSTALLATION & SERVICE

A certificate program to provide trained installation and maintenance personnel for the cable television industry. Graduates will be prepared for entry level positions. Electronics, field techniques, and map reading are the major areas with math, communication skills, and customer relations as essential related courses.

Required Courses

CATV401	Electrical Principles	5
CATV402	Field Techniques I	5
CATV404	Circuit/Map Reading	3
CATV408	Technical Mathematics	3
CATV411	Electronic Principles	5
CATV412	Field Techniques II	5
CATV416	Business Practices	3
ENGL115	Technical & Business Writing	3

CHEMICAL DEPENDENCY COUNSELING

This one-year certificate program is offered cooperatively with Powell III at Iowa Methodist Hospital. For information and admission, call or write Powell III, Iowa Methodist Hospital, 1200 Pleasant, Des Moines, Iowa 50308.

Required Courses

ENGL117	Composition I	3
HUMS109	Survey of Mental Health Treatment	3
HUMS202	Interviewing & Interpersonal Relationships	3
HUMS205	Intervention Theories & Practice I	3
HUMS206	Intervention Theories & Practice II	3
HUMS207	Field Experience	4
HUMS212	Survey of Chemical Dependency	2
HUMS213	Practicum in Chem. Dependency Counseling I	6
HUMS214	Practicum in Chem. Dependency Counseling II	6

Option Courses

One course required from Option 1		
BIOL127	Human Biology	Opt1 3
PSCH103	Developmental Psychology	Opt1 3
PSCH104	Abnormal Psychology	Opt1 3
SOCY102	Social Issues	Opt1 3
SPCH110	Fundamentals of Speech	Opt1 3
One course required from Option 2		
PSCH103	Developmental Psychology	Opt2 3
PSCH104	Abnormal Psychology	Opt2 3

CHILD CARE SPECIALIST I

This certificate program is for people with little or no experience and/or training in the child care field. It will provide a comprehensive learning experience for individuals in the care and guidance of young children.

Required Courses

CHLD240	Emergency Care	1
CHLD336	Development in Early Childhood	2
CHLD337	Creating the Environment	2

Option Courses

Select two courses from Option 1		
CHLD339	Working with Infants	Opt1 1
CHLD340	Working with Toddlers	Opt1 1
CHLD341	Working with the Preschooler	Opt1 1
CHLD342	Working with the School Age Child	Opt1 1

CHILD CARE SPECIALIST II

This certificate program is for people with experience and/or training in the child care field. This short-term credit program will offer participants the latest information and skill development needed to function more effectively in their jobs as child care providers.

Required Courses

CHLD343	Assessing Children for Program Planning	1
CHLD345	Health and Nutrition	1
CHLD346	Developing Leadership Skills	1
CHLD347	Planning Group Activities	1

Option Courses

Select one course from Option 1		
CHLD348	Helping Children Cope with Stress	Opt1 1
CHLD349	Contemporary Issues in Child Care	Opt1 1
CHLD350	Identifying & Referring the Individual Child	Opt1 1
Select one course from Option 2		
CHLD351	Innovations in Classroom Materials/Activities	Opt2 1
CHLD352	Practical Experience in Child Care	Opt2 1

CLERICAL SPECIALIST

The Clerical Specialist certificate program is designed to provide the basic skills for entry-level office occupations. At the completion of the program, the student will be able to type at 55 words a minute, operate business calculators, and do routine word processing on automatic typewriters.

Required Courses

OFFC205	Business English	3
OFFC301	Typing I	2
OFFC302	Typing II	2
OFFC303	Typing III	2
OFFC306	Information Processing I	2
OFFC311	Business/Math Calculators	3

Option Courses

Select two courses from Option 1		
COOP220	Pre-Employment Seminar	Opt1 2
OFFC307	Information Processing II	Opt1 2
OFFC309	Office Accounting	Opt1 2
OFFC317	Office Procedures I	Opt1 2



SPECIALIST CERTIFICATES



COMPUTER LANGUAGES

This certificate program provides the basic elements of program design, logic, and analysis with emphasis in COBOL language.

It is intended for the student with prior business work experience or formal education wishing to gain entry level skills or for the presently employed person who wants to upgrade credentials.

Required Courses

ACCT101	Principles of Accounting I	4
DATA101	Introduction to Data Processing	3
DATA304	COBOL-Beginning	4
DATA306	COBOL-Intermediate	4
DATA319	Assembler-Beginning	4
DATA382	Systems Analysis	4

Option Courses

Two courses required from Option 1		
DATA211	FORTRAN	Opt1 3
DATA221	PL/I	Opt1 3
DATA231	RPG/II	Opt1 3
DATA301	DOS Job Control	Opt1 4
DATA308	COBOL-Advanced	Opt1 4
DATA310	Program Logic Design	Opt1 4
DATA321	Assembler-Intermediate	Opt1 4
DATA338	OS/JCL	Opt1 2

CORONARY CARE - BASIC

Provides a comprehensive learning experience for nurses in a coronary care setting.

Each course offers the nurse the opportunity to learn the basics of the coronary care area and will be updated to reflect the latest trends.

The classes also will provide an overview of coronary topics covered in the CCRN examination.

Required Courses

HLCR301	Introduction to Coronary Care	1
HLCR302	Coronary Anatomy & Physiology	1
HLCR303	Arrhythmia Interpretation	3
HLCR304	Nursing Care & Coronary Complications	1

Option Courses

One course required from Option 1		
HLCR305	Surgical Intervention	Opt1 1
HLCR306	The Rehabilitation Phase	Opt1 1

DATA ENTRY

Data Entry is a certificate program designed to give quick skills in entering data on a visual display terminal.

Graduates of this program would function as data entry operators, but a course in word processing could be very helpful as similar equipment is used.

Instruction is also given in job hunting, resumes, and interviewing.

Required Courses

COOP220	Pre-Employment Seminar	2
MGMT203	Human Relations in Business	3
OFFC312	Data Entry	3

DIETETIC SERVICE SPECIALIST I, II, III

The Dietetic Service Specialist certificate program provides the knowledge and skills necessary for a person to assist in an entry level position in a dietary department.

The dietary employee assumes responsibility for the production and service of appetizing and nutritionally balanced meals.

The Iowa State Department of Health, Division of Health Facilities, has approved the starred (*) courses for meeting the 90-hour requirements.

Dietary Service Specialist I

Required Courses

DIAS381	Food Preparation*	1
DIAS382	Sanitary & Efficient Meal Service*	2
DIAS383	Modified Diets*	1

Dietary Service Specialist II

Required Courses

DIAS384	Food Service Management*	2
DIAS385	Purchasing*	1
DIAS386	Mathematics	1
DIAS387	Self & Others	1
DIAS388	Clinical Studies	1

Dietary Service Specialist III

Required Courses

DIAS390	Nutrition: Life Cycle	2
DIAS391	Food Production	1
DIAS392	Advanced Food Service Management	1
DIAS393	Advanced Clinical Studies	1
DIAS394	Supervised Work Experience	2

ELECTRONICS

This certificate program allows one to build a knowledge base in electricity/electronics and to build credentials for an associate degree.

Required Courses

ELET357	Digital	3
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Option Courses

Select 4 credits from Option 1		
ELEM320	Basic Electrical Motor Theory	Opt1 1
ELEM321	Motor Control I	Opt1 3
ELEM322	Motor Control II	Opt1 3
ELEM323	Code Book & Motors	Opt1 1
ELET340	Solid State I	Opt1 3
ELET346	Solid State II	Opt1 3
ELET358	Microprocessors I	Opt1 3
ELET359	Microprocessors II	Opt1 3

SPECIALIST CERTIFICATES

EMERGENCY MEDICAL TECHNICIAN - AMBULANCE

Provides an introductory learning experience for persons interested in the field of pre-hospital emergency care.

This course includes practical and written testing in the classroom as well as clinical experience in the area hospitals. National Registry certification tests will be administered at course completion in both the written and skill areas.

Course requirements include 80 percent test scores, 18 years old at course completions, and proficiency in all skills.

Required Courses

HLCR307 EMT-Ambulance 6

FIRE SPECIALIST

The Fire Specialist certificate program provides basic technical knowledge for people working in the fire protection field.

Course work covers the scientific principles that affect fire, its causes and behavior, and the means of minimizing its destructive effects through design, detection, suppression and prevention.

Instruction in the FIRE courses is provided by Iowa State University Fire Service Education instructors. These courses are scheduled in the evenings only, and are not available during the summer term.

Required Courses

CHEM131	General Chemistry I	4
FIRE231	Introduction to Fire Science	2
FIRE232	Fire Behavior	3
FIRE233	Building Construction	3
FIRE234	Fire Protection Systems	3
FIRE235	Hazardous Materials	3
FIRE236	Fluid Flows	3
FIRE237	Planning for Fire Protection	3
FIRE238	Fire Investigation	2
PHYL106	Survey of Physical Science	4



GRAPHIC ARTS

A series of job related courses to provide broad knowledge of the printing industry. Sufficient skill training is included for entry level employment.

Required Courses

GRPH303	Color Photography	2
GRPH305	Graphics Arts Procedures & Materials	3

Option Courses

One course required from Option 1		
GRPH304	Darkroom Techniques	Opt1 2
GRPH312	Small Publications	Opt1 2
PRTG461	Layout, Design & Paste Up	Opt1 2

HCA-RESIDENTIAL CARE CERTIFICATE

This certificate program qualifies people as administrators of a residential care facility. Such people administer facilities for the aged, mentally retarded and/or developmentally disabled. Courses offered in this certificate program may be transferred to the Associate Degree program in Health Care Administration.

Required Courses

Elective-English		3
Elective-Social Science		3
ACCT101	Principles of Accounting I	4
ADHC200	Orientation	0
ADHC275	Administration of Long Term Care Facilities	6
ADHC276	Services for Long Term Care Patients	6
BUSL101	Business Law I	3

Option Courses

Complete Option 1 or Option 2 or Option 3		
SOCY201	Introduction to Social Gerontology	Opt1 3
SOCY202	Practical Application of Social Gerontology	Opt1 1
ADHC226	Management of Services/Mentally Disabled	Opt2 3
ADHC228	Field Projects in Services/Mentally Disabled	Opt2 1
ADHC227	Management of Services/Mentally III	Opt3 3
ADHC229	Field Projects in Services/Mentally III	Opt3 1

SPECIALIST CERTIFICATES

INSURANCE SALES

This certificate program offers the basic elements of insurance with emphasis on human relations and marketing.

It is intended for those wishing to become licensed to sell insurance or for those in the field who want to upgrade credentials.

Business internship credit is evaluated and established by a staff committee.

Required Courses

	Elective-English/Speech	3
BSAD225	Principles of Insurance	3
MGMT203	Human Relations in Business	3
MKTG103	Principles of Selling	3

Option Courses

Two courses required from Option 1		
BSAD150	Introduction to Business	Opt1 3
BSAD223	Business/Financial Math	Opt1 3
BUSL101	Business Law I	Opt1 3
MGMT103	Sales Management	Opt1 3
MGMT340	Business Internship	Opt1 7
MKTG102	Principles of Marketing	Opt1 3
MKTG104	Advertising & Sales Promotion	Opt1 3

INTERNATIONAL TRADE

This certificate program is designed as an upgrading opportunity for persons who already have experience in business and desire to concentrate on specialized courses in International Trading.

Required Courses

ANTH122	Peoples and Cultures of Mexico	3
FNSR213	International Banking	3
GEOG147	Developed World	3
GEOG148	Third World	3
ITSP110	International Business	3
ITSP130	International Marketing	3
ITSP150	International Documents	3

Option Courses

Complete All of Option 1 or All of Option 2		
FORL120	Elementary Spanish I	Opt1 4
FORL121	Elementary Spanish II	Opt1 4
FORL130	French I	Opt2 4
FORL131	French II	Opt2 4

MID-MANAGEMENT

This certificate program focuses on a broad-based understanding of business organization and activities with emphasis on human relations, legal aspects, and basic management practices.

It is intended for one in first-line supervision aspiring to advancement, the recently promoted manager who wishes to upgrade credentials, or the student possessing long-range goals that include upward movement through management.

Required Courses

	Elective-English/Speech	3
ACCT101	Principles of Accounting I	4
ACCT301	Accounting Fundamentals	3
BSAD150	Introduction to Business	3
BSAD223	Business/Financial Math	3
BUSL101	Business Law I	3
DATA101	Introduction to Data Processing	3

DATA103	BASIC	3
MGMT101	Personnel Supervision	3
MGMT102	Introduction to Management	3
MGMT203	Human Relations in Business	3

Option Courses

One course required from Option 1		
BSAD152	Business Statistics	Opt1 4
BSAD153	Office Management	Opt1 3
BSAD243	Quantitative Methods	Opt1 4
MGMT103	Sales Management	Opt1 3
MKTG211	Industrial Marketing	Opt1 3
MKTG321	Retail Management I	Opt1 3



MONEY MANAGEMENT

This certificate program is intended for persons within a service or helping profession who are serving individuals in need of money management guidance. The program will help students discover and develop individualized styles of working with people on money related problems.

The courses train individuals to utilize appropriate resources to assist the client in achieving immediate and/or long-range monetary-related goals.

Completion of the program will enable the student to assist clients with debt and financial crisis, effective budgeting and buying practices, financial planning, referral avenues, and legal problems and services.

Individuals in human service occupations will find it useful in functioning more effectively as they serve others in the area of financial resources. The program is particularly helpful for those in the credit and banking industry to help them in their role as financial counselor.

Required Courses

SEVC356	Introduction to Money Management Counseling	2
SEVC357	Developing Skills in Money Mgmt. Counseling	2

Option Courses

One course required from Option 1		
SEVC358	Current Money Management Topics	Opt1 2
SEVC359	Crisis Intervention/Counseling Techniques	Opt1 2

SPECIALIST CERTIFICATES

MOTOR CONTROL

The Motor Control certificate program is for the person who has or will have responsibility for the set up, installation, replacement, or maintenance of electrical motors.

The typical student will have some maintenance or electrical experience, and a desire to update and expand knowledge of the function of electric motors.

Required Courses

ELEM321	Motor Control I	3
ELEM322	Motor Control II	3

Option Courses

One course required from Option 1		
ELEM320	Basic Electrical Motor Theory	Opt1 1
ELEM323	Code Book for Motors	Opt1 1
HLCR314	Emergency Care	Opt1 1

NURSING ASSISTANT/ORDERLY

A short-term survey for individuals seeking entry-level positions in health care. The nursing assistant helps the client with personal care needs and aids the professional by implementing a plan of care. Other duties might include selected treatments, transporting people, messenger service, preparation of equipment, and recordkeeping. The program meets State Health Department certification requirements.

Required Courses

HLCR314	Emergency Care	1
HLCR317	Medical Terminology	2
HLCR318	Nurse Assistant/Orderly	6

NURSING - GERONTOLOGICAL

Understanding gerontology or the process of aging is a major part of health care today. Program will provide an overview of gerontology topics covered in the American Nurses Association certification process.

The Gerontological Nursing Specialist uses the nursing process to assess the needs of the elderly, plan care, implement, and evaluate that care.

Required Courses

HLCR308	Process of Aging	2
HLCR309	Assessment of the Geriatric Patient	2
HLCR310	Drugs & the Elderly	1
HLCR311	Developing Management Skills	2

Option Courses

Two courses required from Option 1		
HLCR312	Assertiveness Training	Opt1 1
HLCR313	Infection Control	Opt1 1
HLCR314	Emergency Care	Opt1 1

PHLEBOTOMY

This certificate program is designed to provide the skills to assist the lab technician in the art of drawing blood samples.

This program can be completed in ten weeks. Classes meet twice a week for 11 meetings (33 total hours), followed by four weeks of clinical experience (4 hours a day for a total of 80 hours).

Required Courses

PHLE302	Phlebotomy	2
PHLE303	Phlebotomy Practicum	3

PRODUCTION ART

A skill-building certificate program that will teach the content, design, and techniques of preparation of material for magazines, advertisements, and publications.

Required Courses

CART407	Production Art I	4
CART415	Production Art II	4

PSYCHIATRIC TECHNICIAN

A short-term skill-oriented program to assist individuals in obtaining entry-level positions in a mental health institution. Learn a variety of skills ranging from activities of daily living, communication skills, crisis intervention, emergency care, and documentation. You will work with professional staff in implementing a plan of care for the client.

Required Courses

HLCR314	Emergency Care	1
HLCR318	Nursing Assistant (Prerequisite)	6
HLCR328	Mental Health Skills	4
HLCR329	Managing Aggressive/Nonaggressive People	1
HLCR330	Documentation	1

PUBLIC SAFETY COMMUNICATION

This certificate program is designed to provide individuals with the information and skills needed to function effectively as a Public Safety Communications Operator.

Any individual course may be taken for college credit or continuing education units (CEU's). However, all courses must be taken for credit and completed satisfactorily if the specialist certificate is to be awarded.

Required Courses

SERC334	Emergency Medical Dispatch	1
SERC335	Basic Communications Operator Skills	2
SERC336	Intermediate Communications Operator Skills	1
SERC337	Communication Operator Internship	1
SERC338	Training Skills	1
SERC339	Government & Community Resources	1
SERC340	Advanced Communications Operator Skills	1
SERC341	Interpersonal Communications	1



SPECIALIST CERTIFICATES

PURCHASING

This certificate program covers the principles of purchasing with emphasis on accounting and legal aspects.

It is designed for the person looking for a career change to purchasing or for one already in the field wishing to build on present credentials.

Business internship credit is evaluated and established by a staff committee.

Required Courses

ACCT101	Principles of Accounting I	4
BSAD223	Business/Financial Math	3
BUSL101	Business Law I	3
MKTG212	Purchasing	3

Option Courses

Two courses required from Option 1

	Elective-English/Speech	Opt1	3
BSAD150	Introduction to Business	Opt1	3
BSAD153	Office Management	Opt1	3
DATA101	Introduction to Data Processing	Opt1	3
DATA103	BASIC	Opt1	3
MGMT340	Business Internship	Opt1	7
MKTG102	Principles of Marketing	Opt1	3
MKTG211	Industrial Marketing	Opt1	3

REAL ESTATE SALES

This certificate program offers the basic elements of real estate with emphasis on human relations and legal aspects.

It is intended for those wishing to become licensed to sell real estate or for those in the field who want to upgrade credentials.

Business internship credit is evaluated and established by a staff committee.

Required Courses

BSAD226	Principles of Real Estate	3
BUSL101	Business Law I	3
MGMT203	Human Relations in Business	3
MKTG103	Principles of Selling	3

Option Courses

Two courses required from Option 1

	Elective-English/Speech	Opt1	3
BSAD150	Introduction to Business	Opt1	3
BSAD223	Business/Financial Math	Opt1	3
MGMT103	Sales Management	Opt1	3
MGMT340	Business Internship	Opt1	7
MKTG104	Advertising & Sales Promotion	Opt1	3

SELLING - BASIC

This certificate program provides the basic elements of selling and marketing with special emphasis on human relations and communication.

It is intended for the student wishing to enter this exciting and rewarding field and for the currently employed sales person who wants to build on present credentials.

Business internship credit is evaluated and established by a staff committee.

Required Courses

MGMT103	Sales Management	3
MGMT203	Human Relations in Business	3
MKTG102	Principles of Marketing	3
MKTG103	Principles of Selling	3

Option Courses

Choose two courses from Option 1

BSAD150	Introduction to Business	Opt1	3
MGMT340	Business Internship	Opt1	7
MKTG104	Advertising & Sales Promotion	Opt1	3
MKTG211	Industrial Marketing	Opt1	3
MKTG321	Retail Management I	Opt1	3
MKTG323	Display & Visual Merchandising	Opt1	2
MKTG334	Principles of Fashion Merchandising	Opt1	3
SOCY101	Introduction to Sociology	Opt1	3
SPCH110	Fundamentals of Speech	Opt1	3
SPCH114	Persuasive Speaking	Opt1	3

SELLING - ADVANCED

This certificate program emphasizes the broad principles of business, marketing, selling, and sales management with added coverage of human relations and communication.

It is intended for those wishing to enter the sales field with adequate educational preparation or for those now selling who want to build on their present credentials.

Business internship credit is evaluated and established by a staff committee.



SPECIALIST CERTIFICATES

Required Courses

BSAD150	Introduction to Business	3
MGMT103	Sales Management	3
MKTG102	Principles of Marketing	3
MKTG103	Principles of Selling	3
MKTG104	Advertising & Sales Promotion	3
SPCH110	Fundamentals of Speech	3
SPCH114	Persuasive Speaking	3

Option Courses

One course required from Option 1		
BSAD303	Adventures in Attitudes	Opt1 2
MGMT203	Human Relations in Business	Opt1 3
3 credits required from Option 2		
	Elective-English	Opt2 3
BSAD223	Business/Financial Math	Opt2 3
MGMT321	Retail Management I	Opt2 3
MGMT340	Business Internship	Opt2 7
MKTG211	Industrial Marketing	Opt2 3
MKTG323	Display & Visual Merchandising	Opt2 2
MKTG334	Principles of Fashion Merchandising	Opt2 3
SOCY101	Introduction to Sociology	Opt2 3

SMALL BUSINESS MANAGEMENT

This certificate program offers broad coverage of the basic elements of small business management with emphasis on human relations and marketing.

It is intended for those aspiring to own and/or manage a small business or for someone already in such a position.

Business internship credit is evaluated and established by a staff committee.

Required Courses

ACCT101	Principles of Accounting I	4
ACCT301	Accounting Fundamentals	3
BSAD229	Small Business Management	3
MGMT203	Human Relations in Business	3
MKTG102	Principles of Marketing	3

Option Courses

Two courses required from Option 1		
	Elective-English	Opt1 3
BSAD223	Business/Financial Math	Opt1 3
BUSL101	Business Law I	Opt1 3
DATA101	Introduction to Data Processing	Opt1 3
DATA103	BASIC	Opt1 3
MGMT101	Personnel Supervision	Opt1 3
MGMT340	Business Internship	Opt1 7
MKTG103	Principles of Selling	Opt1 3
MKTG104	Advertising & Sales Promotion	Opt1 3
MKTG211	Industrial Marketing	Opt1 3
MKTG212	Purchasing	Opt1 3
MKTG321	Retail Management I	Opt1 3
MKTG323	Display & Visual Merchandising	Opt1 2
MKTG334	Principles of Fashion Merchandising	Opt1 3

SUPERVISION - BASIC

This certificate program offers broad coverage of the basic elements of management with added emphasis on human relations.

It is intended for those aspiring to be a beginning management/supervision position or for those recently appointed to such a position.

Business internship credit is evaluated and established by a staff committee.



Required Courses

	Elective-English/Speech	3
MGMT101	Personnel Supervision	3
MGMT102	Introduction to Management	3
MGMT203	Human Relations in Business	3

Option Courses

6 credits required from Option 1		
BSAD150	Introduction to Business	Opt1 3
BSAD153	Office Management	Opt1 3
BSAD229	Small Business Management	Opt1 3
MGMT103	Sales Management	Opt1 3
MGMT340	Business Internship	Opt1 7
MKTG103	Principles of Selling	Opt1 3
MKTG211	Industrial Marketing	Opt1 3
MKTG212	Purchasing	Opt1 3
MKTG321	Retail Management I	Opt1 3
MKTG334	Principles of Fashion Merchandising	Opt1 3

TELEPHONE

This certificate program offers job entry and advancement skills for both men and women and develops a basic understanding of electricity and electronics.

Required Courses

TELE311	Basic Electricity/Electronics I (DC)	3
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SPECIALIST CERTIFICATES

TELE312 Basic Electricity/Electronics II (AC) 2

Option Courses

2 credits required from Option 1

ELET357	Digital	Opt1	3
TELE313	Introduction to Telephone	Opt1	1
TELE315	Carrier Systems	Opt1	3
TELE316	Electronic Circuits	Opt1	2
TELE318	SemiConductor Devices	Opt1	3
TELE381	Seminar Topic I	Opt1	1
TELE382	Seminar Topic II	Opt1	1
TELE383	Seminar Topic III	Opt1	1

TRAVEL PERSONNEL

The purpose of the Travel Personnel certificate program is to provide students with a basic understanding of the terminology, procedures, and communication skills needed in the travel industry. Certificate holders are trained to qualify for work needed in private agencies as travel agents and in corporate settings as reservationists, travel counselors, and travel planners.

Required Courses

OFFC206	Written & Oral Communications	3
OFFC301	Typing I	2
OFFC414	Travel Personnel I	3
OFFC415	Travel Personnel II	3
OFFC416	Selling for Travel Personnel	3
OFFC417	Geography for Travel	3

Option Courses

Choose one course from Option 1

OFFC309	Office Accounting	Opt1	2
OFFC317	Office Procedures I	Opt1	2



VOLUNTEER MANAGEMENT

The Volunteer Management certificate program is the only program of its kind in Iowa. It is intended for people who are involved, or intend to be involved, in the management of volunteer programs.

The program will develop understanding of the problems and challenges particularly inherent in managing a human service program. The courses are designed to provide a comprehensive learning experience in the development, coordination, and supervision of volunteer programs.

Each required course is instructed by a practicing volunteer professional. A program option offers the opportunity for independent study or "hands-on" experience in a volunteer agency.

A broad range of volunteer opportunities exists in schools, child care programs, youth organizations, churches, consumer and legal agencies, the political and government sector, programs for the elderly, hospitals, nursing homes, and other service and welfare organizations.

Required Courses

SEVC351	Volunteers in Action	2
SEVC352	Volunteer Coordination	2
SEVC353	Effective Management of Volunteer Programs	1

Option Courses

One course required from Option 1

PSCH106	Psychology of Human Relations/Adjustment	Opt1	3
SEVC354	Volunteer Services Practicum	Opt1	1
SEVC355	Volunteer Independent Study	Opt1	1

WARD CLERK

The Ward Clerk certificate program provides an opportunity for individuals to learn and practice skills required of a ward clerk in employment.

The ward clerk keeps a busy unit in a health care facility running smoothly. Effective telephone communications with other departments, physicians, and nurses are essential.

Required Courses

HLCR316	Ward Clerk	4
HLCR317	Medical Terminology	2

Option Courses

One course required from Option 1

HLCR312	Assertiveness Training	Opt1	1
HLCR314	Emergency Care	Opt1	1

SPECIALIST CERTIFICATES

WASTEWATER TREATMENT OPERATOR

The Wastewater Operator certificate program provides a series of courses for those working in wastewater treatment plants, sometimes referred to as sewage treatment or water pollution control.

Required Courses

10 credits required from Options

HLCR314	Emergency Care	Opt	1
WATE312	Basic Math for Operators	Opt	1
WATE313	Math Formulas for Operators	Opt	1
WATE322	Lab Equipment	Opt	1
WATE323	Lab Techniques	Opt	1
WATE331	Pumps & Piping	Opt	2
WWAR302	Introduction to Wastewater Treatment	Opt	2
WWAR303	Lagoons	Opt	2
WWAR374	Seminar Topics I	Opt	1
WWAR375	Seminar Topics II	Opt	1
WWAR376	Seminar Topics III	Opt	1

WATER OPERATOR

The Water Treatment certificate program provides a series of courses for those working in water works (drinking water) systems.

Option Courses

10 credits required from options

HLCR314	Emergency Care	Opt	1
WATE302	Introduction to Water Treatment	Opt	2
WATE312	Basic Math for Operators	Opt	1
WATE313	Math Formulas for Operators	Opt	1
WATE317	Basic Water Chemistry	Opt	1
WATE318	Chemistry & Water Processes	Opt	1
WATE322	Lab Equipment	Opt	1
WATE323	Lab Techniques	Opt	1
WATE331	Pumps & Piping	Opt	2
WATE366	Seminar Topics I	Opt	1
WATE364	Seminar Topics II	Opt	1
WATE365	Seminar Topics III	Opt	1

WORD PROCESSING

The purpose of the Word Processing certificate program is to provide students with a basic understanding of word processing concepts and prepare them with the necessary training, knowledge, and skills to work as a word processor. Certificate holders can be word processors or secretaries responsible for the written communication of a company or agency.

Required Courses

OFFC201	Information/Word Processing Concepts	2
OFFC205	Business English	3
OFFC206	Written & Oral Communications	3
OFFC207	Introduction to Computers	3
OFFC306	Information Processing I	2
OFFC307	Information Processing II	2

Option Courses

Choose two electives from Option 1		
OFFC309	Office Accounting	Opt1 2
OFFC310	Professional Development	Opt1 3
OFFC317	Office Procedures I	Opt1 2



DESCRIPTION OF COURSES

After selected course titles, numbers may be listed. The first number refers to the Credit the course carries. The second number indicates Lecture Hours, the third number reflects Laboratory Hours, and the fourth number indicates Practicum Hours per week assuming a 15 week term. General - indicates courses generally accepted for transfer by four-year institutions. Open - represents courses which may or may not be accepted for transfer credit by four-year institutions. Voc/Tech - represents occupationally specific courses. Core - represents courses accepted by four-year institutions. Adaptor - represents developmental courses.

ACCT101 Principles of Accounting I	4-3-2-0 General	sonal and business financial decisions. Prerequisite: ACCT102			
Introduces the student to the principles of accounting with emphasis placed on the users and uses of accounting information. The double-entry bookkeeping system is presented with a focus on the end result of the accounting cycle, the financial statement.					
ACCT102 Principles of Accounting II	4-3-2-0 General	ACCT301 Accounting Fundamentals	3-2-2-0 Open		
A continuation of Principles of Accounting I. Introduces additional accounting tasks related to liabilities, corporations, manufacturing, and branch operations. The course also includes capital budgeting, analysis of financial statements and decision-making by managers. Prerequisite: ACCT101		An introductory course in accounting fundamentals and procedures. Includes capturing and analyzing business data, topics in financial statement preparation, manufacturing costs and budgeting.			
ACCT103 Intermediate Accounting I	4-3-2-0 Open	ACCT350 Personal Computer Accounting Applications I	3-2-2-0 Open		
Emphasis on the theory, standards and principles - the "why" of accounting. The framework goes beyond the procedural level to the conceptual level. Topics include: income and balance sheets, inventories, statement of changes in financial position, receivables, liabilities and operational assets. Prerequisite: ACCT102		An introduction to computer applications of accounting procedures. Includes topics in analysis and design of input and output systems forms, and operations of micro-computers. Prerequisite: ACCT101, DATA101			
ACCT104 Intermediate Accounting II	4-3-2-0 Open	ACCT403 Accounting Internship	3-0-0-15 Open		
Continuation of Intermediate Accounting I - with emphasis in the following areas: plant, property and equipment, intangible assets, corporation - formation and options, expansion, investments, bonds, pensions, leases, accounting changes, earnings per share and current/constant dollars. Prerequisite: ACCT103		An opportunity to gain practical experience through on-the-job training in an approved business or governmental office. Prerequisite: Completion of first 2 sem. of ACCT SPEC and/or Dept. permission			
ACCT105 Governmental Accounting	3-3-0-0 Open	ADHC226 Management of Services/Mentally Disabled	3-3-0-0 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: ACCT102 or department permission		Physical, psychosocial and cultural dynamics of mental retardation and developmental disabilities; public policy as it affects the disadvantaged and the administrator's role in effecting optimum normalization. Independent study.			
ACCT203 Cost Accounting I	4-3-2-0 Open	ADHC227 Management of Services/Mentally III	3-3-0-0 Open		
An introduction to accounting concepts of product costing system. Topics include: classification of costs, process cost, job order cost, joint and by-product costs, and standard cost. Prerequisite: ACCT102		Functional and organic bases of illness, treatment modalities, cultural and community role in rehabilitative milieu and administrative responsibility in dynamics of change. Independent study.			
ACCT204 Cost Accounting II	4-3-2-0 Open	ADHC228 Field Projects in Services/Mentally Disabled	1-1-0-0 Open		
A detailed study of the concepts and techniques of cost analysis. Topics include production budgeting, capital budgeting, break-even analysis, direct costing, and other areas of concern to management. Prerequisite: ACCT203		After completing the management course, the student will utilize the information gained to develop an ideal community based long term care program to serve the needs of this client population. Independent study.			
ACCT205 Auditing Procedures	3-2-2-0 Open	ADHC229 Field Projects in Services/Mentally III	1-1-0-0 Open		
A broad overview of how audits are performed and why they are performed. Includes topics in planning the audit, evaluation of internal control, sampling, preparation of work papers and the latest pronouncements by the Auditing Standards Board, the SEC and the FASB. Prerequisite: ACCT103, BSAD243 or 152		After completing the management course, the student will utilize the information gained to develop an ideal community based long term care program to serve the needs of this client population. Independent study.			
ACCT206 Income Tax	3-3-0-0 Open	ADHC237 Prin of Accounting II for Health Care	3-3-0-0 Open		
An introduction to the principles of all areas of federal taxation. Emphasizes the federal tax outcomes of per-		A review of basic accounting in the nursing home, review of fiscal controls, method of controlling cost and labor hour, third-party payment, billings and state audits. Emphasis will be placed on evaluating profit/loss and fiscal reports. Independent study. Prerequisite: ACCT101			
		ADHC251 Practicum: Social Services	3-1-0-6 Open		
		This unit will direct the student's attention to the Social Services and Rehabilitation program. Under the supervision of the Administrator-Preceptor the student will observe, assist, and participate in experiences relevant to an understanding of these areas. Independent study. Prerequisite: Approval of Program Chairperson			
		ADHC252 Practicum: Dietary	3-1-0-6 Open		
		This unit directs attention to the dietary department of a nursing home and an understanding of the ordering and inventory process, food preparation and serving and staffing patterns. The student will work in the kitchen as well as with the administrator and the dietary consultant. Independent study. Prerequisite: Approval of Program Chairperson			
		ADHC253 Pract: Legal Aspects & Govt. Organization	3-1-0-6 Open		
		This unit will acquaint the student with some of the concerns related to governmental organizations regulating nursing homes. The student is expected to become aware of these rights and regulations. Independent study.			
		ADHC254 Practicum: Nursing	3-1-0-6 Open		
		The student will spend 80 hours in the nursing unit and will expand his/her knowledge of long-term care facility nursing and how it relates to long-term care administration. Independent study.			
		ADHC255 Pract: Housekeeping, Laundry & Maintenance	3-1-0-6 Open		
		The student spends 80 hours observing, participating, and assisting in related activities in the housekeeping, laundry and maintenance areas. Under the guidance of the preceptor and facility staff the student will participate in the administration of these departments. Independent study.			
		ADHC256 Practicum: Activities & Community Resources	3-1-0-6 Open		
		The unit directs attention to the facility's activity and volunteer program. Under the guidance of the preceptor there are directed opportunities for participation in these programs. Independent study.			
		ADHC257 Practicum: Business Administration	3-1-0-6 Open		
		Under supervision the student will become familiar with the organization of the facility's business and will participate in such things as accounts payable/receivable, budgeting, bank reconciliations, cost reports and third party billing. The student should have mastered basic accounting principles prior to enrolling in this unit. Independent study.			
		ADHC258 Practicum: Administrative Organization	3-1-0-6 Open		
		This unit will be devoted to concepts and practices utilized in Administrative Organization. During this period of study the student will observe, assist and participate in the various areas of concern with the assistance of the Administrator-Preceptor and other relevant persons. Independent study.			
		ADHC259 Practicum: Personnel Administration	3-1-0-6 Open		
		The student will be studying the processes involved in the facility's Personnel Administration Program. During this experience the student will observe, assist and participate in activities related to Personnel Administration with the assistance of the college, the Administrator-Preceptor and other relevant facility personnel. Independent study.			

