

COMMUNITY COLLEGE

Kirkwood

catalog
1981-83

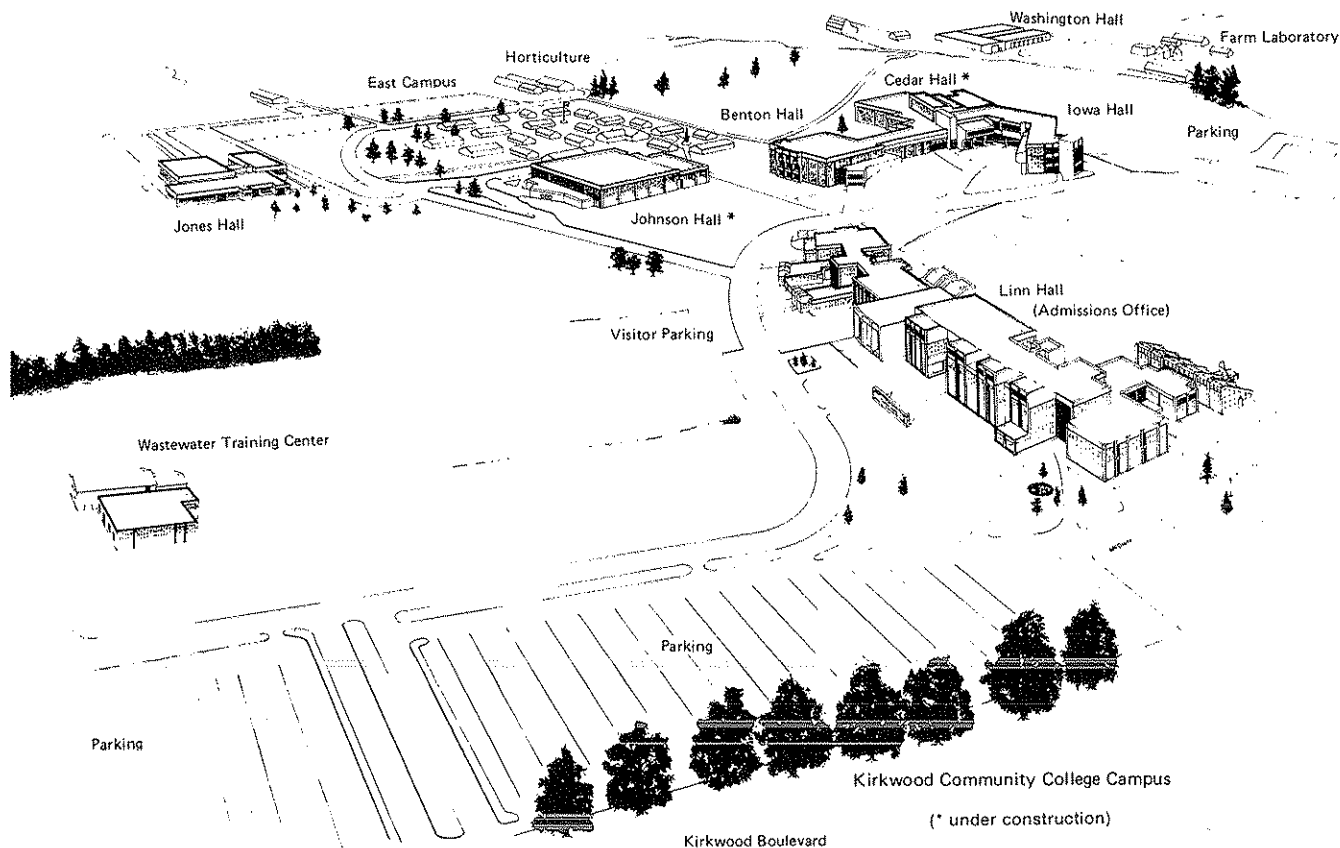
KAREN LUCAS





KIRKWOOD COMMUNITY COLLEGE

**6301 Kirkwood Blvd. S.W.
Cedar Rapids, Iowa**



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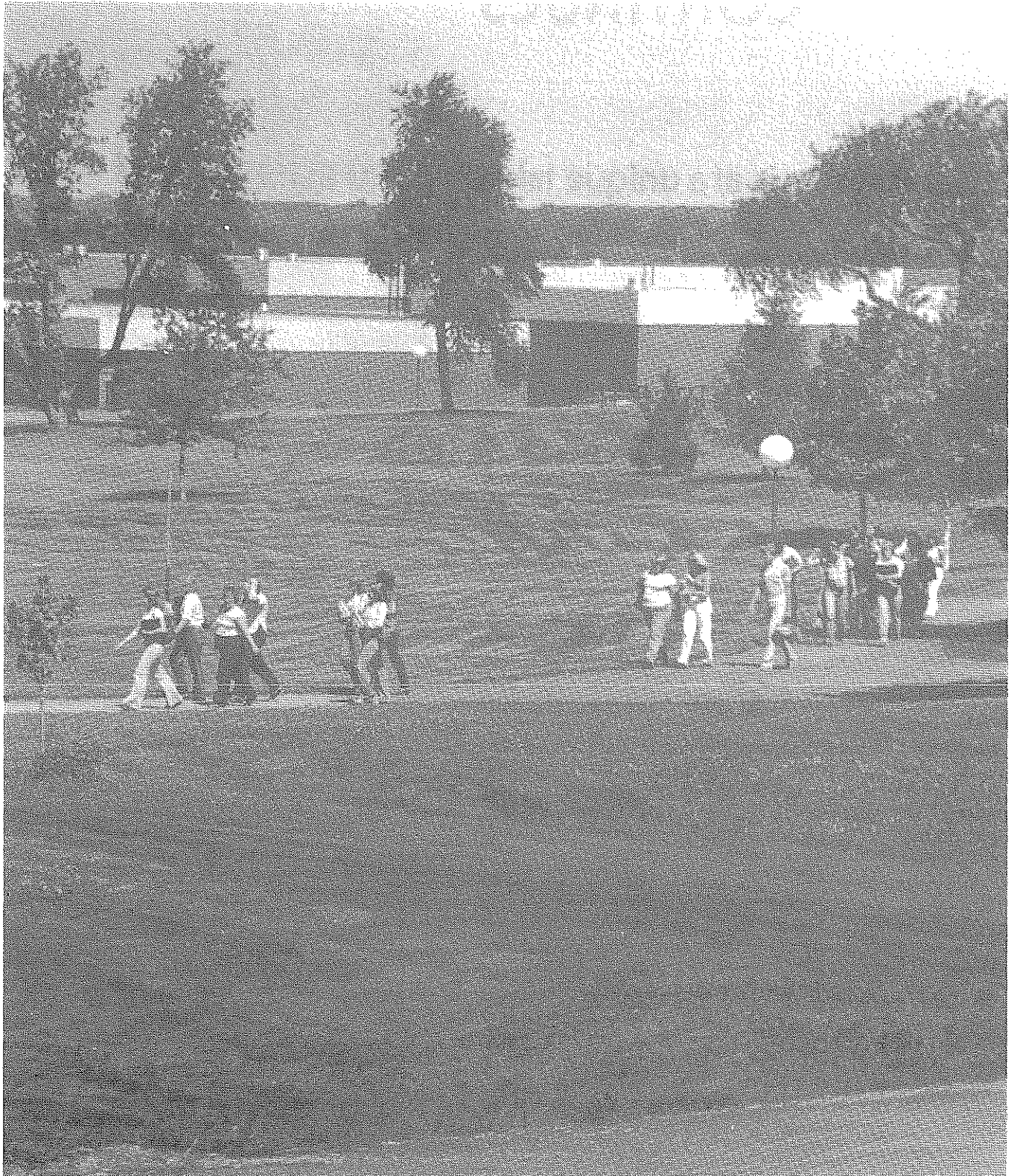
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Kirkwood Community College does not discriminate on the basis of handicap, sex, race, color, religion or national origin in its educational programs, activities, employment practices or admission procedures.



THE COLLEGE



THE EVOLUTION CONTINUES

"Kirkwood ... is at a unique takeoff point in its history."

Like a good musician or athlete, a developing college hits certain plateaus on its way to maturity. I think I perceive that Kirkwood has traversed another of these plateaus and is at a unique takeoff point in its history.

This period will probably not be marked by booming enrollments. In fact, we look for our size to remain relatively stable. There will be marked physical improvements on our campus, and continued transformation of teaching methods and public service.

At Kirkwood we have been blessed with fine enrollments, but a shortage of classrooms, faculty offices and facilities for the fine arts and physical education. I am pleased to report that great strides are being made to alleviate these shortages. The new Cedar Hall will provide classrooms, faculty offices and facilities for music and communications, along with an auditorium. Johnson Hall will give Kirkwood its first on-campus facilities for physical education and community recreation.

Along with these physical improvements, Kirkwood will open new doors to persons of all ages seeking education and self-improvement. Class scheduling, special services and new means of delivering knowledge are all evolving as this catalog is being assembled.

This catalog reflects important changes in the Arts and Sciences curriculum. Students transferring into Arts and Sciences will benefit from new requirements. More of their vocational credits will be accepted toward the Associate in Science degree, giving them a better chance to complete a degree program in the normal two years time.

Changes have also been made in core requirements for the Associate in Arts degree. The changes are designed to give further assurance to Kirkwood students that their AA degree will be accepted by any of the three state regent universities in Iowa.

The changes will make Kirkwood an even better institution. They are the result of work by a dedicated board of lay directors, a top-notch team of administrators and one of the finest teaching faculties and staff to be found in a community college anywhere. These people are the heart of our college, and they form the best reason for you to consider continuing your education with us.



Dr. Bill F. Stewart

**Dr. Bill F. Stewart
President/Superintendent**



Kirkwood Community College is a publicly supported college serving the Iowa counties of Benton, Linn, Jones, Iowa, Johnson, Cedar and Washington as well as portions of nine adjacent counties which are part of the merged area. This represents a total population of 327,000 persons. The total land area of the seven major counties served is 4,292 square miles or 7.8 percent of the land area of the state of Iowa.

The college operates under the regulations of the Iowa State Board of Public Instruction with the board of directors of merged Area Ten as its governing board.

AREA TEN

Merged Area Ten represents an emerging socio-politico-economic unit. It is an area in transition, mingling rapidly developing urban centers and rich farm lands dotted with small rural communities. Within its borders are many space-age industries, prosperous farms, a major state university, several private liberal arts colleges, and myriad supportive and service institutions and industries. In this setting of vigorous economic expansion and rapid population growth, advancing technology has created unprecedented demands for formal education and training programs. This same technology simultaneously has placed greater demands upon the individual in his or her role of responsible citizen.

THE COMMUNITY COLLEGE

For years, American society has taken for granted the importance of secondary schooling for the many and higher education for the few. It has only been in the past 15 years or so that recognition has been extended to the need for post-high school education for the majority of adults. Accordingly, institutions of higher education, although well suited to the service of a relatively select few, have not been prepared to satisfy the needs of the growing numbers of individuals who desire to participate in post-high school education. Thus, the citizens of Iowa have delegated this responsibility to the comprehensive community college.

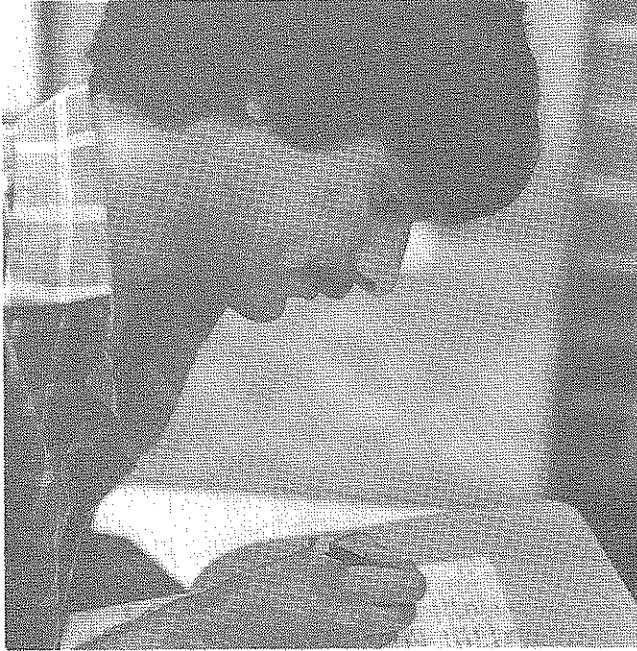
Kirkwood Community College is charged by law with the responsibility of identifying the educational needs and desires of adult citizens and of designing educational programs which will help them fulfill their goals.

PHILOSOPHY AND MISSION

PHILOSOPHY

Kirkwood Community College believes that the opportunity to develop capacities consistent with one's needs and aspirations is every person's right. To recognize and foster the uniqueness of each individual and to meet diverse educational and related service needs, the college should apply available resources to provide accessible and comprehensive programs. These programs should respond to individuals who seek to understand, adapt to and appreciate the environment, and to the other constituencies who look to the college for assistance. Kirkwood Community College should contribute to a steadily improving quality of life for the people of the district by developing and maintaining a comprehensive range of outstanding educational offerings and services.

Education expands one's mind, spirit and abilities. The concepts of growth and change define education as a continuous process. Schools and colleges, therefore, must relate their programs and policies to lifelong learning. Kirkwood Community College believes education provides an important means for each person to grow towards greater self-fulfillment, as well as a means by which societies preserve and interpret their culture and global heritage. Learning is enhanced when people can apply what they learn. Similarly, the application of skills, values and attitudes is improved when people have an understanding of related theory. Education provides balance among these elements and thus contributes to success in the various aspects of an individual's life.



STATE LAW

The law under which Kirkwood was established and continues to operate, Section 280A in the Code of Iowa, states in part, that area community colleges offer to the greatest extent possible, educational opportunities and services in each of the following, when applicable, but not necessarily limited to:

- 1) The first two years of college work including pre-professional education.
- 2) Vocational and technical training.
- 3) Programs for in-service training and retraining of workers.
- 4) Programs for high school completion for students of post-high school age.
- 5) Programs for all students of high school age who may best serve themselves by enrolling for vocational and technical training while also enrolled in a local high school, public or private.
- 6) Student personnel services.
- 7) Community services.
- 8) Vocational education for persons who have academic, socioeconomic or other handicaps which prevent succeeding in regular vocational education programs.
- 9) Training, retraining and all necessary preparation for productive employment of all citizens.
- 10) Vocational and technical training for persons who are not enrolled in a high school and who have not completed high school.

MISSION

Consistent with the philosophy held by Kirkwood Community College, and in accordance with the charge given it by the State of Iowa, the mission of Kirkwood Community College is to enhance human and community resources, by acting on its own initiative and in concert with other agencies, to provide quality educational programs and community services.

HISTORY

Kirkwood's history dates from January, 1965, when a steering committee was formed to establish a vocational school to serve Area Ten. Work on the study began almost immediately and was completed by July, 1965.

Soon after, the Iowa General Assembly passed enabling legislation which made possible the establishment of a system of community colleges and area vocational-technical schools throughout the state. Educators and laymen in Area Ten recognized the need for a comprehensive community college which would provide college transfer and adult education curricula as well as vocational-technical curricula. Therefore, the nine-man board of directors elected by the citizens of the area asked for and received permission from the State Board of Public Instruction to establish Kirkwood Community College. The college was formally established on July 1, 1966.

The college immediately assumed responsibility for federally funded vocational-technical programs, which had been provided by the Cedar Rapids Community School District since 1964. The Arts and Sciences, Student Services and Community Education Divisions were established in 1967.

In the college's short history, the foundation has been established for expanded educational opportunities in vocational-technical education, college transfer and career-oriented programs, adult and continuing education, student services and community services.

ACCREDITATION

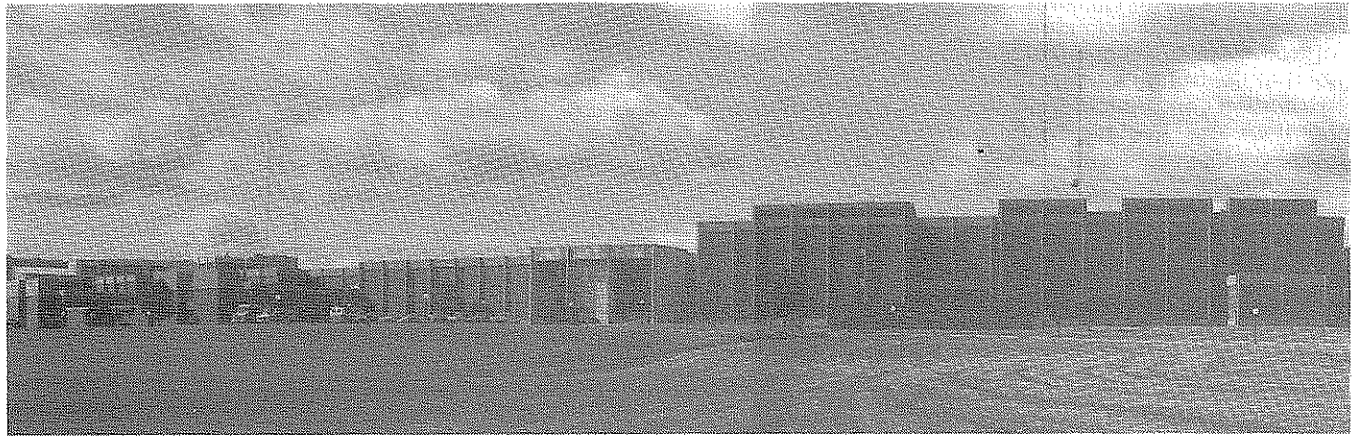
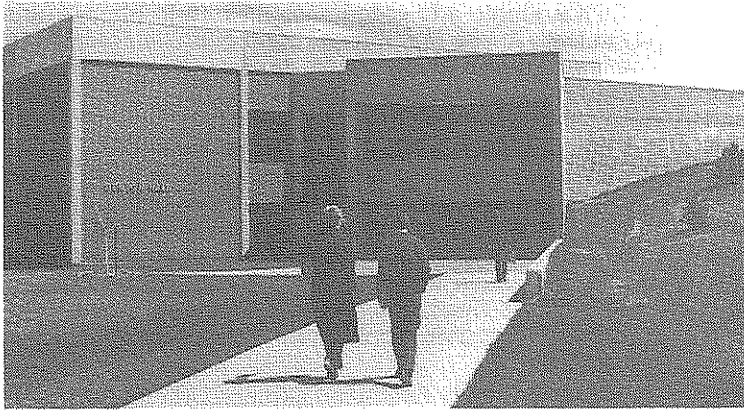
Kirkwood Community College is accredited by, and is a member of, the North Central Association of Colleges and Secondary Schools. Kirkwood is also approved by the Board of Regents and the State Board of Public Instruction. Individual programs within the college are accredited by appropriate associations within their respective fields. Many programs are approved for veterans.

COLLEGE FACILITIES

The Kirkwood main campus, located at 6301 Kirkwood Boulevard S.W. in Cedar Rapids, is a 315-acre countryside site on the south edge of Cedar Rapids. The first permanent building, Linn Hall, was completed in the fall of 1969. It contains classrooms, various laboratories and offices, and two large multi-purpose rooms.

The building houses more than 40 full-time vocational-technical offerings, plus science and foreign language laboratories and classrooms. Some day and evening adult Community Education classes also are offered in Linn Hall. The college's main administrative offices are located in Linn Hall in addition to the college's public radio station, KOCK-FM.

Iowa Hall, completed in January of 1975, is the second permanent building to be built on the Kirkwood campus. It contains the college cafeteria, bookstore, coffee-



house, Student Activities Office, conference rooms, multipurpose rooms, lounges and study areas.

Just northeast of Iowa Hall is the East Campus, which consists of 22 relocatable buildings. This portion of the campus consists of classrooms, laboratories, a student lounge, and offices of the Arts and Sciences and Community Education Divisions. The college's Horticulture and Natural Resources laboratory adjoins the East Campus.

Adjacent to the East Campus is Jones Hall. It houses Kirkwood's Skill Center, which offers a program of services for disadvantaged and handicapped persons. It also serves as a trades center with facilities for Kirkwood's welding and building trades programs.

Benton Hall is the college's Learning Resource Center, or library. It was completed in the spring of 1977 and connects the east and west campuses. It is adjacent to Iowa Hall.

Two additional facilities are now under construction. Johnson Hall, a physical education and recreation center, will provide much needed space for both educational and community activities. A large central area will contain seating for 1500 spectators at college commencement exercises, student assemblies, athletic contests and other special events. Slated for completion in 1982, the building will be located just north of Benton Hall.

Linking Benton and Iowa Halls will be a new fine arts center. Cedar Hall will provide additional classrooms,

laboratories, a lecture hall and a 470-seat auditorium geared to the performing arts. The facility is scheduled for completion in 1983.

Kirkwood's agricultural programs are located on the south side of the campus. This area includes the college's new agricultural mechanics building, Washington Hall. Completed in 1978, it houses the farm mechanics program and other classes related to farm mechanization. Other programs having facilities on the farm site include Agribusiness and Natural Resources, Rural Building Construction, Horse Husbandry (including barn, stall and arena) and Animal Health. There are also hog farrowing houses, beef feed lots and a feed mixing laboratory for the beef testing station.

Located to the west of the agriculture campus is the college's truck driving range.

On the north edge of the campus is the Environmental Center, constructed through a grant from the Environmental Protection Agency for the purpose of providing training and upgrading of skills for water and wastewater plant operators in Iowa. The center also houses the college's Analytical Lab Technician program.

ACCESS FOR HANDICAPPED

The college has undertaken an effort to remove architectural barriers and improve accessibility to campus facilities for handicapped and disabled persons. The college is committed to providing handicapped and disabled individuals with equal access to all college programs and services.

BENTON HALL LEARNING RESOURCE CENTER

The Learning Resource Center (LRC) is located in Benton Hall, a new facility opened in the spring of 1977 and situated in the center of Kirkwood's main campus. Benton Hall, a 33,000-square-foot building, is designed to be a multi-functional center. It houses the traditional functions of a library with the varied components of a learning resource center.

Public services are located on the first floor. These include the circulation department, the card catalog and the reference department. Current copies of the 400-title periodical collection are housed here, as well as microforms and readers, a teacher-preparation room, archives, a copy machine and work space for the LRC staff.

The second floor contains a flexible arrangement of nontraditional learning spaces geared for individualized modular learning, and includes teacher stations and distribution centers for tapes and films. Also on the second floor are five typing carrels, videotape viewing areas, a classroom and back copies of the periodical collection.

The 42,000-volume book collection is located on both the first and second floors, as are the study and lounge areas for students. The LRC provides the services of professional librarians and a support team of technicians, clerical staff and work/study students.

KCCK-FM PUBLIC RADIO

KCCK-FM is a 10,000-watt radio station which broadcasts to communities throughout the college's seven-county area. The station is affiliated with National Public Radio, a network of more than 240 stations across the nation. The station broadcasts daily from 6 a.m. to midnight at 88 on the radio dial. KCCK offers a variety of programming, including jazz, folk, classical, news and public affairs.

KCCK's studio and offices are located in Room 216 of Linn Hall. A free monthly program guide is available by calling 398-5446 or by writing to: P.O. Box 2068, Cedar Rapids, Iowa 52406.

OFF-CAMPUS FACILITIES

Lincoln Community Education Center in southwest Cedar Rapids is the site of general interest classes, adult basic education and high school completion classes, the Right-to-Read and Veterans Upward Bound programs, congregate meals and the college's infant/child care center.

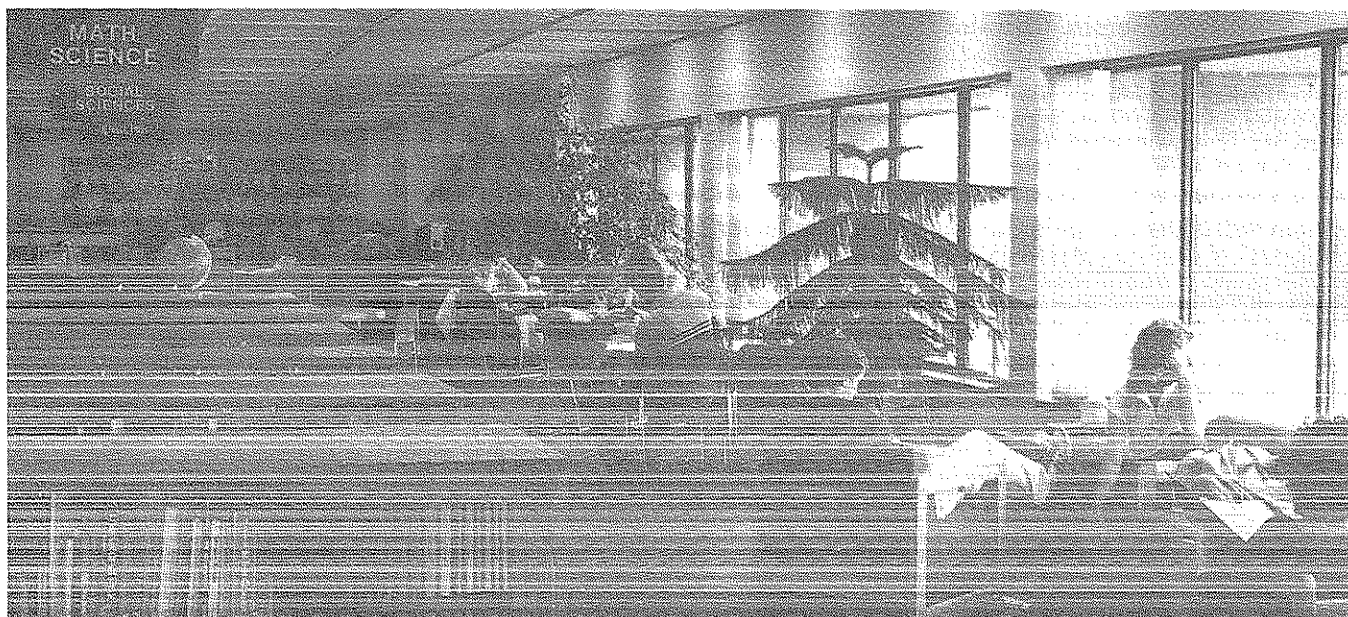
Other Community Education centers offer a similar educational program in Iowa City, Marion, Monticello, Washington and Williamsburg. (More information on off-campus programs and services is available in the Community Education section of this catalog.)

As many as 700 adult evening Community Education classes are offered per quarter in more than 100 locations in the seven counties, including schools, churches, factories, stores and community centers in cooperation with 39 local school districts.

Arts and Sciences college credit courses are offered at Kennedy High School in Cedar Rapids and in Iowa City, Monticello, Vinton, Washington and Anamosa. Many of the off-campus credit courses are available through the Kirkwood Telecommunication System, which employs the technology of broadcast and cable television, and two-way, "interactive" television to deliver educational services to off-campus learning centers, business, industry, public schools and private homes.