DESCRIPTION OF COURSES

ADHC275 Administration of Long Term Care Facilities Open	6-6-0-0		
Relates fundamental management principles to special challenges and concerns of long-term care, basic principles of the management process, human resource management, and organizational behavior. Independent study.			
ADHC276 Services for Long Term Care Patients Open	6-6-0-0		
Relates physical and psychosocial needs of residents to services provided in the institutional setting and the community. Units include nursing services, quality assurance mechanisms, environmental control, mental illness in the elderly and resident characteristics. Independent study.			
ADHC281 Seminar in Health Care Open	3-3-0-0		
Emphasis will be placed on principles and practices involved in administration and resident services. Special attention will be given to the review of federal, state and local governmental agencies' regulations. Independent study. Prerequisite: This course may be taken only in the student's final semester.			
AGET471 Power Trains	10-5-10-0	Voc/Tech	
To provide instruction in drive trains relating to design, operation, and servicing of components used in agriculture equipment. Included are clutches, various transmissions, differentials and final drives.			
AGET479 Advanced Engines	10-5-10-0	Voc/Tech	
An in-depth study of the concepts covered in Basic Engines. Engine application and overhaul procedures according to manufacturers' recommendations are studied. Prerequisite: AGPE478			
AGET481 Diesel Fuel Systems	5-5-0-0	Voc/Tech	
An introductory course to the more commonly used fuel systems on agriculture equipment. Fuel flow and the function of the components of each fuel system will be discussed. Prerequisite: AGPE478			
AGET482 Shop Management	3-3-0-0	Voc/Tech	
General economic principles that control business operation with special emphasis how "proper" shop management can affect the growth of the agriculture equipment dealer.			
AGET485 Power Unit Testing	7-5-5-0	Voc/Tech	
The application of principles learned in the Basic Electricity, Hydraulics, Engines and Power Trains courses in the analysis of malfunctions of components and with their relationship with other components in agriculture equipment. Prerequisite: AGPE474, 478, 479			
AGPE470 Technical Publications	2-2-0-0	Voc/Tech	
A course in reading and understanding service manuals, parts catalogs, and technical bulletins.			
AGPE474 Hydraulics	10-5-10-0	Voc/Tech	
Designed to develop knowledge of the principles of fluid power and provide the experience necessary to begin to develop the diagnostic skills required to service high tech agricultural hydraulic system. Operation, testing, diagnosis, and repair are covered.			
AGPE475 Harvesting Systems	7-2-10-0	Voc/Tech	
A course covering the principles of operation repairs and adjustments of farm harvesting machines. Field operation is required to study performance of machines in terms of design operating speeds and variation in adjustments.			
AGPE476 Planting & Tillage Equipment	5-3-4-0	Voc/Tech	
A course in the application, operation, and maintenance of planting and tillage machinery. It includes the theory of operation, reasons for field adjustment, proper maintenance and repair procedures.			
AGPE477 Air Conditioning	2-2-0-0	Voc/Tech	
Principles of air conditioning as well as design and application will be covered. System pressures and air temperatures will be used to check the efficiency of various systems. Discharging, checking oil levels, and recharging systems will be taught.			
AGPE478 Basic Engines	3-3-0-0	Voc/Tech	
A course in the principles, operation, and construction of internal combustion engines. Studies also include the air induction, exhaust, fuel and governing, cooling and lubricating systems.			
AGPE479 Basic Electricity	5-3-4-0	Voc/Tech	
An introduction to basic electricity principles that apply to D.C. electrical systems used on agricultural equipment. Electrical circuits covered include starting, charging and accessory systems.			
AGPE480 Advanced Electricity	3-1-4-0	Voc/Tech	
This course covers specialized D.C. electrical and electronic components and systems used on agricultural equipment. Conventional and high energy spark ignition systems, electronic equipment used to monitor and/or control tractor combine or planter functions are included. Emphasis on troubleshooting techniques.			
AGRI201 Feeding & Animal Nutrition I	3-3-0-0	Voc/Tech	
The identification and study of feed ingredients, nutrients and additives. Determine feed requirements of various livestock classes. Ration balancing and feed formulations are computed.			
AGRI202 Soil Fertility	3-3-0-0	Voc/Tech	
The course develops an understanding of the factors which affect plant growth. Plant nutrients are considered as students gain experience in identifying major and micro nutrient deficiency symptoms in plants by means of soil tests, plant tests and observations.			
AGRI203 Feeding & Animal Nutrition II	3-3-0-0	Voc/Tech	
The practical application of feeding principles. An in-depth study of the various nutrients, their requirements and uses. An analysis of research feeding trials, research procedures and manufacturing terminology. Prerequisite: AGRI201			
AGRI204 Animal Science I	3-3-0-0	Voc/Tech	
Production methods of feeding and breeding classes of livestock. Emphasis on swine and beef operations.			
AGRI205 Commodities I	3-3-0-0	Voc/Tech	
Focus on the futures market and how it can be used as a marketing tool. Emphasis is on terminology and hedging.			
AGRI206 Crop Management	3-3-0-0	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.			
AGRI214 Animal Science II	3-3-0-0	Voc/Tech	
Production methods of feeding and breeding classes			
			of livestock. Emphasis on swine and beef operations. Prerequisite: AGRI204
AGRI215 Commodities II	3-3-0-0	Voc/Tech	
An in-depth study of the futures market. Major areas of study include: hedging, speculation, price forecasting, spreading, technical analysis and fundamental analysis. Prerequisite: AGRI205			
AGRI219 Soils & Fertilizers	5-5-0-0	Voc/Tech	
An introductory 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.			
AGRI301 Personnel & Industrial Relations	3-3-0-0	Voc/Tech	
A study of the problems involved in industrial relations. The duties and responsibilities of management, wage and salary administration, job descriptions and resumes are discussed.			
AGRI319 Soils	2-2-0-0	Voc/Tech	
An introductory course in soils found in physical, chemical, and biological properties.			
AGRI320 Fertilizers	3-2-2-0	Voc/Tech	
An introductory course in fertilizers, their composition, manufacturer, and use.			
AGRI411 Agricultural Economics	2-2-0-0	Voc/Tech	
A study of the best economic principles and the application of these principles to the distribution of agricultural supplies.			
AGRI421 Chemical Technology	3-3-0-0	Voc/Tech	
Common features of pests, methods of control, how pesticides work, pesticide labels, application equipment, calibration, laws and regulation governing pesticide use.			
AGRI430 Employment Experience I	4-0-0-40	Voc/Tech	
Six weeks' employment experience in an agri-business related to the career objectives. Prerequisite: AGRI201, 219 or related work experience			
AGRI435 Physical Facilities	2-2-0-0	Voc/Tech	
The layout of buildings, driveways and facilities on site. Includes the flow of materials and the safe operation and maintenance of machinery and equipment.			
AGRI436 Grain Management	2-2-0-0	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.			
AGRI453 Employment Experience II	3-0-0-40	Voc/Tech	
Five weeks' work experience in an agri-business area. Prerequisite: AGRI430			
AGRI454 Agriculture Seminar	1-1-0-0	Voc/Tech	
An overview of the individual's goals as they relate to employment experiences and the instructional program. Prerequisite: AGRI453			
AGRI463 Employment Experience III	5-0-0-40	Voc/Tech	
Seven weeks' work experience in an agricultural business. Prerequisite: AGRI453			

DESCRIPTION OF COURSES

AGRI473 3-0-0-40
Employment Experience IV Voc/Tech
 Five weeks' work experience in an agricultural business. Prerequisite: AGRI463

ANTH120 3-3-0-0
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 variation, cultural development and change, cultural systems, and cross-cultural comparisons of peoples throughout the world.

ANTH121 3-3-0-0
Cultural Anthropology Core
 The application of anthropological theory and perspective to the comparison of different types of cultures throughout the world, and to the analysis of contemporary human problems. Using ethnographic techniques, students conduct research on selected cultural aspects of the surrounding community.

ANTH122 3-3-0-0
Peoples and Cultures of Mexico General
 This course traces the rise and development of the Indian civilizations, the Spanish conquest, and the emergence of Mestizo Mexico through such events as its independence from Spain and its 20th Century revolution. Course also examines the varieties of cultures and institutions of contemporary Mexico.

ANTH126 3-3-0-0
Faces of Culture General
 A television course in cultural anthropology which presents culture as the expression of human values, behavior, and social organization existing in unique and varied forms throughout the world. The course focuses on culture as an adaptive mechanism which provides for the survival of the species.

ARCH410 2-2-0-0
Architectural Drafting I Voc/Tech
 An introduction to drafting and related equipment, along with a preliminary look at site, energy, the building code, and sketching.

ARCH420 3-3-0-0
Architectural Drafting II Voc/Tech
 Complete sets of residential working drawings involving plans, elevations, sections, details, and schedules will be developed.

ARCH460 3-0-6-0
Architectural Drafting I Lab Voc/Tech
 Practical application of the basic skills of drafting involving the mechanics and the necessary thought process.

ARCH461 5-0-10-0
Architectural Drafting II Lab Voc/Tech
 Practical application of techniques necessary to develop a set of residential drawings.

ARCH462 3-3-0-0
Architectural Drafting III Voc/Tech
 Small commercial building drawings will be developed including the mechanical systems and costs.

ARCH463 5-0-10-0
Architectural Drafting III Lab Voc/Tech
 Involvement in the practical drawing of commercial buildings including the normal system but with an emphasis on energy conservation.

ARCH464 2-2-0-0
Construction Techniques I Voc/Tech
 An introduction to building materials through the construction specification institutes' accounting and management system.

ARCH465 2-2-0-0
Building Equipment II Voc/Tech
 Heating and cooling systems with support conditioning elements will be analyzed.

ARCH470 2-2-0-0
Construction Techniques II Voc/Tech
 An ongoing look into the construction specification institutes' system of categorizing building materials.

ARCH471 3-3-0-0
Construction Techniques III Voc/Tech
 Complete the construction specification institutes' uniform system and investigate the preliminary aspects of structural design.

ARCH472 2-2-0-0
Construction Estimating Voc/Tech
 An orderly process of accounting for the items involved in the construction project.

ARCH473 2-2-0-0
Building Equipment I Voc/Tech
 The mechanical systems of the building will be analyzed from the ground beginning with plumbing and electrical.

ARCH474 3-3-0-0
Drafting Math Algebra Voc/Tech
 A review of basic math, and an investigation of the principles of algebra.

ARCH475 2-2-0-0
Technical Reports and Specifications Voc/Tech
 A look into the forms and contracts used in architecture as well as the technical section called specifications.

ARCH476 3-3-0-0
Drafting Math Trigonometry Voc/Tech
 A search into the relationship between algebra and geometry and how they are combined into a useful tool. Prerequisite: ARCH474

ARTS101 3-3-0-0
Art Appreciation Core
 A general survey course which explores many artists, their lives, cultures and media. Field trip required.

ARTS102 3-0-6-0
Fundamentals of Drawing General
 Emphasis on new perceptions of reality using nature, still life and landscapes. Students will explore a variety of media techniques to develop skills.

ARTS103 3-0-6-0
Life Drawing General
 Drawing and painting a live model. Emphasis on structure movement, and expression.

ARTS104 3-0-6-0
Fundamentals of Painting General
 Acrylic or oil painting with emphasis on still life, landscape and individual composition.

ARTS105 3-3-0-0
Art in the Elementary School General
 Designed for students in Education and Recreation to assist them with design, construction, and planning of multi-art forms and materials for instructional situations.

ARTS108 3-2-2-0
Exploring Art Media General
 An introduction to basic techniques in media such as paper-making, clay, fibers and soft sculpture. Students will explore a variety of traditional approaches to express a contemporary vision.

ASDN200 6-6-0-0
Human Needs II Voc/Tech
 Focuses on delivery of restorative nursing care to surgical clients and clients with activity, nutrition/elimination and oxygenation/circulation alterations.

Assessment, problem identification and nursing diagnosis formulation are emphasized. Prerequisite: PSCH101, NURS200, 201, 209

ASDN201 6-0-0-12
Nursing Practicum II - ADN Voc/Tech
 Provides practicum experience for application of Human Needs II theory. Time Management and skills for providing nursing care to surgical and isolated clients and those with activity, nutrition/elimination and oxygen/circulation alterations are emphasized. Prerequisite: PSCH101, NURS200, 201, 202

ASDN202 10-1-0-18
Human Needs III Voc/Tech
 Focus on the utilization of the nursing process as applied to alterations of self concept/sexuality, nutrition/elimination, activity, and sleep/comfort. The student will learn to analyze pathophysiology and associate signs and symptoms of altered needs. Maternal and newborn care will be introduced. A variety of case studies will be used as a means of utilization of the nursing process. Prerequisite: PSCH101, 103, ENGL117, BIOL131, 132, ASDN200, 201

ASDN204 4-4-0-0
Human Needs IV Voc/Tech
 Stresses the interrelationship of altered needs and utilization of nursing process to integrate knowledge. Nursing care for clients with alterations of oxygenation/circulation and multiple altered needs is emphasized. Prerequisite: SOCY101, ASDN202, 207

ASDN205 1-1-0-0
Management & Accountability in Nursing Voc/Tech
 Basic management and accountability principles are examined to assist the student in formulating ethical-legal decisions. Transition to employment and current constraints upon health care delivery are also considered. Prerequisite: SOCY101, ASDN202, 207

ASDN207 10-1-0-18
Nursing Practicum III Voc/Tech
 Provides an opportunity for application of utilization of Human Needs III theory in the lab and/or practicum setting. Emphasis will be on utilization of the nursing process for those clients with special interventions, altered self concept/sexuality, altered nutrition/elimination, altered activity and altered sleep/comfort. Prerequisite: PSCH101, 103, ENGL117, BIOL131, 132, ASDN200, 201

ASDN208 10-1-0-18
Nursing Practicum IV Voc/Tech
 Provides practicum experience for application of Human Needs IV and management Accountability theory. Emphasis will be on knowledge integration and use of the nursing process when caring for clients with altered oxygenation/circulation and multiple altered needs. Prerequisite: SOCY101, ASDN202, 207

ASEP311 3-3-0-0
Auto Shop Fundamentals Voc/Tech
 Provides the basics for subsequent courses. Includes shop manuals, safety tools, materials, and responsibilities to the customer and the fellow workers.

ASEP313 5-3-4-0
Minor Service Voc/Tech
 "Quick Service" procedures (lubrication and maintenance) on engine exhaust drive train and chassis. Predelivery.

ASEP315 5-3-4-0
Suspension & Brakes Voc/Tech
 Steering geometry, front and rear suspension service, wheel alignment, disk and drum brakes, balancing, and diagnosis procedures.

ASEP321 4-2-4-0
Auto Engines - Minor Voc/Tech
 Principles of the internal combustion engine, com-

DESCRIPTION OF COURSES

ponents and functions of General Motors gasoline and diesel engines, engine disassembly, and parts identification.

ASEP322 4-2-4-0
Electrical Fundamentals & Accessories Voc/Tech

Electricity and magnetism. Locating and interpreting specs. General Motors automobile electrical system which includes batteries, generators, starters, voltage regulators, ignition systems, and the accessories systems. Diagnosis and repair of the electrical system. Use of meters and test equipment.

ASEP323 3-2-2-0
Air Conditioning Voc/Tech

Operation and repair, including compressor and components, electrical and mechanical controls, seal and bearing replacement, and charging procedures.

ASEP331 4-3-2-0
Auto Electronics/Tune Up Voc/Tech

Basic circuitry, diagnosis and servicing of electrical and electronic components on General Motors vehicles, and reading of electric wiring semantics.

ASEP332 3-2-2-0
Carburetion and Fuel Voc/Tech

Fuel systems, emission control devices, diesel systems, gasoline and fuel injection, pumps, filters, gas tanks and lines, current General Motors carburetion systems, and theory and diagnosis of emission control devices.

ASEP334 4-2-4-0
Engines - Major Voc/Tech

Engine disassembly, inspection, measurement, reassembly, and engine testing.

ASEP341 12-7-10-0
Transmissions Voc/Tech

Standard and automatic transmissions including clutch, drive line, trans axle, and rear differential service. Emphasis on troubleshooting and repair procedures.

ASEP355 10-6-8-0
Advanced Tune Up Voc/Tech

State-of-the-art procedures using CCC and EFI Diagnostics to correct drivability conditions. Diagnose and repair turbo-chargers.

ASEP381 2-0-0-6
Technical Internship I Voc/Tech

Technician will work in a sponsoring dealership. The work will be full time approximately 40 hours per week for a minimum of 5 weeks. The tasks will be consistent with the technician's ability and previous course work. A task list will be issued to each dealer. Students are encouraged to work during school vacation - from 7 to 9 weeks.

ASEP382 2-0-0-6
Technical Internship II Voc/Tech

Five weeks' work experience at a sponsoring dealership. The tasks will be consistent with the technician's ability and previous course work.

ASEP384 2-0-0-6
Technical Internship III Voc/Tech

Five weeks' work experience at a sponsoring dealership. Tasks will be consistent with the technician's ability and previous course work.

ASEP385 2-0-0-6
Technical Internship IV Voc/Tech

Five weeks' work experience at a sponsoring dealership. Tasks will be consistent with the technician's ability and previous course work.

AUTC401 6-3-6-0
Fundamentals of Sheet Metal Repair Voc/Tech

Automobile design, the materials used in construction, corrective forces, and procedures for repair and service are analyzed through class and lab study.

AUTC403 4-2-4-0
Fundamentals of Paint Refinishing Voc/Tech

Proper substrate preparation, refinishing functions, equipment use and care, modern refinishing materials, color adjusting and blending are studied and practiced.

AUTC405 3-3-0-0
Collision Analysis and Measuring Voc/Tech

Unibody design and construction create a new technology of damage analysis, measuring and planning a sequence for repair. This course emphasizes this statement.

AUTC407 3-3-0-0
Collision Damage Appraisal Estimating Voc/Tech

Vehicle damage and estimating are skills needed to write a written report to serve as a legal document, analysis report, repair guide, and business evaluation.

AUTC409 5-0-10-0
Collision Correction Voc/Tech

The complex repair of damaged components, fabrication of components and component replacement are studied and practiced using current technologies. Prerequisite: AUTC405

AUTC411 4-0-8-0
Automotive Paint Refinishing Voc/Tech

New technologies have greatly affected the paint refinishing of our current automobiles. These technologies are put into practice. Prerequisite: AUTC403

AUTC413 2-2-0-0
Unibody Wheel Alignment (Auto) Voc/Tech

This course covers the suspension, steering, and wheel alignment designs and requirements found in front-drive, rear-drive unibody constructed vehicles that are in need of repair or service.

AUTC415 5-0-10-0
Major Collision Repair Voc/Tech

Minor to major unibody collision repair and unibody service, as practiced in industry, are given special attention. Prerequisite: AUTC405, 409, 411

AUTC417 5-1-8-0
Collision Repair Specialization Voc/Tech

Technology updating and special functions of the industry are given special attention to enhance the student's potential. Prerequisite: AUTC405, 409, 411, 415

AUTC419 2-2-0-0
Fund of Auto Electrical Components Voc/Tech

An introduction to automobile electricity, electrical components, electronic devices. The fundamentals taught will benefit individuals wanting to become technicians in the auto collision industry or the individual seeking greater understanding.

AUTO301 3-3-0-0
Introduction to Auto Mechanics Voc/Tech

Part of the automobile maintenance, cooling, and lubrication systems, brakes, oil leaks, vibrations, and rattles.

AUTO304 3-3-0-0
Carburetion Voc/Tech

Gasoline, fuel pumps, gauges, carburetion theory and the rebuilding and adjustment of single barrel, two barrel, and four barrel carburetors. Prerequisite: AUTO301

AUTO305 3-2-2-0
Tune-Up - Advanced Voc/Tech

Electronic equipment in diagnosis, testing, and adjustment procedures. Prerequisite: AUTO304

AUTO306 3-2-2-0
Automatic Transmissions Voc/Tech

Operation and construction of automatic transmission, hydraulic systems and planetary gear systems.

AUTO308 3-2-2-0
Brakes Voc/Tech

Components, parts, and basic functions service of brake cylinders, calipers, hydraulic brake lines, brake shoes, pads and other brake components.

AUTO309 3-2-2-0
Front End Alignment Machines Voc/Tech

Alignment factors, suspension and steering control systems and parts replacement. Prerequisite: AUTO301

AUTO410 2-1-3-0
Electronic Engine Controls Voc/Tech

Provides instruction in the theory of operation of electronic engine controls and the diagnosis, testing and repair of systems using computers and microprocessors.

AUTO461 3-3-0-0
Related Science Voc/Tech

Designed to acquaint the student with the scientific principles that must be understood to properly diagnose and service the automobile.

AUTO463 3-2-2-0
Automotive Measurement & Tools Voc/Tech

A course to develop skills needed in the use of automotive tools and measuring instruments.

AUTO465 3-2-2-0
Fuel Systems Voc/Tech

A course designed to acquaint the student with basic carburetion principles. Instruction will be offered in the cleaning, repair and adjustment of automotive carburetors.

AUTO467 8-2-12-0
Automotive Electricity Voc/Tech

A course to provide instruction in basic electricity and the circuitry used in the automobile. Component diagnosing and servicing will be emphasized.

AUTO469 3-2-2-0
Air Conditioning Voc/Tech

This course includes the theory, diagnosis and servicing of the refrigerant and electrical circuits of the automotive air conditioner.

AUTO471 6-2-8-0
Automotive Engines Voc/Tech

A course to provide instruction in the theory and operation of the 4-stroke cycle automotive engine. Diagnosis procedures, machining, overhauling and adjustment will be emphasized. Prerequisite: AUTO463, 465, 467

AUTO473 4-2-4-0
Electronic Engine Controls Voc/Tech

This course builds upon the knowledge and skills learned 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: AUTO471

AUTO475 5-2-6-0
Advanced Tune-Up Voc/Tech

Provides instruction in diagnosis, testing, and correct tune-up procedures using manufacturers' specifications and modern test equipment. Prerequisite: AUTO473

AUTO477 5-2-6-0
Advanced Engines Voc/Tech

Provides instruction in diagnosis of engine failure and

DESCRIPTION OF COURSES

the correct repair and rebuilding of automotive engines.
Prerequisite: AUTO473

AUTO479 2-1-2-0
Service Management Voc/Tech
Provides instruction in customer relations, service sales, shop management and business practices in the automotive shop. Prerequisite: AUTO471

AUTO481 2-2-0-0
Small Business Management Voc/Tech
A general study of small business structure. Emphasis will be placed on operational costs, insurance, taxation, payroll costs, and legal aspects of small business.

AUTO483 8-5-6-0
Basic Power Train Voc/Tech
Principles of operation and construction of automotive power trains. Includes instruction in the theory of hydraulic and planetary systems in automatic transmissions.

AUTO485 8-5-6-0
Basic Alignment & Brakes Voc/Tech
Instruction in the theory of operation and service procedures of automotive brakes and suspension systems.

AUTO487 7-2-10-0
Advanced Power Train Voc/Tech
The application of engine power is the final drive of the automobile. Proper diagnosis, service and repair are studied and practical experience is accomplished by repair of customer vehicles. Prerequisite: AUTO483

AUTO489 7-2-10-0
Advanced Brake & Alignment Voc/Tech
An advanced course to develop diagnostic skills in repairing automotive brake and suspension systems. Practical experience is provided by repairing customer vehicles. Prerequisite: AUTO485

AUTO491 5-3-4-0
Auto Chassis Design & Diagnosis Voc/Tech
This course emphasizes brake hydraulic systems and brake balance. The course will also include chassis design and fundamentals and diagnosis of power assisted brake and steering systems. Prerequisite: AUTO485

AUTO493 2-1-2-0
Intro to Diesel Voc/Tech
An introductory course in the operation and servicing of the automotive diesel and components.

AUTO495 2-1-2-0
Automotive Welding Voc/Tech
A course to develop skills in gas welding as required in an automotive repair shop.

AUTP301 3-3-0-0
Parts & Product Analysis Voc/Tech
Components on the automobile, identification and recognition of parts and their function.

AUTP302 3-3-0-0
Catalogs & Nomenclature Voc/Tech
Automotive terminology, an understanding of such catalogs as Weatherly, GM, Ford, Chrysler, AMC, Honda, Toyota, etc., and Micro Fiche Reopen computer systems.

BIOL118 3-3-0-0
Environmental Conservation General
This course combines the basic principles of ecology with current environmental issues. Issues examined include energy, land use, pesticides, and pollution. Wildlife, fisheries, forestry, soil and water resources are also emphasized. Designed for the non-science major.

BIOL119 1-0-2-0
Environmental Conservation Lab General
This lab supplements the discussion course BIOL118. 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: BIOL118

BIOL126 3-2-2-0
Field Biology Core
Field and laboratory studies of native plants and animals of Iowa. Emphasis also placed on ecological relationships. Selected field trips are conducted to forest, prairie, marsh and riparian habitats in the local area.

BIOL127 3-2-2-0
Human Biology General
A study of biology which emphasizes the human body. Topics such as the cell, basic chemistry, basic genetics and human ecology are included. Designed for the non-science and inadequately prepared health-science major.

BIOL128 3-2-2-0
Biology of Animals Core
A general survey of representative animals of each animal phylum. Emphasis is placed on animal structure, classification, evolution, ecological relationships, and economic importance. Designed for the non-science major.

BIOL130 5-3-4-0
General Anatomy & Physiology Core
A classic integration of human anatomy and physiology at the cellular level and organ/system level. Prerequisite: H.S. biology and chemistry

BIOL131 3-2-2-0
Health Sciences Physiology General
Detailed human physiology of the nervous, circulatory, respiratory, digestive, urinary and endocrine systems. Designed for the health science major. Prerequisite: BIOL130 or NURS200

BIOL132 4-3-2-0
Health Sciences Microbiology General
An instructional and laboratory microbiology course emphasizing basic concepts and applications of medical microbiology. Topics include morphology and physiology of microorganisms, pathology, epidemiology, and immunology. Designed for the health science major. Prerequisite: H.S. biology. H.S. chemistry recommended

BIOL145 4-3-2-0
Biology I Core
The first of a two-term sequence in introductory biology designed for the science major. Emphasis is placed on basic principles of biology at the cellular, organism and population levels. Prerequisite: High school biology and chemistry

BIOL146 5-3-4-0
Biology II Core
The second of a two-semester sequence in introductory biology. This course involves a progressive survey of the animal kingdom. Studies include anatomy, physiology, development, classification, evolution, and ecology. Prerequisite: BIOL145

BIOL147 3-2-2-0
Introduction to Botany Core
Morphology and taxonomy of representative species of algae, fungi, bryophytes, and the vascular plants, with emphasis on the local flora. Prerequisite: BIOL145 or permission of instructor

BIOL148 3-2-2-0
Fundamentals of Ecology Core
A study of the interrelationship between organisms and their physical and biotic environment, including community structure, geographical distribution, climatic factors, and population dynamics. Prerequisite: BIOL145 or permission of instructor

BIOL149 4-2-4-0
General Microbiology Core

An instructional and laboratory general microbiology course designed for the science major. Emphasis is placed on morphology, physiology, microbial genetics, virology and basic immunology. Prerequisite: BIOL130 or 145

BIOL150 1-0-2-0
Investigations in Field Biology General
This course involves an extended field trip to study unique natural ecosystems in out-of-state areas. Topics may include field studies of forest, prairie, wetland, and wildlife ecology.

BKKA401 4-3-2-0
Acc't Applications I & Cost Acc't Voc/Tech
An introductory course in accounting systems for product costing. Includes topics in manufacturing accounting and job cost systems. Incorporates project approach to the understanding of record keeping. Projects provide training for preparing monthly statements, sales slips, accounts payable. Prerequisite: ACCT101

BKKA402 3-1-4-0
Accounting Applications II Voc/Tech
Provides students with opportunities to apply their knowledge of accounting and bookkeeping through simulated conditions in a model office laboratory. Includes personnel supervision, planning, work-flow, correspondence, office machines and interpersonal relationships. Prerequisite: BKKA401, 410, ACCT101

BKKA410 3-2-2-0
Taxes/Payroll Voc/Tech
Introduction to income taxes for the individual. Emphasis on understanding and preparation of generally used income tax forms. Introduction to the accounting and record keeping procedure associated with payroll. Includes topics on wage and hour laws, the social security act and payroll taxes also emphasizes government tax reporting. Prerequisite: ACCT101

BKKA460 2-0-5-0
Principles of Accounting Lab Voc/Tech
Supervised study of accounting applications and procedures. Includes special emphasis on special skills and competencies that will be useful on the job. Prerequisite: Current enrollment in ACCT101

BKKA461 3-0-5-0
Accounting Applications I Lab Voc/Tech
Provides the student with the opportunity to practice and develop the skills and competencies that will be needed on the job. Prerequisite: Current enrollment BKKA401

BKKA482 2-0-4-0
Typing for Accountants Voc/Tech
Specialized typing skills needed by the bookkeeper/accountant. Includes topics in typing financial statements, business forms and statistical reports. Prerequisite: Knowledge of typewriter keyboard & typing skills at about 30 WPM

BKKA490 3-0-0-15
Bookkeeping Internship Voc/Tech
Practical experience through on-the-job training in an approved business, government or similar establishment. Prerequisite: BKKA sequence and/or department permission

BLDG451 5-5-0-0
Residential Materials & Const Theory Voc/Tech
An introduction to the materials used in the construction of residential housing and the methods involved in the application of these building materials.

BLDG452 7-0-15-0
Residential Construction Techniques Voc/Tech
A practical "hands-on" introductory experience that

DESCRIPTION OF COURSES

Covers the construction processes of house building including rough and finish carpentry.

BLDG453 1-0-2-0

Care & Use of Hand & Power Tools Voc/Tech
Proper care, use, and selection of hand power tools with an emphasis on maintenance and safety.

BLDG455 2-2-0-0

Blueprint Reading & Estimating Voc/Tech
A study of the fundamentals of blueprint reading and estimating designed to allow the student to translate house plans into practical job experiences and cost estimates.

BLDG461 4-1-6-0

Masonry Technology & Practices Voc/Tech
An introduction to concrete design, placement and finishing. Identification and application of the many types of masonry materials used in today's construction will be emphasized.

BLDG462 2-2-0-0

Residential Drafting & Design Voc/Tech
An introduction to the fundamentals of residential house design and basic drafting methods. Includes the preparation of the blueprint used to construct the student built home. Prerequisite: BLDG455

BLDG463 4-0-8-0

Residential Practices Voc/Tech
Advanced lab experience that emphasizes complex finish carpentry skills. The student will be able to demonstrate the skills and work habits necessary to complete complex tasks in a safe and workmanlike manner and adapt previously learned skills to complete more complex building tasks. Prerequisite: BLDG452

BLDG472 2-2-0-0

Business Practices for Building Trades Voc/Tech
An introduction to the information needed to create and operate a small business including finance, insurance, legal concepts, property and taxation.

BLDG480 5-0-30-0

Residential Const Proced & App I Voc/Tech
Residential Construction Procedures & Application I includes footings, drainage, foundation, basement insulation and decking. (5 week session) Prerequisite: BLDG451, 452, 453, 455, 461, 463, 472

BLDG481 5-0-30-0

Residential Const Proced & App II Voc/Tech
Residential Construction Procedures & Application II includes exterior wall construction, interior wall construction, ceiling joist framing, rafter framing, exterior trim, window installation and roofing. (5 week session) Prerequisite: BLDG480

BLDG482 5-0-30-0

Residential Const Proced & App III Voc/Tech
Residential Construction Procedures & Application III includes concrete flatwork, insulation, drywall application, cabinet work and interior trim. (5 week session) Prerequisite: BLDG481

BLDM325 1-1-0-0

Boiler Room Maintenance Voc/Tech
Basic course to cover boiler accessories, fittings, controls, water treatment and fundamentals.

BLDM326 2-2-0-0

Steam Plant Operation Voc/Tech
Pressurized boilers. Prepare for the examination and city of Des Moines engineer's license.

BLDM327 2-2-0-0

Plumbing, Electricity, & Hardware Voc/Tech
General building maintenance covering basic repairs and preventative maintenance of plumbing, electrical systems and building hardware such as door/window and other parts subject to wear and breakage.

BLDM328 1-1-0-0

Inventory & Purchasing Voc/Tech
Knowledge and skills necessary to understand inventory systems, maintain records and correctly order and maintain supplies.

BLDM329 2-2-0-0

Basic Plumbing Voc/Tech
A lecture/discussion/problem-solving course to explain how plumbing systems work. Identify component parts and read blueprints and symbols.

BLDM330 1-1-0-0

Building Custodian Voc/Tech
Work procedures, floor coverings, detergents, safety; prepare for examination by Iowa Association of Custodians and Assistants.

BSAD150 3-3-0-0

Introduction to Business General
An overview of the ever-changing world of business. Provides information in the areas of ownership, management, marketing and finance as well as the role of government.

BSAD151 3-3-0-0

Personal Finance Core
Management of personal income with emphasis on family financial planning including budgeting, income taxes, types of insurance and investing.

BSAD152 4-4-0-0

Business Statistics Open
Tabular and graphical presentation, measures of central tendency and variability, standard elementary procedures involving the binomial, normal, student's t's, chi-square and f distributions, correlation, regression, analysis of variance, and several nonparametric procedures. Prerequisite: 2 yr. high school algebra or MATH119 or consent of department

BSAD153 3-3-0-0

Office Management Open
Introduces concepts of office management aimed at increasing efficiency and productivity in operation of the office. Areas covered include: planning and organizing, leadership and human relations, and controlling office operations.

BSAD223 3-3-0-0

Business/Financial Math Open
Mathematical computations are reviewed and strengthened with emphasis on facility and accuracy. Includes topics in the mathematics of buying and selling, payroll, bank discount, compound interest, consumer math, financial statement analysis and other related business applications.

BSAD225 3-3-0-0

Principles of Insurance Open
An introduction to managing risk and making the best use of insurance. Various forms of personal and property insurance coverages are introduced. Insurance coverages as they relate to both business operations and personal situations are discussed.

BSAD226 3-3-0-0

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.

BSAD227 3-3-0-0

Business Communications Open
A study of the influence of effective communication upon human relations in business. Emphasis is given to form, accuracy, clarity, psychology in handling written letters, reports and telephone communications.

BSAD229 3-3-0-0

Small Business Management Open
Examines the preparation and methods needed to start a business, the management functions needed to keep it operating on a sound basis, financial analysis system, management, sales promotion, purchasing, pricing, personnel management, credit, insurance inventory control, regulations and taxes, and a simplified record system.

BSAD243 4-4-0-0

Quantitative Methods General
An introduction to management research methods which are used in business. Topics include probability, break-even analysis, inventory control, statistics and transportation models. Prerequisite: MATH119 or department permission

BSAD250 3-3-0-0

Real Estate Appraisal Open
Residential appraisal principles of real estate valuations cost, market data, summation and sales analysis, methods of appraisal estimating current trends and techniques in appraising residential dwellings.

BSAD303 2-2-0-0

Adventures in Attitudes Open
Human relations through group projects: understanding yourself, insights into effective communication, managing your mind, attitudes and leadership, goal-setting, and motivation.

BUSL101 3-3-0-0

Business Law I General
Provides introductory overview of legal rights and social forces, the impact of government regulation of business, contractual relationships, personal property, and bailments and sales law.

BUSL102 3-3-0-0

Business Law II General
Provides for overview of commercial paper, creditors' rights and secured transactions, the law of agency and employment, partnerships, special ventures, corporate law concepts, and introductory real estate law. Prerequisite: BUSL101

CART401 3-3-0-0

Commercial Art Orientation Voc/Tech
A prerequisite for all commercial art courses. It is essential that proper commercial art terminology, tool and techniques be fully understood.

CART403 4-2-4-0

Communication Design I Voc/Tech
This course will create awareness of design use. Lectures and projects will give the student experience in two-dimensional design.

CART405 4-2-4-0

Drawing I Voc/Tech
Drawing perspective, still life, and the introduction to human figure construction will develop skills of drawing for self-expression.

CART407 4-2-4-0

Production Art I Voc/Tech
A two semester course which will enable the student to seek an entry level position in production art. Problems and solutions in the preparation of commercial art for printing are studied.

CART409 3-3-0-0

Advertising Voc/Tech
A view of advertising from the business world. Gives the student problem solving assignments and an active role in learning about the use of advertising as applied to communication design.

CART411 4-2-4-0

Communication Design II Voc/Tech
Using the background gained from Communication

DESCRIPTION OF COURSES

Design I, special attention will be given to the relationship of design to advertising. Prerequisite: CART403

CART413 4-2-4-0
Drawing II Voc/Tech

Emphasized are advanced problems involving free-hand perspective, figures, places, objects, and situation sketches relevant to the designer. Prerequisite: CART405

CART415 4-2-4-0
Production Art II Voc/Tech

This will add to the student's qualifications from taking Production Art I by emphasizing "camera-ready" artwork for printing. Prerequisite: CART407

CART417 2-1-2-0
Typography Voc/Tech

A study of the history of typography as it relates to advertising design. Includes emphasis on copyfitting and use of typography in design.

CART419 2-0-4-0
Lettering & Sign Art Voc/Tech

Use of various types of lettering skills for the production of posters, signs, certificates and other hand-lettered materials.

CART421 2-1-2-0
Internship Preparation Voc/Tech

Students seeking an internship will be required to develop job interviewing techniques and presentation portfolio. The student develops a knowledge of human relations in the profession in goal setting, interpersonal and group skills. Prerequisite: CART411

CART423 10-2-0-24
Commercial Art Internship Voc/Tech

On-the-job training for commercial art students. Included is weekly seminar for the exchange of information, review and evaluation. Prerequisite: CART421

CART425 4-2-4-0
Communication Design III Voc/Tech

An advanced course using skills and understanding developed in Communication Design courses 1 & 2. Special emphasis is given to design for publications and the further development of portfolio samples. Prerequisite: CART411

CART427 3-1-4-0
Illustration I Voc/Tech

Many forms of illustration exist. Special techniques are studied and practiced to accomplish the skills needed for illustration. Prerequisite: CART413

CART429 4-2-4-0
Production Art III Voc/Tech

Advanced problems in the preparation of materials to be printed. Included are live studio projects, lectures, field trips and experiences in the production of printed samples. Prerequisite: CART415

CART431 3-2-2-0
Photography I Voc/Tech

Photography in communication design is essential. Basic knowledge and skills will be developed in photographing, developing and printing.

CART433 2-1-2-0
Trademark Systems Voc/Tech

An investigation of corporate image design as required for the business world. Problems involve design for live projects in addition to the development of a personal image system. Prerequisite: CART417

CART435 2-1-2-0
Portfolio Preparation I Voc/Tech

A student seeking employment must have a well prepared portfolio. Such a portfolio will be developed by the student and reviewed by the commercial art advisory committee in this course. Prerequisite: CART423

CART437 3-0-6-0
Communication Design IV Voc/Tech

Further study in design will be accomplished by improving individual portfolio samples as suggested by the commercial art advisory committee. Prerequisite: CART425

CART439 3-0-6-0
Production Art IV Voc/Tech

To complete the study of production art. Emphasis will be on paper selection, color theory, technical illustration, and the development of studio projects. Prerequisite: CART429

CART441 3-1-4-0
Illustration II Voc/Tech

Advanced problems in illustration as related to communication design. Concentration in use of techniques and media are used to create special effects. Prerequisite: CART427

CART443 2-1-2-0
Portfolio Preparation II Voc/Tech

"Portfolio Night" is the highlight of completing this course. The student will be required to present a completed portfolio to commercial art professionals and prospective employers at this annual event. Prerequisite: CART435

CART445 3-2-2-0
Photography II Voc/Tech

Gives students the opportunity to utilize the basic photography skills learned in Photography I by emphasizing creative application to solution of design problems. Prerequisite: CART431

CART447 3-3-0-0
Business Management Voc/Tech

A small business workshop for all students enrolled in this course. Includes job quotation, record keeping, personal organization, time management, job scheduling, setting up a freelance studio, taxes, and mailing information.

CART449 4-2-4-0
Airbrush I Voc/Tech

The fundamental principles of airbrush techniques and application to advertising design and use of airbrush as an illustrative tool.

CART451 4-2-4-0
Airbrush II Voc/Tech

Advanced course in airbrush techniques as they apply to photographs. Emphasis is placed on the art of retouching equipment, buildings and portraits, both in black and white and in color. Prerequisite: CART449

CATV401 5-2-6-0
Electrical Principles Voc/Tech

The fundamentals of electricity (AC and DC concepts) all taught in this course. Circuits and components including resistors, capacitors, inductors, transistors, and the diode family are studied. Test equipment is introduced.

CATV402 5-1-8-0
Field Techniques I Voc/Tech

The students learn about the components and characteristics of the Cable TV system. Cable TV installations, pole climbing, and plant construction is emphasized.

CATV404 3-2-2-0
Circuit/Map Reading Voc/Tech

CATV symbols, map reading, and design is taught. Students learn to trace rf, ac flow, and design plant extensions.

CATV408 3-2-2-0
Technical Mathematics Voc/Tech

A course designed to provide the student with basic mathematic skills, including a beginning study of

algebra, right triangle trigonometry and their applications to CATV service and repair occupational functions.

CATV411 5-2-6-0
Electronic Principles Voc/Tech

A continuation of electrical principles in the field of basic solid state devices. CATV amplifiers and power supplies will be studied. Systematic trouble shooting procedures and basic television fundamentals are included.