The state reformatory in Anamosa offers Kirkwood classes which serve approximately 500 of the 700 inmates.

Kirkwood-Welty Park is a 22-acre recreational area located south of Cedar Rapids consisting of a softball-baseball field and park area.





INTERNATIONAL EDUCATION

Study abroad is offered in both arts and sciences and vocational-technical areas, providing rich educational and cultural experience. Students may also take advantage of the college's Off-campus Study Center at the University of Konstanz, in Konstanz, West Germany. The center is coordinated by the Community College Cooperative for International Development, a nine-college group to which Kirkwood belongs.

EXPANDING HORIZONS FOR WOMEN

Kirkwood offers a year-round program of activities for adult women through its "Expanding Horizons for Women" program. The program features short seminars and workshops on topics of interest to women, as well as career advising and counseling activities designed to assist women who are returning to school and entering careers. An information brochure is prepared quarterly listing college activities of interest to women, including information on Arts and Sciences courses, vocational-technical career programs, Community Education classes and other educational opportunities. The Expanding Horizons program sponsors Women's Assistance Sessions prior to each quarter for women who would like to continue their education and possibly pursue a career. These sessions provide information on counseling services, financial aid and registration procedures at Kirkwood. The college's Infant/Child Care Center is available to women attending Kirkwood classes and activities.

KIRKWOOD FOUNDATIONS

The primary objective of the Kirkwood Community College Foundation and the Kirkwood Community College Facilities Foundation is the strengthening of Kirkwood's scientific, literary and educational pursuits. As two private non-profit corporations, the foundations are empowered to solicit and receive tax deductible gifts, bequests and trusts; all for the benefit of Kirkwood Community College. Any gift to Kirkwood, restricted or unrestricted, may be made through the foundations.

The foundations encourage voluntary giving to provide more funds for scholarships, fellowships, student loans, library acquisitions, faculty grants and other college needs for which tax dollars are limited or unavailable.

Voluntary board members from Kirkwood's seven-county area assist in the many fund raising efforts.

ANNUAL FUND DRIVES

The foundations serve to channel gifts from alumni, friends, corporations and foundations to the college through annual fund drives. Many gifts are received each year as a result of these campaigns.

The foundations also coordinate planned giving in the form of deferred gifts through bequests, living trusts, testamentary trusts, life insurance agreements, life income contracts and gift annuities.

MEMORIAL FUNDS

Permanent memorials on the campus, "named" scholarships, professorships, facilities or areas in buildings also are coordinated through the foundations.

KIRKWOOD ALUMNI ASSOCIATION

The Alumni Association was founded to serve the needs and interests of students who complete programs at Kirkwood.

A 14-member Alumni Board of Directors meets monthly to plan and direct the comprehensive alumni program, which includes trips, reunions and service projects for Kirkwood graduates, as well as area residents. In addition, a major fund-raising event is conducted each year to solicit alumni support for the Kirkwood Alumni Scholarship Fund. The alumni directors are involved in such projects as student scholarships and commencement coffees.

Active membership in the Alumni Association includes all new graduates who wish to belong and past graduates who pay an annual membership fee of \$10. All graduates of Kirkwood, in addition to those students who have completed at least 45 hours of study, are considered to be alumni. The Alumni Affairs office is located in Iowa Hall.

ACADEMIC CALENDAR

1981-82

FALL 1981

| | |
|-----------------|---|
| August 25, 26 | Registration |
| August 27 | Classes begin |
| September 7 | College holiday, no classes, offices closed |
| September 2 | Last day to register late or add classes |
| November 4 | Last day to drop classes |
| November 25 | Quarter ends |
| November 26, 27 | College holiday, no classes, offices closed |

WINTER 1981-82

| | |
|----------------------------|---|
| November 30, December 1 | Registration |
| December 2 | Classes begin |
| December 8 | Last day to register late or add classes |
| December 25- January 1 | College holiday, no classes, offices closed |
| February 12 | Last day to drop classes |
| March 5 | Quarter ends |

SPRING 1982

| | |
|-------------|---|
| March 8, 9 | Registration |
| March 10 | Classes begin |
| March 16 | Last day to register late or add classes |
| April 9 | College holiday, no classes, offices closed |
| April 12-16 | Student recess days |
| May 14 | Last day to drop classes |
| May 31 | College holiday, no classes, offices closed |
| June 4 | Quarter ends |
| June 5 | Commencement |

SUMMER 1982

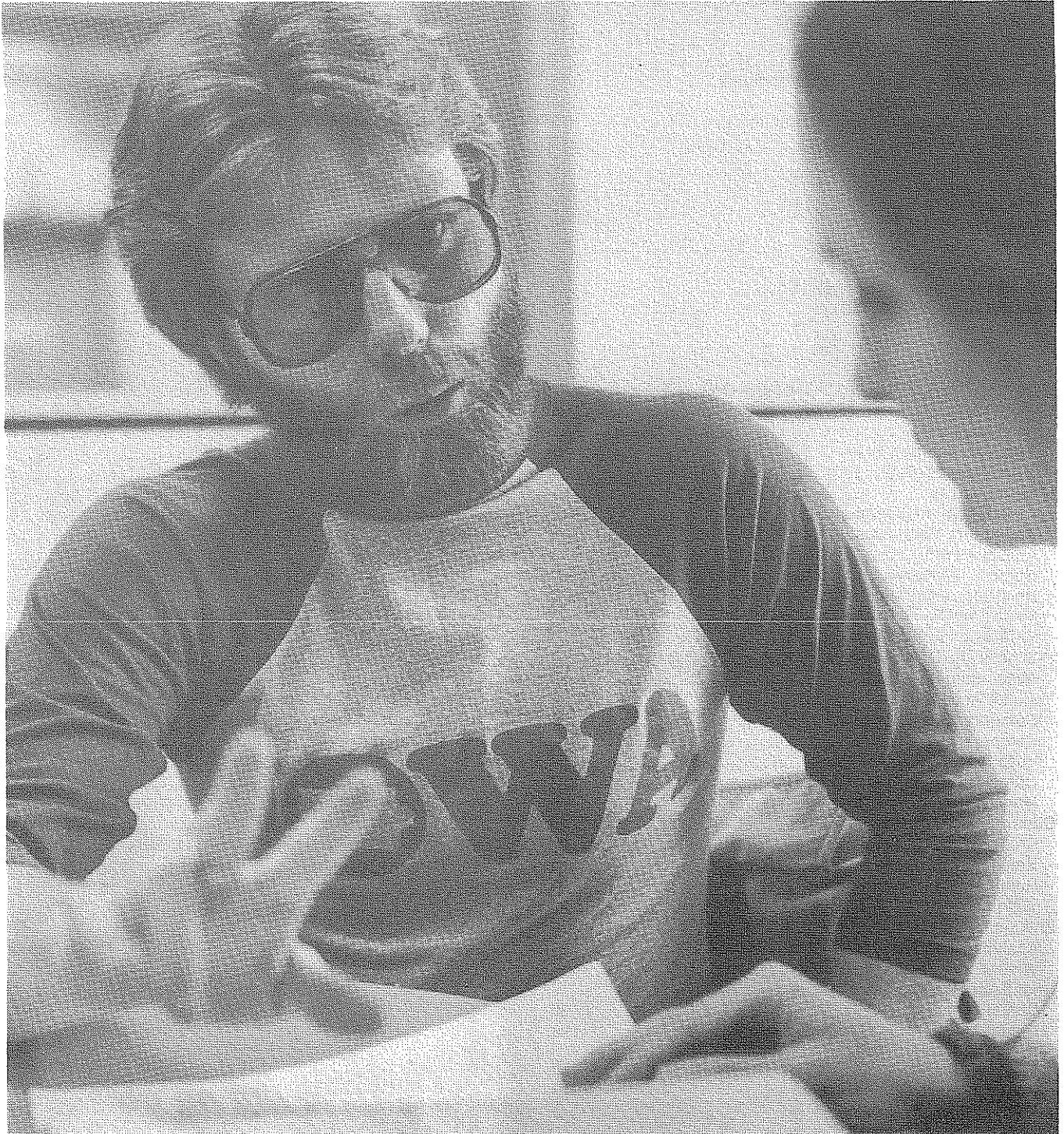
| | |
|-----------|---|
| June 7 | Registration |
| June 8 | Classes begin |
| June 14 | Last day to register late or add classes |
| July 5 | College holiday, no classes, offices closed |
| August 6 | Last day to drop classes |
| August 27 | Quarter ends |
| August 28 | Commencement |

Kirkwood's academic year begins during the last week in August and ends during the third week in August of the following year. The year is divided into four quarters, with both six-week and twelve-week classes held during the summer. Each quarter has an average of 60 instructional days, including finals and registration. No classes are held on Labor Day, Thanksgiving Day, Christmas Day, New Year's Day, Good Friday or Memorial Day. In addition, there are recesses centering around the Christmas and Easter holiday seasons.

The exact calendar for each year is recommended by the Academic Policies and Procedures Committee to the Vice President of Instruction, and presented to the Board of Trustees in early spring. Once approved, the calendar is printed and made available to students.

The 1981-82 calendar is printed here. The calendars for 1982-83 and 1983-84 should be available in April 1982 and 1983, respectively.

INSTRUCTIONAL PROGRAM



GUIDE TO COLLEGE PROGRAMS

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| Manufacturing Service Careers | 48 |
| Automotive Collision Repair | 48 |
| Automotive Mechanics | 48 |
| Communication Electronics | 48 |
| Electrical Equipment Servicing | 49 |
| Marketing and Distribution Careers | 49 |
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ARTS AND SCIENCES DIVISION



The Arts and Sciences Division offers three degrees: the Associate in Arts, the Associate in Science and the Associate in Science/Career Option.

GENERAL DEGREE REQUIREMENTS

1. Earn a minimum of 90 quarter hours of credit.
2. Earn the last 24 credit hours in residence at Kirkwood.
3. Maintain a minimum cumulative grade point average of 2.00.
4. Satisfactorily complete 8 quarter hours in Composition and 4 quarter hours in Speech.

SPECIFIC REQUIREMENTS FOR THE ASSOCIATE IN ARTS DEGREE

1. Complete general requirements described above.
2. Complete group requirements as follows:
 - A. Humanities — 12 quarter hours;
 - B. Math and Physical Sciences — 12 quarter hours;
 - C. Social Sciences — 12 quarter hours;
 - D. Distributed requirements — 12 quarter hours (will be taken from among the three divisions).
3. The remaining 30 quarter hours will be taken from Arts and Sciences electives designed for transfer, with the understanding that 24 quarter hours of vocational courses could be included in the 30.

SPECIFIC REQUIREMENTS FOR THE ASSOCIATE IN SCIENCE DEGREE

1. Complete general requirements described earlier.
2. Complete group requirements as follows:
 - A. Humanities — 8 quarter hours;
 - B. Social Sciences — 8 quarter hours;
 - C. Math and Physical Sciences — 30 credit hours.
3. The remaining 32 quarter hours will be taken from Arts and Sciences electives designed for transfer, with the understanding that 24 quarter hours of vocational courses could be included in the thirty-two.



SPECIFIC REQUIREMENTS FOR THE ASSOCIATE IN SCIENCE/CAREER OPTION DEGREE

D.P.I. approved career option programs are authorized to offer the Arts and Science/Career Option degree with the following requirements:

1. Complete general requirements described above.
2. Complete group requirements as follows:
 - A. Humanities — 8 quarter hours;
 - B. Math/Physical Science — 8 quarter hours;
 - C. Social Sciences — 8 quarter hours;
 - D. Career Option emphasis — 30 quarter hours.
3. The remaining 24 hours of electives may include 24 hours of Vocational-Technical Credits.

*For a complete definition of which courses fulfill which group requirements, see the Arts and Sciences core course description section, pp 21.



COLLEGE PARALLEL-TRANSFER CURRICULA

CAREER AREAS

College parallel-transfer curricula permit completion of the first two years of a bachelor's degree program. Students can begin their preparation for post-baccalaureate careers by carefully selecting courses in their Associate in Arts or Associate in Science degree program. Kirkwood's Arts and Sciences curricula can provide the initial course work leading to any of the career areas listed below.

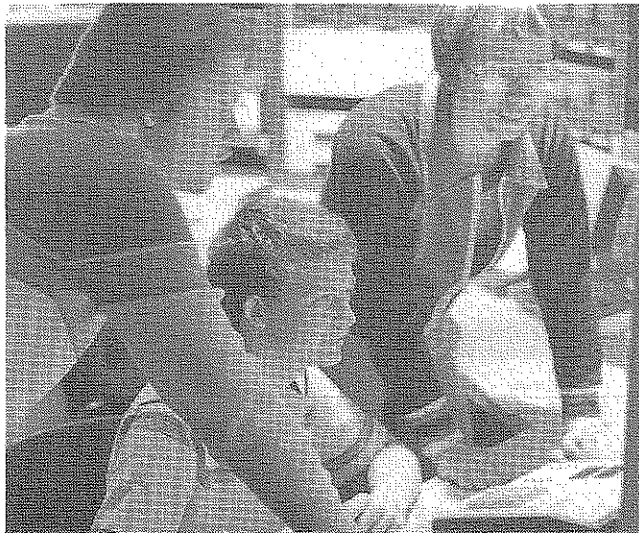
- Agriculture, Agribusiness and Natural Resources
- Business
 - Management
 - Banking and Finance
 - Accounting
- Communication and Media
 - Broadcasting
 - Journalism
- Consumer Affairs and Homemaking
- Engineering
- Environment
 - Fisheries and Wildlife Biologies
 - Pre-Environmental Science & Forestry
- Fine Arts and Humanities
- Health
 - Dentistry
 - Medicine
 - Nursing (BSN)
 - Pharmacy
 - Medical Technology
 - Physical Therapy
- Marketing and Distribution
- Personal Services
- Physical Education/Recreation
- Public Service
 - Social Work
 - Education
 - Law
 - Government
 - Transportation

COLLEGE MAJORS

The Arts and Sciences curricula also provide students with courses appropriate to most baccalaureate majors. With careful planning, students can complete the first two years of most college majors listed below. Faculty advisors and counselors can provide valuable assistance to students planning to transfer. Students should consult with an advisor or counselor when making course selections.

| | |
|-------------------------|--------------------|
| Accounting | Foreign Language |
| Agricultural Science | Forestry |
| Anthropology | History |
| Art | Journalism |
| Biochemistry | Liberal Arts |
| Biology | Literature |
| Biophysics | Math |
| Broadcasting | Music |
| Business Administration | Nursing |
| Chemistry | Physical Education |
| Computer Science | Political Science |
| Economics | Psychology |
| Education | Recreation |
| Engineering | Sociology |
| English | Speech |
| Environmental Studies | Statistics |
| Finance | |

COLLEGE TRANSFER-CAREER OPTION PROGRAMS



Several college transfer-career option programs are available to students. Persons who wish to study for one or two years in college transfer courses, but who also want to develop occupational skills suitable for employment immediately upon completion of one or two years of study, may find these career-oriented programs especially attractive. Credits earned in these programs may be applied towards a baccalaureate degree program at a four-year university or college. Descriptions of the college transfer/career option programs follow.

AIDE FOR THE HANDICAPPED

The Aide for the Handicapped program prepares students taking one year of study for work as para-professionals in a variety of school or community agencies serving the handicapped. Students learn to carry out special programs designed by a variety of professionals. After two years of study the student may be employed or may go on to pursue a four-year degree in a related field such as special education, social services or psychology. After successful completion of the required program courses, the student will be awarded a diploma.

Students working toward an Associate in Arts or Associate in Science degree must fulfill the general requirements for the degree, in addition to completing the required program courses listed on this page.

| REQUIRED PROGRAM COURSES | | Credit | Hrs. |
|--------------------------|--|--------|------|
| PY026T | Aide for the Handicapped-Orientation | 2 | 24 |
| PY027T | Skill Development-Observation and Management of Behavior | 4 | 48 |
| PY028T | Skill Development-Mainstreaming and Mild Disabilities | 4 | 48 |
| PY021T | Skill Development-Physical and Multiple Disabilities | 4 | 48 |
| PY029T | Practicum and Seminar-Aide for the Handicapped I | 4 | 130 |
| PY030T | Practicum and Seminar-Aide for the Handicapped II | 8 | 264 |
| MS001T | First Aid/CPR | 1 | 12 |
| PD005T | Human Potential Lab | 2 | 24 |
| PY002T | General Psychology | 4 | 48 |
| PY020T | Psychology of Growth and Development | 4 | 48 |
| PY024T | Exceptional Child | 4 | 48 |
| CM101T | Composition I | 4 | 48 |

RECOMMENDED ELECTIVES

| | | | |
|--------|------------------------------------|---|----|
| PY004T | Educational Psychology | 4 | 48 |
| PY009T | Introduction to Teaching | 4 | 48 |
| PY004T | American Public Education | 4 | 48 |
| PY035T | Introduction to Mental Retardation | 4 | 48 |
| PY025T | The Young Child | 4 | 48 |
| SO004T | Introduction to Sociology | 4 | 48 |
| SO011T | Juvenile Delinquency | 4 | 48 |
| SO006T | Social Problems | 4 | 48 |
| LT001T | Children's Literature | 4 | 48 |
| LS001T | Instruction in Educational Media | 3 | 36 |

COMMUNICATIONS MEDIA AND TECHNOLOGY

Kirkwood's program in Communications Media and Technology is designed to give students a broad base of experience with the communications industry. Built around a solid arts and sciences core, it is suited both for the student who wishes to pursue a four-year college degree and for the student who plans to seek employment following graduation from Kirkwood.

Because most jobs in the communications field require a generalist's view of the world combined with a specialist's expertise, the program requires

all students to do both theoretical and practical course work. After learning how to use the technology across the field, students elect an area of specialization and work intensively to develop skills suited to their particular career interests. These might include working as a creative writer, TV news photographer, media aide or radio announcer.

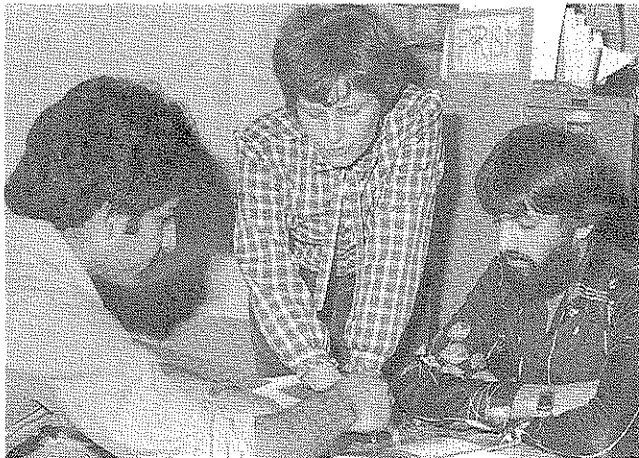
A college parallel/career option program, the Communications Media and Technology course of study can be completed in two years by a full-time student or over a longer period of time by a part-time student.

In order to earn the degree in communications, students must fulfill the general requirements for either the Associate in Arts or Associate in Science degree and complete the required program courses listed below.

REQUIRED PROGRAM COURSES

All students in the program are required to take the core courses listed below.

| | | Credits | Hrs. |
|--------|--------------------------------------|---------|--------|
| JO101T | Introduction to Communications Media | 4 | 48 |
| CM214T | Media Lab | 3 | 48 |
| JO106T | Promotion and Public Relations | 3 | 36 |
| LW026T | Legal and Ethical Issues | 2 | 24 |
| MK025T | Principles of Advertising | | |
| | or | | |
| MK001T | Principles of Marketing | 4 | 48 |
| CM316T | Special Projects | 1-3 | 36-108 |
| CM317T | Internship | 6 | |



ADDITIONAL REQUIRED PROGRAM COURSES

Depending upon the career specialization chosen, students must complete specified courses from the listing that follows. Possible areas of specialization are: community newspaper journalist, creative writer, advertising copy writer, radio/TV news reporter, radio announcer/operator, TV production assistant, media aide, media production specialist, news photographer, media artist, radio account executive and media buyer.

| | | Credits | Hrs. |
|--------|--|---------|--------|
| CM316T | Special Projects | 1-3 | 36-108 |
| JO102T | Journalism Lab | 2 | 24 |
| CM306T | Radio and TV Presentation | 2 | 24 |
| AT014T | Lettering | 2 | 48 |
| AT008T | Design I | 2 | 48 |
| AT009T | Design II | 2 | 48 |
| AT010T | Design III | 2 | 48 |
| AT011T | Drawing I | 2 | 48 |
| AT012T | Drawing II | 2 | 48 |
| AT013T | Drawing III | 2 | 48 |
| MK003T | Principles of Selling | 4 | 48 |
| MK001T | Principles of Marketing | 4 | 48 |
| JO103T | Introduction to Photography | 3 | 48 |
| AT019T | Intermediate Photography (Black & White) | 3 | 48 |
| JO104T | Photojournalism | 3 | 48 |
| JO105T | News Writing and Editing | 4 | 48 |
| JO108T | Advanced Reporting | 3 | 36 |
| CM307T | Radio Production I | 1 | 12 |
| CM308T | Radio Production II | 1 | 12 |
| CM309T | Radio Production III | 1 | 12 |
| CM313T | TV Production I | 1 | 12 |
| CM314T | TV Production II | 1 | 12 |
| CM315T | TV Production III | 1 | 12 |
| CM310T | Audio/Video Production I | 1 | 12 |
| CM311T | Audio/Video Production II | 1 | 12 |
| CM312T | Audio/Video Production III | 1 | 12 |
| AT036T | Color Photography | 3 | 48 |
| JO107T | Advanced Layout | 2 | 48 |
| CM201T | Public Communication | 4 | 48 |
| CM318T | Broadcast Writing | 3 | 36 |

CRIMINAL JUSTICE

The Criminal Justice program has two areas of emphasis: Law Enforcement and Corrections. The student need not select an area of emphasis until completion of approximately one-third of the program, thus providing each student the maximum opportunity to determine which career area to select.

The program's emphasis is on individual interests; therefore internships, experience credit examinations and certification procedures are offered. All are designed to assist the student to prepare for a career in the criminal justice system, either after completion of the Associate in Arts Degree or after transfer to a four-year college or university.

Students must fulfill the general requirements for the Associate in Arts or Associate in Science degree, in addition to completing the required program courses listed below.

LAW ENFORCEMENT

REQUIRED PROGRAM COURSES*

| | | Credits | Hrs. |
|---------|-----------------------------------|---------|------|
| *LE009T | Introduction to Criminal Justice | 4 | 48 |
| *LW003T | Criminal Law | 4 | 48 |
| *SO007T | Criminology | 4 | 48 |
| *SO011T | Juvenile Delinquency and Deviance | 4 | 48 |
| *LW007T | Constitutional Law | 4 | 48 |

RECOMMENDED ELECTIVES

| | | Credits | Hrs. |
|--------|---|---------|------|
| LE002T | Patrol Procedures | 4 | 48 |
| LE010T | Traffic Safety and Accident Investigation | 4 | 48 |
| LW004T | Applications of Criminal Law | 4 | 48 |
| LE012T | History of the Police in America | 4 | 48 |
| CO006T | Race Relations in the Criminal Justice System | 4 | 48 |
| LW002T | Criminal Evidence | 4 | 48 |
| LE004T | Criminal Investigation | 4 | 48 |
| LE005T | Crime Scene Investigation | 4 | 48 |
| LW001T | Criminal Procedural Law | 4 | 48 |
| CO002T | Introduction to Community Corrections | 3 | 36 |

The law enforcement major must take the courses marked with an * plus at least three (3) of the recommended electives in order to receive the Associate in Arts degree with a major in Law Enforcement.

CORRECTIONS

REQUIRED PROGRAM COURSES*

| | | Credits | Hrs. |
|---------|-----------------------------------|---------|------|
| *LE009T | Introduction to Criminal Justice | 4 | 48 |
| *LW003T | Criminal Law | 4 | 48 |
| *SO007T | Criminology | 4 | 48 |
| *SO011T | Juvenile Delinquency and Deviance | 4 | 48 |
| *LW007T | Constitutional Law | 4 | 48 |

RECOMMENDED ELECTIVES

| | | Credits | Hrs. |
|--------|---|---------|------|
| SO006T | Social Problems | 4 | 48 |
| PY020T | Psychology of Growth and Development | 4 | 48 |
| CO004T | Penology | 4 | 48 |
| SO013T | Sociology of Poverty | 4 | 48 |
| PY039T | Social Psychology | 4 | 48 |
| CO006T | Race Relations in the Criminal Justice System | 4 | 48 |
| CO002T | Introduction to Community Corrections | 3 | 36 |

The Community Corrections Associate must take the courses marked with an *, plus at least three (3) of the courses from the list of recommended electives in order to receive the Associate in Arts degree with a major in Corrections.

FIRE SCIENCE

This program is designed to prepare students for entering the firefighting field, as well as to provide upgrade training for current fire personnel. About 60 percent of the course work in the program is in liberal arts studies, with the remaining portion related to gaining a knowledge of fire behavior, firefighting methods and fire prevention.

Students working toward an Associate in Arts or Associate in Science degree must fulfill the general requirements for the degree, in addition to completing the required program courses listed below.

| REQUIRED PROGRAM COURSES | | Credits | Hrs. |
|--------------------------|--|---------|------|
| FS001T | Introduction to History and Philosophy of Fire Science | 2 | 24 |
| FS012T | Fire Behavior | 4 | 48 |
| FS010T | Building Design for Fire Protection | 4 | 48 |
| FS002T | Fire Protection Systems and Equipment | 4 | 48 |
| FS007T | Hazardous Materials | 4 | 48 |
| FS003T | Industrial Fire Protection and Security | 2 | 24 |
| FS004T | Fluid Flows | 4 | 48 |
| FS006T | Fire Investigation | 2 | 24 |
| FS009T | Fire Protection Administration and Management | 2 | 24 |
| FS008T | Tactics for Fire Protection | 3 | 36 |
| FS005T | Strategic Planning for Fire Protection | 3 | 36 |
| FS013T | Fire Insurance | 3 | 36 |

HUMAN SERVICES

This is a competency-based program that focuses on human psychology, record-keeping, social policy, social programs, communication, interviewing, observations, group process and problem solving. Mastery of the competencies will qualify students for a variety of entry-level positions, such as income maintenance workers, youth care workers in an adolescent group home, recreational aide in a residential facility, an intake worker in any social service agency, an outreach worker, a social worker aide or a worker on a crisis line.

This is a college parallel/career option program that can be completed in two years with the student earning an Associate in Arts or Associate of Science degree. Part-time students may also enter the program and complete the requirements over a longer period of time. After graduation from Kirkwood, students will be qualified either to enter as juniors in a four-year college or seek employment as a human service worker.

Students must fulfill the general requirements for an Associate in Arts or Associate in Science degree, in addition to completing the required program courses listed below.

| REQUIRED PROGRAM COURSES | | Credits | Hrs. |
|--------------------------|--------------------------------|---------|------|
| SW009T | Introduction to Human Services | 4 | 48 |



| | | | |
|--------|-----------------------------------|---|-----|
| SW010T | Human Service Policy and Programs | 4 | 48 |
| SW011T | Making Observations | 4 | 48 |
| SW012T | Intervention Skills | 4 | 48 |
| SW005T | Field Experience and Seminar I | 6 | 192 |
| SW007T | Field Experience and Seminar II | 9 | 300 |
| PD004T | Human Potential Lab | 2 | 24 |
| CM204T | Speech Communication | 4 | 48 |
| PY002T | General Psychology | 4 | 48 |
| PY020T | Human Growth and Development | 4 | 48 |
| SO006T | Social Problems | 4 | 48 |
| CM202T | Speech Communication | 3 | 36 |

INTERNATIONAL TRADE

The International Trade program, six quarters in length, is designed to prepare people to meet the challenge of increasing world trade in the years ahead. Students who complete the program will be prepared for employment managing export and import functions in businesses and industries.

The program is structured to prepare people for employment upon receiving the Associate in Arts degree. Students who desire increased opportunities for advancement may transfer to four-year colleges to complete a bachelor's degree. Course credits earned are transferable. Enrollment may be on a part-time or full-time basis.

Students must fulfill the general requirements for the Associate in Arts or Associate in Science degree in addition to completing the required program courses listed below.

| REQUIRED PROGRAM COURSES | | Credits | Hrs. |
|--------------------------|------------------------------|---------|------|
| MK014T | Exploring World Trade | 3 | 36 |
| MK017T | Techniques of Exporting | 3 | 36 |
| MK021T | Foreign Trade Documentation | 3 | 36 |
| MK022T | International Transportation | 3 | 36 |
| MK024T | International Business | 3 | 36 |
| MK027T | Advanced Documentation | 3 | 36 |
| SO006T | Cultural Anthropology | 4 | 48 |
| AM003T | Business Internship | 9 | 324 |
| EC015T | Business Economics | 4 | 48 |

| | | | |
|--------|-----------------------------------|---|----|
| CM117T | Composition II: Technical Writing | 4 | 48 |
| CM201T | Public Communication | 4 | 48 |
| GE001T | Human Geography | 4 | 48 |
| DP001T | Introduction to Data Processing | 3 | 36 |
| AM036U | Traffic and Transportation | 3 | 36 |

RECOMMENDED ELECTIVE COURSES

| | | | |
|--------|---------------------------------|---|----|
| EC013T | Principles of Economics (Macro) | 4 | 48 |
| AM052T | Introduction to Management | 2 | 24 |
| AC001T | Principles of Accounting I | 4 | 48 |
| MK003T | Principles of Selling | 4 | 48 |
| MK001T | Principles of Marketing | 4 | 48 |
| OE006T | College Typing I | 3 | 72 |
| LW005T | Business Law I | 4 | 48 |

LEGAL ASSISTANT

Approved by the American Bar Association and the Iowa Bar Association, the program is designed for students desiring employment as Legal Assistants. The program requires a minimum of six quarters to complete.

The general objective of the Kirkwood Legal Assistant Program is to train the student to perform the legal work that would enable the employer attorney to deliver better legal services. The specific program objectives are to train the student to perform tasks, listed below, which are frequently expected of a legal assistant. Upon completion of the program, the legal assistant, under the supervision of a lawyer, can be expected to:

1. Prepare or interpret routine legal documents.
2. Engage in dialogue with the attorney and others, on substantive areas of the law, including probate, tax, contracts, domestic relations, real estate, torts, litigation, bankruptcy, commercial law and business enterprises.
3. Research, select, compile and use technical legal information within the law library.
4. Comprehend and project the ethics of the lawyer as a member of the legal team, knowing the role of each member.
5. Communicate accurately, both orally and in writing.

Upon completion of the program, the student receives an Associate in Science/Career Option degree. In addition to the 36 quarter hour core requirement, the student must satisfactorily complete all the required program courses and a minimum of 12 hours of elective program courses for a total of 90 quarter hours.

As an alternative transfer degree, the student can receive an Associate in Arts degree. In addition to the 60 quarter hour core requirement, the student must satisfactorily complete all the required program courses for a total of 102 quarter hours.

REQUIRED PROGRAM COURSES

| | Credits | Hrs. |
|--------|-----------------------------|------|
| LW009T | Research | 3 36 |
| LW005T | Business Law I | 4 48 |
| AC018T | Income Tax | 4 48 |
| LW029T | Legal Writing | 3 36 |
| LW030T | Legal Ethics | 1 12 |
| LW011T | Estates and Trusts I | 3 36 |
| LW012T | Estates and Trusts II | 3 36 |
| LW015T | Torts | 3 36 |
| LW016T | Civil Litigation | 3 36 |
| LW017T | Business Organizational Law | 3 36 |
| LW014T | Legal Internship | 2 72 |
| LW019T | Real Estate Law | 4 48 |
| LW024T | Domestic Relations | 3 36 |
| AC001T | Principles of Accounting I | 4 48 |

PROGRAM ELECTIVES

| | | |
|--------|--------------------------|------|
| LW026T | Law Office Management | 3 36 |
| AC020T | Tax III: Advanced | 3 36 |
| LW023T | Bankruptcy Law | 3 36 |
| AC016T | Income Tax for Business | 3 36 |
| LW013T | Tax IV: Estate and Gifts | 3 36 |
| LW006T | Business Law II | 4 48 |

PURCHASING

The Purchasing program is designed to prepare students for careers in the purchasing field. Job opportunities exist in both the private industrial sector as well as in federal, state and local governments. Purchasing includes such activities as the research and development required for the proper selection of materials and the sources of supply from which those materials may be bought; the follow-up procedures necessary to insure proper delivery; the negotiations with suppliers for the final price; the assurance that both quality and quantity are in compliance with specifications and orders as placed; and the development of proper procedures, methods and forms to enable the purchasing department to carry out established policies.

The Purchasing program is six quarters in length and features a combination of general education, business education and technical purchasing courses. The program provides on-the-job training in which the student gains actual work experience.

Graduates receive an Associate in Arts or Associate in Science degree.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 15 to 17 credit hours per quarter.

Students must fulfill the general requirements for the A.A. or A.S. degree, in addition to completing the required courses listed below.

REQUIRED PROGRAM COURSES

| | Credits | Hrs. |
|--------|---------------|------|
| MK028T | Purchasing I | 3 36 |
| MK029T | Purchasing II | 3 36 |

| | | | |
|--------|---------------------------------|---|----|
| LW027T | Contract Law I | 3 | 36 |
| LW028T | Contract Law II | 3 | 36 |
| AM090T | Cost and Price Analysis | 3 | 36 |
| AM089T | Negotiations | 3 | 36 |
| EC013T | Principles of Economics (Macro) | 4 | 48 |
| EC014T | Principles of Economics (Micro) | 4 | 48 |
| MA041T | Fundamentals of Statistics | 5 | 60 |
| MA043T | Finite Math | 5 | 60 |

RECOMMENDED ELECTIVES

| | | | |
|--------|-------------------------|---|-----|
| MK001T | Principles of Marketing | 4 | 48 |
| | Business Elective | 4 | 48 |
| MK003T | Principles of Selling | 4 | 48 |
| | Business Electives | 6 | 72 |
| CE001T | Co-op Education | 9 | 108 |

TEACHER ASSOCIATE

This program is designed to prepare students to work in schools, day care centers and other "educational" settings as paraprofessionals. The program consists of specific skills training, general education and experience working with children or youth in a school setting. In addition, the student will have the option of transferring the credits earned in this program toward teacher certification degree programs at four-year colleges. The Teacher Associate curriculum serves as a strong first two years of a teaching degree program.

The student who completes the program should be prepared to function in a variety of roles as part of a teaching team and would typically work as an aide or associate to a teacher.

Students must fulfill the general requirements for the Associate in Arts or Associate in Science/Career Option degree, in addition to completing the required program courses listed below.

REQUIRED PROGRAM COURSES

| | | Credits | Hrs. |
|--------|--------------------------------------|---------|------|
| PY002T | General Psychology | 4 | 48 |
| PY020T | Psychology of Growth and Development | 4 | 48 |
| LS008T | Introduction to Uses of Library I | 1 | 12 |
| LS009T | Introduction to Uses of Library II | 1 | 12 |
| OE006T | Typing I | 2 | 48 |
| LT001T | Children's Literature | 4 | 48 |
| PY007T | Teacher Associate Field Experience | 4 | 144 |
| PY005T | American Public Education | 4 | 48 |
| PY009T | Introduction to Teaching | 4 | 48 |
| | or | | |
| PY003T | Teachers Associate Seminar | 1 | 12 |
| LS001T | Instruction in Educational Media | 3 | 36 |

RECOMMENDED ELECTIVES

| | | | |
|--------|--|---|----|
| PY025T | The Young Child | 4 | 48 |
| PS002T | American Government | 4 | 48 |
| MS001T | First Aid | 1 | 12 |
| AT001T | Art Appreciation | 4 | 48 |
| PY004T | Educational Psychology | 4 | 48 |
| PD005T | Human Potential | 2 | 24 |
| DP006T | Introduction to Data Processing and Computer Science | 4 | 48 |
| PY024T | The Exceptional Child | 4 | 48 |
| HY016T | Europe in the Age of Monarchy | 4 | 48 |

Special Program with the State University of New York

PRE-ENVIRONMENTAL SCIENCE AND FORESTRY

This program is designed for those students who ultimately desire a B.S. degree in environmental science and/or forestry from the State University of New York (SUNY) College of Environmental Science and Forestry, an upper division/graduate center in Syracuse.

After the first two years of study at Kirkwood Community College, transfers to Environmental Science and Forestry may apply to a variety of programs at Syracuse, which include the biological sciences (botany and forest pathology, entomology, zoology, wildlife biology, silvics); chemistry (natural products, polymers, biochemistry); forest engineering; paper science and engineering; wood products engineering; and resource management (forest resource science, management science, environmental education and communications, urban forestry, world forestry, applied resource management). This program in landscape architecture leads to a B.S. degree in environmental studies and, after one additional year, a Bachelor of Landscape Architecture degree.

Persons planning to transfer should follow the program requirements in consultation with Kirkwood's pre-Environmental Science and Forestry campus advisor for selection of electives, which vary according to the curriculum in Environmental Science and Forestry.

Successful graduates of Kirkwood Community College's Pre-Environmental Science and Forestry Program generally gain admission to the SUNY College of Environmental Science and Forestry with full junior class status.

CREDIT BY EXAMINATION

Students in the Arts and Sciences Division may earn up to 32 quarter hours of credit through general examinations of the College Level Examination Program (CLEP). In addition, a wide variety of subject matter examinations are available to enable students to earn college credit for their knowledge in various subject areas, thereby allowing them to test out of individual courses. Information about these examinations may be obtained from the Counseling Office.

ENGLISH AS A SECOND LANGUAGE

The English as a Second Language program is a full-time English and orientation program for non-English speaking persons.

The English as a Second Language program is designed to provide instruction to help the non-English speaker to reach a level of proficiency in speaking English that is necessary for employment or attending school. Students may learn at their own pace and stay in the program until reaching the level of proficiency necessary to enter a credit program.

New students are required to complete two quarters of Orientation to American Culture. This course is intended to supplement instruction received through the English as a Second Language program. The course presents information that will help the student to understand the American educational system, the United States governmental system, and American institutions and customs. Program planning is the principal concern of the second quarter of the course. Students participate in conversations, take quizzes, make oral reports and learn notetaking.

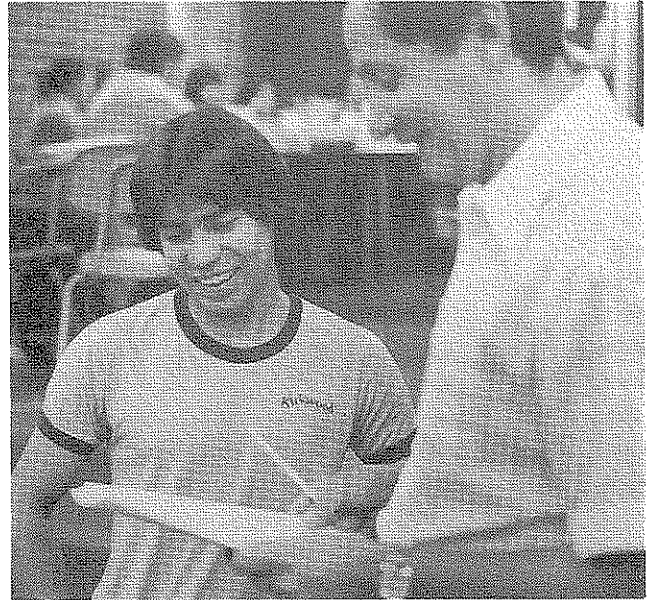
CORE COURSES APPLICABLE TO A.A., A.S., AND A.S./CAREER OPTION DEGREE REQUIREMENTS

COMMUNICATIONS

| Course | Hrs. |
|---|------|
| Composition I | 4 |
| Composition II or Composition II, Technical Writing | 4 |
| Speech Communication or Public Communication | 4 |

HUMANITIES

| Course | Hrs. |
|---|------|
| Introduction to Fiction | 4 |
| Introduction to Dramatic Literature | 4 |
| Introduction to Poetry | 4 |
| Introduction to Film | 4 |
| Children's Literature | 4 |
| Masterpieces of World Literature: The Ancient World | 4 |
| Masterpieces of World Literature: Medieval, Renaissance and Neo-classical Prose | 4 |
| Masterpieces of World Literature: 19th and 20th Centuries | 4 |
| Science Fiction | 4 |
| Literature of Terror | 4 |
| Black Literature | 4 |
| Popular Literature | 4 |
| American Literature | 4 |
| Selected Topics in Literature | 2-3 |



| | |
|--|---|
| Elementary French, Spanish or German I | 4 |
| II | 4 |
| III | 4 |
| Intermediate French, Spanish or German I | 3 |
| II | 3 |
| III | 3 |
| French Civilization I | 3 |
| French Civilization II | 3 |
| French Civilization III | 3 |
| Spanish-American Civilization | 3 |
| Spanish Civilization | 3 |
| Advanced German I | 3 |
| Advanced German II | 3 |
| Advanced German III | 3 |
| U. S. History: 17th and 18th Century | 4 |
| U. S. History: 19th Century | 4 |
| U. S. History: 20th Century | 4 |
| Europe in the Age of Monarchy | 4 |
| Europe in the Age of Liberalism | 4 |
| Europe in the Age of Totalitarianism | 4 |
| Introduction to Theatre | 3 |
| Music Appreciation | 4 |
| Introduction to Philosophy | 4 |
| Introduction to Religion | 4 |
| Art History: Pre 15th Century | 3 |
| Art History: 15-19th Century | 3 |
| Art History: 20th Century | 3 |
| Art Appreciation | 4 |
| Encounter in Humanities | 4 |

MATHEMATICS/SCIENCES

| Course | Hrs. |
|----------------------------|------|
| Intermediate Algebra | 5 |
| College Algebra | 5 |
| Trigonometry | 5 |
| Analytic Geometry | 5 |
| Calculus I | 5 |
| Calculus II | 5 |
| Calculus III | 5 |
| Differential Equations I | 5 |
| Differential Equations II | 4 |
| Linear Algebra | 5 |
| Fundamentals of Statistics | 5 |
| Finite Math | 5 |
| Principles of Biology | 4 |



| | |
|------------------------------------|---|
| Biology of Organisms | 4 |
| Environmental Biology | 4 |
| Introduction to Genetics | 4 |
| Invertebrate Zoology I | 4 |
| Invertebrate Zoology II | 4 |
| Vertebrate Zoology I | 4 |
| Vertebrate Zoology II | 4 |
| Human Anatomy and Physiology I | 4 |
| Human Anatomy and Physiology II | 4 |
| Human Anatomy and Physiology III | 4 |
| Man in the Environment/Atmosphere | 3 |
| Man in the Environment/Hydrosphere | 3 |
| Man in the Environment/Lithosphere | 2 |
| Energy Today | 3 |
| Microbiology I | 4 |
| Microbiology II | 3 |
| Introductory Geology | 4 |
| General Botany I | 4 |
| General Botany II | 4 |
| Principles of Chemistry (lecture) | 3 |
| Principles of Chemistry (lab) | 1 |
| Fundamentals of Organic Chemistry | 4 |
| Fundamentals of Biochemistry | 4 |
| Nutrition | 4 |
| General Chemistry I | 5 |
| General Chemistry II | 5 |
| Quantitative Analysis | 6 |
| Organic Chemistry I | 4 |
| Organic Chemistry II | 4 |
| Organic Chemistry III | 4 |
| Astronomy | 4 |
| 21st Century Introductory Physics | 4 |
| Science and Society | 4 |
| College Physics I | 4 |
| College Physics II | 4 |
| College Physics III | 4 |
| General Physics I | 4 |
| General Physics II | 4 |
| General Physics III | 4 |
| Man Evolving | 4 |
| Introduction to Engineering | 3 |
| Engineering Graphics I | 3 |
| Statics | 3 |
| Dynamics | 5 |
| Thermodynamics I | 6 |

| | |
|--|---|
| Introduction to Engineering Computations | 3 |
| Materials Science I | 5 |
| Introduction to Electrical Science | 5 |
| Mechanics of Deformable Bodies | 5 |
| Evolution of the Earth | 4 |
| Medical Physics | 4 |

SOCIAL SCIENCE

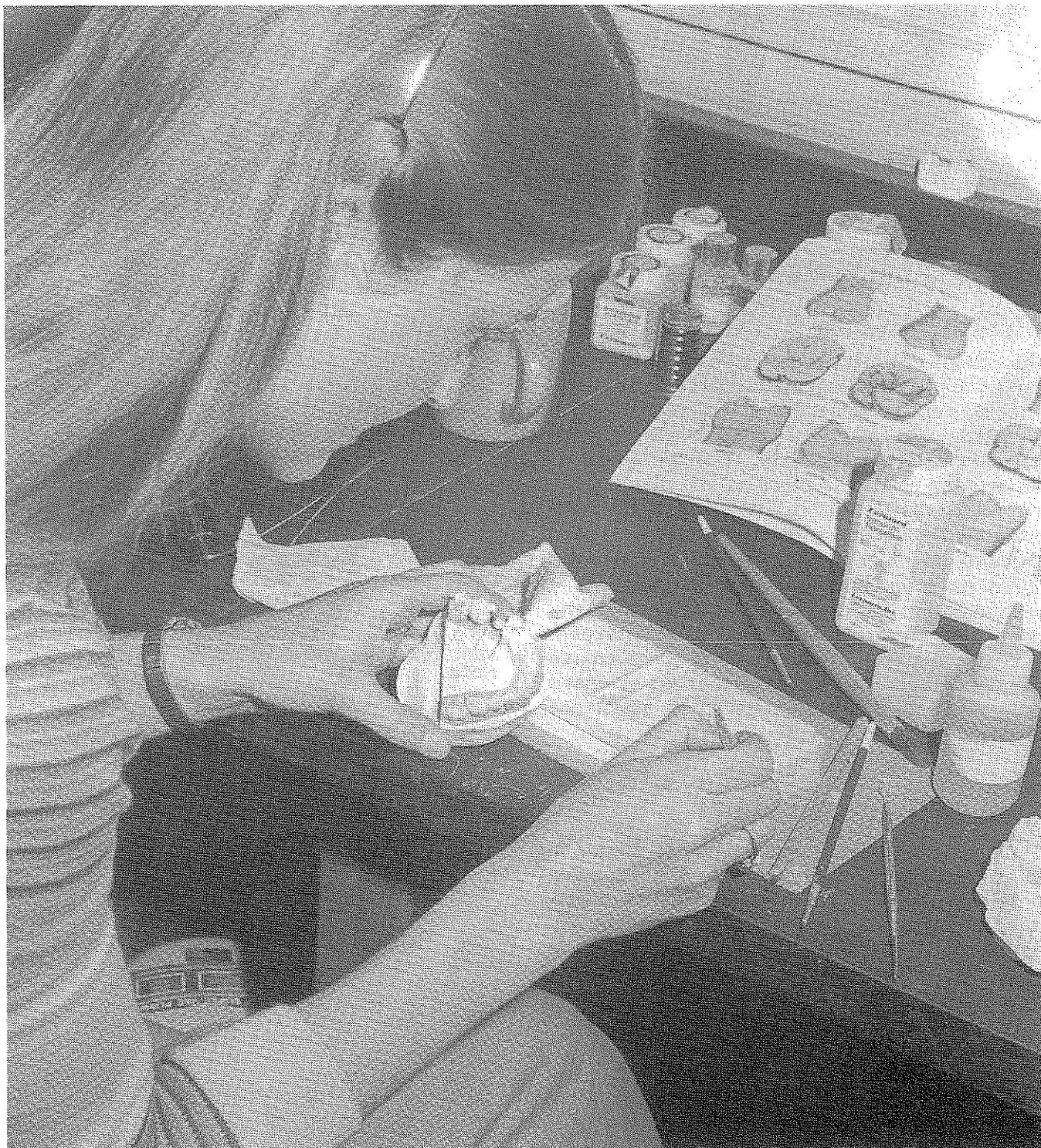
The courses listed below satisfy the Social Science requirements. In order to meet requirements of four-year institutions, it is often advisable to complete course sequences within a discipline rather than selecting one course from each of several disciplines. Some courses can satisfy either the Social Science or Humanities requirements. However, one course cannot be counted in both areas simultaneously.

| Course | Hrs. |
|---|------|
| Introduction to Criminal Justice | 4 |
| U. S. History/17th and 18th Century | 4 |
| U. S. History/19th Century | 4 |
| U. S. History/20th Century | 4 |
| Introduction to Sociology | 4 |
| Social Problems | 4 |
| Marriage and the Family | 4 |
| Sociology of Poverty | 4 |
| Introduction to Teaching | 4 |
| Juvenile Delinquency and Deviancy | 4 |
| Criminology | 4 |
| Educational Psychology and Measurement | 4 |
| General Psychology | 4 |
| Principles of Economics (Macro) | 4 |
| Principles of Economics (Micro) | 4 |
| Contemporary Economic Problems | 4 |
| Social Psychology | 4 |
| Europe in the Age of Monarchy | 4 |
| Europe in the Age of Liberalism | 4 |
| Europe in the Age of Totalitarianism | 4 |
| Psych of Human Growth: Conception to Senescence | 4 |
| Human Geography | 4 |
| Iowa Government Today and Tomorrow | 4 |
| American Federal Government | 4 |
| International Relations | 4 |
| Comparative Governments | 4 |
| American Public Education | 4 |
| Man and the Environment/Atmosphere | 1 |
| Man and the Environment/Hydrosphere | 1 |
| Man and the Environment/Lithosphere | 2 |
| Energy Today | 1 |
| Introduction to Cultural Anthropology | 4 |
| Exceptional Child | 4 |
| Social Science Methods | 4 |
| Constitutional Law | 4 |
| Human Service Policies and Programs | 4 |
| Criminal Law | 4 |

DISTRIBUTED REQUIREMENTS (A.A. degree)

An additional 12 credit hours must be selected from any of the core courses listed above in Humanities, Math/Sciences or Social Sciences.

VOCATIONAL-TECHNICAL DIVISION





AGRIBUSINESS & NATURAL RESOURCES

AGRIBUSINESS

The college offers two Agribusiness programs designed to prepare students for careers in agriculture sales and services. The programs are Agriculture Supply Sales and Service (day) and Agribusiness Management (evening). These programs offer courses related to stocking and merchandising, feed, grain, fertilizers, chemicals, seed, hardware or animal health products.

Students may take either program or a combination of the programs, depending on whether they wish to attend classes in the day or evening, and depending on the type of previous work experience and education they have had. Since course needs of students vary a great deal, the student's program of study is designed with the assistance of an advisor.

AGRICULTURE SUPPLY SALES AND SERVICES (Day)

Students successfully completing 108 credits in this program receive an Associate in Applied Science degree. A diploma is awarded upon successful completion of 53 credits. A typical full-time student would take 12 to 19 credits per quarter and be in classes between 260 and 360 contact hours per quarter. It is recommended that students take a minimum of two six-week employment experience periods as part of the program.

In addition to the specific required courses indicated in the course listing, diploma students are also required to take a minimum of 14 credits of production type courses, a minimum of 13 credits

of technical courses in livestock, crops, records and mechanics. An additional 2 credits of related business courses is also required.

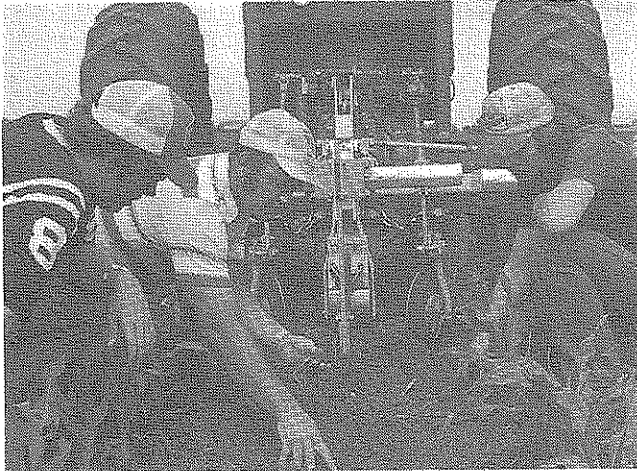
Degree students are required to complete the requirements indicated in the course listings. They are also required to have a minimum of 15 credits of technical livestock, crop or business management courses and 5 credits of business related courses. In addition, a minimum of 65 credits are needed in a major curriculum area.

Students can receive advanced standing credit for prior education or experience.

All veterans must take the required number of credit hours per quarter in order to graduate within the approved number of quarters for this program. This will be 16 to 19 credit hours per quarter.