CATV412 5-1-8-0
Field Techniques II Voc/Tech

A continuation of CATV402. Emphasis is placed on installing and troubleshooting. F.C.C. System specifications and requirements are studied. A review of CATV map reading/design is included.

CATV416 3-2-2-0
Business Practices Voc/Tech

Customer relations, regulatory practices and small systems management are units comprising this course.

CDEV100 1-1-0-0
Orientation to College Open

This course is designed to introduce students to college resources, services, and expectations and to assist them in gaining maximum benefit from their college experience.

CDEV110 1-1-0-0
Career Planning Open

Provides help in choosing a career goal. Emphasis will be placed on how to assess interests, abilities and values explore options and make decisions that will lead to career satisfaction and success.

CDEV115 2-2-0-0
Voyage: Chal & Change in Career Life Plan Open

Focuses on the process of making decisions relating to work, career and life planning. The 30 half-hour television programs include interviews with people in their actual working environments, questions and challenges for the viewer and guidance about managing personal change. Contact with instructors encouraged.

CDEV120 1-1-0-0
Job Seeking Open

Designed to sharpen one's job seeking skills. Emphasis will be placed on how to write a resume, find job openings, interview effectively, and in general, conduct a successful search.

CHEM120 3-2-2-0
Survey of Chemistry Core

An introduction to chemical topics with little mathematics. Topics include energy, food chemistry, air and water pollution, agricultural chemicals, detergents, and drugs. For students who need one semester of laboratory science.

CHEM131 4-3-2-0
General Chemistry I 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 emphasized. For non-science majors and students in health related programs. Prerequisite: One year high school algebra or MATH092

CHEM132 4-3-2-0
General Chemistry II 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:

DESCRIPTION OF COURSES

quisite: CHEM131 or equivalent

CHEM151 4-3-2-0
General & Inorganic Chemistry I Core
A thorough treatment of general chemistry including atomic structure, stoichiometry, chemical bonding, states of matter, solutions, acids and bases, reaction rates, equilibrium, thermodynamics and electrochemistry. This course is intended for science, engineering, pre-vet, pre-med, pre-dental and pre-optometry majors. Prerequisite: 1 yr. H.S. chemistry or CHEM131 and 2 yrs. H.S. algebra or MATH119

CHEM152 4-3-2-0
General & Inorganic Chemistry II Core
A continuation of General and Inorganic Chemistry I. Prerequisite: CHEM151 or the equivalent

CHEM161 5-3-4-0
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. This sequence is designed to satisfy the one year of organic chemistry required by most medical schools. Prerequisite: CHEM152 or 132 or one year college level general chemistry

CHEM162 5-3-4-0
Organic Chemistry II Core
A continuation of Organic Chemistry I. Prerequisite: CHEM161 or the equivalent

CHLD160 4-4-0-0
Human Growth Open
A study of theories and principles of human growth and development applied to children from conception through adulthood.

CHLD240 1-1-0-0
Emergency Care Open
Techniques for treatment of bleeding, shock, fractures, wounds, burns, exposure, poisonings, epilepsy and environmental injuries. Cardio-pulmonary resuscitation according to Iowa Heart guidelines - BCLS II certification.

CHLD260 3-3-0-0
Observation & Guidance of Children Open
A study of observation and guidance techniques appropriate for use with young children. Various guidance philosophies are studied and applied through work with children. Students acquire the skills of objective observation as well as completing appropriate written evaluations of children's progress. Prerequisite: CHLD260 and 261 must be taken concurrently

CHLD261 1-0-2-0
Observation & Guidance Lab Open
See CHLD260

CHLD262 4-4-0-0
Curriculum & Activities I Open
Course includes structuring of curriculum for infant through school aged groups of children. Planning of both the physical environment and the educational program will be covered. Areas of curriculum include large motor skills, dramatic play, music, cooking and creative arts. Prerequisite: Must be taken with or after CHLD160 and 260

CHLD263 2-2-0-0
Professional Relationships Open
Emphasizes developing patterns of effective communication with others. Also includes discussion and evaluation of practicum experiences as well as skill development in the areas of employment applications, resume preparation and interviewing techniques. Prerequisite: Must be taken concurrently with CHLD462

CHLD264 3-3-0-0
Child Nutrition & Health Open
A basic study of nutrition and the nourishment of young children and the provision of a healthy and safe environment for children.

CHLD265 4-4-0-0
Curriculum & Activities II Open
A continuation of Curriculum and Activities I, with emphasis on equipping a day care center and program evaluation. Areas of curriculum include literature, language development, small motor skills, science and math awareness. Prerequisite: CHLD262, 260, 160

CHLD266 3-3-0-0
Administration of Programs for Children Open
Course covers basic principles involved in setting up and administering a child care center. Emphasis is placed on funding, bookkeeping, business procedures, insurance, enrollment and record keeping.

CHLD336 2-2-0-0
Development in Early Childhood Open
Interrelationship of physical, emotional, intellectual and social growth from birth to age 12. Includes problems common to early childhood.

CHLD337 2-2-0-0
Creating the Environment Open
Skill development in communication and interpersonal relationships. Emphasis on guidance and behavior control techniques with children. Inquiry into physical environments and their effect on children, staff, and parents. Ways of modifying environments.

CHLD339 1-1-0-0
Working with Infants Open
Explore specific ways of planning and developing effective methods for care of infants, 0-18 months. Health, safety, play materials, special techniques and family relationships will be covered.

CHLD340 1-1-0-0
Working with Toddlers Open
Practical ideas for the guidance and development of the child from 18-36 months.

CHLD341 1-1-0-0
Working with the Preschooler Open
Designed to provide basic instruction in the use of tools and materials which stimulate imagination, problem-solving, reasoning and concept formation for the child from 3-5 years.

CHLD342 1-1-0-0
Working with the School Age Child Open
Information and skill development for working with the child from 6-12 years of age. Emphasis on practical experiences including ideas for activities to keep youngsters busy outside of school.

CHLD343 1-1-0-0
Assessing Children for Program Planning Open
Methods and techniques for working with children from varying lifestyles, including the exceptional child. Emphasis on communication with parents.

CHLD345 1-1-0-0
Health and Nutrition Open
Designed to explore nutritional needs, feeding and clothing habits, health routines and hygiene. Guidance on food activities with and for young children.

CHLD346 1-1-0-0
Developing Leadership Skills Open
Focus on principles, skills, and attitudes needed for an effective work environment. Emphasis on self-evaluation, communication and team building.

CHLD347 1-1-0-0
Planning Group Activities Open
Focus on various methods child care providers can

utilize to foster creative experiences in small group settings. Emphasis on pleasant, challenging, invigorating and happy activities.

CHLD348 1-1-0-0
Helping Children Cope with Stress Open
Causes of childhood stress will be examined. Exercises and techniques for helping children develop a healthy response to stress will be demonstrated and practiced, including relaxation, imagery, and inner body awareness. Active participation.

CHLD349 1-1-0-0
Contemporary Issues in Child Care Open
Constantly updated to offer the latest information and policy developments in the field of child care provision and protection. Emphasis on the role and impact of individuals in child care.

CHLD350 1-1-0-0
Identifying & Referring the Individual Child Open
Discussion of definitions, characteristics, statistics, and what can realistically be done about the exceptional child and the child in need of special assistance.

CHLD351 1-1-0-0
Innovations in Classroom Materials/Activities Open
Emphasis on the latest tips and techniques for development of creative experiences for young children. Class will develop specific projects and materials. Ten hours of classroom experience, twenty hours of development.

CHLD352 1-1-0-0
Practical Experience in Child Care Open
An opportunity for students under qualified supervision to participate in the day-to-day activities of a child care center. Emphasis on student participation and evaluation. Arranged with director and college coordinator.

CHLD460 3-0-6-0
Student Participation I Open
Participation with children in a laboratory day care/preschool setting under the supervision of a lead teacher. Students have limited responsibilities for curriculum planning. Daily student-teacher guidance conferences are held.

CHLD461 3-0-6-0
Student Participation II Open
A continuation of Student Participation I in which students assume full responsibility for planning, head teaching and parent communications in the day care/preschool laboratory under the supervision of a head teacher. Prerequisite: CHLD460, 160, 260, 262

CHLD462 3-0-0-9
Practicum Open
Placement in a community-based program for children. Emphasis is on development of the competencies necessary for employment in a similar setting. Prerequisite: CHLD160, 260, 262, 460

CHLD463 4-0-0-12
Child Development Associate Practicum Open
Placement for the Associate Degree student in a community-based center designed to further build competencies necessary for employment and to develop competence in the area of program administration. Prerequisite: CHLD462

CLER416 3-0-0-9
Simulated Work Experience Voc/Tech
Provides an opportunity for the student to gain practical work experience in an office environment.

CLER417 1-0-2-0
Pre-Employment Seminar Voc/Tech
Covers all aspects of professional job placement procedures including career goal setting, developing prospective employer lists, resume writing, job application forms, employment tests, wardrobe engineering interviewing and follow-up.

DESCRIPTION OF COURSES

CLER418 Word Processing Concepts	2-0-4-0 Voc/Tech		
A study of information/word processing concepts. Topics include history, benefits, terminology, equipment selection, etc.			
COMH410 Greenhouse Production I	3-2-2-0 Voc/Tech		
An introduction to greenhouse structures, heating and environmental control systems and watering. Winter and spring commercial pot plants and cut flowers and bedding plant crops will be explored vocationally in the college greenhouses.			
COMH411 Horticulture Chemical Technology	2-2-0-0 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.			
COMH437 Turf I	3-2-2-0 Voc/Tech		
The study of soil a 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.			
COMH439 Landscape Construction & Equip Maint	2-0-4-0 Voc/Tech		
To give study and experience choosing materials, planning and construction of landscape facilities and give practical experiences in the proper care and use of hand tools, power equipment and horticulture mechanics.			
COMH440 Landscape Design I	2-1-2-0 Voc/Tech		
Fundamentals of landscape design for homes are presented. Serves an introduction to principles of landscaping as they apply to residential landscaping. The student is given the opportunity to draw basic residential landscape plans. Prerequisite: COMH488			
COMH450 Botany	2-1-2-0 Voc/Tech		
A course designed to introduce the student to the principles of botany that are basic to plant life. Topics covered include plant cell chemistry, cell structure, functions, photosynthesis, transpiration, reproduction and development.			
COMH452 Arboriculture & Plant Propagation II	2-1-2-0 Voc/Tech		
A study of tree culture with emphasis on propagation, pruning, environmental concerns, transplanting, and pest control. Summer methods of plant propagation including meristem, softwood cuttings, budding, and layering will be accomplished. Prerequisite: COMH479			
COMH453 Landscape Design & Plant Materials II	2-0-4-0 Voc/Tech		
Course will include design of residential, commercial, public areas and flower beds. Using landscape construction materials in design and material and labor estimates will be developed. Plant materials will be expanded to include annuals. Prerequisite: COMH440, 488			
COMH455 Turf II	2-1-2-0 Voc/Tech		
Turf management practices on golf and recreation areas with practical experience in maintaining turf on outdoor campus facilities. Prerequisite: COMH437			
COMH456 Foliage Plant Production & Display	2-2-0-0 Voc/Tech		
The commercial production of foliage plants: culture, propagation and nomenclature will be discussed. Interior use, design and display of foliage plants will be studied.			
COMH457 Fruit & Vegetable Science	2-1-2-0 Voc/Tech		
A study of tree fruits, small fruits and vegetable culture, including varietal selection, planting, pruning, fertilizing, disease and insect control programs.			
COMH458 Cost of Production/Est/Contracting	1-1-0-0 Voc/Tech		
Students will study cost of production and scheduling greenhouse crops, record keeping. Estimating and contracting will be explored as it relates to landscaping and interiorscaping.			
COMH460 Supervised Employment Experience I	4-0-0-40 Voc/Tech		
Experience in a business setting related to the student's career objective. Taken over a five week period. Prerequisite: COMH410, 437, 479, 488			
COMH468 Commercial Horticulture Marketing	2-1-2-0 Voc/Tech		
Problems of distribution used in supplying goods and services, and functions of marketing, costs and their relationship to the consumer market. Services will be examined, middleman functions and the transportation and storage of products will be studied.			
COMH469 Garden Center Management	2-2-1-0 Voc/Tech		
Display, promotion and merchandising in the modern garden center will be stressed. Organizing a business and management's role in decision making and financial success will be discussed.			
COMH478 Plant Propagation I	2-2-1-0 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.			
COMH479 Nursery Production I	3-2-2-0 Voc/Tech		
Will introduce 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.			
COMH480 Supervised Employment Experience III	7-0-0-40 Voc/Tech		
Work experience in an area in which the individual has chosen to specialize. Taken over an eight week period. Prerequisite: COMH492			
COMH488 Plant Materials & Landscape Drafting	3-2-2-0 Voc/Tech		
The study of plant material using the plant materials in their growing environment. It will cover use of identification keys and plant families. Introduction to landscape drafting will be developed.			
COMH490 Greenhouse Production II	3-2-2-0 Voc/Tech		
Greenhouse maintenance, nutrition, watering, cooling systems and pest control shall be further developed in college greenhouse facilities. Summer and fall crops will be grown by students. Prerequisite: COMH410			
COMH491 Supervised Employment Experience IV	4-0-0-40 Voc/Tech		
A final opportunity for the students 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. Prerequisite: COMH480			
COMH492 Supervised Employment Experience II	3-0-0-40 Voc/Tech		
Student will continue on his/her first employment experience. Taken over a three week period. Prerequisite: COMH460			
COMH494 Horticulture Production Alternatives	1-0-2-0 Voc/Tech		
A discussion and comparison of the possibilities and profitability of job opportunities in the various fields of horticulture production in Iowa. i.e., fruit, vegetable, nursery, Christmas tree, sod and greenhouse crops.			
COMH495 Merchandising & Display Flowers & Plants	1-0-2-0 Voc/Tech		
Construction and mechanics of merchandising and displaying flowers and plants at retail.			
COMS111 Computers & Programming I	3-3-0-0 Open		
A block structured language will be used to introduce fundamental structured programming techniques. Structured programs will be developed through an algorithmic approach, then written, tested and debugged. Prerequisite: MATH115, 124 or 2 years high school algebra			
COMS112 Computers & Programming II	3-3-0-0 Open		
A block structured language will be used to introduce commonly used data structures. Programs using these data structures will be developed, written, tested and debugged. Prerequisite: COMS111			
COMS125 Business Programming COBOL I	3-3-0-0 Open		
Introduces the programming language COBOL through writing, testing and debugging COBOL programs. Emphasis is given to business applications. Prerequisite: COMS111 or 176			
COMS126 Business Programming COBOL II	4-4-0-0 Open		
Introduces advanced COBOL programming techniques through the writing, testing and debugging of COBOL programs. Emphasis is given to the SORT verb and ISAM file access techniques. Prerequisite: COMS125			
COMS160 Computational Structures	3-3-0-0 Open		
Relates mathematics as a tool and language to the computer. A block structured language will be used to acquaint students with application areas in computer science. Prerequisite: COMS112, MATH129			
COMS172 Computer Programming in FORTRAN	2-2-0-0 Open		
For students desiring an introductory background in the programming language of FORTRAN. Included are FORTRAN structures, I/O statements, arrays, subscripting, control statements, data storage, and retrieval. Prerequisite: MATH129 or COMS111			
COMS174 Applied Programming I (Pascal)	3-3-0-0 Open		
Introduction to structured programming using a block-structured language. Emphasis will be on an algorithmic approach to program development. Programs will be developed, written, tested and debugged. Prerequisite: MATH115, 119, 123			
COMS176 Applied Business Programming II	4-4-0-0 Open		
Data structures as related to computer programming will be emphasized. Programs using these data structures will be developed, written, tested and debugged. The programs written will also be business application oriented. Prerequisite: COMS174			
COMS180 The Computer Programme (TV)	2-2-0-0 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 practice by looking at examples of computers at work in the real			

DESCRIPTION OF COURSES

world, and explores the principles behind the application.

COMS181 3-3-0-0
Introduction to Computer Literacy Open

Presents the basic concepts of computers and the effect that computers are having and will continue to have in the future. Incorporates theory as well as hands-on practice by looking at examples of computers at work in the real world, and explores the principles behind the application. Includes an introduction to BASIC programming.

CONA451 3-2-2-0
Fundamentals of Refrigeration Voc/Tech

This course consists of the principles of refrigeration, domestic systems and equipment. Installation, operation and trouble shooting with lab work on actual equipment.

CONA452 3-2-2-0
Electricity I Voc/Tech

A study of basic electricity principles, Ohms law, series and parallel circuits as applied to refrigeration. Hands-on practice with training boards in the lab.

CONA454 3-2-2-0
Fundamentals of Heating Voc/Tech

A study of the combustion process, heating values of different fuels, including piping, venting, controlling and trouble shooting with lab work on actual equipment.

CONA461 5-3-5-0
Advanced Refrigeration & Heating Voc/Tech

Lectures on the compression cycle, different refrigeration and electrical circuits and lubrication problems found in supermarket equipment. Lab work on actual equipment. Prerequisite: CONA451, 454

CONA462 8-3-10-0
Year Round Air Conditioning I Voc/Tech

The science of heating and cooling consisting of psychrometrics, humidity control, computation of equipment selection and system cost with a study of installation and service procedures through lab practices. Prerequisite: CONA451, 454

CONA463 2-2-0-0
Blueprint Reading Voc/Tech

A comprehensive study of blueprints consisting of drafting symbols and terminology which prepares the student to make an installation according to a set of blueprints and specifications.

CONA464 3-3-0-0
Related Physics Voc/Tech

Course consists of the study of gas laws, temperature and pressure relationships heat and energy and power as applied to the heating and refrigeration industry. Prerequisite: RCMA400

CONA471 5-3-5-0
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.

CONA472 7-2-10-0
Year Round Air Conditioning II Voc/Tech

The theory and function of commercial heating and cooling equipment consisting of heat pumps, cooling towers, evaporators, condensers, related electric and pneumatic controls with lab practice. Prerequisite: CONA462

COOP205 3-3-0-0
Career Planning Techniques Voc/Tech

This course will cover the spectrum of planning for and entering an occupation. Emphasis will be on occupational planning, career options, career information sources, resume preparation and interviewing.

COOP212 1-1-0-0
Coop Career Seminar Voc/Tech

Designed to provide indepth exploration of careers. Includes discussion topics such as positive work attitudes, conditions for salary increases, and job promotions. Employer/employee responsibilities and other phases of the work. These discussions will be related to student employment. Prerequisite: Corequisite: COOP213

COOP213 6-0-0-18
Coop Career Experience Voc/Tech

One to six semester hours college credit, to be taken in no more than two semesters. Designed for students who want to blend an effective employment learning experience with their academic program of study. Prerequisite: Corequisite: COOP212

COOP220 1-0-2-0
Pre-Employment Seminar Voc/Tech

Covers all aspects of professional job placement procedures including career goal setting, developing prospective employer lists, resume writing, job application forms, employment tests, wardrobe engineering interviewing and follow-up.

COOP221 1-1-0-0
CO-OP Career Experience Open

Supervised work experience with employers that enables students to apply their skills and knowledge. Work experiences will relate to the students' academic program of studies. Prerequisite: COOP212 for some programs, Clarify with COOP office

COOP222 2-2-0-0
CO-OP Career Experience Open

See COOP221

COOP223 3-3-0-0
CO-OP Career Experience Open

See COOP221

COOP224 4-4-0-0
CO-OP Career Experience Open

See COOP221

COOP225 5-5-0-0
CO-OP Career Experience Open

See COOP221

COOP226 6-6-0-0
CO-OP Career Experience Open

See COOP221

CRIM101 3-3-0-0
Introduction to Criminal Justice General

An in-depth examination of the three aspects of the Criminal Justice System and the roles they play in society.

CRIM103 3-3-0-0
Community Relations Open

Examination of the role of criminal justice personnel in a democratic society emphasis on ethical uses of discretion analysis of stress and the popular perceptions of criminal justice actors.

CRIM104 3-3-0-0
Criminal Law General

An examination of the elements of offenses and the procedural safeguards in the criminal process.

CRIM105 3-3-0-0
Constitutional Law General

A study of the issues raised by the application of Con-

stitutional principles to social and political questions including the powers of the national government vs. state government, the evolution of civil liberty guarantees and the incorporation problem.

CRIM106 3-3-0-0
Juvenile Law General

An overall investigation of the social and legal aspects and sociological theories of juvenile delinquency administration of juvenile procedures, legislation, juvenile court and prevention programs.

CRIM107 3-3-0-0
Theories of Interviewing Open

Analysis of processes of gathering information from others, the interviewee, the setting, types of questions, nonverbal communication, deception, and theories of communication.

CRIM110 3-3-0-0
Penology General

Analysis of the organization and goals of correctional programs. Principles and programs of institutional corrections and the social structure within institutions. Examination of non-institutional alternatives include probation and parole.

CRIM211 3-3-0-0
Correctional Treatment Open

Institutional options for preventing recidivism. Sentencing options ranging from close custody confinement to probation. An introduction to therapeutic techniques. Comparison of punishment, Freudian treatments and behavior modification systems. Student presentation required.

CRIM212 3-3-0-0
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.

CRIM214 3-3-0-0
Criminal Investigation Open

Rudiments of criminal investigation, techniques, principles, problems, sources of information, and evidentiary processes. Theories of investigation with emphasis on specific offenses.

CRIM226 3-3-0-0
Retail Security Investigations Open

Forms of theft, how it occurs and its impact on business. Internal investigation methods, including undercover, interrogation, polygraph use. Internal theft control, including pre-employment screening, honesty testing, management's role in preventing internal theft, cash and merchandise controls.

CRIM230 3-3-0-0
Seminar Open

Analysis of present day criminal justice innovations and problems. Development of practical approaches to data gathering. Major paper and student presentation are required. Prerequisite: 24 Hours of CRIM courses or permission of instructor

CRIM235 3-2-2-0
Survey of Criminal Justice Agencies Open

Study of the criminal justice system through an examination of local agencies, focusing on theoretical vs. real roles and functions of the agencies. Includes on-site visits. Prerequisite: 24 hours of CRIM courses or permission of instructor

CRIM236 3-0-0-9
Internship Open

Involves one hundred fifty hours of active internship for students in an agency other than one in which may be employed. Synthesis paper required. Prerequisite: CRIM235 or permission of instructor

DESCRIPTION OF COURSES

CRIM250 General Identification	3-3-0-0 Open				
Emphasis on casting techniques, obliterated numbers, tool impressions, glass fractures, crime scene sketches as well as collection and preservation of same.					
CRIM260 Fingerprinting	3-3-0-0 Open				
Classification and identification of fingerprints as well as collection and presentation of latents.					
CRIM270 Weapons and Firearms	3-3-0-0 Open				
The study of internal and external ballistics, edged weapons, blunt instruments, and the physical evidence produced.					
CRIM280 Physiological Fluids, Hair and Fibers	3-3-0-0 Open				
Blood analysis from flow origin and questioned stain determination collection and preservation of physiological fluids, hairs and fibers. Use of spectrographic and gas chromatography examination required for this course.					
CULA351 Advance Culinary Cuisine Lab	8-0-16-0 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: HRMT328, 337					
CULA375 Buffet Decorating I	2-2-0-0 Voc/Tech				
This is an art course with food. It includes techniques used in preparing hot and cold hors d'oeuvres, decorative food displays and ice carvings. Emphasis is placed on aspics, gallantine, chau-froids, mousses, pates, and buffet centerpieces.					
CULA376 Buffet Decorating I Lab	4-0-8-0 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, gallantines and buffet presentations.					
CULA383 Buffet Decorating II	1-1-0-0 Voc/Tech				
Demonstration and discussion of techniques used in tallow, chocolate, spice and pastillage centerpieces. Prerequisite: CULA375, 376					
CULA384 Buffet Decorating II Lab	2-0-4-0 Voc/Tech				
Preparation of tallow, pastillage, chocolate carvings and spice. Prerequisite: CULA375, 376					
CULA437 International Cuisine Lab	3-0-6-0 Voc/Tech				
Application of gourmet cooking through actual quantity preparation of eight-course international dinners. Dinners are prepared and served once a month throughout the academic year. Prerequisite: HRMT325, 328					
CULA443 International Cuisine	2-2-0-0 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: HRMT325, 328					
CULA450 Advance Culinary Cuisine	3-3-0-0 Voc/Tech				
Discussion of the more intricate and difficult cooking principles and techniques of classical cuisine and planning for advanced culinary cuisine lab. Prerequisite: HRMT337, 357					
DATA101 Introduction to Data Processing	3-3-0-0 General				
A study of the development of data processing from early manual methods to present day state of the art. The student is introduced to the concepts, functions and features of the digital computer.					
DATA102 An Introduction to Computers	3-3-0-0 Voc/Tech				
A television course giving a comprehensive introduction to computer principles and presenting a broad overview of data processing concepts.					
DATA103 BASIC	3-3-0-0 Voc/Tech				
An elementary course in the use of the BASIC programming language. The various commands will be presented and students design, code and test several programs. Prerequisite: DATA101 or permission of instructor					
DATA104 BASIC - Advanced	3-3-0-0 Open				
An "applications" approach developed around data file programming. Manipulation of string variables, data entry, formats, error checking routines, sequential and random access files. Prerequisite: DATA103					
DATA105 Link With The Future	2-2-0-0 Voc/Tech				
A correspondence course starting with basics regarding hardware and software; progress to writing a flowchart and a computer program.					
DATA106 Microcomputers in Business	3-2-2-0 Voc/Tech				
This course will provide the person already familiar with computer fundamentals with added skills needed for purchasing, evaluating and using microcomputer hardware and software for business applications.					
DATA211 FORTRAN	3-3-0-0 Open				
An introductory course in the use of the FORTRAN programming language. Students design, code and test several business programs using the various features of the language. Prerequisite: DATA101					
DATA221 PL/I	3-3-0-0 Open				
An introductory course in the facilities and techniques in the use of the PL/I language. Students design, code and test several business programs using the features of the PL/I. Prerequisite: DATA101					
DATA231 RPG/II	3-3-0-0 Open				
A study of the basic steps of programming. Students design, code and debug various problems written in report program generator language. Prerequisite: DATA101					
DATA301 DOS Job Control	4-3-2-0 Voc/Tech				
Provides an individual with a working knowledge of disk operating systems/virtual storage extended (DOS/VSE) Job Control Language. Prerequisite: DATA101					
DATA304 COBOL-Beginning	4-4-0-0 Voc/Tech				
Introduces the student to structured COBOL design and coding including control break processing. Prerequisite: DATA101					
DATA306 COBOL-Intermediate	4-4-0-0 Voc/Tech				
ANS COBOL Programming involving sequential disk, table processing and VSAM file processing. Prerequisite: DATA304					
DATA308 COBOL-Advanced	4-4-0-0 Voc/Tech				
ANS COBOL involving advanced editing programs, table processing VSAM file process, program linkage, and report writer. Prerequisite: DATA301, 306					
DATA310 Program Logic Design	4-4-0-0 Voc/Tech				
The study of the logical design of programs using the structured method. Various design tools and applications will be covered.					
DATA319 Assembler-Beginning	4-4-0-0 Voc/Tech				
An introductory course in the syntax rules of Assembler language programming. Business problems are analyzed and programmed. Prerequisite: DATA101					
DATA321 Assembler-Intermediate	4-4-0-0 Voc/Tech				
An intermediate course in the concepts and techniques of using Assembler language including machine language and table processing Prerequisite: DATA301					
DATA327 Assembler-Advanced	4-4-0-0 Voc/Tech				
An advanced course in the more complex concepts of Assembler type instructions, including VSAM and macro processing with inter-program linkage. Prerequisite: DATA321					
DATA334 Applications Programming	8-8-0-0 Voc/Tech				
Individual projects are assigned which require the student to apply the programming knowledges gained in prerequisite courses to the design and implementation of assigned business applications. Prerequisite: DATA301, 306, 321, 352					
DATA338 OS/JCL	2-2-0-0 Voc/Tech				
This course presents the concepts and coding rules of OS Job Control language in an easily understood manner. The course is primarily intended for both operators and programmers with DOS experience who plan to use OS in the near future.					
DATA341 Data Base Language (DL/I)	3-3-0-0 Voc/Tech				
An introductory course in the concepts, facilities and techniques used in data base language. Students design, organize and create data independent business applications. Prerequisite: DATA301, 306, 321					
DATA352 Telecommunications/CICS Prog.	4-4-0-0 Voc/Tech				
Provides theory and working knowledge of telecommunication programming. Students will code programs using CICS. Prerequisite: DATA306, 321					
DATA382 Systems Analysis	4-4-0-0 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: DATA101, 304 or 319					
DENA302 Dental Science I	4-3-2-0 Voc/Tech				
Introduction to the various sciences necessary for the dental assistant. Microbiology, embryology, histology, and oral pathology are covered. Prerequisite or Corequisites DENA304, 320					
DENA304 Dental Anatomy	2-2-0-0 Voc/Tech				
The study of head, neck and dental anatomy is combined to give the student background information for application in dental assisting courses.					

DESCRIPTION OF COURSES

DENA305 Dental Radiography II	2-1-2-0 Voc/Tech				
A continuation of Dental Radiography I. Weekly seminars for basic interpretation of radiographs and laboratory experience to develop student competence in making oral radiographic surveys. Prerequisite: DENA302, 304, 320, DENH257					
DENA309 Dental Assisting Seminar	1-2-0-0 Voc/Tech				
Discussion and problem solving from clinical practice. Provides an awareness of types of office situations and discussion of clinical aspects of dental assisting and dentistry. Oral reports and weekly evaluations are required. Prerequisite: DENA302, 304, 320, 325, DENH201, 257; Corequisite: DENA310					
DENA310 Dental Assisting Clinical	3-0-0-16 Voc/Tech				
Application of knowledge and skills as students rotate through dental offices, clinics and through hospital clinics. General and speciality practices are included in rotations. Prerequisite: DENA302, 304, 320, 325, DENH201, 257, current CPR certification					
DENA312 Dental Science II	2-2-0-0 Voc/Tech				
A continuation of Dental Science I. Emphasis on human anatomy and physiology and effects of drugs and emergency procedures related to the body systems and dental procedures. CPR credentials will be obtained. Prerequisite: DENA302, 304, 320					
DENA316 Ethics & Clinical Seminar	1-1-0-0 Voc/Tech				
Continuation of DENA309. 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					
DENA317 Dental Assisting Clinical II	5-0-0-24 Voc/Tech				
Continuation of DENA310.					
DENA320 Preclinical Dental Assisting	6-4-4-0 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 or Corequisite: DENA302, 304					
DENA322 Clinical Dental Assisting	5-3-4-0 Voc/Tech				
A continuation of the preclinical dental assisting with emphasis on operative dentistry, dental specialties and advanced functions. The laboratory phase develops students' competencies in clinical assisting. Prerequisite: DENA302, 304, 320, 325, DENH201, 257					
DENA323 Dental Business Office Procedures	2-2-0-0 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.					
DENA325 Dental Materials Lab	1-0-2-0 Voc/Tech				
Through laboratory experience the student learns techniques in preparation and utilization of dental materials. Corequisite: DENH201					
DENH201 Dental Materials	2-2-0-0 Open				
A study of materials utilized in the practice of dentistry, properties of dental materials and A.D.A. Corequisites: DENA325 or DENH203					
DENH203 Dental Materials Lab	1-0-2-0 Open				
Through laboratory experience the student learns techniques in preparation and utilization of dental materials. Corequisite: DENH201					
DENH208 Principles of Dental Hygiene	2-2-0-0 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: Program acceptance					
DENH209 Principles of Dental Hygiene Practicum	3-0-0-6 Open				
See DENH208. Prerequisite: Program acceptance; Corequisite: DENH208					
DENH210 Oral Histology & Embryology	2-2-0-0 Open				
General and oral histology beginning with a consideration of cytology, which is followed by a study of the fundamentals of oral embryology and the normal microscopic anatomy of oral tissues. Prerequisite: BIOL130					
DENH227 Dental Health Education	3-2-0-2 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: DENH208, 209					
DENH228 Dental Hygiene I	2-2-0-0 Open				
Continuation of instrumentation techniques, polishing techniques, topical application of fluoride and supplementary procedures. Application of principles of patient education in chairside instruction. Prerequisite: DENH208, 209,					
DENH229 Dental Hygiene I-Practicum	4-0-0-8 Open				
See DENH228. Prerequisite: DENH208, 209, 228; Corequisite: DENH228					
DENH230 Dental Anatomy	4-4-0-0 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.					
DENH240 Nutrition & Preventive Dentistry	4-4-0-0 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: BIOL130, CHEM132					
DENH257 Dental Radiography I	3-2-2-0 Open				
Lecture includes: radiation physics, biology, health safety, radiographic film, methods, processing techniques, and mounting. Through laboratory experiences the student develops competence in exposing, processing, mounting, and evaluating radiographs. Prerequisite or Corequisite: DENA304 or DENH230					
DENH259 Dental Radiography II	2-1-2-0 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: DENH257					
DENH278 Dental Hygiene II	2-2-0-0 Open				
A continuation of clinical practices. Further instruction and application in techniques for a complete oral prophylaxis. Auxiliary procedures presented include ultrasonic instrumentation, amalgam polishing, charting and application of nutritional counseling techniques. Prerequisite: DENH228, 229					
DENH279 Dental Hygiene II Practicum	2-0-0-5 Open				
See DENH278. Prerequisite: DENH228, 229, 278; Corequisite: DENH278					
DENH280 Periodontology	2-2-0-0 Open				
The clinical characteristics, histopathology, etiology, and treatment of periodontal disease are presented. Special emphasis is placed on the role of the dental hygienist in patient education for the prevention and management of gingival problems. Prerequisite: DENH208, 209, 210, 228, 229; Corequisite: DENH278, 279					
DENH282 Dental Pharmacology	2-2-0-0 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: CHEM132, BIOL130					
DENH288 Dental Hygiene III	2-2-0-0 Open				
A continuation of Dental Hygiene II. Applied radiographic interpretation and further instruction in root planing and curettage including utilization of the dental hygiene treatment plan for initial periodontal therapy. Auxiliary procedures include pit and fissure sealants. Prerequisite: DENH278, 279					
DENH289 Dental Hygiene III Practicum	7-0-0-14 Open				
See DENH288. Prerequisite: DENH278, 279, 288; Corequisite: DENH288					
DENH290 Community Health Issues	3-2-0-2 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: DENH227					
DENH293 General and Oral Pathology	3-3-0-0 Open				
Basic concepts of disease process and the oral manifestations of inflammation, degenerative changes, neoplasms and developmental anomalies of the oral cavity. Prerequisite: BIOL130, DENH210, 230, 257					
DENH298 Dental Hygiene IV	2-2-0-0 Open				
A continuation of Dental Hygiene III. Students present and discuss dental hygiene treatment plans. Auxiliary procedures include additional occlusal evaluation techniques and dental business office procedures. Prerequisite: DENH288, 289					
DENH299 Dental Hygiene IV Practicum	7-0-0-14 Open				
See DENH298. Prerequisite: DENH288, 289, 298; Corequisite: DENH298					
DEVD201 Young and Special (TV)	3-3-0-0 Open				
A TV course that will prepare students for mainstreaming handicapped preschool children into regular preschool settings. All major categories of special needs are addressed.					

DESCRIPTION OF COURSES

DEVD203 2-2-0-0
Beginnings: Handicapped Children (TV) Open
 A telecourse designed for the training of teachers and other paraprofessionals who deal with the handicapped child through age five. Experts provide theoretical background, and special education professionals discuss their teaching strategies.

DEVD260 3-3-0-0
The Exceptional Individual Open
 A survey of physical, mental, social and emotional exceptionalities. History, philosophy and current trends in developmental disabilities are presented. Observation, data collection and analysis of behavior will be discussed.

DEVD261 3-3-0-0
Programs for the Mentally Retarded Open
 Course emphasizes definition, characteristics, educational/vocational programs and adaptations for the mentally retarded. Must be taken with or after DEVD260 and CHLD160.

DEVD262 3-3-0-0
Health Care Open
 Course stresses practical skill development in areas related to health and general well-being of handicapped individuals of all ages. Nutrition, use of equipment, household maintenance and basic nursing functions are included. Must be taken with or after DEVD260 and CHLD160.

DEVD263 2-2-0-0
Professional Relationships Open
 Course emphasizes developing patterns of effective communication with others. Also includes discussion and evaluation of practicum experiences as well as skill development in the areas of employment applications, resume preparation and interviewing techniques. Must be taken concurrently with DEVD461.

DEVD264 3-3-0-0
Programs for the Physically Handicapped Open
 Course emphasizes characteristics, identification, educational mainstreaming, vocational programs and adaptations for the physically handicapped. Special emphasis placed on adaptive equipment. Prerequisite: DEVD260, CHLD160

DEVD265 3-3-0-0
Multicategorical Disorders Open
 Course covers characteristics, identification, educational mainstreaming, vocational programs and adaptations for the socially, emotionally, educationally and visually handicapped. Prerequisite: DEVD260, CHLD160

DEVD266 2-2-0-0
Speech & Hearing Disorders Open
 Course is designed to familiarize the student with the communication process. Auditory disabilities are included as well as elementary signing techniques. Prerequisite: DEVD260, CHLD160

DEVD460 2-0-0-6
Practicum I Open
 Placement in residential, educational, or community-based program for the developmentally disabled. Students will observe, collect data and set up a behavioral change program as well as develop competencies necessary for future employment in similar settings. Must be taken with or after DEVD260 and CHLD160.

DEVD461 4-0-0-12
Practicum II Open
 Additional placement in a residential or community-based program for the developmentally disabled. Emphasis is on further development of competencies necessary for employment. Prerequisite: DEVD460

DEVD462 4-0-0-12
Developmental Disabilities Assoc. Pract. Open
 Placement for the associate degree student in a residential or community-based setting to develop competence in the student's particular area of emphasis such as learning disabilities, emotional disabilities, mental retardation, etc. Prerequisite: DEVD461

DIAS381 1-0-2-0
Food Preparation Voc/Tech
 Basic principles and development of techniques as they apply to preparation of each food group, criterion for evaluating product quality. Laboratory experience.

DIAS382 2-2-0-0
Sanitary & Efficient Meal Service Voc/Tech
 Methods of efficiently serving safe, pleasing food; an awareness of sanitation will be created for all areas of food service.

DIAS383 1-1-0-0
Modified Diets Voc/Tech
 An assessment of special diets, using the approved diet manual, a review of food exchanges and hints for making these diets appetizing through the use of seasoning.

DIAS384 2-2-0-0
Food Service Management Voc/Tech
 The management functions required to organize and maintain an efficient quality dietary department are developed.

DIAS385 1-1-0-0
Purchasing Voc/Tech
 Methods for making rational buying decisions and developing simple records for figuring food costs.

DIAS386 1-1-0-0
Mathematics Voc/Tech
 A general course in mathematics for dietary employees.

DIAS387 1-1-0-0
Self & Others Voc/Tech
 Methods to help a person understand self/others and develop positive communication skills.

DIAS388 1-0-2-0
Clinical Studies Voc/Tech
 Twenty-four learning activities chosen from eight given areas to research. 30 hours minimum time required.

DIAS390 2-2-0-0
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.

DIAS391 1-1-0-0
Food Production Voc/Tech
 Total production needs, equipment layout, work methods, food storage, food preparation, service, and sanitation in a laboratory setting.

DIAS392 1-1-0-0
Advanced Food Service Management Voc/Tech
 Details management techniques for all functions of Dietary Department with emphasis on budget development and long-range planning.

DIAS393 1-0-2-0
Advanced Clinical Studies Voc/Tech
 Twenty-four learning activities chosen from eight given areas to research and develop. 30 hours minimum time required.

DIAS394 2-0-0-6
Supervised Work Experience Voc/Tech
 Ninety hours of on-the-job experience under direct supervision and evaluation of preceptor.

DIEM400 4-3-2-0
Basic Diemaking Voc/Tech
 Introduction to diemaking principles covering die sets,

die components, cutting and forming applications, and material utilization. Prerequisite: TOOL483

DIEM401 7-0-15-0
Basic Diemaking Lab Voc/Tech
 Introducing the student to basic diemaking procedures as they construct a blank die, piercing die, and a forming die. Prerequisite: TOOL490

DIEM402 3-2-3-0
Advance Blueprint Reading Voc/Tech
 An interpretation of progressive die blueprints, jig & fixture blueprints including assembly drawings, plan & section views, and detailing. Prerequisite: TOOL481

DIEM403 4-3-2-0
Progressive Die Design Voc/Tech
 Hands-on drafting experience in the design, drawing, and detailing of a progressive die. Prerequisite: TOOL481

DIEM404 4-3-2-0
Advanced Diemaking Voc/Tech
 Complex die making procedures, including cam actuated dies and exposure to cost estimating and quoting. Prerequisite: DIEM400

DIEM405 7-0-15-0
Advanced Diemaking Lab Voc/Tech
 Constructing more complex stamp and die, including a progressive die that has been completely designed and detailed by the student. Prerequisite: DIEM401

DIEM407 3-2-3-0
Plastic Moldmaking Voc/Tech
 The student is presented with the basic fundamental of plastic mold construction and molding processes. Prerequisite: DIEM413

DIEM410 8-2-13-0
CNC Machine Operations Voc/Tech
 Theory of CNC programming, language and movements. The student will generate programs, load into computer, edit and operate CNC machine. Prerequisite: DIEM404, 405 or 2 years mill and lathe experience

DIEM413 3-2-3-0
Electrical Discharge Machining Voc/Tech
 Operation of conventional EDM Machine, construction of EDM electrodes. Prerequisite: DIEM400

DISL401 15-10-10-0
Diesel Engines Voc/Tech
 An introduction to the theory and design of engines. Operation of both two cycle and four cycle diesel engines and disassembly, inspection and reassembly are included.

DISL402 3-2-2-0
Diesel Electronics Voc/Tech
 Fundamentals of electronics as applied to solid state controls on diesel equipment. Troubleshooting and testing of modules are included. Prerequisite: DISL408

DISL404 8-4-6-3
Power Trains Voc/Tech
 Class and lab activities in the design and operation of drive train components including clutches, torque converters, automatic and manual transmissions drive lines, rear axles, and wheel bearings.

DISL405 3-3-0-0
Computer Literacy Voc/Tech
 A study of the principles of computer technology with particular emphasis on the nature and applications of computers and microprocessors in diesel engines and mechanic support systems.

DISL406 5-3-4-0
Hydraulics Voc/Tech
 The study of mobile hydraulic systems. Introduces hydraulic principles, components, fluids systems and

DESCRIPTION OF COURSES

circuits.			
DISL407	15-12-6-0	DRAM115	3-0-6-0
Diesel Fuel Systems	Voc/Tech	Theatre Production	General
A course designed to provide basic fuel system theory of commonly used fuel systems as well as general repair and calibration practices. Prerequisite: DISL401		See DRAM114	
DISL408	5-3-3-3	DRAM116	4-0-8-0
Basic Electricity	Voc/Tech	Theatre Production	General
An introduction to basic electricity principles that apply to DC electrical systems and the diesel equipment. Electrical circuits covered include starting, charging and accessory systems.		See DRAM114	
DISL420	3-1-4-0	DRAM117	3-3-0-0
Air Conditioning	Voc/Tech	Play Performance/Perception (TV)	General
A course on basic air conditioning theory and design. Emphasis will be placed on various system controls and on service operations.		Investigation of the many facets of drama. Text supplements television broadcasts of fourteen plays that range from classical to contemporary.	
DISL428	6-2-8-0	ECON101	3-3-0-0
Operation & Maintenance	Voc/Tech	Principles of Macro-Economics	Core
Instruction in the proper methods of maintaining trucks and construction equipment. Enough operation of both trucks and heavy equipment will be covered to allow proper testing of each piece of equipment and each vehicle.		An introduction to basic macro-economics concepts and principles. Deals with problems of resource allocation, supply and demand, national income, employment, price levels, fiscal and monetary policy, money and banking system, and elements of international finance.	
DISL430	3-1-4-0	ECON102	3-3-0-0
Dynamometer Testing	Voc/Tech	Principles of Micro-Economics	Core
The course familiarizes the student with the engine and chassis dynamometers. Proper use of the dynamometer and the correct engine testing sequence will be presented.		This course deals with principles of micro-economics. Topics covered include the following: survey of demand and supply conditions, cost structure, market structure, anti-trust laws and crucial court decisions, and competition as they affect the individual firm. Prerequisite: ECON101	
DISL460	2-2-0-0	ECON103	3-3-0-0
Shop Management	Voc/Tech	Contemporary Economic Problems	General
An opportunity to acquire knowledge about the management of a shop. All phases of management will be presented from organizational structure to manpower efficiency analysis.		A course concentrating on the economic problems facing the country. Current problems include inflation, unemployment, productivity, taxes, energy development and regulation. Some international economic events and their ramifications on domestic monetary policy will be covered. Prerequisite: ECON101, 102	
DISL470	2-0-3-0	EDCR101	3-3-0-0
Advanced Electricity	Voc/Tech	Introduction to Education	Open
The electrical circuitry on trucks and heavy equipment is covered. Included are troubleshooting, diagnosing, and repair procedures components. Prerequisite: DISL408		Presents a broad overview of the field of education. It aims to encourage the student to think critically about the role of education in society, the role of the teacher and educational practices in schools.	
DISL476	14-4-20-0	EDCR102	3-3-0-0
Truck and Heavy Equipment Repair	Voc/Tech	Growth & Education of the Child	Open
Instruction in the repair and service of trucks and heavy equipment. This includes all phases normally done in a general repair shop. Instruction is given under structured lab and field conditions. Prerequisite: DISL401, 404, 406, 408		Provides a study of growth and development during the formative years with emphasis on family and educational influences. Observations will center on home and school settings with implications for education.	
DRAM110	3-3-0-0	EDCR103	3-3-0-0
Introduction to Theatre	Core	Contemporary Issues in Education	Open
A survey of the elements and techniques of theatre, with emphasis on the production aspects of acting, directing, and playwriting. Attendance at dramatic production required.		Provides a forum to clarify points of view, attitudes, and beliefs concerning crucial issues in education. Emphasis will be placed on understanding different view point.	
DRAM111	3-3-0-0	EDCR104	3-3-0-0
Techniques of Acting	General	Enriching the Curriculum	Open
Training of the body, voice and mind as acting instruments. Course will include acting exercises, scene analyses, and performance.		Provides an introduction to elementary education. Students develop an understanding of techniques and activities aimed at enriching the child's experiences. Prerequisite: EDCR101	
DRAM113	3-3-0-0	EDCR105	3-3-0-0
Creative Drama for Schools/Rec.	General	Educational Psychology	Open
Course will include work in improvisational acting. Students will learn approaches for participating in as well as leading creative drama activities.		The principles of psychology applied to classroom teaching with emphasis on such topics as development, learning, motivation, evaluation, adjustment, and educational techniques and innovations. Prerequisite: 3 credits in psychology	
DRAM114	2-0-4-0	EDCR106	3-3-0-0
Theatre Production	General	Art in the Elementary School	Open
Course will provide practical experience in acting, directing, and design. Students will be involved in all stages of production, from auditions to final performance. May be repeated for up to eight hours of credit.		A specialized course designed to acquaint students with classroom instruction. Designed specifically for students enrolled in education to assist them with	
			design, construction, and planning for utilization of multi-art form and materials in instructional situations.
			EDCR206 4-0-0-12
			Internship/Teaching Experiences Open
			Provides opportunity to assist in the schools either as a teacher aide or to assess one's potential and interest in teaching as a career. Prerequisite: EDCR101 and permission of program chairperson
			ELEM320 1-1-0-0
			Basic Electrical Motor Theory Voc/Tech
			To familiarize student with electrical motors and the operations. Discussion covers types, industry standards, and application of single and 3 phase motors.
			ELEM321 3-3-0-0
			Motor Control I Voc/Tech
			Troubleshoot motor controls, use meters for testing, and gain an understanding of schematics. You should have basic knowledge of electricity to take this course.
			ELEM322 3-3-0-0
			Motor Control II Voc/Tech
			Work with control circuits and equipment including troubleshooting. Major emphasis is placed on solid state programmable controllers. Prerequisite: ELEM321 or working knowledge
			ELEM323 1-1-0-0
			Code Book for Motors Voc/Tech
			National Electric Code that pertains to Motor Control and installation.
			ELEM325 3-3-0-0
			General Electricity Voc/Tech
			For beginners; theory, controlling electricity, voltage, amps, resistance, wattage, series and parallel circuits, DC and AC, batteries, electric lighting, generators, and motors.
			ELEM326 3-3-0-0
			Electricity/Electronics I Voc/Tech
			Electronic Fundamentals, capacitive circuits, inductive circuits, complex AC circuits. Use meters and circuit boards. Should have an understanding of basic algebra.
			ELEM327 3-3-0-0
			Electricity/Electronics II Voc/Tech
			Power and AC circuits, resonance and filters, poly phase circuits, transformers, semiconductors, rectification and power supplies, transistors, amplifiers, digital logic, audio systems. This course plus ELEM326 is equivalent to ELEM451.
			ELEM450 3-3-0-0
			Related Math Voc/Tech
			Mathematics related to Basic Electronics. It includes: basic algebra, right triangle trigonometry and scientific notation.
			ELEM451 3-3-0-0
			DC & AC Fundamentals Voc/Tech
			An introductory course in DC and AC Fundamentals. Subject matter includes Ohm's Law, series and parallel circuits and measuring instrument.
			ELEM452 3-0-6-0
			DC & AC Fundamentals Lab Voc/Tech
			This laboratory will enable the student to analyze basic L-C-R circuitry. Basic test equipment usage will also be presented.
			ELEM453 3-3-0-0
			Basic Electrical Practices Voc/Tech
			An introduction to block diagram analysis of consumer products. It also includes basic skills such as soldering, mounting components and printed circuit board fabrication.

DESCRIPTION OF COURSES

ELEM454 Basic Electrical Practices Lab	3-0-6-0 Voc/Tech	troubleshooting all types of electronics equipment. Prerequisite: ELEM472, 474	ELHT313 Technical Math I	3-3-0-0 Voc/Tech	A review of algebra to include factoring, clearing of fractions, simultaneous linear equations and quadratic equations. Students are also introduced to the use of an electronic calculator.
This laboratory develops the manipulative skills of the student. It includes soldering, mounting component and printed circuit board fabrication.			ELHT315 Fabrication Techniques	2-0-4-0 Voc/Tech	The proper use of the basic mechanical tools and techniques required in the fabrication of chassis and other selected projects. Practice in the development of techniques and skills in the manipulation of layout tools is provided in the shop.
ELEM460 Applied Electronics	3-3-0-0 Voc/Tech	ELEM482 Color Systems II	6-6-0-0 Voc/Tech	ELEM483 Color Systems II Lab	3-0-6-0 Voc/Tech
An introduction to basic solid state devices. This course includes amplifiers, oscillators, etc., both in discrete and integrated circuit packages. Prerequisite: ELEM450, 451, 452		A continuation of Color Systems I. This course also includes video cassette recorders. Both the ser-vomechanic and electronic circuitry is presented. Pre-requisite: ELEM472, 474		A continuation of Color Systems I lab. Prerequisite: ELEM472, 474	
ELEM461 Applied Electronics Lab	3-0-6-0 Voc/Tech	ELET340 Solid State I	3-2-1-0 Voc/Tech	ELET346 Solid State II	3-2-1-0 Voc/Tech
This laboratory consists of experiments on transistor and integrated circuits device. The use of related test equipment is included. Prerequisite: ELEM450, 451, 452		Semi-conductor devices such as N type, P type, PN junction, diodes, zener diodes. Transistors, by polar characteristics, field affects, thristols, integrated circuits, opto electronics. Should have knowledge in AC/DC diagonal electronics. This course may be substituted for TELE318.		Electronic circuits which include basic operational amplifiers, power supplies, oscillators, pulse circuit modulation. Must have prior knowledge in electrici-ty/electronics. This course may be substituted for TELE316.	
ELEM462 Digital Electronics	3-3-0-0 Voc/Tech	ELET347 Physics for Electronics	3-3-0-0 Voc/Tech	ELET357 Digital	3-3-0-0 Voc/Tech
In introduction to basic digital circuits. It includes basic gates, counters, registers and multiplexer configura-tions. Prerequisite: ELEM450, 451, 452		Designed to develop knowledge and skill in applying the laws of physics to the solving of problems en-counterred by engineering technicians. Primary subject materials includes mechanics, heat, and optics.		Logic circuits, gates, Boolean algebra, flip-flops, and registers. This course plus TELE315 is equivalent to HTTC352. Prerequisite: ELEM327	
ELEM463 Digital Electronics Lab	3-0-6-0 Voc/Tech	ELET358 Microprocessors I	3-3-0-0 Voc/Tech	ELET359 Microprocessors II	3-3-0-0 Voc/Tech
This laboratory consists of experiments on basic TTL Digital circuits. It includes: gates, counters, registers and multiplexer configurations. Prerequisite: 450, 451, 452		An overview of structure such as registers and types of memory and software concern with specific machine level instruction. Participant should have digital background. Prerequisite: ELET357		An overview of interface chips - UART, parallel chips such as 8255, A/D and D/A converters. Prerequisite: ELET358 or experience	
ELEM464 Industrial Electronics	3-3-0-0 Voc/Tech	ELET387 Introduction to Industrial Computers	2-2-0-0 Voc/Tech	ELHT311 Circuit Analysis I	6-6-0-0 Voc/Tech
An introduction to basic industrial electronic devices. It includes silicon controlled rectifiers, unijunction tran-sistors and various types of trigger devices. Prereq-uisite: ELEM450, 451, 452		Learn at your pace with 19 tapes and a study guide. Industrial applications, structured programming, cost, numbering, organization, digital logic, input-output. Lit-tle or no computer or electronics background.		An introduction to direct current fundamentals to in-clude basic series and concepts essential in all phases of electricity and electronics. Subject material includes electricity and magnetism, Ohm's Law, batteries, in-duced EMF, magnetic circuits, DC measuring in-struments, motors and generators.	
ELEM465 Industrial Electronics Lab	3-0-6-0 Voc/Tech	ELHT312 Circuit Analysis I Lab	3-0-6-0 Voc/Tech	ELHT340 Digital Circuits II	5-5-0-0 Voc/Tech
This laboratory consists of experiments on basic in-dustrial devices. It includes experiments on SCR's, UJT's and various types of trigger devices. Prereq-uisite: ELEM450, 451, 452		Basic experiments in circuit analysis. It includes: series circuits, parallel circuits and basic instrumentation familiarization. It also includes experiments in Thevenin's theory, Norton's theory and Xirchoff's Law.		This course covers two major areas of microprocessors. The first is an investigation of the specific architecture of the microprocessor. The second area is software and is concerned with the specific machine and assembly level instruction as well as using these instructions for common routines. Prerequisite: ELHT330	
ELEM470 Communications	3-3-0-0 Voc/Tech	ELHT341 Digital Circuits II Lab	5-0-10-0 Voc/Tech	ELHT322 Circuit Analysis II Lab	3-0-6-0 Voc/Tech
Familiarization with broadcast and stereo receivers. Cir-cuit analysis and service techniques used in servicing consumer products. Prerequisite: ELEM460, 461		Continuation of Digital I. Also included are experiments in microprocessor architecture and timing. Methods of generating device select pulses, latching data and in-terrupt techniques are examined. Prerequisite: ELHT323		Continuation of Circuit Analysis I. It includes ex-periments in alternating current. The lab instrumenta-tion includes bridges and Q Meters. It also includes a group of experiments in solid state circuit analysis. Prerequisite: ELHT311, 313.	
ELEM471 Communications Lab	2-0-4-0 Voc/Tech	ELHT323 Technical Math II	3-3-0-0 Voc/Tech	ELHT324 Computer Programming	3-3-0-0 Voc/Tech
This laboratory consists of experiments in the stage by stage construction and analysis of a communications receiver. Prerequisite: ELEM460, 461		A continuation of Technical Mathematics I. To include exponents and radicals logarithms, graphs of trigonometric functions, as well as continued use of a calculator. Prerequisite: ELHT313		Designed to introduce the student to basic program-ming techniques such as: writing algorithms, drawing of flow charts, and developing programs that include loops and subroutines. In addition it will include machine level languages and their application. Prereq-uisite: ELHT313	
ELEM472 Color Systems I	3-3-0-0 Voc/Tech	ELHT330 Digital Circuits I	3-0-6-0 Voc/Tech	ELHT331 Circuit Analysis III	3-3-0-0 Voc/Tech
Instruction in the theory and operation of television receivers. It includes basic color theory, circuit analysis and servicing techniques. Prerequisite: ELEM460, 461		An analysis of those circuits which form basic building blocks for a digital system. To include logical gates, such as OR, NOR, AND, and NAND, storage registers and counters. Prerequisite: ELHT323		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: ELHT321, 322, 323	
ELEM474 Color Systems I Lab	1-0-2-0 Open	ELHT331 Circuit Analysis III	3-3-0-0 Voc/Tech	ELHT340 Digital Circuits II	5-5-0-0 Voc/Tech
This laboratory consists of experiments on TV receivers. It includes using scopes, analyzers and generators to develop proper servicing technique. Prerequisite: ELEM460, 461		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: ELHT321, 322, 323		This course covers two major areas of microprocessors. The first is an investigation of the specific architecture of the microprocessor. The second area is software and is concerned with the specific machine and assembly level instruction as well as using these instructions for common routines. Prerequisite: ELHT330	
ELEM480 Consumer Products	6-6-0-0 Voc/Tech	ELHT341 Digital Circuits II Lab	5-0-10-0 Voc/Tech	ELHT341 Digital Circuits II Lab	5-0-10-0 Voc/Tech
Instruction in the theory and operation of consumer prod-ucts such as: VCR, video disc players, micro-wave ovens, and other consumer electronic products. Prereq-uisite: ELEM472, 474		Continuation of Digital I. Also included are experiments in microprocessor architecture and timing. Methods of generating device select pulses, latching data and in-terrupt techniques are examined. Prerequisite: ELHT323		Continuation of Digital I. Also included are experiments in microprocessor architecture and timing. Methods of generating device select pulses, latching data and in-terrupt techniques are examined. Prerequisite: ELHT323	
ELEM481 Consumer Products Lab	3-0-6-0 Voc/Tech				
A practical laboratory course in servicing and					

DESCRIPTION OF COURSES

ELHT342 3-3-0-0
Calculus for Electronics Voc/Tech

An introduction to differential and integral calculus. Subject matter includes the differentiation and integration of algebraic, trigonometric, and exponential functions with electronic application. The laboratory includes an evaluation of differentiator and integrator circuits.

ELHT343 3-3-0-0
Physics for Electronics Voc/Tech

Designed to develop knowledge and skill in applying the laws of physics to the solving of problems encountered by engineering technicians. Primary subject materials includes mechanics, heat, and optics.

ELHT345 3-3-0-0
Data Communication & Laser Voc/Tech

This course is concerned with line characteristics and specific devices and modes of operation. The various modes of operation include single side band frequency shift keying and the different carrier systems such as: time division, multiplexing and frequency shift multiplexing. Prerequisite: ELHT330, 331

ELHT346 2-0-5-0
Data Communication & Laser Lab Voc/Tech

An analysis of modulation methods used in data communications. Also included are experiments in multiplexing such as frequency division multiplexing and time division multiplexing. Prerequisite: ELHT330, 331.

ELHT361 3-3-0-0
Technical Update Voc/Tech

A course used to acquaint the student with the dynamic world of technology. Outside speakers and specialists will be utilized to present opportunities, challenges, and answers to new and experimental technologies.

ELHT362 1-0-2-0
Digital Circuits Lab Voc/Tech

Laboratory evaluation of small-scale integrated circuits and medium-scale integrated circuits. In addition to basic and/or gates, it includes: comparators, decoders, multiplexors and arithmetic units. Prerequisite: ELHT331, 330

ELHT363 2-0-4-0
Circuit Analysis III Lab Voc/Tech

An analysis of solid state circuitry. It includes both transistor and integrated circuit experiments. Linear amplifiers as well as active filters are evaluated. Prerequisite: ELHT321, 322, 323

EMRC301 1-0-0-0
Emergency Care Voc/Tech

For medical emergencies: fractures, burns, poisonings, heart attacks, cardiopulmonary resuscitation. Basic Rescuer certification.

ENGL080 3-3-0-0
Study Skills Adaptor

Emphasis on improving time management, developing listening skills, and taking class notes and tests. Guidance in development of study habits, using the library and textbooks.

ENGL081 3-3-0-0
Developmental Reading Adaptor

For students who want to improve reading skills for college work. Reading material ranges from fiction to scientific texts. Emphasis on vocabulary and comprehension.

ENGL082 3-3-0-0
Basic Writing I Adaptor

A basic writing course that emphasizes the writing process. Drawing material from their own experiences, students will learn to support a main idea with a variety of detail. Individualized approach to basic skills.

ENGL083 3-3-0-0
Basic Writing II Adaptor

A basic writing course for students who have taken ENGL082 or who can meet the objectives of that course. Emphasis on shaping and polishing writing to meet the demands of an audience. Individualized approach to basic skills.

ENGL084 3-1-4-0
English as a Second Language I Adaptor

Course sequence for students whose native language is not English. Written and oral exercises and activities begin on the intermediate level and increase in complexity as the sequence progresses. Prerequisite: Minimum scores on the TOEFL or Michigan Test

ENGL085 3-1-4-0
English as a Second Language II Adaptor

See ENGL084

ENGL086 1-1-0-0
Writing Tutorial General

An individualized writing course tailored to meet individual student's needs. Students can concentrate on improving or exploring specific areas of their own writing.

ENGL115 3-3-0-0
Technical & Business Writing Core

A study of technical/business communication including correspondence, informal and formal reports, and printed forms. Also includes illustrations, abstracts, and summaries. Emphasis on current writing practices. Prerequisite: ENGL117

ENGL116 3-3-0-0
Speed Reading General

An advanced reading course designed to improve reading speed and comprehension. Emphasis on adapting to varying content and levels of difficulty. Prerequisite: ENGL081 or equivalent

ENGL117 3-3-0-0
Composition I Core

Designed to help students write effective prose. Exploration of relationship of audience to writer and material. Emphasis on developing concrete detail to support main idea. Prerequisite: Satisfactory writing skills

ENGL118 3-3-0-0
Composition II Core

Expository and persuasive writing developed through investigative and logical thinking. Course explores structure, style, and documentation. Prerequisite: ENGL117

ENGL120 1-1-0-0
Library Instruction General

Study of classification systems, use of the card catalog, periodical indexes, dictionaries, encyclopedias, subject reference books, and the compilation of bibliographies.

ENGL211 3-3-0-0
Creative Writing General

Techniques of writing poetry and fiction. Students will read the work of professional writers and apply the principles of imaginative writing to their own work. Approaches include workshop evaluations and individual conferences.

ENGL200 2-2-0-0
Interdisciplinary Writing General

A course designed to help faculty members implement more writing assignments in their curriculum. Emphasis on using writing as a learning tool, responding to student's writing, and creating effective writing assignments.

ENGL410 3-3-0-0
Communication Skills General

Designed to help students recognize the options

available to them as communicators and to develop their abilities to make effective choices regarding those options. Emphasis is placed on reading and evaluating industry-related literature and on applying the principles of clearness, conciseness, completeness, and correctness in written and oral communication.

ENGR155 2-2-0-0
Engineering Computations Open

This course presents the organization, solution and presentation of engineering problems. Topics covered includes S.I. units, selected engineering topics and the study of BASIC. Prerequisite: MATH123 or trigonometry

ENGR160 2-2-0-0
Engineering FORTRAN Open

The FORTRAN language in batch and interactive modes with an emphasis on solutions to engineering problems. Corequisite: MATH129

ENGR165 4-2-4-0
Engineering Graphics/Conceptual Design Open

An integration of conceptual design and engineering graphics. This course includes orthographic projection applied to three dimensional geometry and engineering drawings. Instrument and free hand techniques are included. The design process is studied with application to an open-end project that includes a formal engineering report.

ENGR175 3-3-0-0
Engineering Statics Open

This course includes the vector and scalar analysis of coplanar and non-coplanar force systems, equilibrium concepts, friction, centroids, moments and products of inertia, Mohr's circle, radius of gyration, internal forces, shear and bending moment diagram. Prerequisite: PHYL121 Corequisite: MATH130

ENGR180 3-2-3-0
Fundamentals of Surveying Open

Surveying with emphasis on engineering surveys and familiarization with basic instrumentation. Field and office procedures for leveling, traversing and mapping. Survey calculations including theory of errors and computer applications. An introduction to photogrammetry is included. Prerequisite: MATH129

FIRE231 2-2-0-0
Introduction to Fire Science Open

First in the fire science series, this course provides a historical and philosophical background of the fire service, reviews the functions of fire protection organizations, examines the nation's fire problem, identifies fire protection careers, and describes the associate degree requirements.

FIRE232 3-3-0-0
Fire Behavior Open

A qualitative study of chemical and physical aspects of fuels, the combustion process and products of combustion as they relate to causes, spread and extinguishment of fire. The course emphasizes the natural laws that determine fire behavior in any environment. Prerequisite or Corequisite: CHEM131

FIRE233 3-3-0-0
Building Construction Open

A study of building materials, components and design features with regard to their reaction under fire conditions. The course also includes interpretation of the Life Safety Code and its application to proposed and existing structures. Prerequisite: FIRE232

FIRE234 3-3-0-0
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: FIRE232

DESCRIPTION OF COURSES

FIRE235 3-3-0-0
Hazardous Materials Open
 This course concentrates on principles of response planning for incidents involving the manufacture, transportation, storage and use of hazardous materials, with the objective of minimizing harm to people, property and the environment. Prerequisite: CHEM131, FIRE232

FIRE236 3-3-0-0
Fluid Flows Open
 A problem-solving course involving application of the laws of hydraulics, design features, flow characteristics and tests needed to assure adequate water supplies for fire protection. Prerequisite: High school algebra or MATH092, PHYL106

FIRE237 3-3-0-0
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.

FIRE238 2-2-0-0
Fire Investigation Open
 This course furnishes a technical background that will enable the student to examine a fire scene and determine the point of origin, cause and sequence of events of the fire. It also covers fire cause data systems and data use in criminal prosecution, civil liability and code enforcement. Prerequisite: FIRE232, 233

FNSR201 3-3-0-0
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.

FNSR203 3-3-0-0
Real Estate Finance Open
 This course provides a background in the varied real estate mortgage credit operations of commercial banks. It addresses the manner in which funds are channeled into mortgage markets, the financing of residential and special purpose property and administrative tasks common to most mortgage departments.

FNSR204 3-3-0-0
Management Fundamentals Open
 Fundamental management concepts and techniques are stressed in this course dealing with the basic functions of planning, organization, staffing, leading and controlling. A variety of management theories and approaches is covered.

FNSR205 3-3-0-0
Money and Banking Open
 The course presents basic principles as they relate to banking. It emphasizes the practical aspects of money and banking with an emphasis on basic monetary theory.

FNSR208 3-3-0-0
Marketing for Bankers Open
 A course in basic marketing principles with application to the banking industry.

FNSR209 3-3-0-0
Bank Investments Open
 Presents factors affecting investment strategies and decisions grounded in a framework of fundamental investment concepts such as risk, liquidity and yield. Basic characteristics of the major types of bank investments are studied.

FNSR210 3-3-0-0
The Trust Business Open
 Provides an overview of the trust department with em-

phasis on how the trust department fits into banking, the services it provides, and how they are delivered. The changing role of the trust department is highlighted.

FNSR211 3-3-0-0
Bank Management Open
 Provides a practical and conceptual grounding in bank management. Issues confronting the bank manager daily, including staffing, management controls and organizational planning are covered.

FNSR212 3-3-0-0
Analyzing Financial Statements Open
 This course deals with interpretation and evaluation of financial reports of business. Focus is on the use of financial statement in bank decisions. Emphasis is on theory of solving problems using a case study approach. Prerequisite: ACCT101, 102 or instructor permission

FNSR213 3-3-0-0
International Banking Open
 This course covers the fundamentals of international banking, how money is transferred from one country to another, how trade is financed, what the international agencies are and how they supplement the work of commercial banks, international lending and how money is changed from one currency to another.

FNSR214 3-3-0-0
Bank Cards Open
 An overview of bank card industry. Basic operational aspects of bank card system are covered with emphasis on computer processing systems that handle the accounts and on the operations within a major card-issuing bank.

FNSR215 3-3-0-0
Inside Commercial Banking Open
 The purpose of this course is to identify topics and issues which bankers must be prepared to address and discuss the quest for solution and responses. Coverage includes: a historical overview of American banking, the constituencies of commercial banks, effective management, sources of bank funds, retail banking, uses of funds and wholesale banking.

FNSR216 3-3-0-0
Loan Officer Development Open
 This course is designed to explain and teach the practical skills essential to new lending officers in the performance of their jobs. Through use of role playing, team efforts, tape-recorded dialogues, and a business simulation game, participants learn to interview and analyze a loan request, communicate and work with credit analysts.

FNSR217 3-3-0-0
Deposit Operations Open
 This course is designed as an overview of the American payments system and how it works. Students will understand the definitions and changing roles of deposits and depositories and become familiar with all the types of paper and electronic payments.

FNSR218 3-3-0-0
Law & Banking Open
 This course provides an overview of the legal aspects of banking. The course is designed to equip the student with a non-technical, clear understanding of all aspects of the legal system that directly affect banks.

FNSR219 3-3-0-0
Systems Analysis Open
 Covers concepts of systems development using principles of data processing. The planning and implementation of a new system are covered in detail. Students will analyze systems, identify problem areas and design practical economic solutions. Prerequisite: DATA101 or instructor permission

FNSR220 1-1-0-0
Customer Service for Bank Personnel Open
 This course provides customer contact personnel with the opportunity to develop further their communication skills so that they can better serve their customer's financial and personal needs, help their bank compete profitably, and experience greater job satisfaction.

FNSR221 1-1-0-0
The Banker & Electronic Funds Transfer Open
 This course is not intended as a "how to" guide, but it is more of a "how to be comfortable with" course designed to provide students with an overview of the EFT arena, an understanding of EFT, and a realization of the services and functions allowed through the various EFT products.

FNSR222 1-1-0-0
New Deposit Instruments Open
 This current issues course is designed to fill a training void in areas of banking with high customer visibility. Aimed at customer contact personnel, the course stresses identifying eligible customers for each instrument and handling customer inquiries.

FNSR223 1-1-0-0
Loan Documentation Open
 Approaching loan documentation as a logical process, this course introduces new loan officers to commercial loan documentation, and provides guidelines for the development of a bank manual on loan documentation.

FNSR224 1-1-0-0
Knowing the Competition Open
 This course is designed to provide an awareness of the competitive changes that have been taking place in the market for financial services, including both bank and nonbank providers.

FNSR225 1-1-0-0
Asset/Liability Management Open
 This overview program is designed to acquaint bankers with the elements of asset/liability management. It promotes an understanding of the origins, necessities, and operations of proper asset/liability management techniques.

FNSR226 1-1-0-0
Fundamentals of Data Processing Open
 Presenting the basic data processing concepts and terminology in a non-technical manner. This program is designed to familiarize the student with basic data processing information with particular emphasis on banking applications.

FNSR227 1-1-0-0
Fund. of Analyzing Financial Statements Open
 Provides a basic understanding of financial statements and their use in a bank. It shows how financial statements are used in analyzing the lending situation and making the loan decision.

FNSR228 1-1-0-0
Securities: Stocks and Bonds Open
 Presents a bank-oriented approach to the subject of stocks and bonds. Covers the basics of stocks and bonds.

FNSR229 1-1-0-0
Writing for Results Open
 Utilizes a "thought pattern development" approach. This course addresses the logical organization and writing of letters and reports. Orienting the letter or report to the purpose and recipient is emphasized.

FNSR230 1-1-0-0
Selling Bank Services Open
 Teaches sales techniques for customer contact personnel. Emphasis is on identifying customer needs from a bank transaction or from conversation with the customer.

DESCRIPTION OF COURSES

FNSR231 Consumer Bankruptcy	1-1-0-0 Open		
Addresses the Bankruptcy Act as it relates to consumer bankruptcies. Students participate in developing a strategy for avoiding bankruptcies and for lessening their impact on the bank.			
FNSR232 Introduction to Credit Unions	3-3-0-0 Open		
An overview of the credit union movement in the United States. Includes the structure of the credit union, legal basis for operation services and characteristics, management, financial system and insurance and bonding.			
FNSR233 Credit Union Operations	3-3-0-0 Open		
This course deals with granting of loans, financial counseling and collections. Current regulations under Equal Opportunity Act and Truth-In-Lending laws will be covered. Relation of other laws to credit union operations will be discussed.			
FNSR234 Credit Union Financial Management	3-3-0-0 Open		
This course is designed to develop an understanding of the financial management skills needed to operate a credit union, with emphasis on basic credit union accounting and bookkeeping, including financial statement analysis and budgeting. Risk management and insurance are discussed along with investment guidelines.			
FNSR235 Adventures in Attitudes	2-2-0-0 Open		
Understand others by understanding yourself. Gain new insights into effective communication, managing your mind, attitudes and leadership, goal-setting and motivation. The group project method is used to accomplish the goals of the course.			
FNSR236 Supervisory Training	1-1-0-0 Open		
The goal of this course is to transmit managerial skills and concepts to first-line supervisors, by integrating sound managerial concepts with practical experience. Application of managerial skills to the job situation of the new supervisor is emphasized.			
FNSR237 Consumer Lending	3-3-0-0 Open		
Designed to provide an overview of the consumer credit operation. This course examines the role of consumer credit in overall banking operations. Not a "how to" training program. It offers an improved understanding of the consumer credit function within a bank.			
FNSR238 Corporate Banking	3-3-0-0 Open		
This course provides the new or less-experienced commercial lender with a firm grasp of the sequential nature of the lending process, giving bankers a solid foundation on which to construct sound lending practices. Emphasis is practical and technical rather than theoretical.			
FNSR239 Speaking to Communicate	1-1-0-0 Open		
This program addresses identification and analysis of the message and the respondent, and focuses on personal communications trouble spots. Using cross-evaluation and peer reaction, emphasis is on both the goal of the communication and the reaction of the listener.			
FNSR240 Loss Prevention	1-1-0-0 Open		
The objective of this course is to teach bank employees the needed skills and information to help them prevent losses caused by bad checks and bank swindlers, and what to do in the event of a bank hold-up. Emphasis is on practical skills: learning what checks to cash and			
			when to cash them.
FNSR241 Bank Control and Audit	2-2-0-0 Open		
Designed for non-auditors, the course attempts to establish a basic frame of reference from which the student can develop a deeper appreciation for the role, duties and responsibilities of the auditor. The student will develop an awareness of the basic dynamics of the auditing function.			
FNSR242 Introduction to Commercial Lending	2-2-0-0 Open		
This course explains the role of the commercial lending function within the banking industry as well as discussing its importance in the total economy. Also provided is an understanding of the technical skills necessary to be a successful commercial lender in today's competitive environment.			
FNSR243 Preparing for Supervision	1-1-0-0 Open		
This course is designed to prepare participants for the supervisory role. Activities such as case studies, role playing and discussion allow participants to practice skills as they learn.			
FNSR244 Collector's Training Program	1-1-0-0 Open		
This course focuses on the financial counseling method. Discusses human relations as a means to collect delinquent loans while aiding the banker in complying with the Fair Debt Collection Practices Act.			
FNSR245 Bank Accounting	3-3-0-0 Open		
This course builds upon the participant's knowledge of basic accounting principles and teaches the techniques of bank accounting through the analysis of bank financial statements. Prerequisite: ACCT101 and one to three years of banking experience			
FNSR246 Fundamentals of Bank Data Processing	3-3-0-0 Open		
Presents the essential concepts of computers and the data processing operations in a non-technical manner. The program is designed to familiarize the student with basic data processing information and terminology, with particular emphasis on banking applications.			
FNSR247 Effective Public Relations & Comm.	1-1-0-0 Open		
A practical guide to developing and carrying out effective public relations programs, designed to meet the communication needs of any bank, regardless of its size, budget, or location. The course focuses on public relations as a management activity that calls for analyzing the policies and actions of the bank.			
FNSR248 Problem Loans	1-1-0-0 Open		
Using a case study approach, this course stresses problem loan prevention by examining common mistakes which cause problem loans. Participants will also learn how to minimize losses and effectively deal with a problem loan once it arises.			
FNSR249 Product Knowledge: Key to Selling	1-1-0-0 Open		
This course is comprised of three modules: Consumer Products, Corporate Products, and Trust Products. It is designed to provide students with a generic knowledge of the range of services their bank offers so they can better meet their customers' needs and maximize sales opportunities.			
FNSR250 Bank Security	1-1-0-0 Open		
This course is designed to prevent security problems from arising by developing good security habits in bank personnel. It also develops participant's ability to detect			
			security threats and to handle them in a way that ensures their personal safety and minimize the loss of depositors' funds.
FNSR251 Principles of Credit and Collection	3-3-0-0 Open		
Covers the different types of commercial credit, evaluation of potential credit customers, and the different sources of credit information. Discusses the organization of credit departments, collection procedures and negotiable instruments.			
FNSR252 Advanced Credit & Collection	3-3-0-0 Open		
Provides an understanding of the role of credit in financial management, the four responsibilities of the credit function and the purpose and value of financial statements. Covers the different financial statements. Prerequisite: FNSR251			
FNSR253 Management of the Credit Function	3-3-0-0 Open		
Working methods of credit management and control are developed from knowledge acquired from two other credit courses. Methods developed are applied to cases that involve making credit decisions, filing credit limits through financial analysis, settlements, assignments, reorganization and bankruptcies. Prerequisite: FNSR252			
FNSR254 Letters of Credit	1-1-0-0 Open		
Provides a general background on the use of letters of credit, the basic operations of letters of credit and the detailed examination of related documents.			
FNSR255 Asset Based Lending	1-1-0-0 Open		
Introduces and reinforces fundamental principles of asset-based financing in today's commercial lending environment. Examines basic differences between secured and unsecured lending, focusing on the primary information necessary to understand and practice this specialized form of lending.			
FNSR256 Consumer Compliance	1-1-0-0 Open		
Provides an updated overview of the major federal regulations affecting the compliance area. Focuses on basic requirements of the major consumer credit/civil rights laws and regulations and policies and procedures that can help avoid common violations.			
FNSR257 Consumer Variable Rate Lending	1-1-0-0 Open		
Provides customer contact personnel with information necessary to market consumer variable rate loans. The course will deal with the structure of variable rate loans, legal and regulator considerations, and applicable marketing strategies.			
FNSR258 Negotiable Instr & Payments Mechanism	1-1-0-0 Open		
An introduction to the nature of a negotiable instrument and how it is collected through the payments mechanism.			
FNSR392 Field Experience I	5-0-0-15 Open		
Work experience in a financial institution based on an approved training plan. Prerequisite: COOP220			
FNSR394 Field Experience II	5-0-0-15 Open		
Work experience in a financial institution based on an approved training plan. Prerequisite: FNSR392			
FORL120 Elementary Spanish I	4-4-0-0 Core		
Development of the basic skills of understanding, speaking, reading, and writing Spanish. Grammar analysis: classroom and laboratory conversational prac-			

DESCRIPTION OF COURSES

tice emphasizing cultural aspects of the Spanish-speaking world.