The following are some approved and suggested courses. Students may select courses from the list below or others, as stated earlier, with approval of their associate department head and faculty advisor. A faculty member will be able to list the required courses.

| TECHNICAL COURSES | | Credit | Hrs. |
|-------------------|--|--------|--------|
| *AG109U | Ag. Power Unit Operations | 2 | 48 |
| AC008U | Agribusiness Records | 3 | 48 |
| AM025U | Agribusiness Practices | 3 | 48 |
| MK002U | Basic Ag Salesmanship | 1-4 | 36-96 |
| AG012U | Employment Experience | 6 | 240 |
| AG071U | Swine Breeding and Genetics | 4 | 72 |
| AG092U | Beef Breeding and Reproduction | 3 | 48 |
| AG065U | Beef Feeding and Nutrition | 3 | 48 |
| AG131U | Modern Crop Production | 3 | 48 |
| AG159U | Swine Nutrition and Feeding | 3 | 48 |
| AG114U | Crop Production Orientation | 4 | 72 |
| AG287U | Applied Beef Husbandry | 1-6 | 24-216 |
| AG284U | Crop Harvesting and Drying | 4 | 72 |
| AG063U | Beef Industry | 4 | 72 |
| AG064U | Beef Feedlot Production | 4 | 72 |
| AG072U | Swine Records & Management | 3 | 48 |
| AG230U | Animal Selection & Production Efficiency | 3 | 48 |
| AG150U | Livestock Nutrition | 2 | 36 |
| AG232U | Swine Health & Pig Care | 4 | 72 |
| AG006T | Principles of Crop Production | 4 | 48 |
| MK003U | Agricultural Product Marketing | 2 | 36 |
| AG115U | Modern Crop Production | 1-4 | 36-96 |
| AG250U | Beef Cow-Calf Production | 4 | 72 |
| AG233U | Swine Facilities Equipment | 4 | 72 |
| AG079U | Field Crop Planning | 4 | 72 |
| AG200U | Animal Health Products | 3 | 36 |
| AG017U | Field Crop Production | 4 | 72 |
| AG073U | Swine Evaluation & Selection | 4 | 72 |
| AG061U | Ruminant Nutrition | 3 | 36 |
| EC004U | Agricultural Economics I | 3 | 48 |
| *AG012U | Employment Experience | 6 | 240 |
| AG003U | Agribusiness Procedures | 4 | 48 |
| AG012U | Employment Experience | 6 | 240 |
| MK035U | Agribusiness Salesmanship | 1-4 | 36-96 |
| AM004U | Agriculture Foremanship | 4 | 48 |
| AG103U | Agricultural Finance | 3 | 36 |
| AG152U | Land Use and Soil Conservation | 3 | 36 |
| *AG006U | Career Planning Seminar | 5-2 | 18-48 |
| AG287U | Applied Beef Husbandry | 1-6 | 24-216 |
| AG148U | Applied Swine Husbandry | 1-6 | 24-216 |



AGRIBUSINESS MANAGEMENT (Evening)

This program is a mid-management program. It is designed for persons who want to enter retail business serving farmers, or for those persons already employed in the retail agriculture sales field. The program is arranged so that persons already employed can attend classes in the evening at hours that don't conflict with their work schedule.

The average student in this program takes 12 credit hours of courses per quarter for eight quarters. Students earn an Associate in Applied Science degree upon the successful completion of 100 credit hours. A diploma is awarded for completing 55 credit hours. All veterans must take 12 to 15 credit hours per quarter in order to graduate within eight quarters.

Students select 12 to 19 credit hours of courses per quarter from the list below or other agriculture programs, with the approval of the associate department head and their faculty advisor. The following courses are not in sequence, so a student may take them whenever offered.

| | | | |
|--------|-----------------------------|-----|--------|
| AG017U | Field Crop Production | 1-6 | 36-144 |
| AG016U | Feed Rations | 3 | 48 |
| AG251U | Modern Soybean Production | 1-4 | 36-96 |
| AG213U | Livestock Marketing | 3 | 48 |
| AM083T | Elements of Farm Management | 4 | 48 |
| MK004U | Ag Future Marketing | 4 | 48 |
| AG002U | Forage & Oat Production | 3.5 | 42 |

*RELATED COURSES

| | | | |
|----------|--------------------------------|---|----|
| *AG263U | Agriculture Career Orientation | 3 | 36 |
| *CM002U | Communication Skills | 3 | 36 |
| **PY004U | Psychology of Human Relations | 3 | 48 |
| MA001U | Agriculture Mathematics | 2 | 24 |

*Required for diploma

**Required for degree

ELECTIVES

| | | | |
|--------|--|------|--------|
| AG005U | Ag Chemicals | 2-4 | 36-96 |
| AG017U | Field Crop Production | 1-6 | 36-144 |
| AG285U | Introductory Crop Production | 2-6 | 36-144 |
| AG286U | Introductory Swine Production | 2-6 | 36-144 |
| AG288U | Introductory Beef Production | 1-4 | 36-132 |
| MM006U | Rural Metals & Welding | 3 | 48 |
| MH019U | Reconditioning & Repair | 4 | 90 |
| CS058U | Rural Plumbing | 3 | 48 |
| MH047U | Farm Machinery Maintenance | 4 | 72 |
| CS056U | Farm Facility Maintenance | 4 | 72 |
| AG179U | Advanced Livestock Evaluation | 2 | 72 |
| AG282U | Agriculture Source Center Operation | 1-6 | 36-144 |
| AG287U | Applied Beef Husbandry | 1-6 | 36-144 |
| AG148U | Applied Swine Husbandry | 1-6 | 36-144 |
| AG281U | Orientation to Production Agriculture | 7 | 96 |
| AG221U | Special Projects Agribusiness | 1-4 | 36-108 |
| AG219U | Special Projects - Animal Science | 1-4 | 36-108 |
| AG218U | Special Projects - Agronomy | 1-4 | 36-108 |
| AG012U | Employment Experience | 1-12 | 40-480 |
| AG266U | Ag Leadership | 1-3 | 12-36 |
| AG291U | Agriculture Education Placement | 1-4 | 36-96 |
| AG267U | Beef Diseases Seminar | 2 | 24 |
| AG001T | Fundamentals of Soil Science | 4 | 48 |
| EC004U | Agricultural Economics | 3 | 48 |
| AG271U | Swine Diseases Seminar | 2 | 24 |
| AG019T | Agricultural Accounting | 4 | 48 |
| LW002U | Agricultural Law | 3 | 36 |
| AG215U | Farm Machinery Management | 2-4 | 36-84 |
| AG229U | Horsemanship | 3 | 36 |
| AG004T | Introduction to Agricultural Education | 1 | 12 |
| AG005T | Animal Production | 4 | 48 |
| CS001T | Agricultural Construction Materials & Procedures | 3 | 48 |
| AG041U | Agribusiness Travel | 1-3 | 32-96 |
| CS061U | Rural Construction Supervision | 1-6 | 18-108 |
| AG292U | Agricultural Energy Management | 3 | 48 |

TECHNICAL COURSES

| | | Credits | Hrs. |
|--------|--|---------|-------|
| AC019T | Agricultural Accounting | 3-4 | 36-48 |
| AG152U | Land Use & Conservation | 2-4 | 48-96 |
| AG005T | Animal Production | 4 | 72 |
| AG016U | Feed Rations | 4 | 48 |
| AG061U | Ruminant Nutrition | 3 | 36 |
| AG267U | Beef Diseases Seminar | 3 | 36 |
| AG271U | Swine Diseases Seminar | 3 | 36 |
| AG088U | Swine Production | 3 | 36 |
| AG272U | Horse Breeds | 3 | 36 |
| AG280U | Horse Diseases Seminar | 1-2 | 12-24 |
| AG211U | Horse Judging | 1-3 | 12-72 |
| AG022U | Horse Nutrition | 3 | 36 |
| AG223U | Horse Physiology & Hoof Care | 1-3 | 12-36 |
| AG051U | Horse Shows | 1-3 | 12-36 |
| AG203U | Horsemanship | 1-3 | 24-72 |
| AG002T | Principles of Horticulture | 3-4 | 36-48 |
| CS055U | Greenhouse Facilities and Equipment | 1-4 | 12-48 |
| AG269U | Greenhouse Production | 3 | 36 |
| AG274U | Horticulture Pesticide Application | 1-3 | 12-36 |
| AG268U | Interior Plants | 3 | 36 |
| AT009U | Interior Plant Design | 3 | 36 |
| AG277U | Native Trees and Shrubs | 1-4 | 12-48 |
| AG278U | Ornamental Trees and Shrubs | 1-3 | 12-36 |
| AG276U | Residential Planting Design | 1-3 | 12-36 |
| AG109U | Agriculture Power Unit Operations | 5-6 | 6-144 |
| AG215U | Farm Machinery Management | 1-3 | 12-36 |
| MH045U | Machinery Operations | 1-3 | 12-36 |
| CS001T | Agricultural Construction Materials & Procedures | 1-3 | 12-24 |
| AG292U | Agriculture Energy Management | 3 | 48 |
| CS061U | Rural Construction Supervision | 1-6 | 12-72 |
| AG279U | Rural Facilities Maintenance | 1-3 | 12-36 |
| AG200U | Animal Health Products | 4 | 48 |
| AG236U | kennel Management | 4 | 72 |
| AG235U | Small Animal Health | 1-5 | 12-60 |
| AG234U | Small Animal Psychology | 5 | 72 |
| EC004U | Agricultural Economics | 3-4 | 36 |
| AG103U | Agricultural Finance | 4 | 48 |
| AG094U | Grain Marketing | 3 | 36 |

| | | | |
|--------|--------------------------------|-----|--------|
| MK004U | Ag. Future Marketing | 2 | 24 |
| AM004U | Agricultural Foremanship | 4 | 48 |
| AM025U | Agribusiness Practices | 4 | 48 |
| AG003U | Agribusiness Procedures | 4 | 48 |
| AG205U | Facility Planning | 1-3 | 12-36 |
| LW002U | Agricultural Law | 3-4 | 36-48 |
| AM059U | Parts Room Management | 3 | 36 |
| MK035U | Agribusiness Sales | 3-4 | 36-48 |
| MK002U | Basic Ag Salesmanship | 4 | 48 |
| MA001U | Agricultural Mathematics | 3 | 36 |
| PY004U | Psychology of Human Relations | 3-4 | 36-48 |
| AG004T | Introduction to Ag. Education | 1 | 12 |
| AG041U | Agribusiness Travel | 1-3 | 12-36 |
| AG221U | Special Projects: Agribusiness | 1-6 | 36-108 |
| AG006T | Principles of Crop Production | 4 | 48 |
| AG005U | Agricultural Chemicals | 3-4 | 36-48 |
| AG017U | Field Crop Production | 1-4 | 12-48 |
| AG001T | Fundamentals of Soil Science | 3 | 36 |

FIRST YEAR COURSES

| | | Credits | Hrs. |
|--------|--------------------------------|---------|------|
| MH050U | Diesel Fuel Systems | 8 | 162 |
| EL027U | Basic & Applied Electricity | 8 | 180 |
| AG263U | Agriculture Career Orientation | 1 | 12 |
| MH013U | Basic and Applied Gas Engines | 8 | 180 |
| CM002U | Communication Skills I | 3 | 36 |
| MH019U | Reconditioning and Repair | 4 | 90 |
| MH002U | Hydraulics | 8 | 180 |
| AG108U | Shop Facilities and Equipment | 3 | 60 |
| MH016U | Power Transfer Systems | 4 | 90 |

SECOND YEAR COURSES

| | | | |
|--------|-----------------------------------|---|-----|
| PY004U | Psychology of Human Relations I | 3 | 36 |
| MH018U | Automatic Transmissions | 8 | 180 |
| MH021U | Unit Diagnosis and Overhaul I | 8 | 180 |
| MH051U | Unit Diagnosis and Overhaul II | 8 | 180 |
| MH052U | Unit Diagnosis and Overhaul III | 8 | 180 |
| MH048U | Ag Equipment-Tillage and Planting | 8 | 144 |
| MH049U | Ag Equipment-Harvesting | 8 | 144 |

AGRICULTURE MECHANICS

The Agriculture Mechanics program is designed to prepare individuals for entry-level employment or provide employment advancement as specialized farm machinery mechanics, farm implement service representatives or supervisors. During the first year, students work on basic fundamentals in the areas of tractor electricity, gas engines, assembly and handling of farm machinery including implement truck operation, and reconditioning and repair of used farm equipment. The second year of the program is devoted to the diagnosis and repair of farm tractors and systems, including gasoline and diesel fuel systems and engines, hydraulics, transmissions and final drives. Students will work in specialized labs and classrooms.

A student may enter the program any quarter during the first year, but must have had previous training or experience to enter the second year.

Upon successful completion of 52 credits, which is equivalent to three quarters, a student may receive a diploma as a machinery and equipment handling specialist. Upon successful completion of 103 credits or six quarters, the student will receive an Associate in Applied Science degree.

All veterans must take the required number of credit hours per quarter in order to graduate within the approved number of quarters for this program. This will be 16 to 19 credit hours per quarter.

Students select courses from the list below, with approval of their associate department head and faculty advisor. A typical student would attend classes 260 to 360 contact hours per quarter depending on his or her previous occupational and educational background.

ANIMAL HEALTH

This program provides instruction for students preparing for careers in kennel shops, health product services and sales, as well as farm health programs. Course work covers disease prevention, parasites, health regulations covering both large and small animals, genetics, and types of facilities and their effect on the health of animals.

This is a three-quarter program which, depending upon the student's background, can be taken in several ways. Students can successfully complete three quarters (53 credit hours) and receive a diploma, or may choose to combine the program with the Production Agriculture or Agribusiness programs and receive the Associate in Applied Science degree. Students may specialize in such areas as small animal health or swine, beef and horse health.

Kirkwood's farm laboratory is used in the program as a live laboratory in which to study some of the problem areas discussed in the courses. In some areas of the program, veterinarians serve as instructors to provide the necessary in-depth instruction. There are 260 to 360 contact hours offered per quarter in this program.

All veterans must take the required number of hours per quarter in order to graduate within three quarters. This will vary from 240 to 336 contact hours per quarter.

Students select a minimum of 16 credit hours of courses per quarter from the courses listed below, and must obtain the approval of their faculty advisor or associate department head prior to registration. Students should select courses based on their individual needs. Faculty advisors will list those courses that are required.

| | | Credits | Hrs. |
|--------|--------------------------------|---------|------|
| AG263U | Agriculture Career Orientation | 2 | 24 |
| AG267U | Beef Diseases Seminar | 2 | 24 |

| | | | |
|--------|---------------------------------------|---|----|
| MK002U | Basic Ag Salesmanship | 3 | 48 |
| AG234U | Small Animal Psychology | 5 | 72 |
| BY030T | Principles of Biology | 4 | 72 |
| AG200U | Animal Health Products | 3 | 48 |
| AG271U | Swine Diseases Seminar | 2 | 24 |
| AG150U | Livestock Nutrition | 3 | 48 |
| AG294U | Lab Techniques Animal Health | 3 | 48 |
| AG293U | Orientation to Animal Health Industry | 3 | 48 |
| AG266U | Agricultural Leadership | 6 | 72 |
| AG237U | Special Projects: Animal Health | 3 | 48 |
| AG236U | Kennel Management | 5 | 72 |
| PY004U | Psychology of Human Relations | 3 | 48 |
| CM002U | Communications Skills | 3 | 36 |
| AG235U | Small Animal Health | 5 | 72 |
| AG280U | Horse Diseases Seminar | 2 | 24 |
| AG003U | Agribusiness Procedures | 3 | 48 |

HORSE HUSBANDRY

The Horse Husbandry program is designed to prepare students for entry employment in the horse industry. Students also may be employed in the sales field in the feed and track areas, or be self-employed. Students spend about 50 per cent of their time in the laboratory working with horses. The central farm laboratory consists of an indoor riding arena, a 40-stall stable and supportive facilities.

Instruction includes "hands-on" experience with assistant stable managers, horse handlers, assistant horse handlers and horsemanship instructors, in such areas as breaking and training horses, horse judging and work in breeding operations. The school maintains a band of brood mares for the purpose of teaching mare and foal care as well as breaking a young horse.

The Horse Husbandry program is six quarters in length. Students who successfully complete 108 credits will receive an Associate in Applied Science degree. Those completing 53 credits will receive a diploma. There are from 260 to 360 contact hours of instruction per quarter.

For diploma students, a minimum of 40 credits is required from the Horse Production curriculum; degree students must take at least 70 credits.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will be 16 to 19 credit hours per quarter.

Students may select from the following courses, with the approval of their associate department head and faculty advisor.

| FIRST-YEAR COURSES | | Credits | Hrs. |
|--------------------|--------------------------------|---------|-------|
| *AG050U | Horse Enterprise, Fall | 2 | 48 |
| *AG054U | Horsemanship, Fall | 5 | 84 |
| AG109U | Ag Power Unit Operations | 4 | 72 |
| *AG263U | Agriculture Career Orientation | 5-2 | 18-48 |
| AG075U | Horse Enterprise, Winter | 2 | 48 |

| | | | |
|---------|---------------------------------|-----|-----|
| *AG022U | Horse Nutrition | 6 | 96 |
| AG006U | Career Planning Seminar | 3 | 36 |
| AG202U | Horse Enterprise, Spring | 2 | 48 |
| AG204U | Horse Breeding | 4 | 60 |
| *AG239U | Horse Industry Problems | 6 | 240 |
| AG220U | Special Projects: Horse Science | 3 | 36 |
| AG201U | Horse Physiology & Hoof Care | 3 | 36 |
| AG272U | Horse Breeds | 3 | 48 |
| *CM002U | Communication Skills | 3 | 36 |
| AG280U | Horse Diseases Seminar | 2 | 24 |
| CS057U | Rural Concrete & Masonry | 3 | 48 |
| CS059U | Rural Carpentry | 3 | 48 |
| AG200U | Animal Health Products | 2.5 | 36 |
| AG229U | Horsemanship, Spring | 3 | 48 |

SECOND-YEAR COURSES

| | | | |
|---------|---------------------------------|------|---------|
| *AG212U | Stable Management, Fall | 6 | 96 |
| *AG211U | Horse Judging | 3 | 48 |
| *AG210U | Horse Training | 4 | 72 |
| *AG216U | Stable Management, Winter | 6 | 96 |
| *PY004U | Psychology of Human Relations | 3 | 48 |
| AG227U | Stable Management, Spring | 6 | 96 |
| AG051U | Horse Shows | 3 | 48 |
| AG228U | Specialized Horse Training | 5 | 84 |
| AG002U | Forage and Oat Production | 3 | 48 |
| AG220U | Special Projects: Horse Science | 3 | 36 |
| AG239U | Horse Industry Problems | 1-12 | 288-480 |
| AM025U | Agribusiness Practices | 3 | 48 |
| AC008U | Agribusiness Records | 3 | 36 |
| MK002U | Basic Agriculture Salesmanship | 3 | 48 |
| *AG006U | Career Planning Seminar | 2 | 24 |
| AG003U | Agribusiness Procedures | 4 | 60 |

*Required courses

ELECTIVES

| | | | |
|--------|---------------------------------|------|--------|
| AG280U | Orientation to Horse Production | 1-12 | 36-288 |
| AG291U | Agriculture Education Placement | 1-4 | 36-96 |
| AG239U | Horse Industry Problems | 1-12 | 24-144 |
| AG220U | Special Projects: Horse Science | 3 | 48 |
| AG051U | Horse Shows | 3 | 60 |
| AG210U | Horse Training | 3 | 48 |
| AG006T | Principles of Crop Production | 4 | 48 |
| AG179U | Advanced Livestock Evaluation | 2 | 72 |
| AG289U | Horse Project | 2-6 | 36-180 |
| AG266U | Ag Leadership | 1-3 | 12-36 |

Set hours of Agribusiness courses must also be taken.

HORTICULTURE AND NATURAL RESOURCES

The Horticulture and Natural Resources programs offer preparatory training for a diverse range of careers. Working under the direction of a faculty advisor, students develop an individual training plan that is approved by the program associate head. This plan typically involves completion of a basic core of instruction, followed by electives selected to meet educational requirements for specific career areas. Students are in class from 260 to 360 hours per quarter, depending upon their previous educational and occupational experiences.

Graduation standards require 45 to 55 credits for a diploma and 100 to 110 credits for the Associate in Applied Science (AAS) degree. Students earning the AAS degree must have completed one satis-

factory employment experience. Time is allocated between April 15 and June 1 to meet this requirement.

Normal enrollment entry date for the full-time preparatory section is at the beginning of summer quarter. Students may enroll at the beginning of fall quarter if openings exist. Entry date for evening classes is at the beginning of each quarter. Evening classes will, in some cases, emphasize slightly different subject matter than the day classes.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will be 16 to 19 credit hours per quarter.

Students select courses with the approval of their faculty advisor and associate department head in preparation for employment in the following areas:

Landscape/Nursery/Garden Center

Employment opportunities include positions in landscape design and construction, garden center sales and service, nursery stock and greenhouse production, as well as positions in interior landscaping and plant material management.

Grounds and Turf Management

Career opportunities include professional grounds management and positions with private corporations, governmental institutions, private estates and other concerns. Students are encouraged to select a broad range of courses, since many positions involve both indoor and outdoor plant material responsibilities.

Parks and Natural Resources

Career opportunities include employment in city, county and state parks as park attendants, officers, rangers, executive directors or as specialists such as arborists, horticulturists and equipment operators. The courses offered are tailored to actual training requirements stated in job descriptions utilized throughout the state.

TECHNICAL COURSES

| | | Credits | Hrs. |
|--------|------------------------------|---------|------|
| AG044U | Plant Materials I | 5 | 72 |
| AG045U | Plant Materials II | 5 | 72 |
| AG046U | Plant Materials III | 5 | 72 |
| AG252U | Plant Materials Maintenance | 4 | 72 |
| AG039U | Plant Disease and Insects | 4 | 72 |
| AG057U | Turfgrass Management | 4 | 72 |
| AG062U | Horticulture Equipment | 4 | 72 |
| AG029U | Landscape Construction | 4 | 72 |
| AG056U | Soil & Water Mechanics | 4 | 72 |
| AG048U | Plant Propagation | 4 | 72 |
| AG206U | Greenhouse Practices | 4 | 72 |
| AG030U | Basic Landscape Drawing | 4 | 72 |
| AG034U | Commercial Landscape Design | 4 | 72 |
| AG031U | Residential Landscape Design | 4 | 72 |

| | | | |
|--------|-------------------------------------|---------|--------|
| AG033U | Grounds Equipment Management | 5 | 72 |
| AG254U | Grounds Management Problems | 4 | 72 |
| AG032U | Recreational Areas Design | 4 | 72 |
| AG010U | Park Maintenance Programs | 5 | 72 |
| AG015U | Parks and Recreation Administration | 5 | 72 |
| CS002U | Facility Construction | 4-8 | 72-144 |
| AG018U | Wildlife Reserves | 5 | 72 |
| AG047U | Herbaceous Plant Material | 4 | 72 |
| AG035U | Commercial Plant Production | 5 | 72 |
| AG027U | House Plants | 5 | 72 |
| AG026U | Garden Center Operations | 5 | 72 |
| AG036U | Fruit and Vegetable Production | 5 | 72 |
| AG012U | Employment Experience | 6 | 240 |
| AG066U | Career Planning Seminar | 1 | 12 |
| AG222U | Special Projects: Horticulture | 1,3,4,6 | ARR |
| AG059U | Special Projects: Natural Resources | 1,3,4,6 | ARR |

RELATED COURSES

| | | | |
|--------|---------------------------------|---|----|
| PY004U | Psychology of Human Relations I | 4 | 48 |
| CM005U | Oral Communication | 4 | 72 |
| MK002U | Basic Ag Salesmanship | 4 | 48 |
| BY113U | Aquatic Wildlife | 2 | 36 |
| BY115U | Mammalian Wildlife | 4 | 48 |
| BY114U | Avian Wildlife | 4 | 48 |
| AG263U | Agriculture Career Orientation | 1 | 12 |

The following instructional units are available in the evening hours:

Greenhouse Production I
Interior Plant Design
Interior Plants
Horticulture Pesticide Application
Ornamental Trees and Shrubs
Native Trees and Shrubs
Residential Landscape Plantings

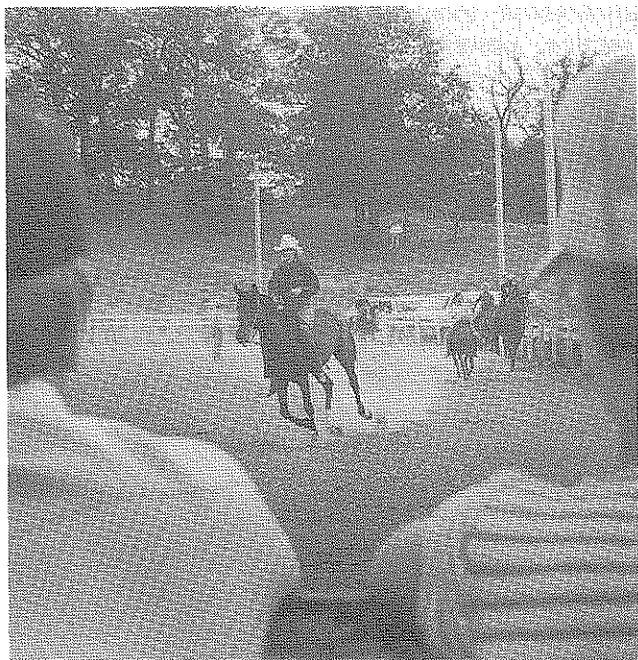
MARINE AND SMALL ENGINE MECHANIC

This is a three-quarter program leading to employment in the growing fields of lawn and garden equipment repair, marine and small engine repair, and turf and recreational vehicle repair. Students in the program study engine electrical systems, hydraulics, power transfer systems, gasoline engines, welding, fiberglassing and sheet metal work. Students spend approximately 60 per cent of their class time in the laboratory learning the skills required for employment as a marine and small engine mechanic.

Any interested student may enroll for any course any quarter except the spring quarter. To be eligible for entry in the spring quarter, a student must have had previous training (fall and winter quarters) or experience in the field. Students may elect to generalize or specialize in the spring quarter.

Upon successful completion of three quarters or 52 credits, the student will receive a diploma.

All veterans must take the required number of hours per quarter in order to graduate within three quarters. This will vary from 240 to 336 contact hours per quarter.



Students may select courses from the list below, with approval of the associate department head and faculty advisor. A typical student would attend classes 260 to 360 contact hours per quarter, depending upon his or her previous occupational and educational background.

| | | Credits | Hrs. |
|--------|--|---------|------|
| EL027U | Basic and Applied Electricity | 8 | 180 |
| MH016U | Power Transfer Systems | 4 | 90 |
| MH009U | Supervised Shop Projects | 3 | 48 |
| AG263U | Ag Career Orientation | 1 | 12 |
| MH013U | Basic & Applied Gas Engines | 8 | 180 |
| MH019U | Reconditioning & Repair | 4 | 90 |
| MH022U | Systems Diagnosis and Repair I | 8 | 180 |
| MH026U | Vehicle and Equipment Sales and Service Management | 4 | 48 |
| MH050U | Diesel Fuel Systems | 4 | 81 |
| MH053U | Systems Diagnosis and Repair II | 8 | 180 |
| MH002U | Hydraulics | 4 | 81 |

PRODUCTION AGRICULTURE

The Production Agriculture program prepares students for entry employment or employment advancement in the science of food production. Students receive preparation leading to employment as farm operators, livestock technicians, livestock buyers and crop technicians. Special emphasis is placed on management decision making. Students spend about 50 per cent of their time at the college's demonstration farm. The farm laboratory is equipped with swine and beef breeding herds, as well as livestock finishing units. The cropping program consists of 400 acres of row crops and forage production. The length and time patterns of courses are designed to fully utilize the farm laboratory.