FORL121 4-4-0-0
Elementary Spanish II Core

Continued practice of the four basic skills and grammar analysis. Introduction of short prose selections with conversational emphasis. Prerequisite: FORL120

FORL122 4-4-0-0
Int Spanish Conversation & Composition Core

Review of essential grammatical constructions emphasizing major areas of difficulty for English speakers. Use of Hispanic cultural materials to develop skills in listening comprehension, speaking, reading, and writing. Prerequisite: FORL121

FORL130 4-4-0-0
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.

FORL131 4-4-0-0
French II Core

Continued practice of the four basic skills and grammar analysis begun in French I. Introduction of short prose selections with conversational emphasis. Prerequisite: FORL130

GEOG141 3-3-0-0
Introduction 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.

GEOG147 3-3-0-0
Developed World Core

This course systematically surveys the peoples, cultures, resources, and problems of the cultural realms commonly designated as the developed world (Anglo-America, Europe, Russia, Japan and Australia).

GEOG148 3-3-0-0
Third World Core

This course systematically surveys the peoples, cultures, resources, and problems of the cultural realms commonly designated as the Third World (Latin America, Black Africa, the Islamic World, India and China).

GRPH303 2-2-0-0
Color Photography Voc/Tech

Reviews the basics of color photography. Follow through with techniques for developing and applying color photos, production printing.

GRPH304 2-1-2-0
Darkroom Techniques Voc/Tech

Theory and practice of film developing techniques and printing. Use of enlargers, filters and darkroom equipment will be emphasized.

GRPH305 3-3-0-0
Graphics Arts Procedures & Materials Voc/Tech

Covers the types of equipment, methods, and processes utilized in the printing industry. Materials include: inks, plates, types of papers, card stock, plastics, and other printed materials.

GRPH312 2-2-0-0
Small Publications Voc/Tech

Theory of design for company and planning publications, house-organs, periodicals, and brochures. For editors, art directors, public relations.

HIST121 4-4-0-0
Western Civilization Beginning to 1715 Core

The student surveys the great ancient civilizations

through Greece and Rome, the rise of Christianity, Europe in the Middle Ages, the Renaissance and Reformation, the modern state, the new science and the secular outlook, parliamentary government in England and political absolutism in France and Eastern Europe.

HIST122 4-4-0-0
Western Civilization 1715 to Present Core

Survey of political, economic, social and intellectual developments from the 18th Century to the present. Enlightenment, revolutions and reactions, national unifications, national rivalries, world wars, and post-war developments.

HIST124 4-4-0-0
American History 1492 to 1877 Core

A survey of main themes of American History from 1492 to 1877 with emphasis on the political, social, economic, religious and intellectual aspects of the presettlement, colonial, Revolutionary, antebellum Civil War and Reconstruction eras.

HIST125 4-4-0-0
American History 1877 to Present Core

A survey of main themes of American History from 1877 to the present with emphasis on political, social, economic, religious and intellectual aspects of the Gilded Age, the Progressive Era, WWI, the Roaring Twenties, the Great Depression, WWII and the post-WWII era.

HIST126 3-3-0-0
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.

HIST130 3-3-0-0
Historical Perspectives General

Course will focus each term on a specific history: Russia, beginning to 1917; Russia, 1917 to present; Afro-America, beginning to 1865; Afro-America, 1865 to present; women. May be repeated in varying areas for up to 9 semester hours.

HLCR301 1-1-0-0
Introduction to Coronary Care Voc/Tech

Course designed to introduce the nurse to the coronary care setting. Topics include a review of coronary heart disease, the CCU environment, qualifications of a CCU nurse, nursing of the CCU patient, and patient assessment.

HLCR302 1-1-0-0
Coronary Anatomy & Physiology Voc/Tech

Provides an in-depth review of the A & P of the circulatory system. Specifically for the RN working in a critical care area, ICU, CCU, or ED. Comprehensive update of fluids and electrolytes.

HLCR303 3-3-0-0
Arrhythmia Interpretation Voc/Tech

Designed to provide a base for understanding electrophysiology and the most common arrhythmias and antiarrhythmic drugs.

HLCR304 1-1-0-0
Nrsg Care/Coronary Complications Voc/Tech

Emphasis on nursing care and complications to include cardiogenic shock, CHF, invasive and noninvasive procedures, monitoring and patient assessment.

HLCR305 1-1-0-0
Surgical Intervention Voc/Tech

Discuss aspects of coronary artery disease and valvular disease as related to cardiac surgery. Includes pathophysiology, clinical manifestation, diagnostic procedures, surgical techniques, nursing and medical management.

HLCR306 1-1-0-0
The Rehabilitation Phase Voc/Tech

Designed to familiarize the nurse with the development and structure of a Cardiac Rehabilitation Program. Emphasis on patient teaching and new trends and research in cardiac rehabilitation.

HLCR307 6-4-4-0
EMT-Ambulance Voc/Tech

Prepares rescue personnel for the role and responsibilities of an EMT-A. Includes specific patient assessment and emergency treatment procedures. Students should be 18 years of age prior to course completion. Certification exam after successful course completion.

HLCR308 2-2-0-0
Process of Aging Voc/Tech

The problems of the elderly patient or client remain with us—lack of decision making, privacy, broken hips, bed sores, states of confusion, wandering and loneliness. Preventing and improving the conditions that cause these problems are goals. This course deals with the psychosociological events in this process.

HLCR309 2-2-0-0
Assessment of the Geriatric Patient Voc/Tech

Review the health status of a given patient and incorporate techniques of examination in determining the health needs of the patient.

HLCR310 1-1-0-0
Drugs & the Elderly Voc/Tech

For those working with the geriatric client or patient. Identify drug reaction and interactions as related to the aging process. Review his/her role in patient assessment as related to drug administration.

HLCR311 2-2-0-0
Developing Management Skills Voc/Tech

For those striving to advance in a most important dimension of their career - the dimension of management. Recommended for nurses preparing for first level or mid-management positions.

HLCR312 1-1-0-0
Assertiveness Training Voc/Tech

Develop a positive attitude and the verbal skills to enhance your ability to communicate your ideas and feelings.

HLCR313 1-1-0-0
Infection Control Voc/Tech

Overview of legal aspects, microbiology, policies, surveillance, isolation, and employee health regarding infection control.

HLCR314 1-1-0-0
Emergency Care Voc/Tech

Learn to perform care for medical emergencies: fractures, burns, poisonings, heart attack, etc. Includes cardiopulmonary resuscitation, Basic Rescuer certification.

HLCR316 4-4-0-0
Ward Clerk Voc/Tech

Introduction to records and routines that keep a hospital nursing unit running smoothly. Emphasis on communication skills, medical terminology and background information about health and disease. Observation in the clinical area provided.

HLCR317 2-2-0-0
Medical Terminology Voc/Tech

For individuals who work in or are preparing to work in medical records, doctor's offices, and insurance companies. Medical terminology and office methods will be discussed with a brief survey of anatomy.

HLCR318 6-4-2-0
Nursing Assistant Voc/Tech

Entry level skills and concepts of communication, medical asepsis, anatomy and physiology, personal

DESCRIPTION OF COURSES

care, nutrition, TPR and BP, geriatrics, and care of the dying. Two weeks classroom, and two weeks clinical at Iowa Methodist.

HLCR319 2-2-0-0
Nrsg the Pt w/Respiratory Disorders Voc/Tech

Designed to review the system with emphasis on nursing intervention and management of specific disorders in an acute care setting.

HLCR320 2-2-0-0
Nursing the Patient w/Renal Disorders Voc/Tech

Designed to review the system with emphasis on nursing intervention and management of specific disorders in an acute care setting.

HLCR321 2-2-0-0
Nrsg the Pt w/Neurological Disorders Voc/Tech

Designed to review the system with emphasis on nursing intervention and management of specific disorders in an acute care setting.

HLCR322 1-1-0-0
Nrsg the Pt w/Endocrine Disorders Voc/Tech

Designed to review the system with emphasis on nursing intervention and management of specific disorders in an acute care setting.

HLCR323 1-1-0-0
Nrsg the Pt w/Gastric & Intest Disor Voc/Tech

Designed to review the system with emphasis on nursing intervention and management of specific disorders in an acute care setting.

HLCR324 1-1-0-0
Nrsg the Pt w/Hematological Disor Voc/Tech

Designed to review various hematological disorders with emphasis on nursing intervention and management of specific disorders in an acute care setting.

HLCR326 1-1-0-0
Fluids and Electrolytes Voc/Tech

Designed to present the basic physiological concepts governing fluids and electrolytes. Focus will be on the nurse's role in assessment and management of problems with actual clinical situations and development of nursing care plans emphasized.

HLCR327 1-1-0-0
IV Therapy Voc/Tech

Designed as an integrated study and review of IV therapy for the nurse responsible for setting up and monitoring IV therapy equipment and pharmacists with limited IV therapy experience. Venipuncture practice is not included.

HLCR328 4-3-1-0
Mental Health Skills Voc/Tech

Provide opportunity for the health industry worker to learn basic skills and mental health concepts to seek employment as a Psychiatric Technician.

HLCR329 1-1-0-0
Manage Aggressive/Nonagg People Voc/Tech

Effectively and safely deal with both nonaggressive and aggressive persons (clients, patients, residents and students) by using a system of graded alternatives designed to protect both the staff and other persons from injury by using the least amount of external control necessary.

HLCR330 1-1-0-0
Documentation Voc/Tech

An increased ability to document regimen of care for scrutiny by outside groups and professionals in a supervisory role has necessitated an increased level of training.

HLCR331 3-3-0-0
Fin. Decision-Making of HLCA Inst Voc/Tech

Designed for health professionals currently employed in an administrative position in a health care facility.

Accounting concepts, terminology, and management policy implications will be discussed. Planning, budgeting, and interpreting financial reports from a health care/non-profit perspective will be presented.

HRMT315 2-2-0-0
Sanitation & Equipment Voc/Tech

Principles and methods of sanitation safety and equipment. Equipment selection and facilities planning. Also includes preventive maintenance.

HRMT316 3-3-0-0
Food Preparation I Voc/Tech

Development of basic food preparation procedures as apply in cookery of starch products, fruits, vegetables, cheese, milk, eggs, meat, fish and poultry products plus criterion for evaluating product quality.

HRMT319 1-0-2-0
Sanitation & Equipment Lab Voc/Tech

Application of sanitation and safety methods in the food production kitchen. Prerequisite: HRMT315

HRMT320 3-0-6-0
Food Preparation I Lab Voc/Tech

Application of basic food preparation procedures as apply in cookery of starch products, fruits, vegetables, cheese, milk, eggs, meat, fish and poultry products.

HRMT325 3-3-0-0
Food Preparation II Voc/Tech

Principles and procedures of small and quantity food production as apply to quick breads, yeast products, cakes, pastries and desserts, salads, soups and vegetables development. Emphasis is on organization and time management criterion for evaluating product quality. Prerequisite: HRMT316, 320

HRMT328 2-0-4-0
Food Preparation II Lab Voc/Tech

Principles and procedures of small and quantity food production as apply to quick breads, yeast products, cakes, pastries and desserts, salads, soups and vegetables development. Emphasis is on organization and time management criterion for evaluating product quality. Prerequisite: HRMT316, 320

HRMT337 3-3-0-0
Restaurant Management Voc/Tech

Students will plan menus and meal service in actual restaurant experience. Emphasis is on using sound management techniques for producing high quality food and service to the public. Prerequisite: HRMT328

HRMT341 10-0-0-30
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.

HRMT342 1-1-0-0
Work Experience Seminar Voc/Tech

Discussion of work experiences and problems encountered on the job. Examination of management functions as they apply to various aspects of the business.

HRMT344 3-3-0-0
House Administration Voc/Tech

An introduction to the operation of hotels and motels including management functions as they apply to various aspects of the business.

HRMT345 3-0-0-9
House Administration Lab Voc/Tech

Applications of House Administration principles.

HRMT348 3-3-0-0
Purchasing/Cost Control 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.

HRMT349 3-3-0-0
Nutrition & Menu Planning Voc/Tech

An overview of nutrition-related topics including the psychology of eating and evaluation of food intake. Fundamentals of menu writing in a variety of food service operations including format and design.

HRMT357 5-0-10-0
Restaurant Management Lab 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. Prerequisite: HRMT325, 328

HTBM353 3-3-0-0
Biomed Instrumentation I Voc/Tech

This course is intended to train the biomedical student in the operation, repair and calibration of patient monitoring equipment such as EEG, EKG, external pacemakers and defibrillators. It also includes clinical laboratory equipment such as hemodialysis apparatus and infusion pumps. Prerequisite: ELHT340, 341, 345, 346

HTBM354 5-0-10-0
Biomed Instrumentation I Lab Voc/Tech

Experiments in basic instrumentation. It includes experiments in maintenance and repair of both clinical lab equipment and patient monitoring equipment. Prerequisite: ELHT340, 341, 345, 346

HTBM355 3-3-0-0
Electro-Mechanical Systems I Voc/Tech

The basic theories and concepts of various types of transducers used in biomedical instrumentation are presented. Active and passive units are explained. In addition, the basic principles of fluid power instrumentation is considered. Prerequisite: ELHT340, 341, 345, 346

HTBM356 3-0-6-0
Electro-Mechanical Systems I Lab Voc/Tech

Basic transducer principles are evaluated. This includes experiments utilizing pressure, temperature ph and flow velocity transducers. Prerequisite: ELHT340, 341, 345, 346

HTBM357 4-0-12-0
Internship Voc/Tech

A supervised "hands on" experience in a hospital. Work on a wide range of medical equipment under the supervision of a biomedical engineer or technician. Prerequisite: Completion of 4th semester in Biomed Equipment Technology

HTBM362 3-3-0-0
Health Care Delivery Voc/Tech

The students acquire the knowledge of the practice and trends within the Health Care Delivery system. The student taking the 3-credit hour format will have the opportunity in a highly structured environment to communicate with other members of the health team and observe and assist the health worker in the safe delivery of health care or health related functions. Prerequisite: HTBM353, 354

HTBM363 2-2-0-0
Biomed Instrumentation II Voc/Tech

A continuation of Biomed I. It includes biotelemetry equipment used in the detection of pressure, ph and temperature, ultrasonic equipment such as sonograph, echo-trace, and the use of the computer in biomedical instrumentation is also presented. Prerequisite: HTBM353, 354

HTBM364 2-0-4-0
Biomed Instrumentation II Lab Voc/Tech

A continuation of Biomed Instrumentation I. It includes experiments in the maintenance and repair of biotelemetry equipment. It also includes experiments

DESCRIPTION OF COURSES

in the use of the microprocessor in biomed instrumentation. Prerequisite: HTBM353, 354

HTCT351 5-5-0-0
Major Computer Systems I Voc/Tech

A comprehensive study of the PDP-11 Computer System. Topics include the internal bus structure, control and status registers and the basic timing functions. In addition the PDP-11 instruction set is introduced. Prerequisite: ELHT340, 341, 345, 346

HTCT352 5-0-10-0
Major Computer Systems I Lab Voc/Tech

An evaluation of mainframe hardware. This lab includes scope and logic analyzer instrumentation. This course also includes diagnostic techniques as well as machine language and assembly language familiarization. Prerequisite: ELHT340, 341, 345, 346

HTCT353 5-5-0-0
Microprocessors Voc/Tech

An introduction to microprocessor interface methods. It includes: UART and USART interface techniques, programmable peripheral interface using 8255 and interface techniques using A/D and D/A converters. Prerequisite: ELHT340, 341, 345, 346

HTCT354 2-0-5-0
Microprocessors Lab Voc/Tech

An evaluation of microprocessor interface techniques. The experiments include serial interface using varts, parallel interface using PIA's, and A/D and D/A conversion techniques. Prerequisite: ELHT340, 341, 345, 346

HTCT361 3-3-0-0
Major Computer Systems II Voc/Tech

A continuation of Systems I. A detailed analysis of specific module and peripheral signals is presented. In addition, both Read-only-memory (ROM) and disk diagnostics are emphasized.

HTCT362 3-0-5-0
Major Computer Systems II Lab Voc/Tech

A continuation of Systems I. Computer peripheral equipment is emphasized. This includes: teletype terminals, disk drives and interface modules, as well as related diagnostic techniques.

HTCT364 3-3-0-0
Microcomputer Systems Voc/Tech

A comprehensive study of small computer systems. It includes troubleshooting techniques such as signature analysis, logic analyzers and waveform recognition. Use of computer diagnostics is also emphasized.

HTCT365 3-0-5-0
Microcomputer Systems Lab Voc/Tech

An evaluation of an 8-bit microcomputer system. It includes disk and mainframe diagnostics as well as familiarization experiments in software including the operating system.

HTPC351 3-3-0-0
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.

HTPC352 3-0-6-0
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.

HTPC354 3-3-0-0
Motor Control & PLC'S Voc/Tech

The objective of this course is to enable the student to understand the control circuitry used in both produc-

tion machines and control systems. The first phase, motor control, covers different types of motors and their characteristics plus the operational devices such as switches, contactors and controllers used in switching and controlling power. Prerequisite: EHLT340, 341, 345, 346

HTPC355 3-3-0-0
Process Control Instrumentation Voc/Tech

A comprehensive study of process control characteristics such as elements, modes and stability along with detailed knowledge of measurement technique, control mode implementation and final control element functions. In keeping with modern trends, the digital aspects of process control technology are stressed. Prerequisite: ELHT340, 341, 345, 346

HTPC356 3-0-6-0
Motor Control & PLC'S Lab Voc/Tech

This lab includes basic control circuits using devices such as: contactors, timers, starters, limits switches, pressure switches, etc. Also included are experiments utilizing programmable logic controllers to implement control circuits. Prerequisite: ELHT340, 341, 345, 346

HTPC357 2-0-4-0
Process Control Instrumentation Lab Voc/Tech

This lab includes experiments on transducers used in process control as well as experiments on proportional, integral and derivative control. Prerequisite: ELHT340, 341, 345, 346

HTPC360 2-2-0-0
Industrial Electronics Voc/Tech

The devices and circuits used in thyristor control of machines are presented. It includes Phase Control of DC motors, triac control of AC motors as well as various speed control circuits. Introduction to computer-assisted design systems for automated drafting and three dimensional computer modeling. Prerequisite: HTPC354, 356

HTPC361 3-3-0-0
Robotics Voc/Tech

The theory of operation of industrial robots is presented. This includes basic microprocessor architecture, control systems theory, and manipulator geometry. Systems from basic pick-and-place to served-controlled are considered. Principles of cell development are also presented. Prerequisite: HTPC351, 352

HTPC362 2-0-4-0
Robotics Lab Voc/Tech

The student will program, operate and maintain manipulative application systems and industrial robots of up to six degrees of freedom. Student will use testing instrumentation for repair sequences on industrial robots. An analysis of the system will include: microprocessor architecture, load (actuator) requirements, and control theory considerations. Prerequisite: HTPC351, 352

HTPC363 3-3-0-0
Mechanisms Voc/Tech

An introductory study of drives and linkages. Included are laboratory tests of motion-producing mechanisms and various gear trains. Transducers are analyzed for the conditions where they function best and the limitations which must be imposed by their use.

HTPC364 2-0-4-0
Mechanisms Lab Voc/Tech

The basic principles of drives and linkages are evaluated. This includes: straight-line mechanisms, toggle mechanisms, and intermittent motion mechanisms. It also includes cams with followers and complex motion cams.

HTTC352 5-5-0-0
Telephony Principles I Voc/Tech

A foundation course in telephony. It includes fundamen-

tals of switching, transmission media and characteristics, basic carrier transmission methods and the fundamentals of digital carrier system. A coordinated laboratory is included.

HTTC353 3-3-0-0
Communications I Voc/Tech

Application of circuit analysis theory for the specialized circuits used in communications systems is presented. Such circuits include impedance matching, coupled circuits, and filter circuits for RF and IF amplifiers, mixers and oscillator circuits.

HTTC354 3-0-6-0
Communications I Lab Voc/Tech

Basic circuits of A.M. and F.M. communication systems are evaluated. This includes: amplifiers, mixers, detectors, and power amplifiers. The experiments include operation and theory of related test equipment such as: signal generators, output meters and device analyzers.

HTTC355 3-3-0-0
Microwave Principles Voc/Tech

This is a specialized course directed at characteristics of radiation at microwave frequencies, antenna theory, and transmission lines. It also includes an evaluation of microwave components and the operation and maintenance of a radar system.

HTTC356 3-0-6-0
Microwave Principles Lab Voc/Tech

This course includes basic transmission experiments such as: SWR evaluation, STUB matching and radiation patterns. It also includes basic radar circuitry such as klystrons and magnetrons.

HTTC362 3-3-0-0
Telephony Principles II Voc/Tech

A systems course in telecommunications. It includes PABX business switching systems, ESS systems, PCM carrier systems, and data services equipment such as modem, couplers, and terminals. Principles and practices in fibre optics for the communication industry will also be covered.

HTTC363 3-3-0-0
Communications II Voc/Tech

Wave propagation of transmitted signals is investigated, followed by the theory of transmission lines. State-of-the-art integrated circuits, such as those used in single-sideband telemetry, FSK and pulse width modulation are studied. A coordinated laboratory is included.

HTTC364 3-0-6-0
Communications II Lab Voc/Tech

A continuation of Communications I. It includes single side and circuitry such as balances modulators, product detectors and balanced mixers. Evaluation of antenna configurations is also included.

HUMN130 3-3-0-0
In Our Own Image General

Exploration of the relationship between human perceptions and the fine arts - how they are created, how they communicate, and how they can be evaluated. This telecourse features on-location film and indepth interviews with important figures in visual and performing arts.

HUMN131 3-3-0-0
Humanities Through The Arts (TV) General

A survey of the human condition as seen through film, literature, painting, sculpture, architecture, drama and music. History, techniques, meaning and evolution of individual works are emphasized.

HUMN132 3-3-0-0
The Art of Being Human (TV) General

Introducing the concept of the humanities as an overall approach to living and appreciating life, this telecourse

DESCRIPTION OF COURSES

explores several common themes from eastern and western cultures, including aesthetics, myth, morality, love and death. Each theme is explored through art, music, literature, philosophy, drama and religion.

HUMN133 3-2-2-0
America in the Movies General

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.

HUMN135 1-1-0-0
Russian Language & People (TV) General

A television course on the beginner's level linking the way of Russian life with an understanding of written and spoken Russian language.

HUMS101 3-3-0-0
Introduction to Human Services Open

History and introduction to the social welfare institution. Theoretical perspectives, concepts, values and intervention strategies are examined. Systems theory is used to explore legislation and services designed to meet client needs.

HUMS104 3-3-0-0
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. Recommended: 6 hours Social Sciences

HUMS109 3-3-0-0
Survey of Mental Health Treatment Open

Introduction to major counseling theories including psychoanalysis, gestalt, transactional analysis, family therapy, reality therapy, behavior therapy and crisis intervention. Applications in mental health and social services settings are considered.

HUMS202 3-3-0-0
Interviewing/Interpersonal Relationships Open

Study of interviewing theories including roles and relationships between the interviewer and the interviewee. Methodology of developing questions, conducting interviews, recording data and analyzing it, and writing assessments and histories are emphasized.

HUMS205 3-3-0-0
Intervention Theories & Practice I Open

Study of several management and planning theories and practices which are used to assess client needs, establish goals, identify resources and make appropriate referrals. Community resources are explored. Prerequisite: HUMS101, 202

HUMS206 3-3-0-0
Intervention Theories & Practices 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. Must be taken concurrently with HUMS207 or volunteer human services work. Prerequisite: HUMS202, 205

HUMS207 4-0-0-13
Field Experience Open

Supervised experience in a human services agency enables students to apply their skills and knowledge by working directly with clients. Must be taken concurrently with HUMS206. Prerequisite: HUMS202, 205 or permission of program chair

HUMS210 3-3-0-0
Counseling Techniques Open

Several counseling models are considered. The theories, methods and applications of client-centered and directive counseling are emphasized. Prerequisite:

HUMS202

HUMS211 3-3-0-0
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.

HUMS212 2-2-0-0
Survey of Chemical Dependency Open

Use of and addiction to alcohol and other drugs are considered from historical, legal and social science perspectives. A variety of treatment philosophies and programs are examined.

HUMS213 6-0-0-20
Pract in Chem Dependency Counseling I Open

Supervised experience in three of these treatment programs for chemically dependent people: inpatient, outpatient, follow-up care, adolescent, halfway house, and family therapy. Prerequisite: Admission to Iowa Methodist Powell III Program & permission of instructor

HUMS214 6-0-0-20
Pract in Chem Dependency Counseling II Open

See HUMS213

INDM322 3-0-5-0
Office Procedures Voc/Tech

Prepares the student with an employable proficiency in the techniques and operation of the typewriter, calculator, adding machines and filing.

INTL120 3-3-0-0
War & Peace in a Global Society Open

A review of topics dealing with peace, war, disarmament and the transition to a more just global order. This will include cultural values and belief systems, national security, the nuclear arms races, global interdependence and nonviolent alternatives to conflict resolution.

INTL126 3-3-0-0
Global Perspectives General

Course will focus each term on a given area of study (people cultures, institutions, inter-gobal relations) of: Middle East, Latin America, Soviet Union. May be repeated in various areas for up to 9 hours of credit.

ITSP111 3-3-0-0
Introduction to International Business General

An introduction to the world of International Business emphasizing the nature of international business, international organizations and monetary systems, the foreign environment and tools to deal with international business practices.

ITSP130 3-3-0-0
International Marketing General

This course is presented from the viewpoint of the International Marketing manager, including the major facets of the cultural, political and economic environments affecting multinational marketing management.

ITSP150 3-3-0-0
International Documents General

An introduction to International Marketing Documents, their nature and preparation including commercial documents employed by shipping, forwarding and insuring companies and those required by governments.

JNAD120 3-3-0-0
Introduction to Mass Communication Open

A non-technical introduction to mass media. Special emphasis on print media, with radio and television included; new trends in the media, freedom of press and media principles.

JNAD121 3-3-0-0
Basic Reporting Principles Open

Designed to provide students with experiences in

gathering, organizing and writing selected types of news stories.

JNAD122 3-3-0-0
Advanced Reporting Open

Study of various story types, including consumer, feature, review/editorial, investigative. Further development of news elements, interviewing techniques, and legal and ethical considerations in journalism. Prerequisite: JNAD121

JNAD123 3-1-4-0
Publications Production Open

Special work in journalism. Students will produce DMACC newspaper, the Campus Chronicle, and will gain experience in writing, copy-editing, layout and design. May be repeated for three additional semesters.

JNAD124 3-3-0-0
Layout and Design Open

Design and production of publications, understanding and critical awareness of contemporary practices in print media for advertising and journalism. Design-oriented assignments.

JNAD125 3-3-0-0
Principles of Advertising Open

Course explores advertising as a tool and socio-economic force.

LABS220 3-3-0-0
Survey of Labor Studies Open

A survey course designed to explain the field of Labor Studies. Topics covered in the course include: labor history, labor law, contract negotiations and administration, and the future of the labor movement.

LABS221 3-3-0-0
Grievance Handling & Arbitration Open

A practical study of contract terminology and administration, all aspects of arbitration and grievance handling. Responsibilities, tactics and strategies are analyzed through a simulated grievance arbitration case.

LABS222 3-3-0-0
History/Development of Labor Movement Open

The development of the American Labor Movement is analyzed in successive time frames, from the colonial era to the present. While tracing the nature and conditions of labor in historical sequence, some attention is also devoted to exploring the meaning of work, the rise of trade unionism, and contemporary labor issues.

LABS223 3-3-0-0
Protective/Labor Relations Legislation Open

A survey of legislation designed to provide economic security against industrial accidents, disability, illness, old age, unemployment and the laws governing labor relations with an introduction of the legal system and constitutional problems of governmental regulations.

LABS224 3-3-0-0
Publ. Sect. Labor Leg./Collect. Barg. Open

Reviews the development of legal framework, surveys the law governing labor relations in the Public Sector and an overview of the process of collective bargaining in the Public Sector. Responsibilities, tactics and strategies are analyzed through Public Sector mock bargaining sessions.

LABS225 3-3-0-0
Union Psychology/Industrial Sociology Open

This course deals with the relations between the individual and the organization. It describes and examines the individual as a formal and informal group leader as it relates to the structure of the labor movement. It also is an examination of the way industry, unions, and the economy relate to other social institutions in America's society.

DESCRIPTION OF COURSES

LABS226 Labor Economics/Collective Bargaining	3-3-0-0 Open			
This course first studies the economic sources of union bargaining strength and union preparation for economic bargaining and then looks at the overview of the process of collective bargaining and what it might be in the future. Responsibilities, tactics and strategies are analyzed through mock bargaining sessions.				
LABS227 Union Administration	3-3-0-0 Open			
American unions in theory and practice on local, state and national levels. A study of structure and roles on different levels of the organizations.				
LABS228 Unions/Politics/Comp. Labor Movement	3-3-0-0 Open			
An examination of the party structure of American politics, legislative processes, formation of public opinion, and an analysis of the history and development of various labor movements throughout the world.				
LABS229 Labor Studies Problems	3-3-0-0 Open			
An individual study of special problems in labor studies, and an opportunity for a student to apply knowledge and experience to actual specific labor problems. Prerequisite: 18 hours in LABS and consent of instructor				
LABS230 Union Counseling	3-3-0-0 Open			
The purpose of the community services counseling course is to acquaint students with the services available in the community and to teach them the fundamentals of referral work and counseling.				
LABS231 Advanced Union Counseling	3-3-0-0 Open			
The purpose of the advance class is to provide the local union counselor with sufficient information and the basic skills to enjoy being an effective, productive community board or committee member.				
LEGA240 Introduction to Law	3-3-0-0 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 day to day duties and responsibilities of a legal assistant.				
LEGA241 Legal Research & Writing	3-3-0-0 Open			
Tools and techniques of legal research and the nature of legal authority. Principles of drafting memorandums and other types of legal research documents.				
LEGA242 Torts & Litigation I	3-3-0-0 Open			
A study of the basic law relating to personal and property damage. Topics include intentional torts, negligence, nuisance, strict liability, and automobile law. Principles of trial practice including drafting basic pleadings and gathering and organization of materials for trial.				
LEGA243 Torts & Litigation II	3-3-0-0 Open			
A continuation of Torts and Litigation I. Areas of concentration will be premise liability, family torts, defamation, governmental immunity, malpractice, and wrongful death. Advanced trial practice including techniques of discovery, drafting of trial briefs, and basic rules of evidence will be covered. Prerequisite: LEGA242				
LEGA244 Domestic Relations	3-3-0-0 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.
LEGA245 Income Tax Law	3-3-0-0 Open			
Study of the fundamental theory of income taxation coupled with instruction in its practical application. Personal and business taxation are covered on both the Federal and State levels.				
LEGA246 Business & Corporate Law I	3-3-0-0 Open			
A study of the fundamentals of the law of contracts, the Uniform Commercial Code and the rights of creditors in transactions.				
LEGA247 Business & Corporate Law II	3-3-0-0 Open			
Continuation of Business and Corporate Law I. Survey of rights of debtors and creditors in collections and bankruptcy. Formation of proprietorships, partnerships, and corporations and a survey of the law applicable to each. Preparation of documents necessary to the organization and operation of each. Prerequisite: LEGA246				
LEGA248 Real Estate Law	3-3-0-0 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.				
LEGA249 Probate Procedure	3-3-0-0 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.				
LEGA250 Legal Internship & Ethics	4-0-0-12 Open			
Application of the theoretical knowledge gained in the classroom by interning in a private law office, governmental agency, or private business which utilizes attorneys. Students will participate in seminars concerning their internship experience and legal ethics. Total internship requirement is 200 contact hours. Prerequisite: 6 LEGA classes including LEGA240, 241				
LEGA251 Wills, Estate Planning & Taxation	3-3-0-0 Open			
Basic principles of estate planning in order to minimize estate and gift tax consequences. Preparation of Federal estate and gift tax returns and Iowa inheritance tax returns. Drafting of wills designed to carry out estate plans. Prerequisite: LEGA249				
LEGA252 Administrative Practice	3-3-0-0 Open			
A study of administrative remedies and procedures for administrative hearings in various governmental agencies including the areas of insurance, housing, welfare, unemployment, and worker's compensation. Researching government regulations will be discussed.				
LEGA253 Advanced Legal Research	3-3-0-0 Open			
Advanced application of principles of legal research. Analysis of complex legal issues and preparation of pleadings, memorandums and briefs based on that analysis. Prerequisite: LEGA241				
LEGA254 Evidence: Theory & Practice	3-3-0-0 Open			
Court rules for admissibility of evidence. Theories and techniques of interviewing, sources for investigation. Methods of preparing evidence for courtroom use.				
LEGA255 Advanced Legal Writing	3-3-0-0 Open			
Techniques of non-research legal writing. Emphasis on clarity, conciseness, and correctness from the sentence and paragraph levels to the overall production of letters, summaries and reports. Prerequisite: LEGA241				
LEGA256 Debtor/Creditor Law	3-3-0-0 Open			
Procedures in non-bankruptcy debt collection. Fundamentals of bankruptcy law and bankruptcy procedure. Examination of alternatives to formal bankruptcy proceedings.				
LEGA257 Paralegalism in Practice	3-3-0-0 Open			
Practical application of the law as it is used in the day to day work of a legal assistant. Emphasis will be on the development and use of systems and forms. A seminar-type approach will be used with a variety of topics to be covered.				
LITR120 Introduction to Literature	3-3-0-0 Core			
The course covers a study of literary types, fiction, poetry, and drama. Appreciation through understanding is primary, with continuous emphasis on close, critical reading.				
LITR121 Major British Writers	3-3-0-0 Core			
In-depth study of works of selected major writers from Post-Renaissance through Contemporary. Common critical approaches for reading, understanding, and evaluating each work are taught.				
LITR122 Major American Writers I	3-3-0-0 Core			
Examines American literature from its beginnings in New England through the realism of the late 19th century. Emphasizes major literary works and their social and cultural contexts.				
LITR123 Major American Writers II	3-3-0-0 Core			
Examines American literature from the early 20th century through contemporary America. Emphasizes major literary works and their social and cultural contexts.				
LITR124 Children's Literature	3-3-0-0 General			
A survey of children's literature. Students will read and evaluate a wide variety of books and will explore techniques by which parents and teachers can share literature with children.				
LITR125 Contemporary Literature	3-3-0-0 Core			
A study of the most significant contemporary writers and literary movements since 1940. The course considers the way today's fiction mirrors today's society.				
LITR126 Literary Genres	3-3-0-0 General			
Course will focus each term on a type of literature: poetry, drama, detective fiction, science fiction. Exploration of relationship between content and form. May be repeated in varying areas for up to 9 hours of credit.				
LITR127 Literary Viewpoints	3-3-0-0 General			
Course will examine a body of literature linked by a specialized concern or approach, i.e., modern Southern literature, black literature, humor in literature, literature of working America. May be repeated in varying subject areas for up to 9 hours of credit.				
LITR128 Film Analysis	3-2-2-0 General			
An introduction to the conventions, scope, purposes, and techniques of film. Includes viewing and writing about a variety of films.				

DESCRIPTION OF COURSES

MACD301 2-2-0-0
Basic Statics for Industry Voc/Tech
 Review of math (algebra, trig), study of force systems, equilibrium concepts, friction, centroids and inertia as applied to machine components. Prerequisite: Working knowledge of algebra and trigonometry

MACD303 3-3-0-0
Strength of Materials Voc/Tech
 This course will provide an understanding of basic mechanics of materials and their application to design and manufacturing processes. Prerequisite: High School algebra, trigonometry or equivalent; beginning statics recommended

MACD451 3-1-4-0
Drafting Basics Voc/Tech
 This is a generic course applicable to all fields of drafting. Drafting equipment (machines, parallel bars, triangles, scales) usage will be covered. Line quality and lettering will be taught on a variety of media. Blue line prints will be prepared.