This program is six quarters in length, which includes from 260 to 360 contact hours per quarter. Students successfully completing 110 credits in this program receive an Associate in Applied Science degree. Those completing 55 credits receive a diploma.

In addition to the specific required courses indicated in the course listing, diploma students are also required to take a minimum of 14 credits of production-type courses in the student's major area of beef, crops or swine. Beef and swine students require a minimum of six credits of technical livestock courses. All students require a minimum of nine credits of technical business and/or mechanics courses.

Degree students are required to complete the requirements indicated in the course listings. They are also required to have a minimum of 18 credits of technical livestock, crops and farm management courses. Crop students require a minimum of six credits of technical crop production courses. In addition, a minimum of 68 total credits are needed in a major curriculum area.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will be 16 to 19 credit hours per quarter.

The following are approved and suggested courses. Students may select from the following courses, with the approval of their associate department head and faculty advisor.

FIRST-YEAR COURSES

| | | Credits | Hrs. |
|---------|--|---------|--------|
| *AG108U | Ag. Power Unit Operations | 2 | 48 |
| AG281U | Orientation to Production Agriculture | 1-12 | 36-288 |
| *AG012U | Employment Experience | 6 | 240 |
| AG061U | Ruminant Nutrition | 3 | 36 |
| AG079U | Field Crop Planning | 4 | 72 |
| CS060U | Rural Electrical Construction | 3 | 48 |
| AC008U | Agribusiness Records | 3 | 48 |
| AG071U | Swine Breeding & Genetics | 4 | 72 |
| AG114U | Crop Production Orientation | 4 | 72 |
| *AG263U | Agriculture Career Orientation | 3 | 36 |
| AG017U | Field Crop Production | 1-6 | 24-144 |
| AG064U | Beef Feedlot Production | 4 | 72 |
| AG115U | Modern Corn Production | 3 | 48 |
| AG150U | Livestock Nutrition | 2 | 36 |
| AG200U | Animal Health Products | 3 | 36 |
| AG230U | Animal Selection & Production Efficiency | 1-4 | 36-96 |
| AG250U | Beef Cow-Calf Production | 1-4 | 36-96 |
| CS057U | Rural Concrete and Masonry | 3 | 48 |
| CS059U | Rural Carpentry | 3 | 48 |
| AG159U | Swine Nutrition & Feeding | 3 | 48 |
| AG131U | Modern Crop Production | 3 | 48 |
| AG063U | Beef Industry | 4 | 72 |
| AG092U | Beef Breeding & Reproduction | 3 | 48 |
| AG284U | Crop Harvesting & Drying | 4 | 72 |
| AG233U | Swine Facilities and Equipment | 4 | 72 |
| AG232U | Swine Health & Pig Care | 4 | 72 |
| AG073U | Swine Evaluation | 4 | 72 |
| AG065U | Beef Feeding and Nutrition | 3 | 48 |
| AG012U | Employment Experience | 6 | 240 |

| | | | |
|---------|-------------------------------|---|----|
| AG072U | Swine Records and Management | 3 | 48 |
| *CM002U | Communication Skills | 3 | 36 |
| MK003U | Agriculture Product Marketing | 2 | 36 |

*Required for Diploma

SECOND-YEAR COURSES

| | | Credits | Hrs. |
|----------|---------------------------------|---------|--------|
| AG208U | Animal Science Management, Fall | 4 | 48 |
| AG152U | Land Use and Conservation | 3 | 36 |
| AG103U | Agriculture Finance | 3 | 36 |
| AG213U | Livestock Marketing | 3 | 48 |
| AG016U | Feed Rations | 3 | 48 |
| AG251U | Modern Soybean Production | 3 | 48 |
| AG003U | Agribusiness Procedures | 4 | 48 |
| AG017U | Field Crop Production | 1-6 | 24-144 |
| **PY004U | Psychology of Human Relations | 3 | 48 |
| AG225U | Animal Science, Management | 4 | 48 |
| AG205U | Facility Planning | 3 | 48 |
| AG002U | Forage and Oat Production | 3.5 | 42 |
| MK004U | Futures Marketing | 4 | 48 |
| **AG012U | Employment Experience | 6 | 240 |
| **AG008U | Career Planning Seminar | .5-2 | 18-48 |
| MA001U | Agriculture Mathematics | 2 | 24 |
| AG287U | Applied Beef Husbandry | 1-6 | 24-144 |
| AG148U | Applied Swine Husbandry | 1-6 | 24-144 |
| AM083T | Elements of Farm Management | 4 | 48 |

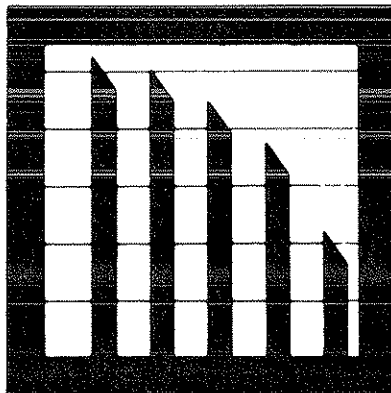
*Required for Diploma

**Required for Degree Students

ELECTIVES

| | | | |
|--------|--|-----|--------|
| AG249U | Beef and Dairy Artificial Insemination | 2 | 36 |
| AG004U | Swine Artificial Insemination | 2 | 36 |
| AG179U | Advanced Livestock Evaluation | 2 | 72 |
| AG218U | Special Projects: Agronomy | 1-4 | 36-108 |
| AG219U | Special Projects: Animal Science | 1-4 | 36-108 |
| AG221U | Special Projects: Agribusiness | 1-4 | 36-108 |

Students may take other electives from other Agriculture programs with consent of advisor.



BUSINESS & OFFICE CAREERS

ACCOUNTING SPECIALIST

This program is an 84-week program designed to prepare individuals for semi-professional employment opportunities in the accounting field. Upon completion of the program, the student should be prepared to enter business in the areas of cost accounting, auditing, general accounting and many other specialized areas of financial reporting. Re-

quirements include accounting principles and practice, general and occupational information, and a business internship.

Graduates may receive an Associate in Applied Science degree.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 15 to 20 credit hours per quarter.

TECHNICAL COURSES

| | | Credits | Hrs. |
|--------|------------------------------|---------|------|
| AC001T | Principles of Accounting I | 4 | 48 |
| AC002T | Principles of Accounting II | 4 | 48 |
| AC003T | Principles of Accounting III | 4 | 48 |
| AC006T | Intermediate Accounting I | 4 | 48 |
| AC007T | Intermediate Accounting II | 4 | 48 |
| AC009T | Intermediate Accounting III | 4 | 48 |
| AC004T | Cost Accounting I | 4 | 48 |
| AC005T | Cost Accounting II | 4 | 48 |
| AC015T | Personal Income Tax | 2 | 24 |
| AC016T | Income Tax for Business | 3 | 36 |
| AC009U | Accounting Problems | 6 | 108 |
| AM003T | Business Internship | 12 | 480 |

RELATED COURSES

| | | | |
|--------|---|---|----|
| OE009T | Office Machines | 4 | 60 |
| LW005T | Business Law I | 4 | 48 |
| MA020D | Beginning Algebra | 5 | 60 |
| MA043T | Finite Mathematics | 5 | 60 |
| CM201T | Public Communications | 4 | 48 |
| LW006T | Business Law II | 4 | 48 |
| DP048U | Business Application of Data Processing | 3 | 36 |
| EC013T | Prin. of Economics Macro | 4 | 48 |
| EC014T | Prin. of Economics Micro | 4 | 48 |
| CM002U | Communication Skills I | 3 | 36 |
| | or | | |
| CM101T | Composition I | 4 | 48 |
| CM003U | Communication Skills II | 3 | 36 |
| | or | | |
| CM117T | Composition II | 4 | 48 |
| MA031T | Intermediate Algebra and | 5 | 60 |
| MA043T | Finite Mathematics | 5 | 60 |
| AM002T | Principles of Finance | 3 | 36 |
| | Business elective | 4 | 48 |
| | General education electives | 6 | 72 |
| MA041T | Statistics | 5 | 60 |

JUNIOR ACCOUNTING

The Junior Accounting program is a one-year program designed to provide a fundamental knowledge of accounting, an understanding of basic concepts, definitions and terminologies, and insight into the characteristics and methods of operating accounting systems.

The program includes group instruction, individual instruction and laboratory practice. The program also provides on-the-job training periods through which the student gains actual work experience. Graduates receive a diploma.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 19 to 22 credit hours per quarter

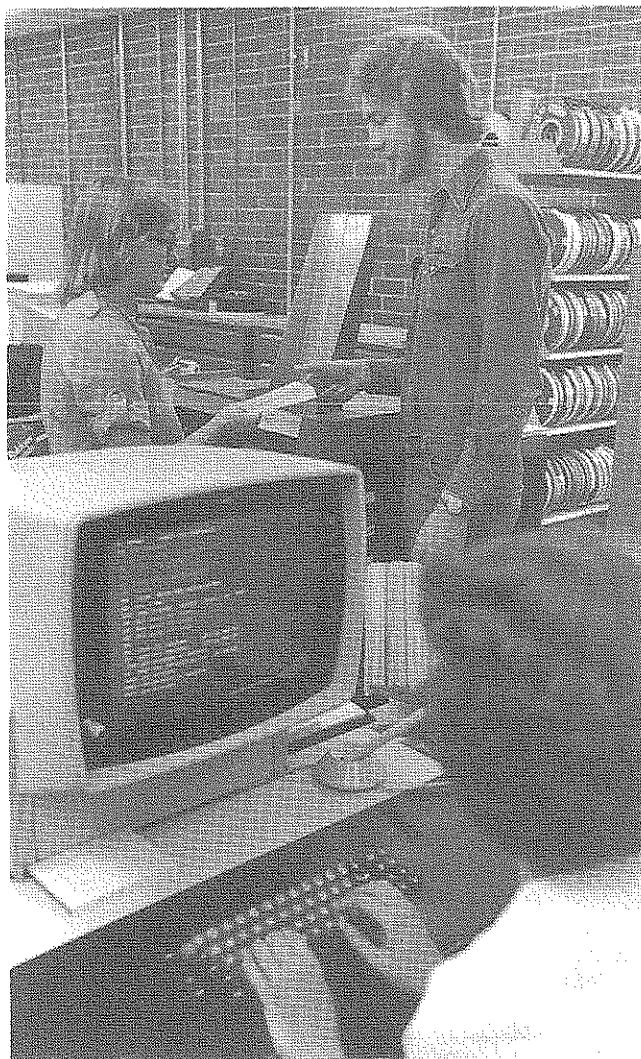
(except the summer quarter, which involves 12 credit hours served in an internship).

TECHNICAL COURSES

| | | Credits | Hrs. |
|--------|-----------------------------|---------|------|
| AC001V | Accounting Fundamentals I | 5 | 60 |
| AC002V | Accounting Fundamentals II | 5 | 60 |
| AC003V | Accounting Fundamentals III | 5 | 60 |
| AC008U | Accounting Problems | 15 | 360 |
| OE009T | Office Machines | 4 | 60 |
| OE006T | College Typing I | 2 | 48 |
| AC015T | Personal Income Tax | 2 | 24 |
| AM003T | Business Internship | 12 | 480 |

RELATED COURSES

| | | Credits | Hrs. |
|--------|--|---------|-------|
| DP006T | Computer and Data Processing Concept | 3 | 36 |
| LW005T | Business Law I | 4 | 48 |
| EC015T | Principles of Business Economics | 4 | 48 |
| CM002U | Communication Skills I | | |
| | or | | |
| CM101T | Composition I | 3/4 | 36/48 |
| CM003U | Communication Skills II | | |
| | or | | |
| CM117T | Composition II | 3/4 | 36/48 |
| PD005T | Human Potential Laboratory | 2 | 36 |
| DP048U | Business Applications of Data Processing | 3 | 36 |
| MA002U | Basic Mathematics | 2 | 24 |
| MA020D | Beginning Algebra | 5 | 60 |



COMPUTER OPERATIONS

The Computer Operations program trains students for employment in a variety of closely related occupations in data processing. A student completing the two-quarter certificate program could work as a data librarian, work scheduler, records auditor, documentation specialist, operations assistant, or computer and console operator. Students may enroll at the beginning of the fall, winter or spring quarters.

Computer Operations is approved for two quarters. A veteran must take 17 credit hours per quarter to graduate within two quarters.

Students must select, with consent of an advisor, courses from the following list:

TECHNICAL CORE COURSES

| | | Credits | Hrs. |
|--------|--|---------|------|
| DP001U | Self-Service Aids | 1 | 18 |
| DP002U | Punched-Card Data Processing | 2 | 36 |
| DP003U | Computer Operating Techniques | 2 | 36 |
| DP005U | Introduction to S/360-370 | 3 | 36 |
| DP009U | Assigned Operations Projects | 3 | 60 |
| DP011U | Introduction to Report Program Generator II | 4 | 60 |
| DP021U | Disk Operating System Concepts and Facilities | 3 | 36 |
| DP027U | System Utilities | 2 | 36 |
| DP039U | Records and Scheduling of Data Processing Operations | 3 | 36 |
| DP040U | Related Equipment I | 1 | 24 |
| DP048U | Business Applications of Data Processing | 3 | 36 |
| DP006T | Computer and Data Processing Concepts | 3 | 36 |

RELATED COURSE

| | | | |
|--------|---------------------------|---|----|
| AM022U | Principles of Supervision | 3 | 36 |
|--------|---------------------------|---|----|

COMPUTER PROGRAMMER

Students in Computer Programming will complete a six-quarter curriculum and graduate with an Associate in Applied Science degree. Course work is business-oriented with much of the second year of study used to broaden the student's knowledge of business systems. Training in programming stresses applied technical knowledge so that the student can step directly into the occupation of computer programming. Units of training change frequently to keep pace with the industry. New students may begin in the fall, winter, spring or summer quarters.

The computer programmer program is six quarters. A veteran must take 15 to 18 credit hours per quarter in order to graduate in six quarters.

Students must select, with the consent of an advisor, courses from the following list:

TECHNICAL COURSES

| | | Credit | Hrs. |
|--------|--|--------|------|
| DP013U | Introduction to COBOL | 5 | 84 |
| DP021U | Disk Operating System/VS Concepts and Facilities | 3 | 48 |
| DP041U | Program Design and Documentation | 3 | 36 |
| DP006T | Computer & Data Processing Concepts | 3 | 36 |
| DP001U | Self-Service Aids for Programmers | 1 | 18 |
| DP014U | Advanced COBOL | 5 | 84 |
| DP022U | Disk Operating System/VS Coding | 5 | 72 |

| | | | |
|--------|---|---|----|
| DP042U | Program Testing | 3 | 48 |
| DP007U | Assembler Language I | 5 | 84 |
| DP016U | Introduction to FORTRAN | 3 | 48 |
| DP044U | Data Management I | 4 | 60 |
| DP049U | Introduction to Systems Analysis | 3 | 36 |
| DP018U | Introduction to PL/I | 5 | 84 |
| DP083U | Data Management II | 5 | 84 |
| DP048U | Business Applications of Data Processing I | 3 | 36 |
| DP011U | Introduction to Report Program Generator II | 4 | 60 |
| DP085U | Data Communications | 5 | 84 |
| DP084U | Business Applications of Data Processing II | 3 | 36 |
| DP036U | Assigned Programming Projects | 5 | 96 |
| DP026U | Programming Systems | 4 | 48 |
| DP037U | Installation Management I | 3 | 36 |

RELATED COURSES

| | | | |
|--------|---------------------------|---|----|
| CM002U | Communication Skills | 3 | 36 |
| | Elective Course | 3 | 36 |
| AC001U | Accounting Survey I | 3 | 36 |
| MA043T | Finite Mathematics | 5 | 60 |
| AM022U | Principles of Supervision | 3 | 36 |

Additional courses from the Business Department, Data Processing Department and Mathematics Department may be taken, with an advisor's consent.

VOCATIONAL KEYPUNCH

The keypuncher is a valuable member of the data processing team. This one-quarter program will train the student to punch and verify cards that will serve as input to data processing equipment. Training will be done on the latest equipment available. Graduates earn a certificate.

Vocational Keypunch is a one-quarter program. A veteran must take 17 credit hours to graduate in one quarter.

Students are required to select the following courses:

TECHNICAL CORE COURSES

| | Credits | Hrs. |
|--------|---------------------------------------|-------|
| DP003V | Vocational Keypunch | 6 180 |
| DP002U | Punched-Card Data Processing | 2 36 |
| DP006T | Computer and Data Processing Concepts | 3 36 |

RELATED COURSES

| | | | |
|--------|-----------------------------------|---|----|
| PD001U | Personal Development I | 1 | 12 |
| OE010T | Filing Systems and Record Control | 3 | 36 |

OFFICE EDUCATION

The core approach to the Office Education curriculum allows a student to delay selecting a program until the end of the first quarter.

The Office Careers class, a core course completed the first quarter, provides a means of exploring the six secretarial fields available:

| | |
|--------------------------|---------------------|
| Administrative Secretary | Insurance Secretary |
| Clerical Receptionist | Legal Secretary |
| General Secretary | Medical Secretary |

OFFICE EDUCATION CORE COURSES

| | | | |
|--------|------------------------------------|---|----|
| OE008T | College Typing I | 3 | 72 |
| OE007T | College Typing II | 3 | 72 |
| OE008T | College Typing III | 3 | 72 |
| OE016V | Office Careers | 1 | 12 |
| OE010T | Filing Systems and Records Control | 3 | 36 |
| CM002U | Communication Skills I | 3 | 36 |
| OE001U | Office Procedures I | 4 | 60 |

| | | | |
|---------|--------------------------|---|-----|
| OE019U | Word Processing | 2 | 36 |
| *OE025V | Office Education Seminar | 1 | 12 |
| OE005U | Spelling | 2 | 48 |
| CM001U | Business Communications | 3 | 36 |
| AM003T | Business Internship | 5 | 180 |
| OE009T | Office Machines | 4 | 60 |
| OE041T | Word Processing Lab I | 1 | 24 |

OFFICE EDUCATION SHORTHAND CORE COURSES

| | | | |
|--------|---------------------------------|---|----|
| OE001T | College Shorthand I | 4 | 60 |
| OE002T | College Shorthand II | 4 | 60 |
| OE003T | College Shorthand III | 4 | 60 |
| OE004T | College Shorthand Transcription | 3 | 48 |

*Taken by all office education students except Medical Secretaries.

ADMINISTRATIVE SECRETARY

The Administrative Secretary program permits length and depth in the study of secretarial science. It not only prepares a student for a position in the office but also provides a well-rounded educational background for a skilled secretary and a participating member of an executive team.

Upon successful completion of this two-year program (five or six quarters), graduates earn an Associate in Applied Science degree.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 16 to 18 credit hours per quarter.

| | Credits | Hrs. |
|---|-----------------------------------|-------|
| Office Education Core Courses | 38 | 756 |
| Office Education Shorthand Core Courses | 15 | 228 |
| OE011T | Secretarial Procedures | 4 48 |
| OE012T | College Typing IV | 3 72 |
| AM019U | Office Administration | 4 48 |
| AC001T | Principles of Accounting I | 4 48 |
| | or | |
| AC004V | Office Accounting | 4 48 |
| OE042T | Word Processing Lab II | 1 24 |
| CM204T | Speech Communication | 4 48 |
| | or | |
| CM201T | Public Communication | 4 48 |
| AC002T | Principles of Accounting II | 4 48 |
| | or | |
| AC006U | Management Accounting | 4 48 |
| DP046U | Elements of Data Processing | 3 36 |
| | or | |
| DP006T | Computer/Data Processing Concepts | 3 36 |
| EC013T | Principles of Economics (Macro) | 4 48 |
| | or | |
| EC015T | Principles of Business Economics | 4 48 |
| LW005T | Business Law I | 4 48 |
| PY002T | General Psychology | 4 48 |
| AM003T | Business Internship | 4 144 |
| | *Electives | 12 |
| AM032T | Introduction to Business | 4 48 |

*Electives are selected with the coordinator's approval.

ADVANCED PLACEMENT

Any person who holds a Certified Professional Secretary Certificate may make application to receive up to 36 hours credit toward an Associate in Applied Science degree. The following courses are accepted for credit:

| | Credits | Hrs. |
|--------|------------------------|------|
| LW005T | Business Law I | 4 48 |
| OE011T | Secretarial Procedures | 4 48 |

| | | | |
|--------|------------------------------------|---|----|
| EC013T | Principles of Economics (Macro) | 4 | 48 |
| AC001T | Principles of Accounting I | 4 | 48 |
| AC002T | Principles of Accounting II | 4 | 48 |
| OE010T | Filing Systems and Records Control | 3 | 36 |
| OE007T | College Typing II | 3 | 72 |
| OE008T | College Typing III | 3 | 72 |
| AM019U | Office Management | 4 | 48 |
| PY004U | Psychology of Human Relations I | 3 | 36 |

CLERICAL-RECEPTIONIST

The Clerical-Receptionist program consists of three quarters of training in basic office skills, with an emphasis in the areas of telephone techniques and receptionist's duties.

After successful completion of this three-quarter program, graduates receive a diploma. The students will find many opportunities for employment with businesses in this community.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 14 to 22 credit hours per quarter.

| | | |
|-------------------------------|---------|------|
| Office Education Core Courses | Credits | Hrs. |
| | 38 | 756 |

RELATED COURSES

| | | | |
|--------|---|---|----|
| PY004U | Psychology of Human Relations I | 3 | 36 |
| AC004V | Office Accounting | 4 | 48 |
| OE002U | Office Procedures II | 3 | 60 |
| DP001V | Introductory Key Punch | 3 | 36 |
| OE030V | Receptionist Seminar | 1 | 12 |
| | Electives (requires program coordinator's approval) | 5 | 60 |

GENERAL SECRETARY —

Cedar Rapids

Students planning a secretarial career in any one of dozens of businesses such as banking firms, advertising agencies, travel agencies and educational institutions will find the General Secretary program suited to them.

After successful completion of this four-quarter program, graduates receive a diploma.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 15 to 50 credit hours per quarter.

| | | |
|---|---------|------|
| Office Education Core Courses | Credits | Hrs. |
| | 38 | 756 |
| Office Education Shorthand Core Courses | 15 | 228 |

RELATED COURSES

| | | | |
|--------|-------------------------------|---|----|
| OE042T | Word Processing Lab II | 1 | 24 |
| OE012T | College Typing IV | 3 | 72 |
| PY004U | Psychology of Human Relations | 3 | 36 |
| | or | | |
| PD005T | Human Potential Lab | 2 | 24 |
| OE002U | Office Procedures II | 3 | 60 |
| AC004V | Office Accounting | 4 | 48 |
| | or | | |

| | | | |
|--------|--|---|----|
| AC001T | Principles of Accounting | 4 | 48 |
| | Electives (selected with program coordinator's approval) | 4 | 48 |

GENERAL SECRETARY —

Iowa City

TECHNICAL CORE COURSES

| | | | |
|--------|--------------------------|---------|------|
| | | Credits | Hrs. |
| OE006T | College Typing I | 3 | 72 |
| OE007T | College Typing II | 3 | 72 |
| OE008T | College Typing III | 3 | 72 |
| CM002U | Communication Skills I | 3 | 48 |
| OE025V | Office Education Seminar | 1 | 12 |
| OE009T | Office Machines | 4 | 60 |
| OE001T | College Shorthand I | 4 | 60 |
| OE002T | College Shorthand II | 4 | 60 |
| OE003T | College Shorthand III | 4 | 60 |

OR

| | | | |
|--------|----------|---|----|
| OE005U | Spelling | 2 | 48 |
|--------|----------|---|----|

AND

| | | | |
|--------|--------------------------------|---|----|
| | Electives | 6 | 72 |
| CM001U | Business Communications | 3 | 36 |
| OE001U | Office Procedures I | 4 | 60 |
| OE019U | Word Processing | 2 | 48 |
| OE010T | Filing Systems/Records Control | 3 | 36 |

RELATED COURSES

| | | | |
|--------|-------------------------------|---|----|
| OE012T | College Typing IV | 3 | 72 |
| PY004U | Psychology of Human Relations | 3 | 36 |
| PD001U | Personal Development | 2 | 36 |
| AC004V | Office Accounting | 4 | 48 |
| OE002U | Office Procedures II | 3 | 60 |

INSURANCE SECRETARY

The Insurance Secretary program offers specialized training to those interested in working in the insurance field. Opportunities are available in large home offices as well as smaller agency offices. Training is given in general office procedures, with emphasis on courses in Insurance Terminology, Principles of Insurance and Insurance Typing.

After successful completion of this four-quarter program, graduates receive a diploma.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 18 to 20 credit hours per quarter.

| | | |
|-------------------------------|---------|------|
| Office Education Core Courses | Credits | Hrs. |
| | 38 | 756 |

TECHNICAL CORE COURSES

| | | | |
|--------|---------------------------------|---|----|
| MK006T | Principles of Insurance | 3 | 36 |
| OE028V | Insurance Typewriting | 3 | 48 |
| OE014V | Insurance Terminology | 2 | 24 |
| OE003U | Insurance Machine Transcription | 3 | 36 |
| OE002U | Office Procedures II | 3 | 60 |

RELATED COURSES

| | | | |
|--------|--------------------------|---|----|
| AM032T | Introduction to Business | 4 | 48 |
| OE012T | College Typing IV | 3 | 72 |
| OE042T | Word Processing Lab II | 1 | 24 |
| OE001T | College Shorthand I | 4 | 60 |
| PD005T | Human Potential Lab | 2 | 24 |
| | or | | |

| | | | |
|--------|--|----|----|
| PY004U | Psychology of Human Relations I | 3 | 36 |
| AC004V | Office Accounting | 4 | 48 |
| | Electives (selected with program coordinator's approval) | 12 | |

LEGAL SECRETARY

The Legal Secretary program provides specialized training necessary to work in a law office, bank or similar area. In addition to advanced training in basic office skills, the student completes specialized course work in the legal secretarial area.