MACD452 3-1-4-0
Basic Shape & Design Description Voc/Tech
 Sketching techniques, geometric constructions, fundamentals of orthographic projection and dimensioning procedures are stressed. Prerequisite: MACD451

MACD453 3-1-4-0
Advanced Shape & Size Description Voc/Tech
 Basic tolerances, auxiliary views, sectional views and isometric fundamentals are presented with the emphasis aimed toward the machine drafter. Prerequisite: MACD452

MACD456 3-3-0-0
Materials & Processes Voc/Tech
 Survey of materials and the methods used in forming the various products produced in the manufacturing field. A number of field trips to local factories are included to observe their processes.

MACD458 3-3-0-0
Drafting Math I Voc/Tech
 Review of arithmetic fundamentals including fractions, decimals and units of measurement. Basics of algebra are emphasized from an application standpoint. Linear and quadratic equations, graphic and problem-solving techniques are covered. Prerequisite: MATH091 or equivalent

MACD461 3-1-4-0
Mfg. Dimensions & Tolerances Voc/Tech
 Dimensioning techniques are presented as they apply to product manufacturing. ANSI Y-14 guidelines will be utilized in the selection and application of the dimensions. Geometric dimensioning and tolerancing will be introduced. Prerequisite: MACD453

MACD462 3-1-4-0
Mechanical Components Voc/Tech
 Fasteners are presented along with materials and specifications as they apply to product drafting. Locating information in various reference materials will be stressed. Prerequisite: MACD461

MACD463 3-1-4-0
Advanced Mechanical Components Voc/Tech
 Power transmission components will be covered which includes gears, cams, bearings, chain and v-belt drives. Prerequisite: MACD462

MACD466 3-1-4-0
Descriptive Geometry Voc/Tech
 Basic principles of descriptive geometry as they apply to problem solving in drafting with the emphasis on intersections and sheet metal development. Prerequisite: MACD453

MACD468 3-3-0-0
Drafting Math II Voc/Tech

Introduction to trigonometry, including the solution of right and oblique triangles. Areas and volumes are covered with the emphasis on problems encountered by the drafter, using Machinery's Handbook. Prerequisite: MACD458

MACD471 4-1-6-0
LAYOUTS & WORKING DRAWINGS Voc/Tech
 Detailing individual parts, types of assembly drawings, and parts lists will be covered on an individual project basis. These projects will be very similar to the type of work a drafter will encounter the first year on the job. Prerequisite: MACD463, 468

MACD472 2-1-2-0
Presentation Drawings Voc/Tech
 Basic techniques of technical illustration are covered, with emphasis on the preparation of "exploded" assemblies. Prerequisite: MACD471

MACD476 4-4-0-0
Statics Voc/Tech
 The design of all machine components and their interconnections depends on a knowledge of the forces acting on those components. Statics considers those forces that are in equilibrium and are stationary. Prerequisite: MACD468

MACD478 2-2-0-0
Computer-Aided Drafting Voc/Tech
 The fundamentals of CAD are explored by means of 2-D software (developed by Milwaukee Area Technical College) and a microcomputer. Prerequisite: MACD453, 468 or equivalent

MATH091 2-2-0-0
Arithmetic Adaptor
 A review of the fundamental operations of arithmetic including addition, subtraction, multiplication and division of whole numbers, decimals and fractions. This is an adaptor course designed for those students who need to review and improve their knowledge of the fundamentals of mathematics.

MATH092 4-4-0-0
Introductory Algebra Adaptor
 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 an adaptor course designed for students with no algebra background or for students who need review.

MATH093 3-3-0-0
High School Geometry Adaptor
 Elements of Euclidean geometry including congruence, parallel lines, circles, similar polygons, perimeters, areas and volumes. This is an adaptor course for students who do not have adequate knowledge of topics from high school geometry. Prerequisite: One year high school algebra or MATH092

MATH115 4-4-0-0
Finite Mathematics Core
 A general education course in 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 high school algebra or MATH092

MATH117 3-2-2-0
Programming in BASIC Open
 Computer systems, problem solving, system dependent, variable and file names, DOS commands, BASIC statements, LET, REM, GO TO, FOR-NEXT, READ, IF-THEN, etc., printing formats, arrays, subroutines, string variables, random numbers, sorting and searching. Prerequisite: One year of high school algebra or MATH092

MATH118 4-4-0-0
Math for Elementary Educators Core
 Provides future elementary teachers and others with a modern approach to mathematics. Emphasis on understanding basic concepts of mathematic problems and being able to use these concepts in problem solving. Sets, relations, number systems, nature of proof, algorithms, elements of algebra, elements of geometry, basic computational skills and fundamentals of logic. Prerequisite: One year high school algebra or MATH092

MATH119 4-4-0-0
Intermediate Algebra Core
 A review of elementary algebra along with new topics including exponents and radicals, functions and graphs, quadratic equations, inequalities and systems of equations. Prerequisite: One year high school algebra or MATH092

MATH121 4-4-0-0
Elementary Statistics Core
 Tabular and graphical presentation, measures of central tendency and variability, standard elementary procedures involving the binomial, normal, student's t, chi-square and f distributions, correlation, regression, analysis of variance, and several nonparametric procedures. Prerequisite: Two years high school algebra or MATH119

MATH123 3-3-0-0
Trigonometry Core
 Circular functions and their inverses, trigonometric identities, trigonometric equations, solving triangles and graphing. Prerequisite: Two years high school algebra or MATH119

MATH124 5-5-0-0
Precalculus Core
 Real and complex number systems, inequalities, exponential and logarithmic functions, mathematical induction, limits, sequences, elementary theory of equations, linear systems, matrices, vectors and topics of analytic geometry. Prerequisite: Math 123 or equivalent

MATH129 5-5-0-0
Calculus I Core
 Absolute values, inequalities, functions, limits, continuity, differentiation, definite integral, exponential and logarithmic functions. Prerequisite: MATH124

MATH130 5-5-0-0
Calculus II Core
 Continuation of MATH129. Techniques of integration, hyperbolic functions, polar coordinates, indeterminate forms, improper integrals, infinite series, partial derivatives, multiple integrals. Prerequisite: MATH129

MATH132 4-4-0-0
Diff. Equations & Laplace Transforms Core
 Ordinary differential equations, systems of ordinary differential equations, Laplace transforms, numerical methods and applications. Prerequisite: MATH130 or concurrent enrollment in MATH130 with consent of department

MEDA460 2-2-0-0
Professional Development I Voc/Tech
 Emphasizes professional opportunities and responsibilities of the medical assistant. Medical specialties are studied. Study of OSHA first aid procedures prepare the student to cope with emergency situations in the office as well as in the community.

MEDA461 4-4-0-0
Human Body in Health & Disease I Voc/Tech
 Basic biological concepts, structure of the body and its functions are studied. Interrelationship of the systems in the healthy individual is stressed. Symptoms of disease, functional and organic reactions of the body

DESCRIPTION OF COURSES

relating to systems, diagnostic aids used by the physician, and possible methods of treatment are presented. Prerequisite: High school biology or equivalent. Submit proof of "C" or better in two terms of H.S. biology or equivalent in last 5 years. (Equivalent = Learning Center Biology I and II or college level biology course.)

MEDA462 1-0-2-0
Medical Terminology Voc/Tech

Designed to help logically understand medical terms. Basic prefixes, suffixes and root words are emphasized as a method of acquiring and retaining knowledge. Exercises stressing the spelling, pronunciation and usage of medical terms are included.

MEDA463 4-3-2-0
Medical Office Management I Voc/Tech

Emphasizes front office responsibilities of the medical assistant. Includes filing methods, preparation of patient forms, and basic record keeping with an emphasis on accounting procedures for the medical office. Introduction to health insurance and other diverse professional activities are also included.

MEDA464 4-3-2-0
Medical Laboratory Procedures I Voc/Tech

Introduction to medical laboratory procedures, ethics, and laboratory personnel. Includes use of basic laboratory equipment, and application of basic microbiological principles. Routine urinalysis: physical, chemical and microscopic examination, introduction to hematology.

MEDA465 3-2-2-0
Medical Office Procedures I Voc/Tech

Designed as a basis for understanding and performing examining room techniques and in providing patient education in concert with the wishes of the physician employer. The responsibility of the Medical Assistant and those of other health professionals in providing the patient with optimal therapy is emphasized.

MEDA470 2-2-0-0
Professional Development II Voc/Tech

Medical ethics is studied. Lecture and group discussion to aid in communications with patients and recognizing special needs of the patient during illness and understanding how the law affects the practice of medicine. Prerequisite: MEDA460

MEDA471 4-4-0-0
Human Body in Health & Disease II Voc/Tech

The study of the body systems is completed. Prerequisite: MEDA461

MEDA472 2-2-0-0
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" and by the Radiologic Division of the Iowa Department of Health. Prerequisite: MEDA461

MEDA473 4-3-2-0
Medical Office Management II Voc/Tech

Study of health and accident insurance, service plans, worker's compensation, medicare and medicaid, proper use of telephone, appointment scheduling, pegboard and daily log record keeping. Through practice sets, the student keeps the patient's medical and financial records and types manuscripts. Includes transcription from the dictaphone. Prerequisite: MEDA463

MEDA474 3-2-2-0
Medical Laboratory Procedures II Voc/Tech

Blood collection by venipuncture and finger puncture. Complete blood counts, slide agglutination tests, theory of electrocardiography and production of satisfactory

electrocardiograms. Practical experience in cell counts and blood chemistries on the Unimeter, accustat, and dextrometer. Prerequisite: MEDA464

MEDA475 3-2-2-0
Medical Office Procedures II Voc/Tech

The student learns how to assist with examinations, tests and treatments how to care for and use medical and surgical instruments and other equipment used in the examining room. Techniques applicable to specialty areas as obstetrics, pediatrics, orthopedics, etc., are included. Prerequisite: MEDA465

MEDA480 1-0-2-0
Professional Development III Voc/Tech

Provides an opportunity for the student to discuss problems that arise in the clinical experience. Oral reports by students are supplemented by a review of weekly clinical evaluations. In addition, the student is made aware of community health service available to the patient.

MEDA481 6-0-0-28
Practicum Voc/Tech

A course of study designed especially for the preparation of students involving the supervised practical application of previously studied theory and in which 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 his assistant. Prerequisite: Satisfactory completion of all courses in first 2 terms

MEDA482 2-2-0-0
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: MEDA472

MEDA483 1-0-2-0
Medical Office Management III Voc/Tech

Provides an opportunity for the student to become adept in using dictation transcription equipment. Actual case histories, consultations, physical examination, surgical and autopsy reports on prepared belts are used to provide material that is of immediate practical use. Prerequisite: MEDA473

MGMT101 3-3-0-0
Personnel 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.

MGMT102 3-3-0-0
Introduction to Management Open

An introduction to management terms and basic concepts of planning, organizing, influencing, controlling. Applications of management concepts to various business situations. Identification and evaluation of alternative solution to common problems.

MGMT103 3-3-0-0
Sales Management Open

Expands on the basic steps in the selling process. Explores the profession of sales management to include: recruitment and selection of the salespeople, training and motivation, compensation plans, measurement of sales and performance evaluations.

MGMT203 3-3-0-0
Human Relations in Business Open

Emphasizes the important of the development of proper attitudes toward self, others, and organizational settings. Stresses the development of a good self image and the relationship this has to energy levels, emotions, defensiveness, verbal and nonverbal communication.

MGMT321 3-3-0-0
Retail Management I Voc/Tech

Study of the development of retailing, organization of retail institutions, the merchandise handling process, understanding the retail customer, some personal and non-personal selling and the direction retailing is taking in the future.

MGMT322 1-0-2-0
Office Procedures Voc/Tech

Prepares the student with an employable proficiency in the techniques and operation of the typewriter, calculator, and ten-key adding machine.

MGMT340 7-0-0-21
Business Internship Voc/Tech

One semester of full-time successful introductory on-the-job training in a cooperating retail training station. Emphasis is placed on stockroom procedures and retail salesmanship techniques. Development and supervision of training plan will be made by a teacher-coordinator.

MGMT342 2-1-2-0
Internship Seminar I Voc/Tech

Field experience problems will be discussed, new occupational information will be presented, and business people will speak on the functions, institutions, and products found in the field of retail marketing. Current enrollment in MGMT340 is required.

MGMT343 7-0-0-21
Field Experience I Voc/Tech

Consists of one term of full-time successful introductory on-the-job training in a cooperating industrial training station. Development and supervision of a training plan will be made by a teacher-coordinator. Prerequisite: COOP220

MGMT344 2-1-2-0
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 industrial marketing. Current enrollment in MGMT343 is required.

MGMT348 1-1-0-0
Retail Internship Seminar I Voc/Tech

Internship experiences will be discussed as they relate to the training plan. New occupational information will be presented and topics related to Retail Merchandising will be discussed. Current enrollment in MGMT359 is required.

MGMT349 2-1-2-0
Retail Internship Seminar II Voc/Tech

Retail merchandising experiences will be discussed. Information on personal and career development will be shared. The training plan will be completed during this internship. Current enrollment in MGMT360 is required.

MGMT356 1-1-0-0
Field Experience II Seminar Voc/Tech

Field experience problems will be discussed, new occupational information will be presented and topics relating to industrial marketing will be discussed. Current enrollment in MGMT366 is required.

MGMT357 5-0-0-15
Business Internship II Voc/Tech

Retail training of the level prescribed in the individual training plan. Exposure will be given to fall merchandising techniques. The training will be scheduled in an approved cooperating training station. Supervision of the training plan will be made by a teacher-coordinator.

MGMT358 1-1-0-0
Business Internship II Seminar Voc/Tech

Students are exposed to areas of retail management through guest speakers, visual aids, and discussion of

DESCRIPTION OF COURSES

business. Current enrollment in MGMT357 is required.

MGMT359 5-0-0-15
Retail Merchandise Internship I Voc/Tech

Consists of one term of part-time successful introductory on-the-job training in a cooperating retail training station. Emphasis is placed on stockroom procedures and retail salesmanship techniques. Development and supervision of training plan will be made by a teacher-coordinator.

MGMT360 7-0-0-30
Retail Merchandise Internship II Voc/Tech

Retail training of the level prescribed in the individual training plan. Exposure will be given to summer merchandising techniques. The training will be scheduled in an approved cooperating training station. Supervision of the training plan will be made by a teacher-coordinator.

MGMT365 5-0-0-15
Business Internship III Voc/Tech

Consists of one term of part-time on-the-job training of the level prescribed in the individual training plan. Exposure will be given to holiday merchandising control, and supervision. Supervision of the training plan will be made by a teacher-coordinator.

MGMT366 5-0-0-15
Field Experience II Voc/Tech

Consists of field training of the level prescribed in the individual training plan. The training is scheduled in an approved cooperating industrial marketing training station. The training plan will be supervised by a teacher-coordinator. Prerequisite: MGMT343

MGMT367 1-1-0-0
Business Internship III Seminar Voc/Tech

Students are exposed to areas of retail management through guest speakers, visual aids, and discussion of business internship experiences. Current enrollment in MGMT365 is required.

MGMT368 5-0-0-15
Field Experience III Voc/Tech

Consists of field training of the level scheduled in the individual field training plan. The training is scheduled for a half day. The training plan will be supervised by a teacher-coordinator. Prerequisite: MGMT366

MGMT369 1-1-0-0
Field Experience III Seminar Voc/Tech

Field experience problems will be discussed. New occupational information will be presented and topics relating to industrial marketing will be discussed. Current enrollment in MGMT368 is required.

MGMT405 1-0-2-0
Human Potential Seminar Voc/Tech

Covers the development of the I'm OK, You're OK, the organization is OK approach to life. Includes the awareness of communication styles and how to manage successful interpersonal and organizational relationships.

MKTG102 3-3-0-0
Principles of Marketing General

Examines marketing's role in the economy and in the company, what effect it has on a company's products, prices, types of promotion, and forms of distribution. Also studies the impact consumers have on these activities.

MKTG103 3-3-0-0
Principles of Selling Open

Emphasizes the "consultative style" of personal selling. Covers the importance of establishing good relationships, finding prospect needs, providing a solution to these needs, and closing a high percentage of sales interviews.

MKTG104 3-3-0-0
Advertising & Sales Promotion Open

The area of promotional communication is studied to achieve an understanding of the market place, the various advertising media and the development of an effective promotional message.

MKTG211 3-3-0-0
Industrial Marketing Open

Presents functional methods of industrial marketing. Examines all forms of wholesaler and manufacturer type marketing activities.

MKTG212 3-3-0-0
Purchasing Open

This course examines the fields of traffic, transportation, warehousing, and purchasing. It explores their relationships and the effect they have on Materials Management. Methods of packaging, physical distribution and purchasing systems are examined.

MKTG231 3-3-0-0
Principles of Clothing Selection Open

Emphasis is placed on all phases of the clothing industry from production to consumption on an introductory level applying art principles to clothing selection and design, analyzing fashion trends and studying modern designers and their contributions of fashion.

MKTG301 3-3-0-0
Retail Product Analysis Voc/Tech

Examines and identifies the basic technology concerning headline merchandise as it relates to the retail store and retail business. Emphasis is placed on the student becoming knowledgeable about the various products studied.

MKTG321 3-3-0-0
Retail Management I Open

Study of the development of retailing, organization of retail institutions, the merchandise handling process, understanding the retail customer, some personal and non-personal selling and the direction retailing is taking in the future.

MKTG322 3-3-0-0
Retail Management II Voc/Tech

A problem-solving approach to the operative principles and methods in the retail field. Management decision making is emphasized through lecture, the use of case problems, business simulation games, and compiling a handbook. Prerequisite: MKTG321

MKTG323 2-1-2-0
Display & Visual Merchandising Open

Includes display planning activities, store fixturing and the total merchandise presentation in a store. Emphasis is placed on actual preparation of window and interior displays by students.

MKTG324 3-3-0-0
Buying & Merchandise Control Open

The technical procedures of merchandising are studied, including consumer buying habits, a study of current trends, vendor relations and buying and pricing the goods. Emphasis is also placed on how to maintain a merchandise control system in maximizing profits.

MKTG332 3-3-0-0
Textiles Voc/Tech

To develop a skill and knowledge of characteristics of natural and man-made fibers, the qualities, cost, and weaves in manufacturing and finishing processes of textiles, fibers, yarns, and fabrics and a knowledge of appropriate fabrics for various uses.

MKTG333 3-3-0-0
Fashion Show Procedures Voc/Tech

Presenting fashion show methods, planning the dramatized theme and commentary, selecting mer-

chandise, accessories and models, promotional planning and the actual student presentation of a fashion show.

MKTG334 3-3-0-0
Principles of Fashion Merchandising Open

A study of clothing based on five areas—sociological, psychological, aesthetic, economical, and managerial. Emphasis is also placed on fashion's historical development, and how fashion has been influenced by political, social and economic events of history to present.

MKTG335 3-3-0-0
Industrial Product Analysis Voc/Tech

An investigation of product information which typically is useful in business: where that information can be obtained, how it can be collected from references, observation, users, manufacturers, sales personnel, and how it can be compared and analyzed.

MKTG336 3-3-0-0
Industrial Management Operations Voc/Tech

A "problem" approach to various aspects of industrial operations. The functions involved, their natures, and how they are interrelated. Particular emphasis on forecasting and planning, coordination, inventory and production requirements, space and manpower requirements.

MKTG345 3-3-0-0
Fashion Study Tour Voc/Tech

The student will participate in a supervised study tour, location to be announced, in which a concentrated time will be spent touring a market center and researching a variety of fashion businesses from manufacturing and marketing to merchandising, promoting and selling apparel. Prerequisite: MKTG231 or permission of instructor

MLTS400 6-4-4-0
Introduction to The Medical Laboratory Open

A course designed to acquaint the student with the field of laboratory medicine, laboratory structure, and staffing. Instrumentation, medical terminology, clinical chemistry assays, kidney function tests, and basic hematology procedures are presented.

MLTS411 6-4-4-0
Hematology Open

A review of basic procedures, followed by a study of normal and abnormal blood smears as they relate to anemias and leukemias. Hematology instrumentation, quality control and coagulation are studied. Prerequisite: MLTS400

MLTS422 8-6-4-0
Clinical Chemistry Open

The study and analysis of electrolytes, protein, lipids, enzymes, hormones, and drugs. The test results are related to the patient's condition. Prerequisite: MLTS400

MLTS431 4-3-3-0
Clinical Microbiology Open

A study of clinically important microorganisms. Techniques used to isolate and identify pathogenic bacteria, parasites and fungus. Immune responses are studied. Prerequisite: BIOL132

MLTS442 4-3-2-0
Immunohematology Voc/Tech

Principles of immunohematology with the practices of blood banking are presented. ABO and RH typing and transfusing testing procedures are performed. Blood group antigens and antibodies are studied. Prerequisite: MLTS411

MLTS450 2-0-0-10
Clinical Practicum I Open

Students report to a local hospital to join the phlebotomy team to practice patient approach and to draw blood specimens. Prerequisite: MLTS400

DESCRIPTION OF COURSES

MLTS451 Clinical Practicum II	11-0-0-32 Open				
The student rotates through the various departments (hematology, chemistry, microbiology, blood bank, and urinalysis) of the hospital laboratory applying the knowledge and skills learned in the classroom. Prerequisite: Completion of first four terms of MLTS curriculum					
MLTS452 Clinical Practicum III	7-0-0-32 Open				
A continuation of MLTS451.					
MLTS460 Clinical Seminar	1-1-0-0 Open				
The students share their experience in the clinical area and present topics of interest. Case studies are presented for knowledge and review. Prerequisite: MLTS451 assignment					
MLTS461 Medical Laboratory Review	1-1-0-0 Open				
Medical laboratory subjects are reviewed, a mock registry examination is given. Prerequisite: MLTS452					
MLTS463 Professional Development	1-1-0-0 Open				
The student studies human relations, job seeking skills, continuing education opportunities, legal responsibilities, and professional organizations. Prerequisite: MLTS451					
MUSI130 Music Appreciation	3-3-0-0 Core				
A survey of the development of music through study of representative compositions of many periods and styles. Vocabulary presented to discuss the musical works.					
MUSI131 Introduction to Music	3-3-0-0 Core				
Study of scales, rhythms, and harmonies. Application of this knowledge through composition for and performance on classroom instruments such as piano, guitar and autoharp.					
MUSI132 Introduction to Guitar	3-3-0-0 General				
This class will teach students to read and play simple melodies and help them build a repertoire of songs with a variety of chords, strums, and picking patterns.					
MUSI133 Modern Popular Music	3-3-0-0 General				
An introduction to popular music of the twentieth century including jazz, rock, Broadway musicals and country western music.					
MUSI134 Choir/Swing Choir	1-0-2-0 General				
The Community College Choir is open to all students. Varied literature is chosen for each group. A performance serves as the final exam. May be repeated for a maximum of 4 credits.					
MUSI136 Voice	1-0-2-0 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.					
MUSI137 Piano	1-0-2-0 General				
Individual instruction in piano. Weekly one-half hour lessons plus practice sessions. Beginning, intermediate, and advanced students accepted. May be repeated for a maximum of 4 credits.					
MUSI139 Instrumental Music	1-0-2-0 General				
Individual instruction in concert band instruments. Weekly one-half hour lessons plus practice sessions.					
MUSI141 Instrumental Ensemble	1-0-2-0 General				
Rehearsal and performance with concert band instruments. Beginning students should take this course with MUSI139.					
MUSI142 Suzuki Strings for Adults	1-0-2-0 General				
Beginning group instruction in violin using the Suzuki method. Course includes proper positioning, repertoire, ensemble playing, and introduction to Suzuki philosophy.					
NURS200 Body Structure & Function	3-3-0-0 Open				
Offers the student basic concepts in human anatomical structure with relation to body functions and helps the student gain an understanding of the patterns which enable the body to perform as an integrated whole.					
NURS201 Human Needs I	6-6-0-0 Open				
Focus is supportive nursing care to individuals with basic human needs and restorative care for sleep/comfort alterations. Safety, health care systems and roles, communication, pharmacology, legal-ethical concepts and data collection are stressed.					
NURS203 Human Needs II - PN	6-6-0-0 Open				
Focus is on the implementation phase and role in the application of the nursing process to individuals with alterations of activity, nutrition/elimination, oxygenation/circulation and the surgical client. Prerequisite: PSCH101, NURS200, 201, 209					
NURS205 Nursing Practicum II - PN	6-0-0-12 Open				
Focuses on time management, data collection and application of theory in the delivery of nursing care to the surgical or isolated client and those who have alterations in activity, nutrition/elimination, and oxygenation/circulation needs. Prerequisite: PSCH101, NURS200, 201, 209					
NURS206 Human Needs III	4-4-0-0 Open				
Students will integrate data collection/observations, nursing interventions, and evaluation to deliver care to multiple need clients, normal pregnancy and newborn care. Prerequisite: PSCH103, NURS203, 205					
NURS208 Accountability in Nursing - PN	1-1-0-0 Open				
Provides a framework upon which the practical nurse can make sound ethical/legal decisions and recognize the personal accountability and transition necessary to function within the scope of practice.					
NURS209 Nursing Practicum I	4-0-0-8 Open				
Provides experience in lab and structured health care settings for application of Human Needs I theory. Skills necessary for safe delivery of supportive nursing care to clients with basic needs and restorative care for altered sleep/comfort needs are emphasized.					
NURS212 Nursing Practicum III	7-1-0-13 Open				
Provides an opportunity for application of theory in the practicum setting. Emphasis is on data collection/observations, nursing interventions, and self evaluation of care given to obstetrical, normal multiple need clients. Prerequisite: PSCH103, NURS203, 205					
OFFC201 Info/Word Processing Concepts	2-2-0-0 Voc/Tech				
A study of information/word processing concepts. Topics include history, benefits, terminology, equipment selection, etc.					
OFFC203 Administrative Office Management	3-3-0-0 Voc/Tech				
This course involves the office environment where the "flow of paperwork" is paramount to the success of any business operation.					
OFFC204 Office Procedures	4-4-0-0 Voc/Tech				
Presents information related to the various tasks, procedures, concepts and duties that are required in an office. Prerequisite: OFFC301					
OFFC205 Business English	3-3-0-0 Voc/Tech				
The fundamentals of grammar, spelling, punctuation, word usage, capitalization, abbreviations and number usage.					
OFFC206 Written & Oral Communications	3-3-0-0 Voc/Tech				
The principles and procedures of effective business letter writing and oral communicating in the office. Prerequisite: OFFC205					
OFFC207 Introduction to Computers	3-3-0-0 Voc/Tech				
Presents the basic data processing cycle—input, process and output. It includes the history of computers, terminology and concepts, and how computers are used in business.					
OFFC209 Crim Law-Citations Research Lab	3-0-6-0 Voc/Tech				
Dictation, transcription and typing of legal materials relative to situations in criminal litigation. Citations are typed from reference materials recommended by the legal profession. Prerequisite: BUSL101, OFFC303, 305; Corequisite: OFFC234, 237					
OFFC210 Est. Planning/Probate/Real Est. Lab	3-0-6-0 Voc/Tech				
Dictation, transcription and typing of legal materials relative to estate planning, probate proceedings and real estate transactions. Prerequisite: BUSL101, OFFC303, 305, 311; Corequisite: OFFC232, 233, 243					
OFFC211 Civil Litigation/Domestic Rel/Bus Lab	3-0-6-0 Voc/Tech				
Dictation, transcription and typing of legal materials relative to situations in civil law, family law and business organizations. Prerequisite: BUSL101, OFFC303, 305; Corequisite: OFFC236, 238, 239					
OFFC221 Medical Terminology I	3-3-0-0 Voc/Tech				
Builds a medical vocabulary through an understanding of anatomic roots for words denoting body structures, prefixes, suffixes, and Greek and Latin verbal adjectival derivatives.					
OFFC222 Medical Terminology II	3-3-0-0 Voc/Tech				
Continues to build a medical language vocabulary by studying body systems such as musculoskeletal, endocrine and integumentary systems. Prerequisite: OFFC221					
OFFC223 Medical Transcription III	2-1-2-0 Voc/Tech				
A continuation of Medical Transcription II. Concentrates on transcription of case histories and physicals, discharge summaries and operative reports from English-speaking foreigners. Prerequisite: OFFC431					
OFFC230 Legal Procedures	3-3-0-0 Voc/Tech				
Covers personality, duties and responsibilities of a legal secretary, trends influencing women working and procedures for mail, communications, receptionist work, travel, banking, insurance and meetings. Prerequisite: OFFC301					

DESCRIPTION OF COURSES

OFFC231 Legal Management	3-3-0-0 Voc/Tech	Emphasis on how attorneys determine fees, accounting of time, tickler procedures, equipment needs, automated methods and equipment, interior/exterior law office planning, future trends, decision making, setting priorities, working with law office personnel and employee supervision. Prerequisite: OFFC301	OFFC320 Human Body in Health & Disease	3-3-0-0 Voc/Tech	Designed to provide specialized knowledge of the human body relating to disease processes and possible methods of treatment. Drug terminology is added to give student basic knowledge of symbols and abbreviations. Prerequisite: OFFC221
OFFC232 Real Estate	1-1-0-0 Voc/Tech	An introduction to real estate law with an emphasis on real estate purchase, selling, lease and rental. Prerequisite: OFFC230, 331, must enroll for OFFC210 same semester	OFFC321 Office Technology Applications	1-2-0-0 Voc/Tech	An exposure to many brands of equipment and software applications found in business. The student will get hands-on experience using the electronic typewriters and personal computers to learn applications of electronic mail, appointment calendar, alpha/numeric applications and how to use the terminal as a calculator.
OFFC233 Probate	1-1-0-0 Voc/Tech	An introduction to probate law with an emphasis on probate procedures required to settle an estate. Prerequisite: OFFC230, 331, must also enroll for OFFC210 same semester	OFFC331 Legal Terminology	3-3-0-0 Voc/Tech	Provides training in spelling, defining, pronunciation, and application of terms common in the legal field. Prerequisite: OFFC301
OFFC234 Intro to Law & Citations/Research	1-1-0-0 Voc/Tech	An introduction to law and legal research with an emphasis on legal research and the use of the law library and judicial, legislative and administrative processes. Prerequisite: OFFC230, 331, must also enroll for OFFC209 same semester	OFFC401 Model Office	3-1-5-0 Voc/Tech	Provides the student with an introduction to the concepts of workflow, basic procedures and unexpected events which often arise in the daily office routine by a simulated office environment. Prerequisite: OFFC302, COOP220
OFFC236 Domestic Relations	1-1-0-0 Voc/Tech	An introduction to family law with an emphasis on domestic relations, actions and adoptions. Prerequisite: OFFC230, 331, must also enroll for OFFC209 same semester	OFFC403 Professionalism I	1-1-0-0 Voc/Tech	These courses are designed to develop the professional growth of the student in the areas of leadership, service, cooperation, knowledge, friendship, love, hope, faith and patriotism.
OFFC237 Criminal Law	1-1-0-0 Voc/Tech	An introduction to criminal situations with emphasis on preparation for trials and appeals. Prerequisite: OFFC230, 331, must also enroll for OFFC209 the same semester	OFFC404 Professionalism II	1-1-0-0 Voc/Tech	See OFFC403
OFFC238 Civil Litigation	1-1-0-0 Voc/Tech	An introduction to civil law with an emphasis on civil litigation and court procedures. Prerequisite: OFFC230, 331, must also enroll for OFFC211 the same semester	OFFC405 Professionalism III	1-1-0-0 Voc/Tech	See OFFC403
OFFC239 Business Organization	1-1-0-0 Voc/Tech	An introduction to business organizations with an emphasis on the formation, structure, operation and controls of various types of business. Prerequisite: OFFC230, 331, must also enroll for OFFC211 same semester	OFFC406 Professionalism IV	1-1-0-0 Voc/Tech	See OFFC403
OFFC242 Income Tax	3-3-0-0 Voc/Tech	Accounting procedures relative to the preparation of various tax returns for individuals and business. Instruction is based on IRS fundamentals of tax preparation. Prerequisite: OFFC311	OFFC407 Professionalism V	1-1-0-0 Voc/Tech	See OFFC403
OFFC243 Estate Planning	1-1-0-0 Voc/Tech	An introduction to estate planning with an emphasis on wills and codicils and tax laws influencing estate planning. Prerequisite: OFFC230, 331, must also enroll for OFFC210 same semester	OFFC408 Internship	5-0-0-15 Voc/Tech	Practical experience through on-the-job training in an approved office setting. Prerequisite OFFC303; Prerequisite or Corequisite: COOP220
OFFC301 Typing I	2-0-4-0 Voc/Tech	Basic machine operation and correct techniques of typewriting. Type at speeds of 30-40 wpm with 3 errors. Cover the fundamentals of typing business correspondence, centering, tabulation, and manuscripts.	OFFC414 Travel Personnel I	3-3-0-0 Voc/Tech	An introduction to terminology, use of reference materials, itinerary preparation and reservation procedures. Also a study of the skills and knowledge travel personnel need to perform successfully on the job.
OFFC302 Typing II	2-0-4-0 Voc/Tech	A comprehensive course in typewriting for the business office involving business forms and reports, business correspondence, and the efficient production of typed material. Type at speeds of 35-45 wpm with 2 errors. Prerequisite: OFFC301 or skill level	OFFC415 Travel Personnel II	3-3-0-0 Voc/Tech	Building upon the knowledge and skills learned in OFFC414, the student will learn to develop international itineraries, and to make arrangements for group and charter travel. The student will also learn computer applications in ticketing and reservations. Prerequisite: OFFC414
OFFC303 Typing III	2-0-4-0 Voc/Tech	Typing for the business office, stressing the efficient production of mailable copy. Emphasizes office typing with a minimum of instruction. Type at speeds of 50-60 wpm with 2 errors. Prerequisite: OFFC302 or skill level	OFFC416 Selling for Travel Personnel	3-3-0-0 Voc/Tech	Focuses on the principles of selling as they apply to the travel industry. Covers the importance of establishing relationships, addressing clients' needs,
OFFC304 Introductory Shorthand	4-3-2-0 Voc/Tech	Covers the principles of shorthand theory. Emphasis is on the correct writing of the shorthand outline with instant recall.			
OFFC305 Advanced Shorthand & Transcription	4-3-2-0 Voc/Tech	Uses the principles of shorthand theory to build speed in taking dictation and producing a typed transcript. Includes the integration of grammar skills with shorthand to produce mailable copy. Prerequisite: OFFC304			
OFFC306 Information Processing I	2-0-4-0 Voc/Tech	The use of automatic typewriters, transcribers and other word processing media. Prerequisite: OFFC205, 301			
OFFC307 Information Processing II	2-0-4-0 Voc/Tech	A continuation of Information Processing I with an emphasis on developing speed and accuracy in the preparation of business communications. Automatic typewriters will be used. Prerequisite: OFFC306			
OFFC308 Business Applications of Computers	1-0-3-0 Voc/Tech	A comprehensive study of the common business applications of personal computers in the office. Topics include word processing, electronic spreadsheets, database management, and general accounting.			
OFFC309 Office Accounting	2-1-2-0 Voc/Tech	Basic theory of accounting emphasizing the accounting cycle. Includes payroll, specialized journals and banking procedures. Prerequisite: OFFC311 or enrolled in course			
OFFC310 Professional Development	3-3-0-0 Voc/Tech	This course is to alert the student to the qualities and techniques of decision-making and advancement. Prerequisite: MGMT203, or enrolled in course			
OFFC311 Business Math & Calculators	3-1-4-0 Voc/Tech	The solving of business math problems using electronic calculators. Includes instruction on how to efficiently operate the electronic calculator.			
OFFC312 Data Entry	3-0-7-0 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. Prerequisite: Must type 40 WPM 3 errors or less for 5 min. or OFFC301			
OFFC317 Office Procedures I	2-2-0-0 Voc/Tech	Presents information related to various tasks, procedures, concepts and duties that are required in the office.			
OFFC318 Office Procedures II	2-2-0-0 Voc/Tech	A continuation of OFFC317.			

DESCRIPTION OF COURSES

problem solving and bringing closure to the sale.

OFFC417 3-3-0-0
Geography for Travel Voc/Tech

Provides agents, sales representatives and those employed in travel related fields with a broader perspective on geography. May be taken concurrently with OFFC414 or 415.

OFFC420 5-0-0-15
Legal Internship Voc/Tech

Part-time placement in a legal environment working with an employer and also under the supervision of legal teaching coordinators. Prerequisite: OFFC307, COOP220

OFFC430 3-3-0-0
Medical Transcription I Voc/Tech

Designed to prepare the student to take medical dictation from transcription tapes. The course covers the various medical specialties and introduces the student to a variety of typing forms for medical materials. Prerequisite or Corequisite: OFFC221

OFFC431 3-3-0-0
Medical Transcription II Voc/Tech

A continuation of Medical Transcription I. Prerequisite: OFFC430

OFFC432 3-3-0-0
Medical Office Techniques I Voc/Tech

A study of medical science, ethics and medical law. Various management duties and responsibilities, such as filing, insurance processing, mail schedules, pegboard accounting and telephone procedures. Emergency care and CPR training are also included. Prerequisite: OFFC301

OFFC433 3-3-0-0
Medical Office Techniques II Voc/Tech

Continuation of Medical Office Techniques. A study of medico-legal issues. Prerequisite: OFFC221, 432

OFFC435 6-0-0-18
Internship for Medical Secretary Voc/Tech

Working in a medical facility to learn the many office procedures and policies as they exist in a work situation. Prerequisite: OFFC222, 320, 431, 433

PHIL110 3-3-0-0
Introduction to Philosophy Core

General introduction to philosophy. Exploration of problems in metaphysics, theory of knowledge, and ethics. Emphasis upon our Western philosophical tradition.

PHIL111 3-3-0-0
Introduction to Logic Core

The study of proper ways of thinking to achieve validity in knowing exposure to fallacies, inductive inference, and deductive methods of reasoning with applications to practical problems. Recommended 100 level math course.

PHIL112 3-3-0-0
Ethical Problems Core

Study of values as they affect the individual and society. Exposure to schools of ethics, cultural ethos, and the functions of norms, morals, and law. Application to contemporary ethical problems.

PHIL113 3-3-0-0
Comparative Religions Core

Study of the origins of religions, institutional forms, and comparison of commonalities and contrasts. Examination of living religions such as Hinduism, Buddhism, Judaism, Christianity and Islam.

PHLE302 2-1-2-0
Phlebotomy Voc/Tech

The student develops the knowledge and skills to perform the technique of blood collection, venipuncture, and finger puncture. Also included are communication skills, terminology, ethics, and safety procedures.