Upon successful completion of this four-quarter program, the student is awarded a diploma.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 16 to 21 credit hours per quarter.

| | Credits | Hrs. |
|---|---------|------|
| Office Education Core Courses | 38 | 756 |
| Office Education Shorthand Core Courses | 15 | 228 |

TECHNICAL COURSES

| | | | |
|--------|-----------------------------|---|----|
| LW005T | Business Law I | 4 | 48 |
| LW006T | Business Law II | 4 | 48 |
| OE006V | Legal Terminology | 3 | 36 |
| OE005V | Legal Typing | 3 | 48 |
| AC008V | Income Tax Procedures | 3 | 36 |
| OE003V | Legal Dictation | 3 | 36 |
| OE004V | Legal Machine Transcription | 3 | 36 |
| OE002V | Law Office Procedures | 3 | 36 |

RELATED COURSES

| | | | |
|--------|---------------------------------|---|----|
| PY004U | Psychology of Human Relations I | 3 | 36 |
| AC004V | Office Accounting | 4 | 48 |
| OE042T | Word Processing Lab II | 1 | 24 |

MEDICAL SECRETARY

The Medical Secretary program is designed to give students the skills they will need as a secretary in a health office setting, including doctors' offices, insurance offices, clinics, hospitals and laboratories. This program provides a good foundation for medical records work.

Upon successful completion of this four-quarter program, graduates receive a diploma.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 17 to 23 hours per quarter.

| | Credits | Hrs. |
|-------------------------------|---------|------|
| Office Education Core Courses | 38 | 756 |

TECHNICAL CORE COURSES

| | | | |
|--------|---|---|----|
| OE014U | Legal Aspects of Medical Records | 2 | 24 |
| OE032V | Medical Insurance Seminar | 1 | 12 |
| OE018U | Medical Secretarial Machine Transcription I | 3 | 48 |
| OE042T | Word Processing II | 1 | 24 |
| BY006U | Basic Anatomy and Physiology | 4 | 80 |
| MS061U | Medical Terminology I | 2 | 24 |
| MS062U | Medical Terminology II | 2 | 24 |
| MS064U | Medical Terminology III | 3 | 36 |
| OE011V | Medical Secretarial Office Procedures | 4 | 48 |

| | | | |
|--------|--|---|----|
| MS063U | Pharmacology I | 2 | 24 |
| OE007V | Medical Secretary Dictation | 4 | 48 |
| OE021U | Medical Secretarial Machine Transcription II | 3 | 48 |

RELATED COURSES

| | | | |
|--------|-------------------------------|---|----|
| OE012T | College Typing IV* | 3 | 60 |
| AC004V | Office Accounting | 4 | 48 |
| | Electives** | | |
| PY004U | Psychology of Human Relations | 3 | 36 |

*College Typing IV is required if the shorthand sequence is not taken.
**Electives other than shorthand may be taken with the approval of the coordinator.

CREDIT SUPPLEMENTAL PROGRAMS IN MANAGEMENT DEVELOPMENT

The Management Development program is designed to develop and improve management skills for those persons currently in management positions or those seeking advancement into a supervisory capacity.

The program provides an extensive selection of both general and technical management courses offered on either a credit or non-credit basis. All programs lead to a Certificate of Completion, which verifies that the graduate has acquired the specialized training, knowledge and skills needed for management-level advancement. A certificate can be attained by completing 30 quarter hours of credit in one of the following areas: Industrial Management, Sales/Marketing Management, Administration Management or Traffic/Transportation Management.

Credits earned in the Management Development program can be applied toward a diploma or toward an Associate in Applied Science degree.

Courses taken previously at any accredited institution that parallel the offerings of the Management Development program will be considered for credit. Previous work experience related to the student's career emphasis also will be considered for credit toward the diploma and associate degree programs.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 12 to 15 credit hours per quarter.

OPTION I: MANAGEMENT DEVELOPMENT CERTIFICATE PROGRAMS

REQUIRED CORE COURSES

The following are required core courses for each

of the certificate Management Development programs: Industrial Management, Sales/Marketing Management, Administrative Management and Traffic/Transportation Management:

| | Credits |
|---|---------|
| AM061U Introduction to Management | 2 |
| AM063U Techniques of Supervision | 2 |
| AM060U Human Behavior in Organizations | 3 |
| EC015T Principles of Business Economics (Macro Economics may be substituted) | 4 |
| AM062U Management Communications | 3 |

INDUSTRIAL MANAGEMENT (30 quarter hours minimum)

SPECIALIZED OR CAREER COURSES IN ADDITION TO CORE COURSES

Any three of the following courses are required:

| | |
|---|---|
| AM035U Industrial Engineering | 2 |
| AM048U Inventory Production & Control | 3 |
| AM049U Labor and Management Relations | 2 |
| AM044U Work Simplification | 2 |
| AM032U Introduction to Quality Control | 2 |
| AM042U Management Tools for Decision Making | 2 |
| MK023U Industrial Marketing | 3 |
| MK039U Introduction to Purchasing | 2 |

ELECTIVES

Electives are to be chosen from any courses listed under the specialized area that were not selected to meet that requirement and these additional courses:

| | |
|---|-----|
| AM047U Human Resources Management | 4 |
| AC003U Accounting for Non-accounting Managers | 2 |
| DP010U Data Processing for Managers | 2 |
| AM051U Industrial Safety | 2 |
| AM050U Management by Objectives | 2 |
| AM067U Organizational Behavior | 3 |
| AM055U Current Topics in Management | 1-2 |
| PD005T Human Potential Lab | 2 |

SALES/MARKETING MANAGEMENT (30 quarter hours minimum)

SPECIALIZED OR CAREER COURSES IN ADDITION TO REQUIRED CORE COURSES

Any three of the following courses are required:

| | | |
|--------------------------------|-----------------------------|---|
| | Sales Promotion for Results | |
| AM030U Sales Management | | 2 |
| MK016T Counselor Selling | | 4 |
| MK001T Principles of Marketing | | 4 |
| MK023U Industrial Marketing | | 3 |
| MK003T Principles of Selling | | 4 |

ELECTIVES

Electives are to be chosen from any courses listed under the specialized area that were not selected to meet that requirement and these additional courses:

| | |
|---|-----|
| AM049U Labor and Management Relations | 2 |
| AM047U Human Resources Management | 4 |
| AM042U Management Tools for Decision Making | 2 |
| AC003U Accounting for Non-Accounting Managers | 2 |
| AM050U Management by Objectives | 2 |
| DP010U Data Processing for Managers | 2 |
| AM067U Organizational Behavior | 3 |
| AM055U Current Topics in Management | 1-2 |
| PD005T Human Potential Lab | 2 |

ADMINISTRATIVE MANAGEMENT (30 quarter hours)

SPECIALIZED OR CAREER COURSES IN ADDITION TO REQUIRED CORE COURSES

Any three of the following courses are required:

| | |
|---------------------------------------|---|
| AC005U Small Business Recordkeeping | 2 |
| AM019U Office Administration | 4 |
| AM047U Human Resources Management | 4 |
| AM029U Wage and Salary Administration | 2 |
| AM054U Public Administration | 3 |
| AM031U Management Information Systems | 3 |
| AM049U Labor and Management Relations | 2 |
| AM058U Effective Work Behavior | 2 |

ELECTIVES

Electives are to be chosen from any courses listed under the specialized area that were not selected to meet that requirement and these additional courses:

| | |
|---|-----|
| AC003U Accounting for Non-accounting Managers | 2 |
| AM050U Management by Objectives | 2 |
| AM047U Human Resources Management | 4 |
| DP010U Data Processing for Managers | 2 |
| AM067U Organizational Behavior | 3 |
| AM055U Current Topics in Management | 1-2 |
| PD005T Human Potential Lab | 2 |

TRAFFIC AND TRANSPORTATION MANAGEMENT

SPECIALIZED OR CAREER COURSES IN ADDITION TO REQUIRED CORE COURSES

All these courses required for Traffic Management students:

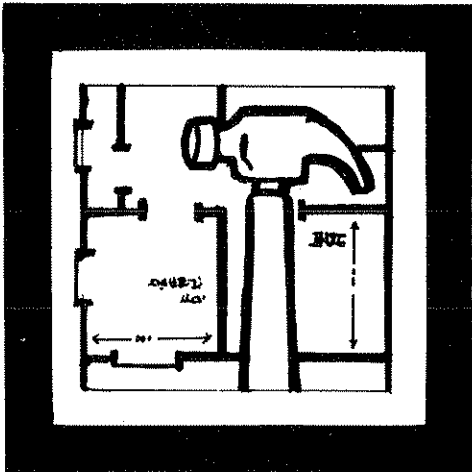
| | |
|--|---|
| AM036U Traffic & Transportation Management I | 3 |
| AM037U Traffic & Transportation Management II | 3 |
| AM038U Traffic & Transportation Management III | 3 |
| AM039U Traffic & Transportation Management IV | 3 |
| AM040U Traffic & Transportation Management V | 3 |
| AM041U Traffic & Transportation Management VI | 3 |

RECOMMENDED ELECTIVES FOR DIPLOMA PROGRAM

| | |
|---|---|
| AM064U Interstate Commerce Law and Practice I | 3 |
| AM068U Interstate Commerce Law and Practice II | 3 |
| AM069U Interstate Commerce Law and Practice III | 3 |

OPTION II: MANAGEMENT DEVELOPMENT DIPLOMA PROGRAM

The diploma program in Management Development is 54 quarter hours in length and is designed to be a continuation of the certificate option in Management Development. To receive this award, the student must have completed one of the 30 quarter-hour certificate programs previously outlined. The remaining 24 hours of course work is to be selected from general management courses, or up to 12 hours of Cooperative Education may be included in this option.



CONSTRUCTION CAREERS

ARCHITECTURAL DRAFTING

The Architectural Drafting program is designed basically to prepare an individual for entry employment in an architect's office. Normally, this involves the drawing or redrawing of plans, elevations, details, plumbing, and electrical and mechanical layouts. Attention is given to accuracy, neatness and proper drawing procedure. The type of drawing is primarily of commercial construction rather than of residential. The program consists of four 12-week quarters or 1,440 clock hours.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will be 360 clock hours per quarter. Graduates receive a diploma.

| REQUIRED TECHNICAL COURSES | | Credits | Hrs. |
|----------------------------|----------------------------|---------|------|
| GR032U | Architectural Drafting I | 13 | 268 |
| GR033U | Architectural Drafting II | 13 | 268 |
| GR034U | Architectural Drafting III | 11 | 240 |
| GR035U | Architectural Drafting IV | 14 | 438 |
| GR036U | Related Disciplines | 2 | 24 |
| CS033U | Estimating | 3 | 36 |
| CS034U | Presentations | 2 | 24 |
| CS035U | Construction Materials | 3 | 36 |
| CS036U | Construction Methods | 3 | 36 |

| REQUIRED RELATED COURSES | | Credits | Hrs. |
|--------------------------|------------------------|---------|------|
| MA011U | Mathematics I | 3 | 36 |
| MA003U | Mathematics II | 3 | 36 |
| CM002U | Communication Skills I | 3 | 36 |
| PY003U | The Profession | 1 | 12 |

RESIDENTIAL CARPENTRY

Residential Carpentry is a one-year program designed to prepare the student for entry-level employment as a carpenter in the home building and

light commercial construction field. Through this program students receive training in most phases of home construction as it relates to the carpenter's trade. Construction of a house and other projects will be undertaken as part of instruction, with approximately 20 hours per week spent in the lab or on the building site. Graduates of the program receive a diploma.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program.

| TECHNICAL COURSES | | Credits | Hrs. |
|-------------------|--------------------------|---------|------|
| CS047U | Construction Lab I | 10 | 240 |
| CS048U | Construction Lab II | 10 | 240 |
| CS049U | Construction Lab III | 10 | 240 |
| CS050U | Construction Lab IV | 6 | 150 |
| CS051U | Construction Related I | 5 | 60 |
| CS052U | Construction Related II | 5 | 60 |
| CS053U | Construction Related III | 5 | 60 |
| CS054U | Construction Related IV | 2 | 30 |

| RELATED COURSES | | Credits | Hrs. |
|-----------------|--------------------------------------|---------|------|
| GR039U | Principles of Drafting and Sketching | 4 | 60 |
| GR037U | Blueprint Reading I | 5 | 60 |
| GR038U | Blueprint Reading II | 3 | 36 |
| AM003U | Business Practices | 2 | 24 |

RURAL BUILDING CONSTRUCTION

The Rural Building Construction program is designed to provide students with the performance and management skills necessary to earn a living in the rural construction industry. Instructional areas are carpentry, excavation, masonry and concrete, electricity, plumbing, heating and ventilation, metal work and structural steel.

Each course in this program, with the exception of the two Facilities Construction courses, is self-contained, offered without prerequisites to any interested student. The Facilities Construction courses require that a student have previous training or experience.

A student may enroll for one or more courses any quarter. The typical full-time student would attend classes 260 to 360 contact hours per quarter, depending on his or her previous occupational and educational experience. Approximately 50 per cent of student time is spent in laboratory exercises. The student receives a diploma for successful completion of four quarters or 72 credits. Students receive a certificate for completing one quarter of study.

All veterans must take the required number of hours per quarter in order to graduate within four quarters. This will vary from 240 to 336 contact hours per quarter.

Students select from the following courses with the approval of their associate department head and faculty advisor.

| | | Credits | Hrs. |
|--------|---|---------|--------|
| CS045U | Fundamentals of Carpentry I | 5 | 84 |
| CS046U | Fundamentals of Carpentry II | 5 | 84 |
| CS044U | Excavation | 4 | 60 |
| CS043U | Masonry and Concrete | 4 | 60 |
| AG263U | Ag Career Orientation | 1 | 12 |
| CS042U | Construction Techniques | 5 | 84 |
| EL018U | Fundamentals of Electrical Service | 5 | 84 |
| MM006U | Rural Metals and Welding | 4 | 60 |
| CS041U | Heating and Ventilation | 4 | 60 |
| CS040U | Job Planning and Scheduling in Carpentry | 5 | 84 |
| CS039U | Plumbing | 5 | 84 |
| CS038U | Electrical Construction | 4 | 60 |
| CS037U | Metal Fabrication | 4 | 60 |
| CS007U | Facilities Construction: Planning and Preparation | 9 | 180 |
| CS008U | Facilities Construction: Erection | 9 | 180 |
| CS061U | Rural Construction Supervision | 1-6 | 18-108 |

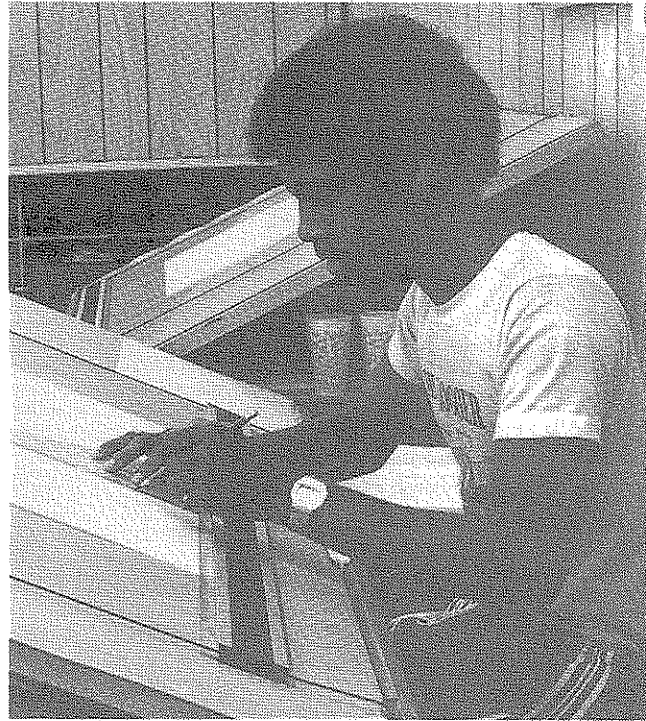
WELDING

The complete welding program at Kirkwood is approximately 1,080 hours or 36 weeks. It consists of three main phases, each being about 12 weeks. The first is metallic arc welding, commonly referred to as stick welding. A student satisfactorily completing this section of the program should have the skill required for passing the American Welding Society's Guide Bend Test in three positions with 3/8-inch steel plate using low-hydrogen electrodes. Also included in this section is oxy-acetylene cutting, Mathematics I and blueprint reading.

The second phase is referred to as combination welding. This covers semi-automatic, oxy-acetylene, heliarc, sheet metal, cast iron and non-ferrous welding. It is recommended that students take the first two phases as a minimum.

The third quarter involves the study of the technical aspects of welding, plus drawing, shop math and communication skills. The set-up and use of production machinery, welding inspection methods, and a student project also are included. This quarter is to provide the students with the background needed to obtain work in industry as a supervisor, methods man, inspector or specialist welder, or in a field of welding sales.

The first two quarters of the program are set up on a modular basis; that is, students can progress at their own pace within the time allotted, since the lessons are self-instructional with all necessary demonstrations provided on videotape. Instructors provide individual help as necessary. Students can enroll at any time if space is available. Students who enroll in the daytime must enroll on a full-time basis or for 30 clock hours per week.

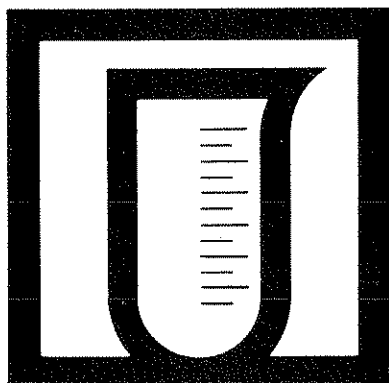


All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 180 to 360 clock hours per quarter.

| | | Credits | Hrs. |
|--------|---|---------|------|
| MM011V | Introduction to Arc Welding | 1 | 26 |
| MM025V | Weaving the Electrode | .5 | 12 |
| MM028V | Flame Cutting | 1 | 18 |
| MM026V | Introduction to Joint Welding | 1 | 28 |
| MM027V | Powdered Iron Weld Methods | 1 | 28 |
| MM029V | Butt Joints: Flat | 1 | 30 |
| MM030V | Horizontal Weld Techniques | 1 | 26 |
| MM031V | Vertical Welding Techniques | 1 | 24 |
| MM032V | Overhead Welding Techniques | .5 | 18 |
| MA011U | Mathematics I | 3 | 36 |
| MM034V | Blueprint Reading for Welders | 3 | 36 |
| MM033V | A.W.S. Test: Low-Hydrogen Electrodes | 3.5 | 78 |
| MM017V | Semi-automatic Welding | 3 | 60 |
| MM035V | Oxy-acetylene Light-Gauge Steel Welding | 1 | 20 |
| MM036V | Oxy-acetylene Heavy Steel Welding | 1 | 20 |
| MM037V | Brazing and Silver Solder | 1 | 20 |
| MM038V | Oxy-acetylene Cast Iron Repair | 1 | 20 |
| MM039V | Oxy-acetylene Non-Ferrous Materials | 1 | 20 |
| MM019V | Heliarc Welding | 5 | 104 |
| MM020V | Special Arc Welding Techniques | 3 | 60 |
| MA003U | Mathematics II | 3 | 36 |
| MM009V | Production Machinery | 2 | 56 |
| MM022V | Welding Inspection | 2 | 56 |
| MM023V | Student Project | 2 | 56 |
| MM024V | Welding Technology | 4 | 60 |
| GR001V | Graphic Skills | 2 | 36 |
| MA004U | Mathematics III | 2 | 36 |
| CM002U | Communication Skills | 2 | 36 |
| PY001V | Human Relations and Shop Supervision | 1 | 24 |

SPECIAL COURSES

| | | | |
|--------|----------------------------|---|-----|
| MM010V | Welding for Auto Mechanics | 2 | 48 |
| MM012V | Welding Special Projects | 2 | 48 |
| MM065V | Pipe Welding Technology | 8 | 160 |



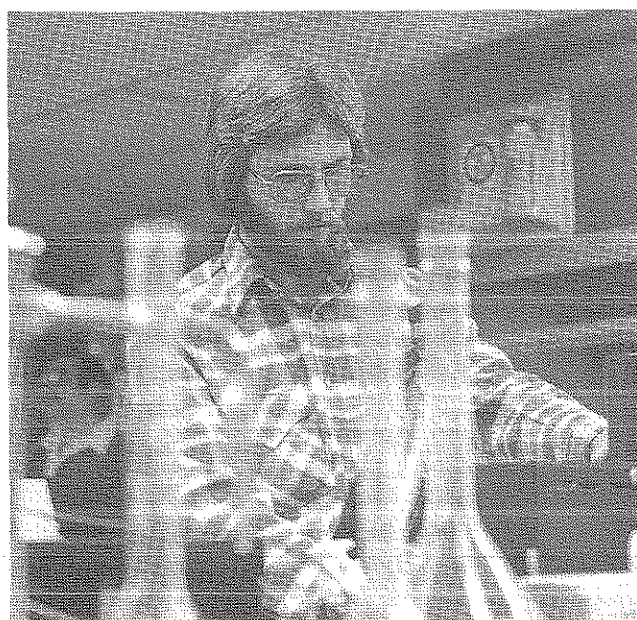
ENVIRONMENTAL CAREERS

ANALYTICAL LAB TECHNICIAN

The Analytical Lab Technician Program is designed to develop the foundation for work in agricultural, chemical and environmental laboratories. The program stresses the basic laboratory techniques, skills and safety required for successful employment.

The Analytical Lab Technician Program is three quarters in length and features a combination of general education, basic science education and laboratory experience. The program provides hands-on experience in working with a variety of environmental and agricultural samples. Graduates receive a diploma.

| | | Credits | Hrs. |
|--------|-------------------------------------|---------|-------|
| CH001T | Principles of Chemistry | 4 | 60 |
| | Math Elective | 4-5 | 48-60 |
| EV036V | Basic Lab Skills | 2 | 48 |
| EV038V | Water Analysis | 2 | 48 |
| EL019V | Basic Electricity | 1 | 12 |
| AM032U | Intro. to Quality Control | 3 | 48 |
| EV040V | Basic Environmental Science | 3 | 48 |
| EV042V | Wastewater Analysis I | 2 | 48 |
| CH002T | Fundamentals of Organic Chemistry | 4 | 60 |
| PH001U | Applied Physics | 2 | 36 |
| MA012U | Technical Mathematics I | 3 | 36 |
| EV032U | Basic Chemical Instrumental Methods | 3 | 60 |
| CM002U | Communication Skills | 3 | 36 |
| CH003T | Fundamentals of Biochemistry | 4 | 60 |
| EV048V | Wastewater Analysis II | 2 | 48 |
| EV034U | Ag Product Analysis | 2 | 48 |
| EV050V | Special Projects | 2 | 48 |
| EV033U | Lab Management & Safety | 2 | 24 |
| | Elective | 2 | 24 |
| EV031U | Quality Control Product Analysis | 2 | 48 |



WATER AND WASTEWATER TECHNOLOGY

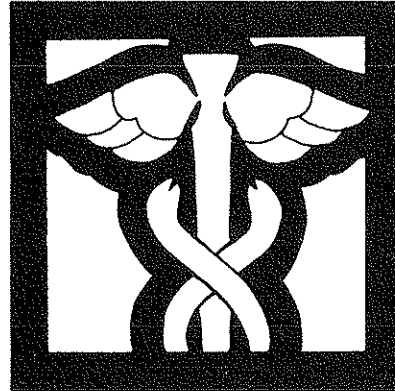
This program prepares students for employment in the areas of wastewater collection and treatment, water treatment and distribution, and laboratory analysis in water and wastewater facilities. Job opportunities are available with municipal and privately owned water or wastewater facilities, private laboratories, regulatory agencies and engineering firms.

The curriculum consists of classroom, laboratory and practical field learning experiences. A pilot scale water and wastewater treatment facility is located on campus. It provides students with training experience in a functioning treatment plant.

The program involves 1,404 clock hours and totals 64 credit hours of study. It may be taken during the day and/or evening. Graduates receive a diploma.

This program has been approved for veteran benefits. All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters.

| | | Credits | Hrs. |
|--------|---|---------|-------|
| EV055V | Treatment Plant Operation | 2 | 48 |
| EV027V | Water/Wastewater Plant Administration | 2 | 24 |
| EV030V | Water Treatment | 3 | 72 |
| EV034V | Wastewater Collection | 2 | 36 |
| EV035V | Introduction to Water and Wastewater Treatment | 2 | 24 |
| EV036V | Basic Laboratory Skills | 2 | 48 |
| EV038V | Water Analysis | 2 | 48 |
| EV039V | Pumps | 1 | 24 |
| EV040V | Basic Environmental Science | 3 | 48 |
| EV041V | Wastewater Treatment I | 3 | 72 |
| EV042V | Wastewater Analysis I | 2 | 48 |
| EV043V | Operations Reports | 1 | 12 |
| EV044V | Water Resources | 2 | 24 |
| EV045V | Wells | 2 | 24 |
| EV046V | Water Distribution | 2 | 48 |
| EV048V | Wastewater Analysis II | 2 | 48 |
| EV049V | Lagoons | 2 | 24 |
| EV050V | Special Projects | 2 | 48 |
| EV051V | Internship or elective or combination | 12 | 480 |
| EV052V | Sludge Treatment and Disposal | 2 | 36 |
| EV053V | Wastewater Treatment Plant Troubleshooting | 1 | 24 |
| EV054V | Activated Sludge and Rotating Biological Contactors | 2 | 36 |
| CH001T | Principles of Chemistry | 3 | 36 |
| CM002U | Communications Skills | 3 | 36 |
| EL019V | Basic Electricity | 1 | 12 |
| | Math elective | 4/5 | 48/60 |



HEALTH CAREERS

DENTAL ASSISTANT

Dental assistant students are prepared for successful employment in private dental offices, group practice, dental services, clinics and hospitals, as well as public health agencies.

The objective of this four-quarter program is to prepare students to assist the dentist directly in the treatment of patients, manage a business office and perform basic laboratory procedures in a dental office.

Graduates receive a diploma and are eligible to take the national certification examination. The Dental Assistant program is accredited by the American Dental Association Commission of Accreditation. An Associate in Applied Science degree will be awarded if minimal additional requirements are met.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 288 to 224 clock hours per quarter.

TECHNICAL COURSES

| | | Credits | Hrs. |
|--------|--|---------|------|
| MS001T | Emergency and First Aid Procedures (CPR) | 1 | 12 |
| DN102U | Dental Materials | 3.5 | 48 |
| DN103U | Dental Assisting | 5.5 | 72 |
| DN101U | Dental Orientation | 2 | 24 |
| DN115U | Dental Lab. Assisting I | 4.5 | 84 |
| BY110U | Dental Anatomy | 3 | 36 |
| BY111U | Head and Neck Anatomy | 3 | 36 |
| DN113U | Dental Radiography I | 2.5 | 36 |
| DN109U | Laboratory Practicum I | 4.5 | 90 |
| BY109U | Oral Microbiology | 2.5 | 36 |
| DN120U | Dental Therapeutics | 2.5 | 36 |
| DN141U | Dental Specialties | 5.5 | 72 |
| DN114U | Dental Radiography II | 1.5 | 24 |
| AM033U | Dental Office Management I | 3 | 36 |
| DN110U | Lab. Practicum II | 7.5 | 168 |
| DN121U | Disease and Prevention | 3.5 | 48 |
| AC007U | Dental Bookkeeping | 3 | 36 |
| AM034U | Dental Office Management II | 3 | 36 |
| DN111U | Clinic I | 3.5 | 114 |

| | | | |
|------------------------|-----------------------|-----|-----|
| DN112U | Clinic II | 3.5 | 114 |
| DN143U | Advanced Practicum | 3 | 54 |
| RELATED COURSES | | | |
| CM101T | Composition I | 4 | 48 |
| CM204T | Speech Communications | 4 | 48 |
| PY002T | General Psychology | 4 | 48 |

DENTAL ASSISTANT OFF-CAMPUS PROGRAM

This state-wide program provides an opportunity for employed dental assistants to demonstrate competence and gain a recognized formal education. The program provides extension courses off campus for college credit, a quarterly seminar and various evaluation procedures.