PHLE303 3-1-0-9
Phlebotomy Practicum Voc/Tech

Students report to a local hospital to join the Phlebotomy team to learn to approach and to draw blood from a variety of patients. The students meet on a regular basis to share their practicum experience.

PHOT105 3-2-2-0
Principles of Photography Open

Use of photography as a communication medium. Principles of picture-taking, printing and dry mounting of finished prints.

PHOT106 3-2-2-0
Advanced Photography Open

For students who have mastered the basic photographic principles and processes. Topics will include photographic lighting and filtration, photographic approaches, advanced darkroom techniques, and print finishing and display. Prerequisite: PHOT105

PHYE129 1-0-2-0
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 & self rescue, swimming rescues, and artificial resuscitation. Upon satisfactory completion, the student will receive Red Cross certification. Prerequisite: Students must pass a swim test

PHYE130 1-0-2-0
Physical Fitness Open

Various exercises and activities to improve physical fitness.

PHYE131 1-0-2-0
Tennis and Badminton Open

Beginning skills only.

PHYE132 1-0-2-0
Flag Football & Basketball Open

Beginning skills only.

PHYE133 1-0-2-0
Bowling Open

Beginning skills only.

PHYE134 1-0-2-0
Golf & Jokari Open

Beginning skills only.

PHYE135 1-0-2-0
Cheerleading Open

Men and women desiring to be basketball cheerleaders for Varsity Basketball season.

PHYE136 1-0-2-0
Weight Training Open

Introduction to basics of weight training. Emphasizes increasing physical capacity that is, increased muscular strength and power.

PHYE137 1-0-2-0
Recreational Swimming Open

No instruction. Recreational swimming at Boone County "Y".

PHYE138 1-0-2-0
Varsity Men's Basketball Open

For students on Varsity Men's Basketball team only.

PHYE139 1-0-2-0
Varsity Women's Basketball Open

For students on Varsity Women's Basketball team only.

PHYE140 3-3-0-0
Sports Officiating Open

Study of the rules and official's mechanics for high school football, basketball and baseball. Provides opportunity for students to become licensed officials in Iowa for these sports.

PHYE141 1-0-2-0
Volleyball & Softball Open

Beginning skills only.

PHYE142 1-0-2-0
Varsity Baseball Open

For students on Varsity Baseball team only.

PHYE143 1-0-2-0
Varsity Women's Softball Open

For students on Varsity Women's Softball team only.

PHYE144 3-3-0-0
Introduction to Physical Education Open

Traces history of physical education. Investigate careers and professional leadership in physical education. Emphasizes physical education as a teaching career for both men and women, covering in detail leadership roles and preparation for these roles. Examines the four areas of most vital concern to the physical educator: recreation and leisure, sports, curriculum, and research and evaluation.

PHYE145 2-2-0-0
First Aid Open

First aid training with an emphasis in standard first aid and cardiopulmonary resuscitation. Red Cross certification will be awarded to those who qualify.

PHYE146 3-3-0-0
Personal & Community 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 usage, and environmental problems.

PHYE147 2-0-4-0
Water Safety Instructor Open

Provides the student with the necessary skills to conduct/instruct all levels of the Red Cross Swimming and Water Safety lesson programs. Upon satisfactory completion, the student will receive Red Cross certification. Prerequisite: Certified in Red Cross Lifesaving and pass a swim skill test

PHYE148 3-3-0-0
Introduction to Athletic Training Open

Entry level course designed to introduce the potential coach or athletic trainer to the field of athletic training. Basic care and prevention of athletic injuries will be dealt with in order to equip the coach or trainer with the knowledge to make intelligent decisions regarding common athletic injuries.

PHYL100 2-2-0-0
Intro to Astronomy: Project Universe Core

A survey of the constituents of the universe from the earth, to the solar system and the galaxies. Included is a study of stellar evolution and cosmology.

PHYL102 3-2-2-0
Survey of Earth Science Core

The study of selected concepts and procedures in astronomy, geology, meteorology and oceanography.

PHYL103 3-3-0-0
Energy Today Core

This course is intended to give the student an overview of the impact of energy use on people and the environment. Topics include the history of energy consumption, present and future sources, risk-benefit analysis, and cost projections.

PHYL106 4-3-2-0
Survey of Physical Science 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.

PHYL111 4-3-2-0
College Physics I Core

This course is the first semester of a two semester se-

DESCRIPTION OF COURSES

quence in non-calculus physics. Topics include forces, linear and rotational motion, energy, momentum, relativity, fluids, gases and heat. Prerequisite: MATH123 or trigonometry

PHYL112 4-3-2-0
College Physics II Core

This course is the second semester of a two semester sequence in non-calculus physics. Topics include wave motion, sound, electricity, magnetism, optics and modern physics. Prerequisite: PHYL111 or permission of the instructor

PHYL121 6-5-2-0
Classical Physics I Core

This course is calculus oriented and intended for engineering and science majors. Topics covered include statics, dynamics, kinematics, fluid behavior, wave motion, vibrating systems, heat and thermodynamics. Corequisite: MATH129

PHYL122 6-5-2-0
Classical Physics II Core

This course is a continuation of Classical Physics I. Topics covered include sound static electricity, electrical circuits magnetism, time-dependent electric and magnetic fields, optics, relativity, Bohr Theory and quantum mechanics. Prerequisite: PHYL121 or instructor's permission. Corequisite: MATH130

PHYL203 2-1-2-0
Physics for Respiratory Therapy General

Basic physics with applications to respiratory therapy. Topics covered include fluid behavior, fluidics, electricity, magnetism, instrumentation, sound and radioactivity. Prerequisite: PHYL106 and concurrent registration in a RESP program

PLSC111 3-3-0-0
American National Government Core

A study of the American political system and how and why the citizenry relate to the government as they do. Emphasis is placed upon the organization and functioning of the presidential, legislative, and judicial subsystems.

PLSC112 3-3-0-0
State & Local Government Core

A study of the organization, operations and politics of state and local governments. Emphasis is placed on an analysis of the legislative, executive and judicial roles and processes.

PLSC121 3-3-0-0
World Politics Core

The international system is examined from several perspectives including those of the United States, the Soviet Union, and China. Emphasis is placed upon ideology, national interest, the use of power, international law and organization.

PLSC122 3-3-0-0
Comparative Political Systems Core

Examination of the government and politics of such countries as Great Britain, France, Germany, and the Soviet Union. Each nation is viewed in terms of its political culture, party system, executive, legislative, and legal organization.

PLSC125 3-3-0-0
Presidential Elections General

Course analyzes the impact of candidate personality, societal issues, media, political party and voter attitudes on presidential choice. Offered every four years as appropriate.

PLSC126 3-3-0-0
Introduction to Public Administration Core

Study of the theory and practice of public administration examining alternate organizational theories and practices, personnel administration, problems of communications within organizations, and styles of leader-

ship. The course will emphasize the interrelationships of professional and political influences on decision making.

PLSC142 3-3-0-0
Congress: We The People General

A telecourse that presents an inside view of the United States Congress and the complex range of individuals, interactions, organizations, and processes it embodies. Topics will include congressional elections, committees, leadership, lobbying, constituency relationships, law making, and budgeting.

PRTG400 2-2-0-0
Photo-Offset Fundamentals I Voc/Tech

Introduces the beginning student to the basic skills of offset lithography reproduction with emphasis on shop safety, line photography and offset press operations.

PRTG401 3-1-4-0
Pre-Press I Voc/Tech

This lab course introduces the beginning student to the basic skills of Pre-Press offset lithography. The emphasis is on paste-up, camera, stripping and platemaking.

PRTG402 2-0-4-0
Copy Center Operation Voc/Tech

A lab course designed to give the students practical experience in copy center operations. Included is instruction in taking a printing job from its original form and proceed through all the steps necessary to completion.

PRTG403 4-1-6-0
Press I Voc/Tech

This lab course introduces the beginning student to the basic skills of press offset lithography. The emphasis is on small offset press operations.

PRTG404 2-2-0-0
Photo-Offset Fundamentals II Voc/Tech

Introduces the student to job planning, type styles, halftone photography, bindery work, and bases flexography. Prerequisite: PRTG400

PRTG405 3-1-4-0
Pre-Press II Voc/Tech

This course introduces the student to the basic skills of halftone photography, signature paste-up and upgrading of camera, stripping and platemaking skills. Prerequisite: PRTG401

PRTG406 2-1-2-0
Photocomposition Voc/Tech

This is a lab course that introduces the beginning student to the basic skills of photocomposition. Prerequisite: OFFC301

PRTG407 5-1-8-0
Press II Voc/Tech

This course stresses the fundamentals and safety of small offset press work. Prerequisite: PRTG403

PRTG408 2-2-0-0
Photo-Offset Fundamentals III Voc/Tech

Introduces the student to color reproduction, printing inks, offset press troubleshooting and legal restrictions on copying. Prerequisite: PRTG404

PRTG409 3-1-4-0
Pre-Press III Voc/Tech

This course introduces the student to four color process, paste-up, stripping and platemaking. Production procedures will also be stressed.

PRTG410 6-1-10-0
Press III Voc/Tech

This course stresses offset production and running four color process press work. Prerequisite: PRTG407

PRTG450 9-0-0-9
Career Experience Voc/Tech

Supervised hands-on printing work experience with

employers that enables students to apply their skills. Development and supervision of a training plan will be made by a printing teacher-coordinator.

PRTG460 10-2-16-0
Printing I Voc/Tech

Introduce the student to the major printing processes and history of printing.

PRTG461 2-2-0-0
Layout, Design & Paste Up Voc/Tech

Balance, symmetry, and proportions, and harmony are studied as they apply to both layout and paste-up. The use of the tools and supplies needed is also included.

PSCH101 3-3-0-0
General Psychology Core

A survey of psychology including theoretical and experimental findings and applications from areas such as physiological, learning, memory, personality, social, abnormal, and therapy.

PSCH102 3-3-0-0
Psychology of Thinking Core

This course is designed to increase the students' understanding of thinking as a process and to strengthen their thinking skills with emphasis on such topics as elements of thinking and cognitive style, problem solving, creativity, memory, concentration and visual, verbal, numerical and analytical thinking.

PSCH103 3-3-0-0
Developmental Psychology Core

The study of factors that affect human development from conception to death, with emphasis on topics such as physical, cognitive, and social changes, methods of study and current issues. Prior completion of General Psychology is recommended.

PSCH104 3-3-0-0
Abnormal Psychology Core

An introduction to the study of abnormal behavior with emphasis on abnormal behaviors such as anxiety, depression, and schizophrenia. Includes dynamics of mental disorder and psychological factors involved in the treatment of disorders. Prior completion of General Psychology is recommended.

PSCH105 3-3-0-0
Personality and Social Psychology Core

Introduction to theoretical approaches in personality, including psychoanalytic, dispositional, humanistic, and behavioral strategies. Selected topics in social psychology. Applications to personality assessment and counseling. Prior completion of General Psychology is recommended.

PSCH106 3-3-0-0
Psychology of Human Rel & Adjustment General

Emphasizes an awareness of the problems inherent in human-to-human relationships, and the known laws and generalizations about the action patterns of individuals and groups. Effort is made to develop an awareness of the techniques of effective interpersonal relations.

PSCH107 3-3-0-0
Principles of Behavior Modification General

The principles of learning theory with a major emphasis on operant conditioning will be studied. Emphasis will be on the practical application of these principles to the areas of mental health, counseling and teaching. Prior completion of General Psychology is recommended.

PSCH108 3-3-0-0
Human Sexuality & Sex Roles Core

This course is an attempt to provide students with more definitive and precise information about the nature of human sexuality and sex roles. An interdisciplinary approach will be used to present a more comprehensive view, stressing the biological, social, and psychological

DESCRIPTION OF COURSES

aspects of sexuality and sex roles.

PSCH109 3-3-0-0
Educational Psychology General

The principles of psychology applied to classroom teaching with emphasis on such topics as development, learning, motivation, evaluation, adjustment, and educational techniques and innovations.

PSCH120 3-3-0-0
Understanding Human Behavior General

An introductory level television course encouraging an understanding and appreciation of the scientific approach to the study of human behavior. Dramatizations and other techniques clarify fundamental concepts and philosophies, highlighting the contributions of major figures in psychology.

PSCH121 3-3-0-0
The Growing Years General

How and why children develop is the subject of this television course. Experts are interviewed on such topics as language, socialization, play, reading, problem solving, genetics/heredity, and environment. The focus is on the child's physical, mental, social and emotional development.

PSCH122 2-2-0-0
Brain, Mind and Behavior General

A telecourse designed to give beginning students a comprehensive understanding of the human brain, its functions, its common pathologies and its many mysteries. Topics will include vision, movement, sleep, stress and anxiety, addiction, language, aging and memory, sex differences, and mental disease.

RCEL401 1-1-0-0
Basic Electricity and Magnetism Open

This course will provide instruction in the basics of electricity and magnetism. It is designed as a foundation course for the student who wishes to become familiar with the electrical systems. Course can be taken for exploratory or enrichment experience also. (1 week session)

RCMA400 3-3-0-0
Related Math Voc/Tech

This course in arithmetic consisting of operations with whole numbers, fractions, decimals, percents and integers is designed to strengthen skills used by workers and technicians. It includes computations involving proportion, measurement units, and basic algebra.

RECR141 3-3-0-0
Recreation Leadership Open

The course is designed to provide the student with a knowledge of human dynamics, leadership abilities, and the identification of types of groups. Leadership applications in this course deal with the obtaining of a practical knowledge of group situations and the principles necessary for effective leadership.

RECR142 1-0-0-4
Supervised Field Experience I Open

This course is designed to acquaint the student with the variety of recreation services available in the recreation field. The student will be required to observe and evaluate ongoing recreation programs in public agencies, private agencies, commercial agencies, voluntary agencies and health facilities. Prerequisite: Consent of program chairperson

RECR143 2-2-0-0
Instruction in Crafts Open

The creation of functional and decorative objects. Materials used are wood, metal, plastics, leather, and fabrics. Emphasis is placed on the teaching of contemporary crafts and the ordering of supplies and equipment.

RECR144 3-3-0-0
Program Planning & Organization Open

The underlying principles for effective recreation programming. An overview of the variety of program areas associated with recreation, with attention given to recreation interests and the needs of participants. Emphasis will be on understanding the steps in programming to include: formation of leagues/tournaments, research tools, evaluations and marketing.

RECR146 3-3-0-0
Introduction to Therapeutic Recreation Open

Basic concepts of the role of recreation in rehabilitation. Emphasis will be placed on a review of the recipients of therapeutic recreation services, the settings in which it takes place and developing recreation programs for special groups.

RECR147 13-0-0-40
Supervised Field Experience II Open

A program designed to provide experience in working with and directing specific programs in a recreation setting. The student is expected to work in a chosen agency under the direct supervision of a recreation professional for 600 clock hours. Prerequisite: Consent of program chairperson

RECR148 2-0-4-0
Outdoor Recreation Application Open

This course is designed to provide the students an opportunity to apply their skills in angling, cooking, canoeing, camping, and background in a natural outdoor setting. Emphasis is placed on planning, programming, and conducting outdoor recreation activities.

RECR150 3-3-0-0
Bioenergies Open

This is an exercise class aimed at improving understanding and achievement in the four aspects of physical fitness: strength, endurance, flexibility, and stress control. A variety of exercise methods are employed, emphasizing individual accomplishment in a non-competitive group setting.

RECR151 2-2-0-0
Introduction to Recreation Open

Designed to introduce the student to the historical and philosophical foundations of leisure and recreation. The student will be offered an opportunity to develop concepts concerning recreation, the meaning of leisure and recreation, social institutions providing recreation services and the types of areas and facilities used in recreation.

RECR152 3-3-0-0
Recreation and Special Populations Open

This course is designed to explore the total scope of a barrier-free environment. Current trends and issues shaping society and the potential impact on existing and future recreation services will be explained.

REHA170 2-2-0-0
Dealing w/Soc Prob in the Classrm Voc/Tech

A television course examining the impact of a variety of current social problems on the learning process and suggesting methods for lessening their effects. Problems discussed include illiteracy, violence, the power of television, and runaways.

REHA171 2-2-0-0
Teaching Students w/Special Needs Voc/Tech

A television course to assist educators in identifying and assessing learning problems of secondary-level students. A variety of instructional techniques and strategies is presented.

RESP301 6-5-2-0
Fundamentals of Respiratory Therapy Open

This course will introduce the profession of respiratory therapy. Lectures on history and organization of the field. Indications techniques and results of gas therapy,

positive pressure breathing, humidity and aerosol therapy, and incentive breathing therapies are learned. Overview of medicine and specialties is presented. Prerequisite: MATH092 or 1 yr. H.S. algebra with grade "C" or better, BIOL130 or 1 yr. H.S. Biology with "C" grade or better

RESP305 4-3-2-0
Principles of Respiratory Therapy Open

Indications, techniques and results of postural drainage and percussion therapy are learned. Development of clinical assessment skills will be emphasized. Artificial airway insertion and care. Understanding of objective indications and evaluation of therapies is stressed. Principles of home care and rehabilitation are taught. Prerequisite: RESP301

RESP310 5-5-0-0
Cardiopulmonary Renal Pathophysiology Open

An indepth 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 data will be taught. Prerequisite: RESP301; Corequisite: BIOL131

RESP315 3-3-0-0
Respiratory 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 or Corequisite: CHEM132

RESP320 5-4-2-0
Advanced Respiratory Therapy Open

Overview of analysis of arterial blood gas samples and basic electrocardiography will be presented. Use of adjuncts in the treatment of cardiorespiratory arrest will be taught. Principles of mechanical ventilation along with techniques of PEEP, CPAP, SIMV and initiation and maintenance of ventilation taught. Prerequisite: RESP310, PHYL203

RESP325 3-3-0-0
Neonatal & Pediatric Resp Therapy Open

Embryonic development of the respiratory and cardiovascular systems will begin this course which progresses to the teaching of normal function and a consideration of the common neonatal and pediatric diseases. Therapeutic techniques and monitoring of the patients will be taught. Prerequisite: RESP310, BIOL131

RESP330 3-3-0-0
Cardiopulmonary Diagnostics Open

Principles and techniques of testing of cardiovascular and pulmonary function will be taught with an emphasis on the evaluation of interpretation of the results of the tests. Integration of test results with clinical picture with emphasis on therapeutics, and principles of polysomnography will be taught. Prerequisite: RESP310, BIOL131, PHYL203

RESP335 3-3-0-0
Respiratory Therapy Mgmt & Ethics Open

Begins with study of the organization and management of a respiratory therapy department. Consideration of issues of jurisprudence and medicolegal aspects of health care. Tactful interactions and ethical practices will be emphasized. Will also serve to review much of what has been assimilated in the program. Prerequisite: RESP370

RESP360 4-0-0-12
Respiratory Therapy Practicum I Open

This is the initial hospital experience. Consists of supervised care of patients with respiratory disorders.

DESCRIPTION OF COURSES

Students will administer IPPB, aerosol, postural drainage and incentive breathing therapies. Other therapeutic modalities which have been learned will be utilized as well. Prerequisite: RESP305 with "C" or better, and BIOL131

RESP370 6-0-0-18
Respiratory Therapy Practicum II Open

The second hospital experience for students in supervised clinical care. Techniques from RESP360 will continue to be emphasized along with arterial puncture and analysis of blood samples. ECG and other basic cardiac diagnostic tests will be observed. Prerequisite: RESP360

RESP380 9-0-0-27
Respiratory Therapy Practicum III 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 two clinicals. Observation and performance of pulmonary function testing will be introduced. Prerequisite: RESP370

RESP390 6-0-0-18
Respiratory Therapy Practicum IV 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: RESP380

RETM324 3-0-5-0
Product Technology Open

Examines and identifies the basic technology relating to the hard and soft line merchandise in a typical retail store.

SERC334 1-1-0-0
Emergency Medical Dispatch Voc/Tech

Techniques for treatment of bleeding, shock, fractures, wounds, burns, exposure, poisoning, epilepsy and environmental injuries. Cardiopulmonary resuscitation according to Iowa Heart guidelines. Meets OSHA requirements.

SERC335 2-2-0-0
Basic Communications Operator Skills Voc/Tech

An overview of public safety communications open to communication operators as well as those not employed in law enforcement. Specific topics include an introduction to radio systems and the dispatch process, civil and criminal law, liability and job stress, human resources and emergency services, and an explanation of the Iowa On-Line Warrants and Articles (IOWA) system.

SERC336 1-1-0-0
Int Communications Operator Skills Voc/Tech

Specific course for state, county and municipal law enforcement employees, covering technical and procedural aspects of the IOWA System. Designed as an enhancement to the Basic Communications Operator Skills course. Includes practical discussions of the IOWA System and the operator's role in officer survival. Prerequisite: SECR335

SERC337 1-3-0-0
Communication Operator Internship Voc/Tech

Forty-five hours of internship to be completed at area communication center. Arranged by college coordinator. Prerequisite: SECR335, 336

SERC338 1-1-0-0
Training Skills Voc/Tech

Topics include the theories of learning, giving and receiving feedback, and techniques for effective on-the-job training in the communications center. Practical training experience provided.

SERC339 1-1-0-0
Government & Community Resources Voc/Tech

An overview of state and local government and their interaction. Discussion of relative federal regulatory and law enforcement agencies.

SERC340 1-1-0-0
Adv Communications Operator Skills Voc/Tech

An indepth view of public safety communications with emphasis on special techniques, advanced concepts and special features of the IOWA System including off-line search, system formats and files, and current events. Prerequisite: SERC335, 336

SERC341 1-1-0-0
Interpersonal Communications Voc/Tech

Emphasis on awareness of the problems inherent in human relationships and techniques of effective interpersonal communications. Concentration on understanding communication barriers, importance of feedback, improvement of everyday communications, listening skills and understanding small group processes. Special emphasis on conflict resolution.

SEVC351 2-2-0-0
Volunteers in Action Voc/Tech

Information and skills needed for development and organization of effective volunteer program. Basic elements of a volunteer program including planning, needs assessment, record keeping, interviewing, placement, retention, publicity and promotion, position description, recruitment, recognition and evaluation. A practical "nuts and bolts" course.

SEVC352 2-2-0-0
Volunteer Coordination Voc/Tech

Development and application of specific skills. Topics include motivation, time management, conflict resolution, stress and burnout, communication, delegation, leadership, creativity and networking.

SEVC353 1-1-0-0
Effective Mgmt of Volunteer Programs Voc/Tech

Specifics on overview of volunteer program operation. Topics include trends, administrative volunteers, credibility and image of volunteers, volunteer programs and volunteer directors, liability, organizational climate and structure, and certification.

SEVC354 1-0-0-3
Volunteer Services Practicum Voc/Tech

A "hands on" course to provide practical and developmental experience in the management of volunteer programs with special emphasis on development of skills and understandings.

SEVC355 1-0-0-3
Volunteer Independent Study Voc/Tech

This course provides the student with an opportunity to integrate and assimilate course material into actual program planning. Each student will select a special topic for study and implementation in the field of volunteer administration.

SEVC356 2-2-0-0
Intro to Money Mgmt Counseling Voc/Tech

Introduction to common types of financial problems and possible solutions. Learn how to develop and implement financial plans. Explore possibilities and limitations for counselors and clients.

SEVC357 2-2-0-0
Dev Skills in Money Mgmt Couns Voc/Tech

Application of counseling and consumer skills to multi-problem situations. Emphasis on skill development in working with clients. Exploration of resources available, legal environment, and consumer problems.

SEVC358 2-2-0-0
Current Money Management Topics Voc/Tech

Exploration of economic scene and implications for money management, financial and socioeconomic factors including income transfer program, insurance, and credit.

SEVC359 2-2-0-0
Crisis Intervention/Counseling Tech Voc/Tech

Techniques for dealing with changes within the family such as illness, aging, and depression; changes within the family structure such as children, divorce, and death. Emphasis on strategies and resources.

SEVC360 4-4-0-0
Homemaker Aide Voc/Tech

Course provides knowledge and skill development in human relations, ethics and confidentiality, home management, food and nutrition, and methods for working with children and adults.

SEVC361 3-2-1-0
Home Health Aide Voc/Tech

Course includes 30 hours of classroom discussion and 30 hours of clinical experience. Specific topics include personal care of persons in bed, medications, rehabilitation, treatment and emergency care.

SEVC397 2-2-0-0
Educational Interpreting Voc/Tech

Expand skills in interpretive classifiers and locatives.

SOCY101 3-3-0-0
Introduction to Sociology Core

A scientific approach to the analysis of culture, socialization, social organization, the development of society, study of social processes, human groups, social institutions, and the effects of group relations on human behavior.

SOCY102 3-3-0-0
Social Issues Core

This course is an analysis of the nature, dimensions, causes, and characteristics of selected social problems of major interest. Consideration is given to theories research and programs for prevention and treatment.

SOCY103 3-3-0-0
Courtship, Marriage, & Family Core

This course analyzes the sociological, physical, psychological, legal and economic aspects of the American family. Included are investigations of courtship and marriage relationships, preparation for marriage, family, parenthood, interpersonal relationships, and marital adjustment.

SOCY104 3-3-0-0
Social Psychology of Small Groups General

The study of the social self, body language, interactive patterns, group dynamics, membership and leadership using social psychological and sociological theory. Prerequisite: SOCY101 or PSCH101

SOCY105 3-3-0-0
Race, Ethnic & Gender Relations Core

Study of the relationship between cultural, sexual and racial categories. Focus on stereotypes, prejudices, discrimination and exploitation. Social-psychological, sociological and economic theories employed. Major emphasis upon United States. Prerequisite: SOCY101 or consent of instructor

SOCY106 3-3-0-0
Juvenile Delinquency General

An investigation of juvenile delinquency in American society, sociological theories and research of delinquency, impact of groups, juvenile justice system, and prevention programs. Prerequisite: SOCY101 or consent of instructor

SOCY107 3-3-0-0
Criminology General

The nature and extent of crime and criminality, society's efforts to repress crime, theories of causation, emphasis on social processes, systems, and philosophy of methods of correction. Prerequisite: SOCY101 or consent of instructor

DESCRIPTION OF COURSES

SOCY109 3-3-0-0
Aging in American Society General

An interdisciplinary approach to aging in American Society. Course focuses on sociological, psychological, cultural, biological, and economic aspects associated with aging, needs and social programs for older Americans.

SOCY110 3-3-0-0
Group Dynamics General

This course is a study of human behavior within groups and organizations such as families, social groups and work places. It is the study of the interpersonal dynamics of everyday life.

SOCY201 3-3-0-0
Introduction to Social Gerontology General

The biological, psychological and societal aspects of aging will be covered and discussed as they relate to those in the delivery of services to the aging. Each student will be allowed an opportunity to explore his own attitudes toward the aging in a youth-oriented society.

SOCY202 1-1-0-0
Prac Application of Social Gerontology General

After completing the theory course, the student will use the information available from federal, state and local agencies to prepare a grant application for funding a project to serve a specific community need. Prerequisite: SOCY201

SOCY302 3-3-0-0
Industrial Relations General

This course explores the relationships that exist in a work environment. Special emphasis is placed on relationships with supervisors, co-worker and trade associations.

SPCH110 3-3-0-0
Fundamentals of Speech Core

A course designed to familiarize the student, through theory and practice, with communication processes such as selection of topic, audience analysis, dealing with stage fright, determination of purpose, good listening, selection and organization of supports, problem solving, and good delivery.

SPCH112 3-3-0-0
Public Speaking General

Analysis and forms of public address, with criticism of published speeches, and emphasis on critical thinking. In-depth study of audience adaptation, speaker style, listener needs, interests and attitudes. Application of theory learned through practice in preparing and delivering impromptu, occasional and ceremonial speeches. Prerequisite: SPCH110

SPCH114 3-3-0-0
Persuasive Speaking General

In-depth study of theory, psychology, and practice of persuasive speech techniques. Audience adaptation, impromptu speaking, and logical thinking will be emphasized in addition to mastery of persuasive delivery techniques. Prerequisite: SPCH110

SPCH117 3-3-0-0
Interpersonal Spch/Sm Group Comm. General

Interpersonal and group communication, with concentration on understanding communication barriers, the importance of feedback, improving everyday communication, good listening, understanding group function and process. Students will practice various communication styles, learn to deal with conflict, and enhance leadership and participation.

STOR454 1-0-2-0
Human Relations in Oper Rm Voc/Tech

Interpersonal relationships between the surgical technologist, patient, operating room staff, surgeon, family and other hospital workers are studied. A review of verbal and nonverbal communication and stress

management is covered. Prerequisite: HLRC317, EMRC301, H.S. diploma, GED, or equivalent

STOR458 4-2-4-0
O.R. Techniques Voc/Tech

This course involves surgical attire, unwrapping of sterile supplies and application of aseptic technique to circulating duties. Practice in the lab allows for development of circulating skills. Predetermined standards of time, safety and aseptic technique must be attained by the student. Prerequisite: HLRC317, EMRC301, H.S. diploma, GED, or equivalent

STOR459 5-2-6-0
Fundamentals of O.R. I Voc/Tech

This course includes orientation to the operating room suite and subsequent equipment. Preparation, processing and handling of supplies are presented; then students must demonstrate these at a predetermined competency level. Prerequisite: HLRC317, EMRC301, H.S. diploma, GED, or equivalent

STOR462 7-0-0-21
Operating Room Practicum I Voc/Tech

During this clinical phase, students perfect previously learned skills by assisting the circulating registered nurse. As the term progresses, scrub experience with development of basic patterns and routines in setup and handling of instruments is initiated. Prerequisite: STOR454, 458, 459, BIOL130, 132, EMRC301, all with a "C" or better

STOR463 1-1-0-0
Surgical Pharmacology Voc/Tech

Basic knowledge of the types of anesthetics, appropriate methods of administration, and patient care. Potential hazards pertaining to anesthetic agents in the operating room are covered. Includes medications and appropriate handling on the operative field. Prerequisite: STOR458, 459

STOR464 5-4-2-0
Fundamentals of O.R. II Voc/Tech

Involves the practices which decrease or eliminate micro organisms from the surgical environment of the patient. Responsibilities of the Surgical Technician in the operating room are studied. Laboratory practice enhances the lecture knowledge. Prerequisite: STOR459

STOR465 5-5-0-0
Surgical Procedures & Instruments I Voc/Tech

The role of the surgical technologist relating to surgical procedures is discussed. Special equipment, instruments and supplies required for the various procedures are investigated, as well as a review of regional anatomy. Prerequisite: STOR458, 459

STOR470 2-2-0-0
Surgical Technology Seminar Voc/Tech

Involves discussions of the adjustment from the student to employee role. Motivation, productivity and attitudes of individuals in the operating room are stressed. Assistance is provided in preparing for the national AST qualifying certification examination. Prerequisite: STOR454, 458, 459, 462, 463, 464, 465, 471, 472, all with a "C" or better.

STOR471 3-3-0-0
Surgical Procedures II Voc/Tech

A continuation of STOR465. Additional surgical procedures and the technician's role are included. Regional anatomy along with special equipment, instruments and supplies required for the various procedures are investigated. Prerequisite: STOR465

STOR472 7-0-0-21
Operating Room Practicum II Voc/Tech

A continuation of second term program. Opportunity is provided for perfecting scrub techniques and application of these techniques in more complex learning situa-

tions. Improvement of accuracy and speed is expected. Prerequisite: STOR454, 458, 459, 462, 463, 464, 465, BIOL130, 132, EMRC301, all with "C" or better

TELE311 3-3-0-0
Basic Electricity/Electronics I (DC) Voc/Tech

For beginners to solve basic electronic problems involving voltage, resistance & power. Explain relationships between electricity and magnetism, construct simple DC circuits, draw a schematic, use a multimeter, operation of resistors, meters, switches, relays, capacitors, inductors and batteries.

TELE312 2-2-0-0
Basic Electricity/Electronics II (AC) Voc/Tech

For those who have an understanding of VOLTS, OHMS, AMPS, & 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 home study course.

TELE313 1-1-0-0
Introduction to Telephone Voc/Tech

An overview of the telephone systems. Explains how a call can go from one place to another. Topics covered are station equipment, carrier and repeater line. A prior understanding of electricity/electronics is desired. Recommended for those desiring to enter the college's full-time day program or the telephone industry.

TELE315 3-3-0-0
Carrier Systems Voc/Tech

Transmission principles, carrier systems, high frequency "N" type carrier, and digital transmission. Carrier Terminals Transmission facilities. This course plus ELET357 is equivalent to HTTC352.

TELE316 2-2-0-0
Electronic Circuits Voc/Tech

Basic and operational amplifiers, power supplies, oscillators, pulse circuits, and modulation. Must have prior knowledge in electricity/electronics. Prerequisite: TELE312

TELE318 3-3-0-0
SemiConductor Devices Voc/Tech

N-type, P-type, PN junction, diodes, zener diode, transistors, bipolar characteristics, field effect, thyristors, integrated circuits, and opto electronics. Should have knowledge in AC/DC electronics.

TELE381 1-1-0-0
Seminar Topic I Voc/Tech

For those who attend short term sessions which are directly related to the telephone industry. Registration times and evaluating criteria must be agreed upon before attending the seminar. Typically, the participant grading will be on a pass/fail basis.

TELE382 1-1-0-0
Seminar Topic II Voc/Tech

See TELE381

TELE383 1-1-0-0
Seminar Topic III Voc/Tech

See TELE381

TELE419 3-2-2-0
DC Fundamentals for Telephony Voc/Tech

An introductory course in electricity covering electron theory, basic circuit parameters, Ohm's Law, series and parallel resistance networks, magnetic circuits and electrical measurements.

TELE429 4-4-0-0
Telephony II Voc/Tech

Covers key system principles and practices (1A2 and Electronic) and Digital PBX principles and practice for Rolm VSCBX Digital PBX. Prerequisite: TELE481

TELE439 2-2-0-0
Math for Telephony I Voc/Tech

DESCRIPTION OF COURSES

Mathematics related to Ohm's Law, power and other basic electronic principles used in telephony/electronics. Prerequisite: One year high school algebra

TELE440 3-3-0-0
Math for Telephony II Voc/Tech

A continuation of Mathematics I with emphasis on principles of trigonometry necessary for understanding of resonance, filters and other AC applications. Prerequisite: TELE439

TELE451 4-3-2-0
Basic Digital Logic Electronics Voc/Tech

Operation of digital logic circuits, gates, boolean algebra, flip-flop and registers. Also logic circuitry and digital design. Prerequisite: TELE452

TELE452 4-3-2-0
AC & DC Applications Voc/Tech

An introductory course into alternating current covering sign wave parameters, reactance, impedance, vector algebra, impedance networks, resonance, and transformer action. Prerequisite: TELE419

TELE453 4-4-0-0
Telephony III Voc/Tech

Covers Digital switching principles and practices for Northern telecom DMS-10 digital multiplex switching system. Prerequisite: TELE429

TELE454 7-0-14-0
Telephony Experience II Voc/Tech

This experience develops knowledge and skills in dial central office operations and maintenance. Also develops skill and knowledge of key system installation, maintenance and repair. Prerequisite: TELE483

TELE455 7-0-14-0
Telephony Experience III Voc/Tech

This experience helps develop knowledge and skills in private telephone branch exchange operation, maintenance and repair. Also helps develop skill in digital switching operations, maintenance and repair. Prerequisite: TELE454

TELE481 2-2-0-0
Telephony I Voc/Tech

A course covering the constructing of aerial and underground plant. Splicing procedures, color coding, conductor identification and splicing. Soldering and other skills.

TELE483 5-0-10-0
Telephony Experience I Voc/Tech

Proper use of hand tools and experience on telephony. Outside plant operation including aerial and buried cable splicing, construction, and troubleshooting station apparatus, house wiring, and phone installation.

TOOL401 2-2-0-0
Introduction to CNC Vertical Mill Voc/Tech

To introduce the toolmaker and/or machinist to computer numerical control machining.

TOOL480 3-1-4-0
Blueprint Reading I Voc/Tech

A beginning and intermediate blueprint reading course covering basic visualization of shapes and sizes, and freehand sketching of objects. Includes section lining, print alterations and projections.

TOOL481 3-2-3-0
Blueprint Reading II Voc/Tech

An advanced blueprint reading course involving study of industrial metal work drawings as they apply to planning and laying out of jigs and fixtures. Prerequisite: TOOL480

TOOL482 3-2-3-0
Machine Shop Measurements I Voc/Tech

A study of measurements as used in industry. Units of instruction include tools, gauges, comparators, gauge blocks, and inspection practices.

TOOL483 3-2-3-0
Machine Shop Measurements II Voc/Tech

Analyzing and calculating sides and angles of triangles, as applied to metalworking trades. Units of instruction dealing with properties, measurements, and relationships of points, lines, planes, and solids. Prerequisite: TOOL482

TOOL484 3-2-3-0
Machine Tool Operations I Voc/Tech

Machine shop procedures beginning with hand tools and benchwork. Lecture on safety, layout, and tool grinding operations on saws, drill press, grinders and lathes.

TOOL485 4-3-2-0
Machine Tool Operations II Voc/Tech

Theoretical procedures of the tool & cutter grinder and the vertical & horizontal milling machines. Prerequisite: TOOL484

TOOL486 5-0-10-0
Machine Tool Operations Lab I Voc/Tech

Machine shop procedures beginning with hand tool and benchwork. Lab activities in safety, layout, and tool grinding operations on saws, drill press, grinders and lathes.

TOOL487 7-0-15-0
Machine Tool Operations Lab II Voc/Tech

Practical experience with the following machine shop equipment: tool & cutter grinder, vertical and horizontal milling machines. Prerequisite: TOOL486

TOOL489 3-1-4-0
Heat Treatment of Materials Voc/Tech

An introduction to the physical and mechanical characteristics of metals that are directly associated with the area of heat treatment. Includes structure and composition of metals, testing, hardening, tempering, and annealing. Prerequisite: TOOL486

TOOL490 7-0-15-0
Machine Tool Operations Lab III Voc/Tech

Advanced practical experience with grinders, electrical discharge, and CNC mill. Prerequisite: TOOL487

TOOL491 4-4-1-0
Machine Tool Operations III Voc/Tech

Advanced theoretical explanation of procedures in grinding, electrical discharge, CNC milling, and exposure to heat treatment of steels. Prerequisite: TOOL485

UPHL421 10-3-15-0
Upholstery I Voc/Tech

Instruction on the correct operation of the sewing machine; laying out, cutting, and fitting fabric; and skills in sewing machine operation. Exercises and basic projects will be used to develop skills.

UPHL422 10-3-15-0
Upholstery II Voc/Tech

The student will apply the skills developed and knowledge learned by upholstering small furniture objects. Safety, design, and correct procedures will be emphasized. Prerequisite: UPHL421

UPHL423 10-3-15-0
Upholstery III Voc/Tech

Advanced upholstery work develops student skills with fabric, tools, and procedures on large pieces of furniture. Unique and difficult upholstery projects will be completed. Prerequisite: UPHL422

UPHL432 4-3-2-0
Technical Problems Voc/Tech

Instruction will be provided in project estimating, materials and equipment purchasing, small business operation, and solving typical upholstery problems. Prerequisite: UPHL421, 422, RCMA400

UPHL433 2-1-2-0
Record Keeping & Filing Voc/Tech

Skills and knowledge will be demonstrated in basic practices of record keeping and filing as applied to a small business.

WATE302 2-2-0-0
Introduction to Water Treatment Voc/Tech

A familiarization of the water systems. Introduces fundamentals in wells, chlorination, iron and manganese removal, and softening. This course is a must for those who are new to water treatment supply.

WATE312 1-1-0-0
Basic Math for Operators Voc/Tech

For those who say "math doesn't come easy." This very practical course allows the operator to learn math and to solve problems that are real to water/wastewater.

WATE313 1-1-0-0
Math Formulas for Operators Voc/Tech

Higher math using formulas needed for solving problems. Student should have taken basic math or have a math aptitude test before enrolling in class.

WATE317 1-1-0-0
Basic Water Chemistry Voc/Tech

A course that talks your language and is not over your head. You will learn about chemistry in a practical way.

WATE318 1-1-0-0
Chemistry & Water Processes Voc/Tech

Learn the why's of the everyday tasks one performs in a water treatment plant. Prerequisite: WATE317

WATE322 1-1-0-0
Lab Equipment Voc/Tech

An introductory course for operators. Acquaint yourself with different types of equipment. Learn methods of reading test results, labeling chemicals, collecting samples, making solutions, dilutions, and using incubators and balances.

WATE323 1-1-0-0
Lab Techniques Voc/Tech

Learn how to use and maintain water/wastewater laboratory equipment. Get involved in making lab analyses. Prerequisite: WATE322

WATE331 2-2-0-0
Pumps & Piping Voc/Tech

Identification of various types of pumps and components used in water and wastewater systems. Understand how a pump works and how to perform routine maintenance, also study valving and piping systems.

WATE364 1-1-0-0
Seminar Topics II Voc/Tech

See WATE366

WATE365 1-1-0-0
Seminar Topics III Voc/Tech

See WATE366

WATE366 1-1-0-0
Seminar Topics I Voc/Tech

For those who attend short-term sessions which are directly related to water treatment and desire college credit. Registration times and evaluation criteria must be agreed upon prior to seminar attendance.

WELD470 5-5-0-0
Welding Fundamentals & Theory Voc/Tech

An introductory course stressing the theory and application of oxygen-acetylene and shielded metallic arc welding. Welding equipment and tool handling safety are also included.

WELD472 7-0-15-0
Shielded Metallic Arc Welding I Voc/Tech

Skills will be developed in welding flatplate, butt and fillet joints in the flat and horizontal positions.

DESCRIPTION OF COURSES

WELD473 2-0-5-0
Oxygen-Acetylene Welding & Cutting Voc/Tech
 Skills will be developed in oxy-acetylene welding, cutting and repair. Safety is emphasized.

WELD476 2-1-2-0
Diesel Welding Voc/Tech

Skills will be developed in oxy-acetylene fusion welding, braze welding, shielded metallic arc welding (stick), as well as flame cutting and heating for bending. Safety is emphasized and basic welding theory will be discussed.

WELD477 3-1-4-0
Ag Tech Welding Voc/Tech

Skills will be developed in oxy-acetylene braze welding, shielded metallic arc welding (stick), and oxy-acetylene flame cutting. Safety is emphasized and basic welding theory will be discussed.

WELD480 5-5-0-0
Applied Theory & Metallurgy Voc/Tech

Practices and principles in gas tungsten arc and gas metallic arc welding processes will be taught. Basic metallurgy as it relates to welding will be covered. Prerequisite: WELD470

WELD481 3-3-0-0
Blueprint Reading Voc/Tech

The basic skills needed to read shop drawings (including welding symbols) will be learned. Prerequisite: RCMA400

WELD482 7-0-15-0
Shielded Metallic Arc Welding II Voc/Tech

Skills will be developed in welding fillet and groove joints in the vertical and overhead positions. Reworking weldments will also be practiced. Prerequisite: WELD472

WELD483 2-0-5-0
Gas Metallic Arc Welding Voc/Tech

Practical application in the use of the gas metallic arc welding process (including submerged arc and flux cored arc).

WELD492 2-0-5-0
Shielded Metallic Arc Welding III Voc/Tech

An advanced course in arc welding which includes AWS pre-qualified structural joint testing. Prerequisite: WELD472, 482

WELD493 2-0-5-0
Gas Tungsten Arc Welding Voc/Tech

A course to develop skills in the gas tungsten arc welding process using mild steel, stainless steel, and aluminum.

WELD494 3-0-7-0
Shielded Metallic Arc Welding-Pipe Voc/Tech

Welding practice and testing on schedule 40 and 80 pipe in the 2G, 5G, and 6G positions. Prerequisite: WELD472, 482

WWAR302 2-2-0-0
Intro to Wastewater Treatment Voc/Tech

An overview of wastewater treatment operations. Includes purposes, processes, wastewater collection, manholes and first aid. For those wanting a general but thorough knowledge of wastewater.

WWAR303 2-2-0-0
Lagoons Voc/Tech

Design characteristics, treatment, stabilization pond, problems and solutions, chemical additions, maintenance procedures, safety.

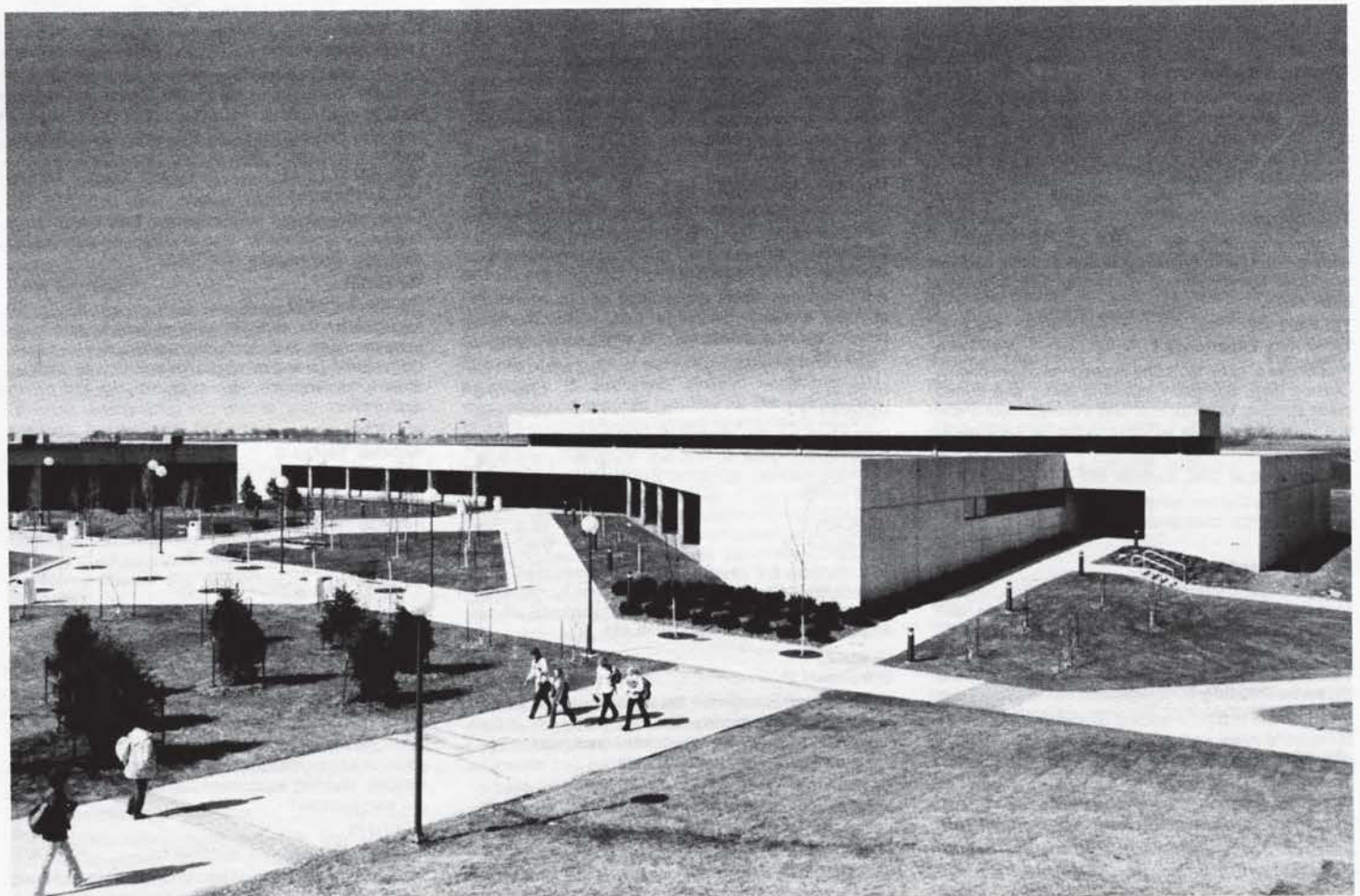
WWAR374 1-1-0-0
Seminar Topics I Voc/Tech

For those who attend short-term sessions which are directly related to wastewater treatment and desire college credit. Registration times and evaluation criteria must be agreed upon prior to seminar attendance.

WWAR375 1-1-0-0
Seminar Topics II Voc/Tech

See WWAR374

WWAR376 1-1-0-0
Seminar Topics III Voc/Tech



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- ABELS, JEAN (1981)**, Data Processing. B.A., University of Iowa.
- ABRAM, MARDELLE (1974)**, Counselor. B.A., University of Iowa; M.S.E., Drake University; Ed.S., Drake University.
- ADAMS, JOAN (1973)**, Nursing. R.N., Philadelphia College of Osteopathy Nursing School; Elizabethtown College; B.S., College of St. Francis; M.A., Goddard College.
- ADHAV, JAGDEESH (1979)**, English. B.A., University of Poona; M.A., Drake University.
- ALBERTS, MARK (1983)**, Math. B.S., Northwest Missouri State; M.S., Western Illinois University.
- ALBERTSON, MARCIA (1974)**, Lab Assistant, Office Occupations. G.A., B.A., University of Northern Iowa.
- ALBRECHT, L. LYNN (1974)**, Manager, Student Records & Services. B.S., M.A., University of Iowa.
- ALBRECHT, SUSAN E. (1976)**, Program Chairman, Associate Degree Nursing. B.S.N., M.A., University of Iowa.
- ALEXANDER, C.J. (1978)**, Chemistry. B.Sc., M.Sc., Madras Christian College, South India; M.S., University of Minnesota; Ph.D., University of New Orleans.
- ALLEN, CONNIE (1969)**, Benefits Officer, Human Resources.
- ALLEY, LOUIS W. (1974)**, Program Chairperson, Recreational Leadership. B.S., M.A., University of Iowa.
- AMDAHL, MAYNARD E. (1978)**, Tool & Die. Diploma, Dunwoody Industrial Institute; Certificate U.S. Department of Labor Journeyman Tool & Diemaker.
- ANDERSON, DUANE (1972)**, Horticulture. B.S., Colorado State A and M; M.S., Colorado State University; University of Wyoming; University of Northern Iowa, Iowa State University; Drake University.
- ANDERSON, EVELYN (1972)**, Counselor. B.S., Mount Mercy College; M.S.E., Drake University.
- ANDERSON, LARRY J. (1981)**, Accounting. C.M.A., A.S., Fort Dodge Community College; B.S.B.A., M.B.A., Drake University; University of Northern Iowa; Iowa State University; University of Iowa.
- ANDERSON, M. ROBERT (1967)**, Program Chairperson, Machine Drafting. B.S., Iowa State University; M.A., Colorado State College.
- ANDERSON, ROBERT L. (1974)**, Hospitality Careers. A.O.S., Culinary Institute of America; Mankato Area Vocational-Technical Institute.
- ARBUCKLE, JOHN (1969)**, Electronics. A.A.S., B.S., M.S., Iowa State University.
- AURELIUS, RUTH (1970)**, Speech. B.A., M.A., University of Iowa.
- BAILEY, JOANN (1979)**, Employment Officer, Human Resources. A.A., Kirkwood Community College; Drake University.
- BAUGOUS, CHARLES (1968)**, Director, Community Services. B.S., Upper Iowa University; M.A., University of Iowa; Drake University.
- BECK, THOMAS (1970)**, Social Science, Political Science. B.A., M.A., Wartburg College; University of Northern Iowa.
- BELLIZZI, NICK (1967)**, Dean, District Campus. B.A., M.A., University of Northern Iowa; Spec., Drake University; University of Nebraska.
- BENGTSON, LEONARD (1967)**, Manager, Research, Planning & Reporting. B.S., M.S., Iowa State University; University of Iowa.
- BENNETT, CARROLL (1967)**, Dean, Business/Management. B.S.C., M.A., University of Iowa; Iowa State University; University of Northern Iowa.
- BENNETT, JAMES S. (1980)**, Data Processing. B.S., Northwest Missouri State University; A.A., Des Moines Area Community College; Iowa State University.
- BENNETT, VIRGINIA C. (1984)**, Music. B.M.E., M.M.E., Drake University; University of Iowa.
- BERGE, WILLIAM (1970)**, English. B.A., M.A., University of Iowa.
- BILDNER, DONNA J., CPA (1981)**, Bookkeeping & Accounting. B.S.B.A., Aquinas College; Western Michigan University; Iowa State University.
- BINER, WILLARD (1969)**, Program Chairperson, Automotive. B.E., Colorado State University.
- BOLDT, EUGENE (1969)**, Manager, Human Resources. B.A., University of Iowa; M.B.A., Drake University.
- BOOTH, CONNIE J. (1982)**, Nursing. B.S.N., Creighton University; M.S.N., University of Nebraska Medical Center.
- BORGEN, JOSEPH A. (1981)**, President. B.S., M.S., Stout State University; Ph.D., University of Illinois.
- BOWDRE, LEONARD E. (1984)**, Instructor, Electronic Maintenance. Certified by International Society of Certified Electronic Technicians (ISCET); U.S. Army Signal Corps; Iowa State University.
- BRANDMEYER, VIVIAN (1974)**, Office Occupations. B.A., University of Northern Iowa.
- BROWN, GEORGIA K. (1970)**, Learning Center. B.A., Simpson; Drake University.
- BROWN, JOANNE H. (1978)**, Dean, Public and Human Services. B.S., Northwestern University; M.A.-D.A., Drake University; University of Iowa.
- BROWN, JOYCE (1970)**, Counselor. B.A., M.S.E., Drake University.
- BROWN, KENNETH O. (1980)**, Director, Plant Operations Maintenance. B.A., Washington University.
- BROWNLEE, E. RAYMOND (1978)**, Building Trades. Iowa State University.
- BURDICK, MARILYN (1971)**, Counselor. B.S., M.S., Iowa State University.
- CALDWELL, RUSTY (1973)**, Program Chairperson, Agri-Business. B.S., M.S., Oklahoma State University.
- CAMPBELL, LAUREL (1975)**, Office Occupations. B.S., Black Hills State College.
- CARAWAY, MARY (1982)**, Nursing. A.D.N., University of Southern Colorado; B.S.N., Washburn University.
- CAREW, MARIAN L. (1980)**, Fashion Merchandising. A.A.S., Kirkwood Community College.
- CARLSON, JOSEPH R. (1984)**, Instructor, Biology & Physiology. B.A., Ph.D., University of California.
- CARPENTER, RICHARD (1973)**, Automotive. Iowa State University; Industry Service Schools.
- CARSON, LINDA A. (1972)**, Child Development, Developmental Disabilities. B.S., M.S., Iowa State University.
- CHACKO, SANDRA J. (1980)**, Nursing. R.N., Iowa Lutheran Hospital School of Nursing; B.S.N., M.A., University of Iowa.
- CHALUP, CLAIRE (1973)**, Banking. B.S., Iowa State University; University of Wisconsin.
- CHAPMAN, RICHARD (1970)**, English. B.A., M.A., University of Iowa.
- CLAASSEN, ALAN D. (1983)**, Instructor, Learning Center. A.A., B.A., University of Northern Iowa.
- CLARK, JEAN (1971)**, Office Occupations. B.A., Parsons College; M.A., Northeast Missouri University; University of Northern Iowa.
- CLARK, KENNETH (1971)**, Counselor. B.S.E., M.S.E., Drake University.
- CLARK, MARGARET (1973)**, Biology. B.S., Mount Mercy College; M.S., Iowa State University.
- CLAUSON, LARRY (1974)**, Counselor. B.A., University of Northern Iowa; M.S., Drake University; University of Iowa; Iowa State University.
- CLINKENBEARD, THEODORE (1969)**, Mathematics. B.A., Yankton College; M.A., University of South Dakota.
- CLUPPER, BEATRICE (1983)**, Chair, Communications & Humanities. B.A., M.A., University of Iowa; Ph.D., University of Illinois.
- COLE, VALERIE (1979)**, Coordinator, Enrollment Services. A.A., Birmingham College, England.
- COLLIER, KENNETH (1971)**, Welding. Des Moines Area Community College; Iowa State University.
- COMSTOCK, ANNE (1982)**, Chairperson, Surgical Technology. B.S., University of Nebraska; B.S.N., Grand View College.
- COOPER, AUDREY E. (1981)**, Nursing. A.D.N., Kirkwood Community College; B.S.N., University of Dubuque; M.A., Loras College.
- CORDES, CYNTHIA (1983)**, English. B.A., M.A., University of Northern Iowa.
- CORWIN, DEBORAH K. (1972)**, Coordinator, Student Financial Aid. Des Moines Area Community College; University of Minnesota.
- CORWIN, MARILYN K. (1984)**, Instructor, Dental Hygiene/Assisting. B.A., University of Iowa.
- CORY, CYNTHIA (1980)**, Nursing. B.S.N., University of Iowa.
- COWMAN, RICK D. (1975)**, Program Chairperson, Welding.
- COX, GARRY (1982)**, Legal Assistant. B.A., Indiana University; J.D., Drake University.
- COX, PATRICIA J. (1983)**, Clinical Instructor, Pediatrics. A.A., B.S., Grand View College.
- CRALL, KATHLEEN (1983)**, Business/Management. B.S., University of Northern Iowa; M.A., Colorado State University; University of Wisconsin-Superior; Drake University; University of Iowa.
- CUSTER, HARRIETT (1972)**, Program Chairperson, Learning Center. B.A., Wm. Penn College; M.A., Drake University.
- CUTLIP, MARGARET (1969)**, Coordinator, Home Economics. B.S., West Virginia University.
- DEITRICK, ANITA (1978)**, Nursing. R.N., Iowa Lutheran Hospital School of Nursing.
- DALLY, JUDITH (1973)**, Child Care. B.S., Iowa State University.
- DEJONG, DEBORAH (1979)**, Nursing. R.N., Marshalltown Community School of Nursing; B.A., William Penn College; B.S.N., Coe College; M.S., University of Minnesota; University of Iowa; Iowa State University.
- DELANEY, MICHAEL (1972)**, Sociology. B.A., St. Joseph's College; M.A., Sociology, Northern Illinois University.
- DEMAREST, ALLAN F. (1979)**, Health Care Administration. B.A., University of Omaha; M.A., University of Michigan.
- DeVRIES, RUTH M. (1982)**, Accounting. B.S., M.S., Drake University.
- DIXON, MICHAEL (1976)**, Coordinator, College Publications. B.A., Drake University.
- DOBBINS, WILLIS (1970)**, Learning Center. B.S.E., Drake University; Northern Illinois University; Drake University; Grand View College.
- DORAN, JOHN M. (1980)**, Mathematics. B.A., University of Northern Iowa; M.A., San Diego State University.
- DOWIS, JAMES (1968)**, Data Processing. B.A., M.S.E., Drake University; Milwaukee Institute of Technology; Iowa State University.

FACULTY/PROFESSIONAL STAFF

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DRINNIN, BEVERLY (1983), Psychology. B.S., M.Ed., University of Illinois.

DUNSMORE, THOMAS (1968), Program Chairperson, Electronics Technology, Electronics Maintenance. USAF Communication & Radar School; Iowa State University; Boone Junior College; Centerville Junior College; University of Northern Iowa.

ECKSTROM-MOORE, SHARON (1967), Program Chairperson, Dental Assistant. Certified Dental Assistant, B.S., Iowa State University; University of Iowa.

EDMONDSON, ARLENE (1973), Nursing. R.N., St. Luke's School of Nursing; B.S., College of St. Francis; Drake University.

ENGSTROM, CARL (1981), Heavy Equipment Technology. University of Iowa; Iowa State University; University of Northern Iowa.

EVERETT, CARLETON S. (1975), Marketing. B.M.E., M.S., Cornell University.

FAIRBANKS, TERRY (1975), Criminal Justice. A.A.S., Hawkeye Institute of Technology; B.A., Wartburg College.

FERGUSON, ANITA M. (1975), Medical-Surgical Nursing. Diploma, Michael Reese Hospital School of Nursing; B.S.N., Indiana University; M.S., Drake University.

FIELD, BARBARA (1979), Lab Assistant, Day Care. A.A., Des Moines Area Community College.

FINNESTAD, RICHARD (1971), Coordinator, Student Services. B.A., Buena Vista College; M.A., University of Northern Colorado; University of Montana; Drake University; University of Northern Iowa.

FORTNER, DOLORES (1973), Program Chairperson, Office Occupations. C.P.S., B.S., Drake University.

FREIER, RONALD (1975), Learning Center/English. B.S., Southern State College; M.A., University of South Dakota; University of Nebraska; Iowa State University; University of Northern Iowa.

FRETTE, LLOYD (1969), Auto Body. Iowa State University; Des Moines Tech School.

FRIEDERICH, TERESA (1974), Medical Laboratory Technician. B.S., Iowa State University.

FRISBIE, JANET (1970), Nursing. R.N., Methodist Hospital School of Nursing, Sioux City; B.S.N., University of Dubuque.

GAINES, PEGGY (1972), Learning Center. A.A., Des Moines Area Community College; B.S.E., graduate work Drake University.

GAMM, HAROLD (1968), Dean, Economic Development Group. B.S., Culver-Stockton; M.S., Iowa State University.

GARTIN, RICHARD (1969), Printing. I.P.P. & A.U., Technical Trade School; Graphic Arts Technical School.

GARVEY, PATRICK (1974), Chemistry. B.S., DePaul University; M.S., Iowa State University.

GEORGE, KERRY (RRT) (1977), Program Chairperson, Respiratory Therapy. B.S., University of Illinois; University of Chicago Hospital and Clinic Schools, Iowa State University.

GHANATABADI, JOLYNE L. (1973), Office Occupations. B.S., Drake University; University of Northern Iowa; Iowa State University.

GIBBONS, SUE A. (1977), Training Consultant, Economic Development Group, Conference Center.

B.S., University of Missouri; University of Southern Illinois; Iowa State University.

GIUDICESSI, RICHARD (1980), Management and Marketing. B.B.A., University of Iowa.

GOODWIN, V. GLENN, JR. (1979), Respiratory Therapy. A.A.S., Des Moines Area Community College; B.S., University of State of New York; Western Illinois University; Iowa State University.

GRIMM, CAROL (1982), Consultant, A.B.E. Coop. B.A., Quincy College; M.A., M.Ed., University of Illinois.

GUERDET, THOMAS (1980), Coordinator, Business and Management. B.S., M.B.A., Mankato State University.

HALVERSON, PATRICIA (1976), Learning Center. M.S., Illinois State University; B.S., University of South Dakota.

HAMANN, RICHARD (1977), Accounting. B.S., Mankato State College; University of Iowa.

HAMLETT, ZACK E. (1971), Dean, Urban Campus. B.S., Tuskegee Institute; M.A., Michigan State University.

HANN, BRUCE (1969), English. B.A., Simpson College; M.A., University of New Mexico; Ed.S., Drake University.

HANN, SHARON (1983), Art. B.A., Univ. of Northern Iowa; M.A., University of New Mexico.

HANSEN, DENNIS (1973), Related Instruction. B.B.A., University of Iowa.

HANSEN, KRISTINE (1983), Educational Advisor. B.S.W., Buena Vista College.

HANSON, NOLA J. (1980), Office Occupations. B.S., Drake University; University of Northern Iowa.

HARDER, EUGENE (1970), Auto Body. B.Ed., M.Ed., Colorado State University; University of Nebraska; Concordia Teachers College; University of South Dakota; Iowa State University.

HARRIS, JOHN R. (1981), Heavy Equipment Technology. Vocational Certified; Iowa State University.

HARRIS, RUDOLPH (1972), Sociology. B.A., Bemidji State University; M.A., University of South Dakota; University of North Dakota; Howard University; Iowa State University.

HARTOGH, ANNJEAN M. (1984), Laboratory Assistant, Science. A.A., Ellsworth Community College; B.A., St. Mary's College.

HARTSTACK, BECKY J. (1984), Instructor, Office Occupations. B.S., University of Northern Iowa; A.A.S., Des Moines Area Community College.

HASHMI, MAZHAR H. (1984), Director, International Trade Studies. B.A., Hailey College of Commerce, Pakistan; M.A., Punjab University, Pakistan; British Institute of Management, U.K.; Institute of Directors, U.K.

HAVENS, ROY D. (1979), Auto Mechanics. Des Moines Area Community College; Northwest Missouri State University.

HEDLUND, ROSEMARY (1973), Hospitality Careers. B.S., Iowa State University.

HENDRICK, WILLIAM (1979), Auto Mechanics. Des Moines Area Community College.

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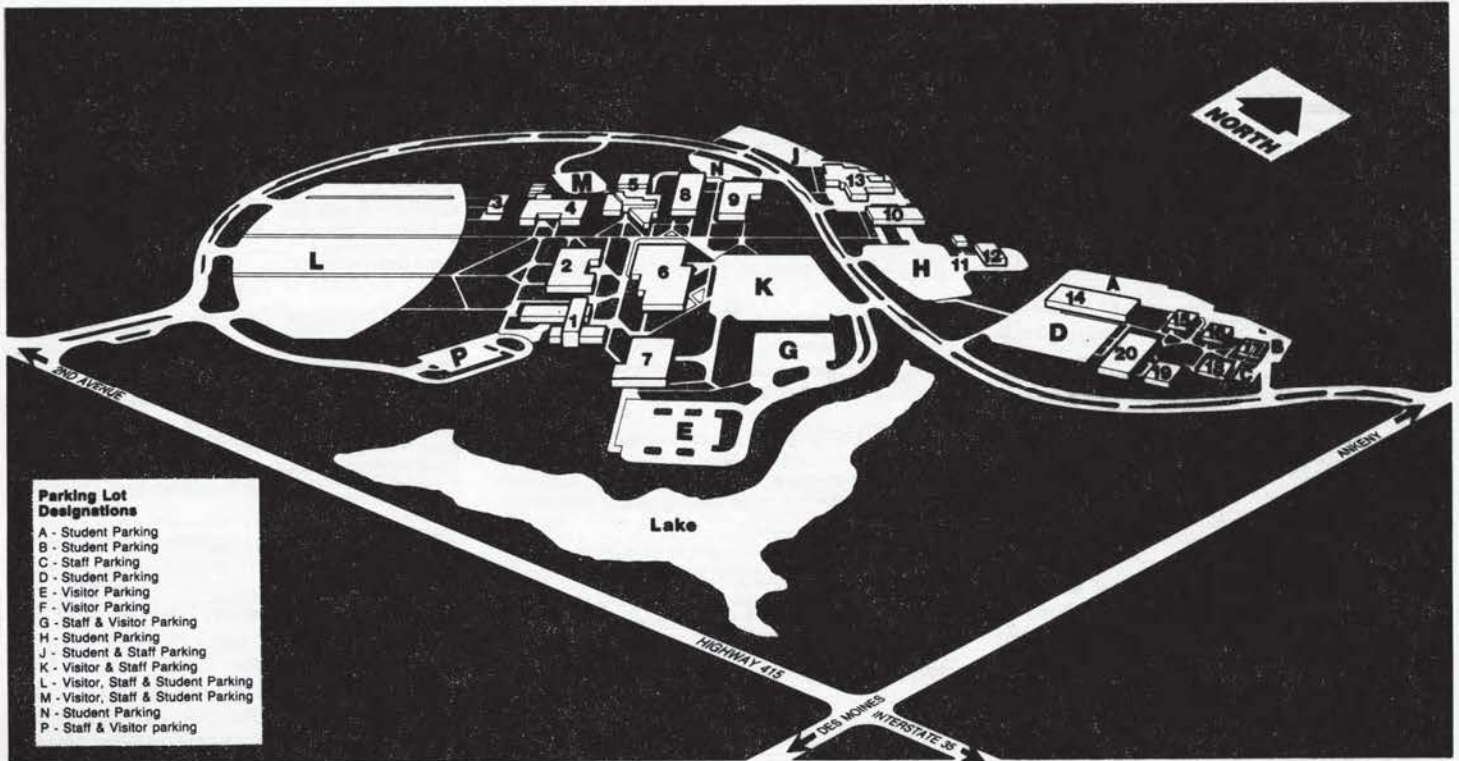
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INDEX

A		F		R	
Academic Honors.....	17	Faculty and Professional Staff.....	105	Readmission.....	9
Academic Regulations.....	16	Family Educational Rights & Privacy Act.....	14	Real Estate Sales Certificate.....	66
Accounting Advanced Certificate.....	59	Fashion Merchandising.....	38	Recreational Leadership.....	51
Accounting Basic Certificate.....	59	Fees.....	10	Refund Policy.....	11
Accounting Specialist.....	24	Financial Aid.....	10	Registration.....	9
Accreditation.....	4	Financial Services.....	39	Residency Regulations.....	8
Adaptor Courses.....	20	Fire Science Technology.....	39	Respiratory Therapy.....	51
Administrative Support.....	59	Fire Specialist.....	63	Retail Management.....	52
Admissions.....	7	Food Services.....	5	Retail Merchandising.....	52
Admissions Application form.....	111	Foreign Students.....	8		
Admissions Requirements and Procedures.....	7	G		S	
Adult Basic Education.....	20	General Educational Development Test.....	18	Sales and Management Certificate.....	53
Adult & Continuing Education.....	20	General Information.....	2	Scholarships.....	10
Adult High School Diploma.....	20	Grade Reporting.....	16	Scholastic Standards.....	16
Adult Learning Centers.....	20	Grading Policies.....	16	Secretary - Administrative.....	53
Agri-Business.....	20	Graduation Application.....	17	Secretary - Legal.....	54
Agri-Business Certificate.....	24	Grants.....	10	Secretary - Medical.....	54
Agriculture Equipment Technology.....	24	Graphic Arts Certificate.....	63	Selling - Advanced.....	66
Agriculture Power and Equipment.....	25			Selling - Basic.....	66
Air Brush Art Certificate.....	60	H		Small Business Management Certificate.....	67
Alumni Association.....	13	Handicapped Students.....	13	Social Activities.....	13
Ankeny Campus.....	4	HCA Residential Care.....	63	Specialist Certificate Programs.....	23, 59
Architectural Drafting.....	26	Health Care Administration.....	40	Student Activities.....	12
Associate in Applied Arts Degree.....	23	Health Services & Science.....	40	Student Centers.....	12
Associate in Applied Science Degree.....	23	High School Equivalency.....	18	Student Classification.....	6
Associate in Arts Degree.....	21	High School Students.....	9	Student Government Association.....	12
Associate in Science Degree.....	22	High Technology Biomedical.....	41	Student Handbook.....	13
Auditing a Course.....	16	High Technology Computer.....	41	Student Identification.....	13
Auto Collision Repair.....	26	High Technology Robotics.....	42	Student Rights & Responsibilities.....	14, 18
Auto Collision Repair Certificate.....	60	Hospitality Apprentice.....	43	Supervision/Basic Certificate.....	67
Auto Mechanics Certificate.....	60	Hotel and Restaurant Management.....	43	Supplemental Courses.....	21
Auto Mechanics Technology.....	26	Housing.....	6	Surgical Technologist.....	55
Auto Parts Certificate.....	60	Human Services.....	44	Suspension.....	16
B		I		T	
Board of Directors.....	1	Indebtedness Policy.....	11	Table of Contents.....	1
Bookkeeping & Accounting.....	27	Independent Study.....	18	Teacher Associate.....	56
Bookstore.....	5	Industrial Management & Marketing.....	44	Telecommunications.....	56
Boone Campus.....	4	Information/Word Processing.....	45	Telephone Numbers.....	2
Building Maintenance Certificate.....	60	In Progress and Failing Mark Policies.....	16	Telephone Specialist Certificate.....	67
Building Trades.....	27	Insurance Sales Certificate.....	64	Tool and Die.....	57
Business & Computers.....	28	Insurance Student.....	11	Transcript Requests.....	17
		International Trade Studies.....	46	Transfer Requirements.....	6
C		International Trade Studies Certificate.....	64	Transfer Students.....	6, 19
Cable TV Installation.....	61	Intramural Program.....	13	Transferring to Other Institutions.....	7
Calendar.....	2, 5			Transferring from Military Schools.....	8, 18
Campus Map (Ankeny).....	110	J		Travel Personnel Certificate.....	68
Campuses.....	4	Job Shop Machinist.....	46	Tuition and Fees.....	10
Carroll Campus.....	4				
Challenge Testing.....	18	L		U	
Changes in Registration.....	9	Labor Studies.....	46	Unit of Credit.....	6
Chemical Dependency Counseling.....	61	Learning Centers.....	5	Upholstery.....	57
Child Care Specialist.....	61	Legal Assistant.....	47	Urban Campus.....	4
Child Development.....	29	Libraries.....	4		
Child Development Associate.....	29	Loans.....	11	V	
Classification of Students.....	6			Veteran's Affairs.....	11
CLEP.....	18	M		Volunteer Management Certificate.....	68
Clerical.....	29	Machine Drafting.....	47		
Clerical Specialist.....	61	Map (Ankeny Campus).....	110	W	
Clubs and Organizations.....	12	Medical Assistant.....	48	Ward Clerk Certificate.....	68
College Purpose/Philosophy/History/Accreditation.....	3, 4	Medical Laboratory Technician.....	48	Waste Water Operator Certificate.....	69
College Transfer.....	19	Mid-Management Certificate.....	64	Water Operator Certificate.....	69
Commercial Art.....	30	Money Management Certificate.....	64	Welding.....	58
Commercial Cooking.....	30	Motor Control Certificate.....	65	Word Processing Certificate.....	69
Commercial Horticulture.....	31				
Computer Language Certificate.....	62	N			
Computer Programming.....	32	Nurse.....	13		
Computer Science Technology.....	32	Nursing.....			
Conditioned Air.....	33	AD Advanced Standing.....	50		
Cooperative Education.....	21, 33	ADN.....	49		
Coronary Care.....	61	PN.....	49		
Course Descriptions.....	70	Nursing Assistant/Orderly.....	64		
Course Identification System.....	70	Nursing Gerontological.....	65		
Counseling Services.....	13				
Credit.....	6	O			
Criminal Justice.....	33	Occupational Careers.....	19		
Culinary Arts.....	34				
		P			
D		Para-Professional Programs.....	19		
Data Entry Certificate.....	62	Parking.....	6		
Dean's List.....	17	Part-time Students.....	8		
Dental Assistant.....	34	Personal Enrichment.....	21		
Dental Hygiene.....	35	Phlebotomy Certificate.....	65		
Development Disabilities Associate.....	36	Physician Assistant.....	50		
Development Disabilities Diploma.....	35	Placement Services.....	13		
Diesel Equipment Mechanic.....	36	Pre-Professional Programs.....	19		
Dietary Specialist Certificate.....	62	Printing.....	50		
Diploma.....	23	Probationary Status.....	16		
District Campus.....	4				
		E			
Economic Development Group.....	4				
Educational Programs.....	19				
Electronics.....	62				
Electronics Maintenance.....	37				

ANKENY CAMPUS MAP



- Parking Lot Designations**
- A - Student Parking
 - B - Student Parking
 - C - Staff Parking
 - D - Student Parking
 - E - Visitor Parking
 - F - Visitor Parking
 - G - Staff & Visitor Parking
 - H - Student Parking
 - J - Student & Staff Parking
 - K - Visitor & Staff Parking
 - L - Visitor, Staff & Student Parking
 - M - Visitor, Staff & Student Parking
 - N - Student Parking
 - P - Staff & Visitor parking

- Building 1**
 Business Office
 College Relations
 Data Systems
 Development Services
 District Administration
 Financial Aids
 Human Resources
 Information
 Registration
 Student Records
- Building 2**
 Criminal Justice
 English
 Public Service Programs
 Social Science
- Building 3**
 Utility Center
- Building 4**
 Agri-Business
 Commercial Horticulture
 Math
 Science
- Building 5**
 Alumni Office
 Art
 Bookstore

- Campus Recreation
 Career Development
 Counseling
 Game Room
 Gym
 Music
 Snack Bar/Grill
 Student Activities
 Student Health Services
 Student Lounge
- Building 6**
 Auditorium
 Copy Room
 Economic Development Group
 Media Services
 Learning Center
 Library
 Marketing
 STRIVE
 Word Processing
- Building 7**
 Cafeteria
 Conference Center
 Food Services Programs
- Building 8**
 Bookkeeping/Accounting
 Data Entry & Data Processing
 Office Occupations Programs

- Building 9**
 Dental Programs
 Medical Assistant
 Medical Laboratory Programs
 Nursing Programs
 Respiratory Therapy
 Surgical Technician
- Building 10**
 Conditioned Air
 Job Shop Machinist
 Telecommunications
 Tool and Die
 Welding
- Building 11**
 Utility Center
- Building 12**
 Physical Plant Services
- Building 13**
 Auto Body
 Auto Mechanics
 Upholstery
- Building 14**
 Agriculture Equip. Technology
 Agriculture Power & Equip.
 Heavy Equipment Technology

- Building 15**
 Printing
- Building 16**
 Commercial Art
- Building 17**
 High Tech. Electronics
- Building 18**
 Electronics
- Building 19**
 Child Care Programs
 Health Care Admin.
- Building 20**
 Architectural Drafting
 Building Trades
 District Campus
 Machine Drafting