Graduates are awarded a diploma. The program can be completed over a period of six months or up to three years. Students wanting to enroll must submit proof that they have been employed two years as a dental assistant and have access to a dental office facility.

| TECHNICAL COURSES | | Credits | Hrs. |
|--------------------------|--------------------------|---------|-------|
| DN142U | Dental Assistant Seminar | 1 | 12 |
| DN133U | Dental Assisting—Set A | 8 | 14-20 |
| DN134U | Dental Assisting—Set B | 8 | 14-20 |
| DN135U | Dental Assisting—Set C | 5.5 | 14-20 |
| DN136U | Dental Assisting—Set D | 4 | 14-20 |
| DN137U | Dental Assisting—Set E | 5.5 | 12-18 |
| DN138U | Dental Assisting—Set F | 8.5 | 15-20 |
| DN139U | Dental Assisting—Set G | 9 | 12-20 |
| DN140U | Dental Assisting—Set H | 22 | 25-35 |

| RELATED COURSES | | Credits | Hrs. |
|------------------------|--|---------|------|
| CM101T | Composition I | 4 | 48 |
| CM204T | Speech Communications | 4 | 48 |
| PY002T | General Psychology | 4 | 48 |
| MS001T | Emergency and First Aid Procedures (CPR) | 1 | 12 |

DENTAL LABORATORY TECHNICIAN

Dental laboratory technicians are employed in commercial dental laboratories, universities, other institutions and private dental offices, or they may choose to operate their own dental laboratory. As part of the two-year program, students box, pour and articulate models; set up, wax up, invest and process full dentures; cast inlays, crowns, bridges, partials, acrylic and porcelain jackets, porcelain on metal; and construct many other special dental appliances.

Graduates receive an Associate in Applied Science degree.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 16 to 21 credit hours per quarter.

FIRST YEAR

| | Credits | Hrs. | |
|--------|------------------------------------|------|-----|
| DN004U | Dental Terminology (DLT) | 2.5 | 36 |
| DN001U | Dental Materials (DLT) | 4 | 72 |
| DN005U | Dental Equipment I | 1 | 18 |
| DN164U | Dental Equipment II | 1 | 18 |
| DN165U | Dental Equipment III | 1 | 18 |
| BY003U | Oral Anatomy | 2 | 24 |
| BY002U | Dental Anatomy I | 3 | 48 |
| BY001U | Dental Anatomy II | 2 | 36 |
| PH004U | Technical Chemistry and Physics I | 3.5 | 60 |
| PH005U | Technical Chemistry and Physics II | 4 | 84 |
| PH006U | Technical Physics III | 2 | 36 |
| DN006U | Clinical Experience I and Seminar | 12 | 384 |
| DN021U | Denture Techniques I | 6.5 | 120 |
| DN023U | Articulators and Articulation | 2 | 36 |
| DN024U | Cast Inlay and Crown | 5 | 96 |
| DN025U | Crown and Bridge | 10 | 192 |
| DN026U | Partial Denture Techniques I | 4 | 84 |

SECOND YEAR

| | | | |
|--------|------------------------------------|-----|-----|
| DN008U | Acrylic Jacket, Crowns and Veneers | 5 | 96 |
| DN027U | Partial Denture Techniques II | 5 | 96 |
| DN022U | Denture Techniques II | 6 | 120 |
| DN003U | Orthodontics | 3 | 60 |
| DN009U | Precision Attachment Partial | 4 | 84 |
| DN010U | Cast Metal Base Dentures | 2 | 42 |
| DN002U | Porcelain Techniques | 4.5 | 96 |
| DN028U | G.I.S. Orthodontics | 8 | 156 |
| DN029U | G.I.S. Fixed Bridges | 8 | 156 |
| DN030U | G.I.S. Ceramics | 8 | 156 |
| DN031U | G.I.S. Removable Bridges | 8 | 156 |
| DN166U | Dental Equipment IV | 1 | 18 |
| DN032U | G.I.S. Full Dentures | 8 | 156 |
| DN007U | Clinical Experience II and Seminar | 12 | 384 |

RELATED COURSES

| | | | |
|--------|--------------------------------------|---|----|
| CM002U | Communication Skills I | 3 | 36 |
| DN020U | Laboratory Management (DLT) | 3 | 36 |
| PY007U | Sales Psychology and Human Relations | 3 | 36 |
| PY002T | General Psychology | 4 | 48 |

DENTAL LAB TECHNICIAN OFF-CAMPUS PROGRAM

This program is offered in identified metropolitan areas where the need for dental lab technicians is not currently being met.

Students will receive instruction and practical experience in the five main areas of dental laboratory technology, which include complete and partial denture construction; crown and fixed bridge-work fabrication; gold or other non-precious metal cast partials; individual porcelain and acrylic restorations; and orthodontic appliances.

Classroom instruction is held on Friday nights and weekends at a pre-determined off-campus site. Under a cooperative arrangement, courses are taught by instructors from Kirkwood Community College, with the cooperating agency offering facilities and supportive services. Classes are supplemented by self-study modules consisting of study materials, slides and tapes that students may check-out and use in their home. The program also consists of nine quarter hours of Arts



and Sciences courses that may be taken at an accredited college of the student's choice.

This is a two-year program with graduates receiving an Associate in Applied Science degree.

| TECHNICAL COURSES | | Credits | Hrs. |
|-------------------|-----------------------------------|---------|------|
| DN144U | Dental Laboratory Technology Core | 5 | 108 |
| DN145U | Full Denture Technology I | 6 | 132 |
| DN149U | Clinic Ia | 2 | 72 |
| DN146U | Full Denture Technology II | 11 | 240 |
| DN147U | Partial Denture Technology I | 11 | 240 |
| DN150U | Clinic Ib | 2 | 72 |
| DN148U | Partial Denture Technology II | 3 | 60 |
| DN159U | Crown and Bridge Technology I | 7 | 144 |
| DN151U | Clinic Ic | 2 | 72 |
| DN160U | Crown and Bridge Technology II | 11 | 252 |
| DN161U | Ceramics Technology I | 11 | 240 |
| DN152U | Clinic Id | 2 | 72 |
| DN162U | Ceramics Technology II | 5 | 108 |
| DN163U | Orthodontic Technology I | 6 | 132 |
| DN153U | Clinic Ie | 2 | 72 |
| DN154U | Clinic II A | 12 | 432 |
| | or | | |
| DN155U | Clinic II B, or | | |
| DN156U | Clinic II C, or | | |
| DN157U | Clinic II D, or | | |
| DN158U | Clinic II E | | |

| RELATED COURSES | | Credits | Hrs. |
|-----------------|--------------------------------------|---------|------|
| CM002U | Communication Skills I | 3 | 36 |
| PY004U | Psychology of Human Relations I | 3 | 36 |
| SO004T | Introduction to Sociology | 4 | 48 |
| PY007U | Sales Psychology and Human Relations | 3 | 36 |

DENTAL MANAGEMENT

This program is designed for dental office managers and/or receptionists who wish to expand their skills in the area of management. The program provides electives for persons who may want to pursue their individual interest based on their current employment. Students may enroll part time. It is open to graduates of one-year accredited pro-

grams, certified dental assistants and others. Students may obtain an Associate in Applied Science degree if minimum requirements are met.

| TECHNICAL COURSES | | Credits | Hrs. |
|-------------------|---------------------------------|---------|------|
| DN131U | Dental Management Seminar I | 3 | 36 |
| DN132U | Dental Management Seminar II | 3 | 36 |
| PD005T | Human Potential | 2 | 30 |
| AM061U | Introduction to Management | 2 | 24 |
| AM063U | Techniques of Supervision | 2 | 24 |
| AM060U | Human Behavior in Organizations | 3 | 26 |

| ELECTIVES | | Credits | Hrs. |
|---|--|---------|------|
| Electives in the humanities, math/science, social science | | 9 | 108 |

PREVENTIVE DENTISTRY

Preventive dentistry is a part-time program designed for dental assistants who wish to expand their knowledge and skills in the area of preventive dentistry. It includes the mechanics, theory, philosophy and psychology for teaching the prevention of oral diseases to dental patients, with emphasis on plaque control. Students who complete this program should be able to establish, teach and evaluate a plaque control program in a dental office.

The program is open to graduates of a one-year accredited dental assistant program or certified dental assistants with a minimum of six month's employment in a dental office. Graduates are eligible for an Associate in Applied Science degree if degree requirements are completed, or a certificate.

| TECHNICAL COURSES | | Credits | Hrs. |
|-------------------|---------------------------------|---------|------|
| DN127U | Preventive Dentistry Seminar I | 4 | 60 |
| DN128U | Preventive Dentistry Seminar II | 4 | 60 |
| PY002T | General Psychology | 4 | 48 |
| SO004T | Introduction to Sociology | 4 | 48 |
| PD005T | Human Potential | 2 | 30 |

ELECTIVES
Electives may be selected from the following subject areas and approved by the advisor of the Dental Assistant program.

| | |
|------------------------|-----------------------|
| Educational Psychology | Communication Courses |
| Photography Courses | Social Problems |
| Audio-visual Courses | Chemistry |

ELECTROENCEPHALOGRAPHIC TECHNOLOGIST

The Electroencephalographic Technologist (EEG Tech) program is a cooperative two-year program between Kirkwood Community College and the University of Iowa Department of Neurology. Related and general education courses are provided by Kirkwood Community College, with the EEG core courses and clinical experience provided by the University of Iowa Department of Neurology.

Graduates are awarded an Associate in Applied Science degree from Kirkwood Community College.

The Electroencephalographic Technologist functions in a laboratory performing neurological tests on either hospitalized patients or out-patients. The electroencephalograph records the electrical activity of the brain. The recorded activity assists the physician in the diagnosis and treatment of patients having various types of brain dysfunction.

Electroencephalographic Technologists may be employed in private and public hospitals, clinics, private neurologists, offices and research institutions.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 12 to 21 credit hours per quarter.

TECHNICAL COURSES

| | Credits | Hrs. |
|--|---------|------|
| MS025U Introduction to Health Care | 4 | 72 |
| MS037U Clinical EEG Lecture I | 1 | 12 |
| MS038U Introduction to EEG Lab Tech/Seminar | 8 | 168 |
| MS001T Emergency/First Aid Procedures | 2 | 24 |
| MS040U Applied Electronics and Instrumentation | 3 | 48 |
| MS041U General Neurology I | 2 | 24 |
| MS042U Clinical Laboratory I | 8.5 | 192 |
| MS043U General Neurology II | 2 | 24 |
| MS044U Clinical Laboratory II | 15 | 348 |
| MS045U Special Instrumentation Tech. I | 3.5 | 66 |
| MS046U Clinical Laboratory III | 13 | 300 |
| MS047U Special Instrumentation Tech II | 4 | 90 |
| MS048U Clinical EEG Lecture II | 2 | 24 |
| MS049U Clinical Laboratory IV | 9 | 204 |

RELATED COURSES

| | | |
|--------------------------------------|----|-----|
| MA012U Technical Mathematics I | 4 | 60 |
| EL029U Electronics Circuits I | 12 | 192 |
| CM101T Composition I | 4 | 48 |
| BY006U Basic Anatomy and Physiology | 4 | 60 |
| BY009U Homeostatic Physiology | 4 | 48 |
| PY004U Psychology of Human Relations | 2 | 24 |

MEDICAL ASSISTANT

This program is four quarters, and prepares the student to work under the supervision of medical personnel as a Medical Assistant in a clinic, hospital, group practice or physician's private office. The assistant's duties are both administrative and clinical. Some of these duties include assisting the doctor with examinations, arranging hospital admissions, assisting in medical emergencies, performing laboratory tests authorized by the doctor, ordering medical supplies, answering the phone and scheduling appointments, typing medical reports and completing insurance forms.

Following graduation, the student is eligible to take the basic certification examination and the specialty certification examinations offered by the

American Association of Medical Assistants. Those passing the basic examinations become nationally certified medical assistants.

Graduates of the program receive a diploma. The Medical Assistant program at Kirkwood is accredited by the Committee on Allied Health Education and Accreditation (CAHEA) of the American Medical Association, in collaboration with the American Association of Medical Assistants.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 276 to 396 clock hours per quarter.

TECHNICAL COURSES

| | Credits | Hrs. |
|--|---------|------|
| MS022V Clinical Procedures I | 2 | 36 |
| MS023V Clinical Procedures II | 5 | 84 |
| MS024V Clinical Procedures III | 2 | 36 |
| MS028V Medical Procedures I (Adm) | 4 | 84 |
| MS029V Medical Procedures II (Adm) | 1 | 24 |
| MS025V Medical Procedures III (Adm) | 2 | 24 |
| LW001V Medical Law | 2 | 24 |
| MS061U Medical Terminology I | 2 | 24 |
| MS062U Medical Terminology II | 2 | 24 |
| MS064U Medical Terminology III | 3 | 36 |
| OE031V Business Skills | 2 | 24 |
| MS008V Supervised Clinical Exp. I | 6 | 204 |
| MS001T First Aid and CPR | 2 | 24 |
| MS009V Supervised Clinical Exp. II | 13 | 444 |
| PY004U Psychology of Human Relations I | 2 | 24 |
| MS063U Pharmacology | 2 | 24 |
| MS025U Introduction to Health Care | 4 | 72 |

RELATED COURSES

| | | |
|-------------------------------------|---|----|
| OE031V Medical Typing | 2 | 36 |
| BY006U Basic Anatomy and Physiology | 4 | 72 |
| AC006V Medical Bookkeeping | 4 | 48 |
| SO004T Introduction to Sociology | 4 | 48 |
| CM204T Speech Communications | 4 | 48 |

MEDICAL RECORD TECHNICIAN

This program is designed to prepare students for careers in the medical record field. An unpaid directed practicum is offered in various types of health facilities.

The medical record technician may be employed in the medical records department of hospitals, medical clinics, nursing homes, state and federal health agencies, and health research societies.

Graduates of this six-quarter program receive an Associate in Applied Science degree. Following graduation, students may take the National Accreditation Test offered by the American Medical Record Association. Graduates who pass the test become accredited record technicians.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 17 to 23 hours per quarter.

TECHNICAL COURSES

| | Credits | Hrs. |
|--------|---------|------|
| OE032V | 1 | 12 |
| OE016U | 3 | 48 |
| MA036U | 4 | 48 |
| MS061U | 2 | 24 |
| MS062U | 2 | 24 |
| MS064U | 3 | 36 |
| E015U | 4 | 48 |
| OE009U | 4 | 48 |
| OE012U | 4 | 48 |
| OE010U | 4 | 48 |
| OE013U | 3 | 36 |
| OE014U | 2 | 24 |
| OE011U | 11 | 440 |
| OE022U | 4 | 48 |
| OE023U | 1 | 12 |
| OE024U | 1 | 12 |

RELATED COURSES

| | | |
|-----------|----|-----|
| AM019U | 4 | 48 |
| CM002U | 3 | 36 |
| | or | |
| CM101T | 4 | 48 |
| CM001U | 3 | 36 |
| | or | |
| CM117T | 4 | 48 |
| PY002T | 4 | 48 |
| MS063U | 2 | 24 |
| OE008T | 3 | 60 |
| OE041T | 1 | 24 |
| BY006U | 4 | 60 |
| BY009U | 4 | 48 |
| BY112U | 4 | 48 |
| OE005U | 2 | 24 |
| DP006T | 3 | 36 |
| Electives | 10 | 120 |

NURSING EDUCATION

The Nursing Education program offers Licensed Practical Nursing (LPN) and Associate Degree Nursing (RN) options in a cored curriculum. Students are eligible for admission if they are 17 years of age and have a high school diploma or equivalent. The first four quarters of the LPN and ADN programs are identical and provide a core of skills, knowledge, ability and concepts common to the practical and registered technical nurse.

Nursing courses and clinical experiences are offered concurrently on the Kirkwood campus and in cooperating health facilities in the area. The curriculum consists of major phases of medical, surgical, maternal, pediatric and psychiatric nursing, and is designed to prepare graduates to work in hospitals, extended or long-term care health facilities, doctor's offices, clinics and agencies providing nursing care. The LPN student learns specific procedures and patient care skills pertinent to the performance expected by employers of these graduates. Graduates receive a diploma and are eligible for the state examination for LPN licensure.

ADN students receive additional instruction in nursing and science courses, and more extensive clinical patient care skills. ADN students learn to: (1) plan; implement and evaluate a plan of nursing care for patients; (2) assume specific leadership skills; and (3) make responsible decisions regarding nursing care. Graduates of the ADN program receive an Associate in Applied Science degree and are eligible for the state examination for RN licensure.

ADN ADVANCED PLACEMENT: Kirkwood offers an ADN Advanced Placement program for LPNs with one year work experience. There are two options available. The first option is to enter Nursing V in the day program at Kirkwood's main campus, either spring or fall quarter. The second option is to enter Nursing VI each fall quarter in the evening-weekend program at Kirkwood's Iowa City Community Education Center.

LICENSED PRACTICAL NURSE: All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 16 to 18 credit hours per quarter.

ASSOCIATE DEGREE NURSING: All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 16 to 19 credit hours per quarter.

ASSOCIATE DEGREE NURSE

TECHNICAL COURSES

| | Credits | Hrs. |
|--------|---------|------|
| MS001T | 2 | 24 |
| NS002U | 1 | 12 |
| NS013U | 2 | 24 |
| NS003U | 9 | 156 |
| NS004U | 10 | 180 |
| NS005U | 12 | 228 |
| NS006U | 13 | 252 |
| NS007U | 12 | 240 |
| NS008U | 10 | 180 |
| NS009U | 12 | 240 |
| NS010U | 2 | 24 |
| NS010U | 16 | 336 |
| NS011U | 2 | 24 |
| NS012U | 1 | 12 |
| NS017V | 2 | 24 |

RELATED COURSES

| | | |
|--------|---|----|
| BY006U | 4 | 60 |
| PY002T | 4 | 48 |
| CM204T | 4 | 48 |
| BY042T | 4 | 84 |
| PY020T | 4 | 48 |
| CM101T | 4 | 48 |
| CM117T | 4 | 48 |
| SO004T | 4 | 48 |
| SO006T | 4 | 48 |
| BY009U | 4 | 48 |

ELECTIVES

Choice of elective courses. 4 48

LICENSED PRACTICAL NURSE

TECHNICAL COURSES

| | Credits | Hrs. |
|---|---------|------|
| MS001T Emergency and First Aid Procedures | 2 | 24 |
| NS002U Metrology | 1 | 12 |
| NS013U Nutrition | 2 | 24 |
| NS003U Nursing I (Fundamentals of Nursing) | 9 | 156 |
| NS004U Nursing II (Intro to Medical-Surgical Nursing) | 10 | 180 |
| NS005U Nursing III (Maternal and Child Nursing) | 12 | 228 |
| NS006U Nursing IV (Medical-Surgical Nursing) | 13 | 252 |
| NS017V PN Nursing Seminar (LPN) | 2 | 24 |

RELATED COURSES

| | | |
|---|---|----|
| BY006U Basic Anatomy and Physiology | 4 | 60 |
| PY002T General Psychology | 4 | 48 |
| CM204T Speech Communication | 4 | 48 |
| BY042T Microbiology I | 4 | 72 |
| PY020T Psychology of Growth & Development | 4 | 48 |

ELECTIVES

Choice of elective courses. 2 24

OCCUPATIONAL THERAPY ASSISTANT

The Occupational Therapy Assistant program combines academic and clinical experience in a planned seven-quarter program. Instruction consists of a combination of traditional lecture classes and small group and self-paced learning activities, which allow students who have prior training or experience, or those who learn more rapidly, to complete the program in less than seven quarters.

The program prepares the graduate for a health career, working under the supervision of a registered occupational therapist. The focus of the program is on helping patients to perform tasks critical to self-care, work and leisure activities, and restoration and treatment of physical and psychosocial disabilities.

Occupational therapy assistants are employed in hospitals, nursing homes, area education agencies, mental health facilities, rehabilitation centers, extended care facilities and public school programs. Graduates will have the opportunity to work under guidance, providing patients (clients) occupational therapy treatment, assessment and evaluation. Graduates receive an Associate in Applied Science degree and are eligible for the National Certification Examination (AOTA). Licensure will be required to practice in Iowa.

All veterans must take sufficient courses (12 to 20 credit hours) each quarter so as to remain in good standing and complete the program in seven quarters.

TECHNICAL COURSES

| | Credits | Hrs. |
|--|---------|------|
| TH005U Therapeutic Techniques I | 4 | 60 |
| MS025U Introduction to Health Care | 4 | 72 |
| TH004U Developmental Processes | 6 | 84 |
| TH006U Therapeutic Techniques II | 3 | 48 |
| TH002U Health-Illness-Health | 10 | 168 |
| TH003U Major Crafts | 8 | 192 |
| CM007U Medical Communications | 4 | 48 |
| MS001T Emergency First Aid Procedures; CPR & First Aid | 2 | 24 |
| MS061U Medical Terminology I | 2 | 24 |
| TH007U Therapeutic Techniques III | 15 | 252 |
| TH010U Clinic A | 8 | 288 |
| TH009U Clinic B | 8 | 288 |
| TH001U Occupational Therapy Management Skills | 2 | 24 |
| MS036U Independent Study in Health Science | 2 | 48 |
| TH008U Clinic C | 8 | 288 |
| TH011U Seminar | 2 | 24 |

RELATED COURSES

| | | |
|--|---|----|
| BY006U Basic Anatomy and Physiology | 4 | 60 |
| PY002T General Psychology | 4 | 48 |
| PD007D P. A. D. Personal Achievement or PD003D or PD004D | 2 | 48 |
| BY011U Functional Anatomy | 4 | 48 |
| CM201T Public Communications | 4 | 48 |
| CM101T Composition I | 4 | 48 |

ORTHOPAEDIC PHYSICIAN'S ASSISTANT

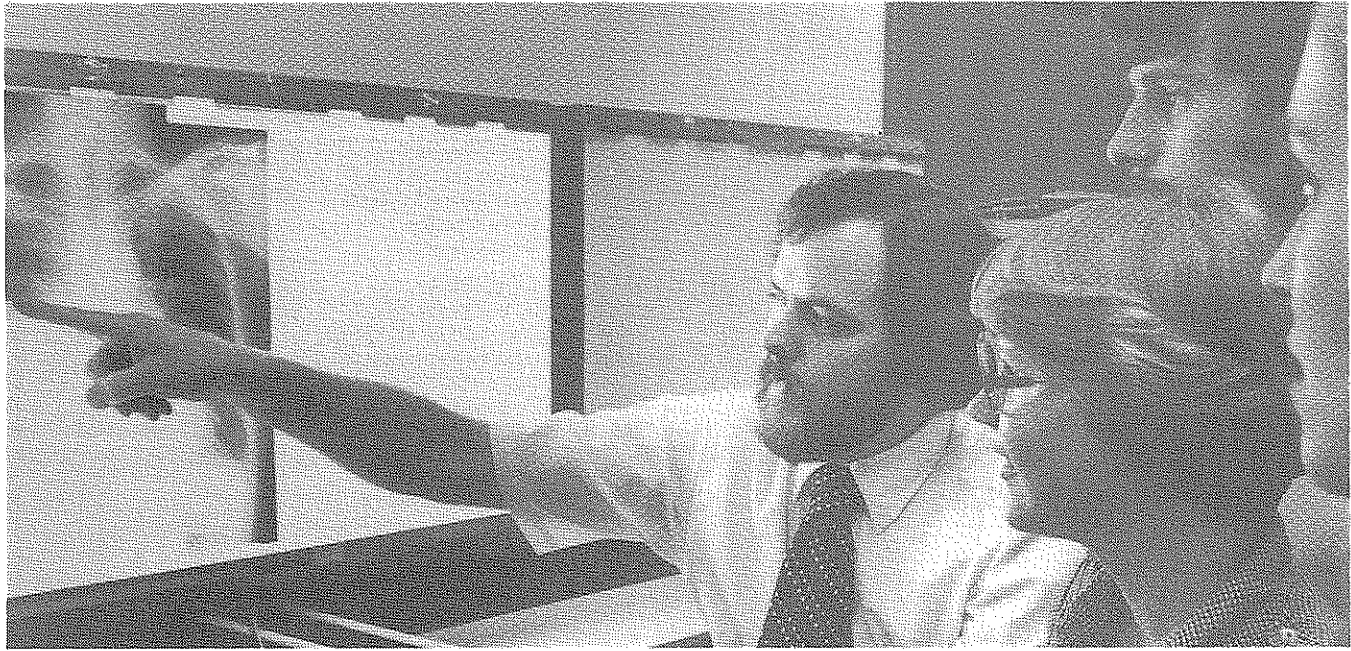
The Orthopaedic Physician's Assistant (OPA) curriculum of six quarters prepares students to assist in the care of patients with musculoskeletal disorders and diseases under the supervision of an orthopaedic surgeon. Although specific duties may vary according to employer needs, the OPA functions primarily as a surgical assistant, cast and traction technician, patient data collector and patient instructor.

Theory and practice is integrated and concurrent during the program. Classroom and laboratory activities are provided at Kirkwood, while practical experience is obtained in selected hospitals and private physicians' offices. Graduates receive an Associate in Applied Science degree.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 12 to 21 credit hours per quarter.

TECHNICAL COURSES

| | Credits | Hrs. |
|--|---------|------|
| MS007U Immobilization Techniques | 7 | 120 |
| NS002U Metrology | 1 | 12 |
| MS056U Educational Techniques | 3 | 36 |
| MS008U OPA Clinic I | 4 | 96 |
| MS065U Applied Pharmacology | 1 | 12 |
| MS066U Operating Room Techniques | 3 | 48 |
| MS025U Introduction to Health Care | 4 | 72 |
| MS004U Orthopaedic Conditions I | 4 | 48 |
| MS009U OPA Clinic II | 4 | 96 |
| MS005U Orthopaedic Conditions II | 4 | 48 |
| MS015U Introduction to Physical Therapy, Orthotics and Prosthetics | 3 | 36 |
| OE007U Office Procedures | 2 | 24 |



| | | | |
|--------|--|----|-----|
| MS010U | OPA Clinic III | 7 | 240 |
| MS011U | OPA Clinic IV | 7 | 240 |
| MS012U | OPA Clinic V | 13 | 480 |
| MS001T | Emergency and First Aid Procedures | 2 | 24 |
| MS066U | Physical Assessment and Interpretation | 3 | 60 |

RELATED COURSES

| | | | |
|--------|------------------------------|---|----|
| BY006U | Basic Anatomy and Physiology | 4 | 60 |
| BY042T | Microbiology I | 4 | 72 |
| CM101T | Composition I | 4 | 48 |
| BY011U | Functional Anatomy | 4 | 48 |
| CM117T | Composition II | 4 | 48 |
| | Electives | 4 | 48 |
| BY112U | Intro to Pathology | 4 | 48 |
| CM204T | Speech Communications | 4 | 48 |
| BY009U | Homeostatic Physiology | 4 | 48 |

RESPIRATORY THERAPY

The Respiratory Therapy curriculum is a two-year ladder program designed to prepare students as allied health specialists in the field of respiratory therapy. The role of the Respiratory Therapist is primarily, but not limited to, cardio-respiratory care in the form of oxygen administration, ventilatory support, blood gas analysis, chest physiotherapy and pulmonary rehabilitation. The therapist's role also often encompasses other related therapeutic and diagnostic functions such as pulmonary function testing.

Graduates of the program receive an Associate in Applied Science degree and are eligible for the National Registry Examination for Respiratory Therapists. The first-year curriculum provides an option for the student to be granted a diploma as a Respiratory Therapy Technician. This option must be arranged with a program coordinator.

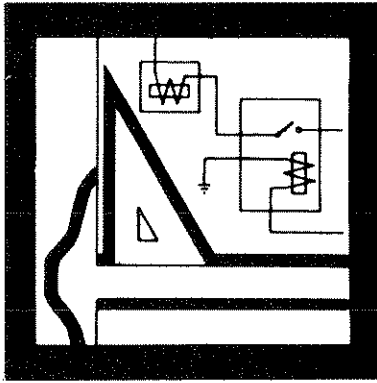
All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 16 to 20 credit hours per quarter.

TECHNICAL COURSES

| | | Credits | Hrs. |
|--------|--|---------|--------|
| MS025U | Introduction to Health Care | 4 | 72 |
| MS014U | Respiratory Therapy Techniques I | 5 | 84 |
| MS023U | Respiratory Therapy Techniques II | 4 | 60 |
| MS019U | Clinical Experience I | 8 | 192 |
| MS017U | Ventilation Therapy | 5 | 72 |
| MS054U | Pharmacology I | 1 | 12 |
| MS052U | Clinical Medicine I | 3 | 36 |
| MS020U | Clinical Experience II | 8 | 192 |
| MS050U | Diagnostic Lab Techniques | 2-4 | 36-60 |
| MS053U | Clinical Medicine II | 3 | 36 |
| MS051U | Clinical Experience III | 4-8 | 96-192 |
| MS032U | Pediatric Respiratory Equipment and Clinical Topics | 4 | 60 |
| MS055U | Pharmacology II | 2 | 24 |
| MS021U | Clinical Experience IV | 4 | 96 |
| MS059U | Advanced Pathology | 3 | 36 |
| MS060U | Advanced Respiratory Therapy Equipment/Procedures | 4 | 60 |
| MS022U | Clinical Experience V | 8 | 192 |
| AM023U | Management & Medical Ethics | 3 | 36 |
| MS033U | Clinical Experience VI | 8 | 192 |
| MS058U | Advanced Life Support | 2 | 36 |
| MS056U | Educational Techniques | 3 | 36 |
| MS057U | Clinical Experience VII | 8 | 192 |

RELATED COURSES

| | | | |
|--------|-----------------------------------|---|----|
| MA031T | Intermediate Algebra | 5 | 60 |
| PH011T | Medical Physics | 4 | 60 |
| BY006U | Basic Anatomy & Physiology | 4 | 60 |
| BY042T | Microbiology I | 4 | 72 |
| CH002T | Fundamentals of Organic Chemistry | 4 | 60 |
| BY009U | Homeostatic Physiology | 4 | 48 |
| PY002T | General Psychology | 4 | 48 |
| CM101T | Composition I | 4 | 48 |
| CM117T | Composition II: Technical Writing | 4 | 48 |
| CM201T | Speech I: Public Speaking | 4 | 48 |
| CH001T | Principles of Chemistry | 4 | 60 |
| BY013U | Respiratory Physiology | 4 | 48 |



MANUFACTURING PRODUCTION CAREERS

ELECTRONICS ENGINEERING TECHNOLOGY

Electronics Engineering Technology is oriented toward research and development electronics. The major emphasis is on circuit analysis, basic design and modification. Successful completion of the Electronics Engineering Technology program qualifies the student for an entry-level job as a research and development technician, an engineer associate, or as an instrumentation technician in certain industries. Other occupations include field engineer, technical sales representative and electronics draftsman.

Normally students maintain 19 to 23 credit hours per quarter. Students who transfer credits from other programs or other institutions must maintain a minimum of 12 credit hours per quarter and have an approved course of study which will lead to graduation within six quarters in order to be considered a full-time student. An Associate in Applied Science degree is awarded to those who successfully complete this six-quarter program.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 12 to 24 credit hours per quarter.

| TECHNICAL COURSES | | Credits | Hrs. |
|-------------------|---|---------|------|
| EL001U | Introduction to Electronics | 4 | 72 |
| EL002U | Electric Circuits I | 6 | 84 |
| EL003U | Electric Circuits II | 6 | 84 |
| EL035U | Active Devices | 7 | 120 |
| EL015U | Solid-State Circuit Analysis and Design | 7 | 120 |
| EL033U | Electronic Test Methods | 3 | 60 |
| EL013U | Industrial Electronics | 3 | 60 |

| | | | |
|--------|-----------------------------|---|-----|
| EL006U | Communication Electronics | 7 | 120 |
| EL012U | Transmission Systems | 6 | 96 |
| EL010U | Television Circuit Analysis | 7 | 120 |
| EL034U | Transform Circuit Analysis | 4 | 60 |
| EL022U | Network Analysis and Design | 4 | 60 |
| EL058U | Design Projects I | 1 | 24 |
| EL059U | Design Projects II | 2 | 48 |
| EL060U | Microprocessors I | 5 | 84 |
| EL061U | Digital Circuits & Systems | 4 | 60 |
| EL062U | Digital Principles | 6 | 84 |
| EL063U | Microprocessors II | 4 | 60 |

RELATED COURSES

| | | | |
|--------|---|---|----|
| MA012U | Technical Mathematics I | 4 | 60 |
| MA014U | Technical Mathematics II-E | 4 | 60 |
| MA015U | Technical Mathematics III | 4 | 60 |
| EG008U | Engineering Problems | 3 | 60 |
| GR001U | Electronic Drawing | 3 | 72 |
| PH001U | Applied Physics I | 4 | 60 |
| PH002U | Applied Physics II | 4 | 60 |
| CM002U | Communication Skills I | 3 | 36 |
| CM003U | Communication Skills II | 3 | 36 |
| PY004U | Psychology of Human Relations | 3 | 36 |
| EC003U | American Institutions | 3 | 36 |
| CM004U | Communication Skills III: Technical Reporting | 3 | 36 |

MACHINIST

The machine shop curriculum is planned to prepare students to enter the machinist trade and to become skilled machinists or machine operators. A balance of practical shop work and related instruction provides a solid foundation for advancement in the trade. Related instruction includes shop math, blueprint reading and machine technology. The practical shop work is individualized so that students can progress at an accelerated pace.

Students learn the care and use of precision measuring and layout tools, and develop skills on basic machine tools and production machines. Basic metallurgy and heat treatment of steel also is covered.

The day programs are three quarters in length and involve 1,080 clock hours and 55 credits. The evening program is four quarters in length and involves 920 clock hours and 48 credits. Its content is similar to the day program. Graduates of the Machinist program are awarded a diploma.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program.

TECHNICAL COURSES

| | | Day | | Evening | |
|--------|-----------------------|-----|------|---------|------|
| | | Cr. | Hrs. | Cr. | Hrs. |
| MM001V | Machinist Lab I | 10 | 240 | 8 | 192 |
| MM002V | Machinist Lab II | 12 | 288 | 8 | 192 |
| MM003V | Machinist Lab III | 13 | 312 | 8 | 192 |
| MM004V | Machinist Lab IV | | | 8 | 192 |
| MM005V | Machinist Related I | 10 | 120 | 4 | 48 |
| MM006V | Machinist Related II | 6 | 72 | 4 | 48 |
| MM007V | Machinist Related III | 4 | 48 | 4 | 48 |
| MM008V | Machinist Related IV | | | 4 | 48 |



Single courses are available in the evenings and begin each college quarter. These courses are scheduled two evenings per week, involve 96 clock hours, and are four credits each. The single courses include:

| | | | |
|--------|---------------------------------|---|----|
| MM052V | Bench Work—Engine Lathe I | 4 | 96 |
| MM053V | Engine Lathe II | 4 | 96 |
| MM054V | Milling I | 4 | 96 |
| MM055V | Milling II | 4 | 96 |
| MM056V | Grinding and Heat Treat | 4 | 96 |
| MM057V | N. C. Operation and Programming | 4 | 96 |
| MM058V | Turret Lathe | 4 | 96 |

MECHANICAL ENGINEERING TECHNOLOGY

This is a two-year program consisting of six 12-week quarters. The curriculum includes practical experience in the drafting room as well as shops and laboratories, but emphasizes technical studies in the classroom.

The program stresses a high degree of ability in analytical problem solving, as well as the ability to translate ideas and concepts into graphic representations. Students will gain a thorough knowledge of mechanical and manufacturing processes, enabling them to follow a design to its conclusion in the actual manufacture and ultimate production of a tool or product. The instruction in design provides the student possessing mechanical and mathematical aptitudes an opportunity to qualify for work in research and development in a wide range of industrial areas, from farm machinery to electronics.

Normally, students maintain between 18 and 21 credit hours per quarter. Students who transfer

credits from other programs or other institutions must maintain a minimum of 12 credit hours per quarter and have an approved course of study which will lead to graduation within six quarters in order to be considered a full-time student. Graduates earn an Associate in Applied Science degree.

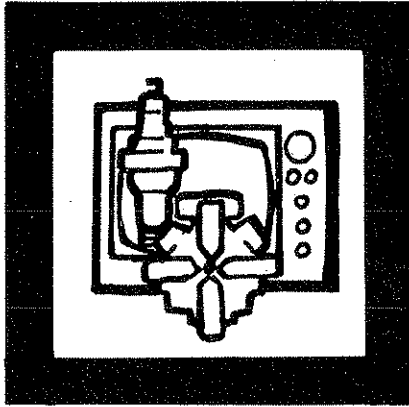
All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 12 to 21 credit hours per quarter.

TECHNICAL COURSES

| | | Credits | Hrs. |
|--------|-----------------------------|---------|------|
| GR002U | Engineering Drawing I | 6 | 120 |
| GR003U | Engineering Drawing II | 6 | 120 |
| GR004U | Engineering Drawing III | 5 | 120 |
| GR005U | Design Problems I | 2 | 60 |
| GR006U | Design Problems II | 6 | 144 |
| EG001U | Statics | 8 | 120 |
| EG002U | Kinematics of Mechanisms | 7 | 120 |
| EG003U | Dynamics | 7 | 120 |
| EG004U | Machine Design | 7 | 144 |
| EG005U | Engineering Materials | 2 | 48 |
| EG006U | Strength of Materials I | 4 | 60 |
| EG007U | Strength of Materials II | 5 | 60 |
| MA007U | Engineering Computations I | 2 | 48 |
| MA008U | Engineering Computations II | 2 | 48 |
| MH002U | Hydraulics | 4 | 72 |

RELATED COURSES

| | | | |
|--------|---|---|----|
| PH003U | Heat, Light and Sound | 5 | 72 |
| EL026U | Electricity | 3 | 60 |
| MA012U | Technical Mathematics I | 4 | 60 |
| MA013U | Technical Mathematics II | 5 | 60 |
| MA015U | Technical Mathematics III | 4 | 48 |
| MM001U | Manufacturing Processes I | 3 | 72 |
| MM002U | Manufacturing Processes II | 3 | 72 |
| CM002U | Communication Skills I | 3 | 36 |
| CM003U | Communication Skills II | 3 | 36 |
| PY004U | Psychology of Human Relations I | 3 | 60 |
| EC003U | American Institutions | 3 | 36 |
| SO001U | Industrial Organizations | 3 | 36 |
| CM004U | Communication Skills III: Technical Reporting | 3 | 36 |



MANUFACTURING SERVICE CAREERS

AUTOMOTIVE COLLISION REPAIR

Automobile collision repair personnel are employed in body and fender shops, dealerships and garages that offer collision repair services. Other employers are trucking, taxicab and bus companies, and automotive manufacturers.

Students in the program receive training in the full range of shop processes used to restore damaged vehicles. Students learn to use hydraulic jacks, rams, air and electric grinders, sanders, buffers, drills, panel cutters, welders, torches, paint guns, damage dozers, alignment tools and specialized hand tools.

The Kirkwood program is three 12-week quarters in length. Class periods are six hours per day, five days per week. Graduates are awarded a diploma.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will be 360 clock hours per quarter.

TECHNICAL COURSES

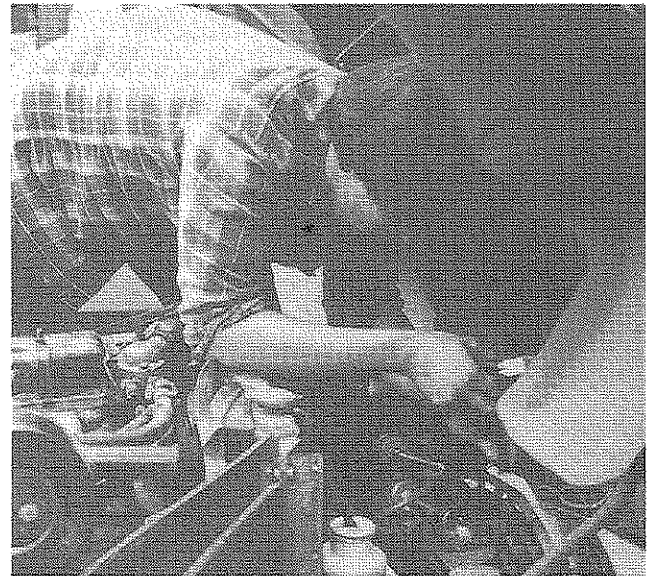
| | | Credits | Hrs. |
|--------|-----------------------|---------|-------|
| MH009V | Collision Lab I | 12 | 300 |
| MH010V | Collision Lab II | 12 | 300 |
| MH011V | Collision Lab III | 12 | 300 |
| MH012V | Collision Related I | 5 | 60 |
| MH013V | Collision Related II | 3-5 | 36-60 |
| MH014V | Collision Related III | 3-5 | 36-60 |

RELATED COURSE

| | | | |
|--------|--------------------|---|----|
| AM003U | Business Practices | 2 | 36 |
|--------|--------------------|---|----|

AUTOMOTIVE MECHANICS

The Automotive Mechanics program is planned to provide four quarters of basic auto mechanics for post-high school age students. It is designed for



the student who wishes to become a first-class auto mechanic. Training includes a wide variety of organized learning experiences. Class periods are six hours per day, five days per week.

Due to the complexity of the modern automobile and the variations in makes and models, there are many opportunities for ingenuity and exploration. Students enrolled in this program spend 25 to 30 per cent of their time in classroom and laboratory instruction, and the balance of their time in the automotive shop. Graduates receive a diploma.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program.

This will be 360 clock hours per quarter.

TECHNICAL COURSES

| | | Credits | Hrs. |
|--------|----------------------------|---------|------|
| MH001V | Auto Mechanics Lab I | 10 | 240 |
| MH002V | Auto Mechanics Lab II | 10 | 240 |
| MH003V | Auto Mechanics Lab III | 10 | 240 |
| MH004V | Auto Mechanics Lab IV | 10 | 240 |
| MH005V | Auto Mechanics Related I | 10 | 120 |
| MH006V | Auto Mechanics Related II | 8 | 96 |
| MH007V | Auto Mechanics Related III | 10 | 120 |
| MH008V | Auto Mechanics Related IV | 10 | 120 |

RELATED COURSE

| | | | |
|--------|--------------------|---|----|
| AM003U | Business Practices | 2 | 24 |
|--------|--------------------|---|----|

COMMUNICATION ELECTRONICS

Communication Electronics is oriented toward the fields of consumer electronics servicing, and radio and television broadcasting. Major emphasis is on maintenance and troubleshooting of existing equipment. Successful completion of the Communication Electronics program qualifies the student for an entry job as a radio-TV service technician, broadcast engineer, two-way radio service

technician, test technician, commercial sound technician or as a technician in many related fields. The program is four quarters. Graduates are awarded a diploma.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will be 360 clock hours per quarter.

| TECHNICAL COURSES | | Credits | Hrs. |
|-------------------|------------------------------|---------|------|
| EL001U | Introduction to Electronics | 3 | 72 |
| EL029U | Electronic Circuits I | 12 | 192 |
| EL030U | Electronic Circuits II | 10 | 180 |
| EL002V | Audio Systems | 8 | 144 |
| EL001V | Electronic Shop Methods | 1 | 36 |
| EL003V | Broadcast Systems | 4 | 60 |
| EL007U | Communication Electronics I | 5 | 96 |
| EL008U | Communication Electronics II | 5 | 84 |
| EL004V | Television I | 11 | 204 |
| EL005V | Television II | 4 | 84 |
| EL006V | Troubleshooting | 5 | 120 |
| EL013V | Digital Circuits | 2 | 36 |

| RELATED COURSES | | Credits | Hrs. |
|-----------------|-------------------------|---------|------|
| MA012U | Technical Mathematics I | 4 | 60 |
| CM002U | Communication Skills I | 3 | 36 |
| AM003U | Business Practices | 3 | 36 |

ELECTRICAL EQUIPMENT SERVICING

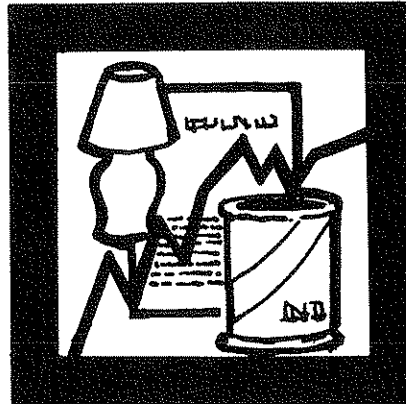
This program provides the specialized training necessary for troubleshooting, maintaining, and installing electrically operated devices. Graduates of this program will have the knowledge and skills necessary to enter an occupation in the broad field of electrical equipment servicing, such as general plant maintenance, large appliance repair, or to work as an entry-level model shop technician or electric motor repairman.

A diploma is awarded to those who successfully complete this 42-week program.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program.

| TECHNICAL COURSES | | Credits | Hrs. |
|-------------------|-------------------------------|---------|------|
| EL008V | Electrical Principles | 11 | 180 |
| EL010V | Electrical Circuits | 10 | 180 |
| EL009V | Shop Processes | 2 | 60 |
| EL011V | Diagram Interpretation | 3 | 60 |
| EL012V | Electro-Mechanical Systems I | 4 | 60 |
| EL014V | Electro-Mechanical Systems II | 7 | 120 |
| EL015V | Control Circuit Devices | 5 | 84 |
| EL016V | Control Circuits and Systems | 8 | 288 |
| EL018V | Principles of Refrigeration | 7 | 120 |

| RELATED COURSES | | Credits | Hrs. |
|-----------------|-------------------------------|---------|------|
| MA011U | Mathematics I | 5 | 60 |
| MA003U | Mathematics II | 5 | 60 |
| PH001V | Mechanisms | 4 | 60 |
| PY004U | Psychology of Human Relations | 3 | 36 |
| CM002U | Communication Skills | 3 | 36 |



MARKETING AND DISTRIBUTION CAREERS

FASHION MERCHANDISING

Fashion Merchandising provides technical training for individuals interested in the field of retailing fashion products. Career opportunities for trained persons include the areas of fashion coordination, fashion promotion, fashion buying, and departmental and specialty shop management.

The Fashion Merchandising program is seven quarters in length and features a curriculum designed to develop managerial abilities, decision-making skills, retail knowledge, and to provide the specialized knowledge necessary in the fashion market. Practical experience complements classroom theory during the supervised business internship phase of the program.

Graduates receive an Associate in Applied Science degree.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 17 to 19 credit hours per quarter.

| TECHNICAL COURSES | | Credits | Hrs. |
|-------------------|--|---------|------|
| MK007U | Principles of Fashion Merchandising | 3 | 36 |
| MK014U | Merchandising | 4 | 48 |
| HE002U | Fashion History | 3 | 36 |
| MK008U | Fashion Show Procedures | 5 | 84 |
| HE003U | Textiles I | 3 | 36 |
| HE004U | Textiles I Laboratory | 1 | 24 |
| HE019U | Textiles II | 2 | 24 |
| AT004U | Fashion Analysis and Coordination | 2 | 28 |
| MK022U | Employment Seminar | 1 | 24 |
| MK024U | Business Internship Seminar | 3 | 72 |
| MK043U | Trends and Practices: Fashion Merchandising I | 1 | 24 |
| MK044U | Trends and Practices: Fashion Merchandising II | 1 | 24 |

| | | | |
|--------|-----------------------------------|----|-----|
| MK045U | Problems in Fashion Merchandising | 1 | 24 |
| AM003T | Business Internship | 24 | 864 |

RELATED COURSES

| | | | |
|--------|--|---|----|
| AM032T | Introduction to Business | 4 | 48 |
| AM001U | Merchandise Analysis and Control | 3 | 35 |
| MK002T | Principles of Retailing | 4 | 48 |
| EC015T | Principles of Business Economics | 4 | 48 |
| MK018U | Visual Merchandising | 2 | 24 |
| MK019U | Small Business Organization/Management | 3 | 36 |
| MK001T | Principles of Marketing | 4 | 48 |
| MK025T | Principles of Advertising | 4 | 48 |
| AM022U | Principles of Supervision | 3 | 36 |
| AM006U | Credit Procedures | 3 | 35 |
| LW005T | Business Law I | 4 | 48 |
| DP046U | Elements of Data Processing | 3 | 35 |
| AM020U | Retail Management | 4 | 48 |
| AC001T | Principles of Accounting I | 4 | 48 |
| CM201T | Public Communications | 4 | 48 |
| PY004U | Psychology of Human Relations I | 3 | 35 |
| MA002U | Basic Mathematics | 2 | 24 |
| CM002U | Communication Skills I | 3 | 36 |
| | or | | |
| CM101T | Composition I | 4 | 48 |
| CM003U | Communication Skills II | 3 | 36 |
| | or | | |
| CM117T | Composition II | 4 | 48 |
| MK003T | Principles of Selling | 4 | 48 |
| | Electives | 4 | |

FOOD SERVICE MANAGEMENT

The Food Service Management program is designed to prepare people for careers in restaurant or institutional food management. Through specialized training, students are provided with the background and skills necessary for meeting the requirements of this rapidly growing industry.

The Food Service Management program is six quarters in length and features instruction in technical, related and general education courses, including on-the-job training in which the student gains actual work experience in commercial or institutional food services. Instruction also includes quantity meal preparation and service in the kitchen-cafeteria area operated by Food Service students.

Graduates receive an Associate in Applied Science degree.

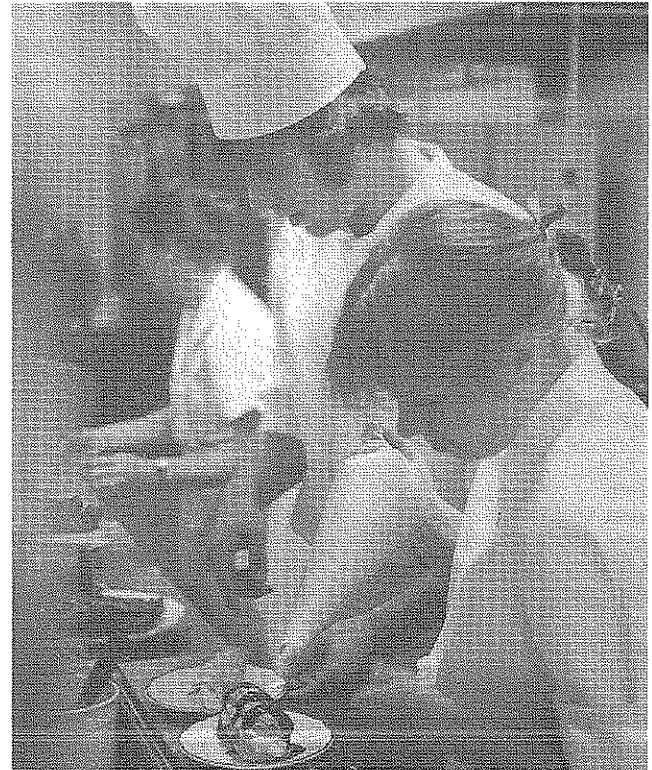
All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 17 to 21 credit hours per quarter.

TECHNICAL COURSES

| | | Credits | Hrs. |
|--------|----------------------------|---------|------|
| AM052U | Dining Room Management I | 5 | 108 |
| AM053U | Dining Room Management II | 5 | 108 |
| HE012U | Equipment and Design | 4 | 80 |
| HE013U | Gourmet Foods/Catering | 3 | 72 |
| HE018U | Food Service Internship II | 6 | 216 |

RELATED COURSES

| | | | |
|--------|-------------------------|---|----|
| CM003U | Communication Skills II | 3 | 36 |
|--------|-------------------------|---|----|



| | | | |
|--------|----------------------------------|-----|-------|
| EC015T | Principles of Business Economics | 4 | 48 |
| LW005T | Business Law I | 4 | 48 |
| CM201T | Public Communications | 4 | 48 |
| MK019U | Small Business Organization/Mgt. | 3 | 36 |
| | Elective | 3-4 | 36-48 |
| AM005T | Principles of Management | 4 | 48 |
| AC001T | Principles of Accounting | 4 | 48 |

FOOD SERVICE TRAINING

Food Service Training is a specialized, three-quarter (36-week) program designed to prepare men and women with the technical and specialized knowledge and skills required to enter the quantity food preparation and service industry.

The program for food production personnel includes a combination of classroom instruction in general education, related food service subjects, food preparation skills and on-the-job training. During the internship period, the student gains actual work experience in commercial or institutional food service establishments throughout Iowa. The graduate is prepared to be employed in restaurants, hotels, motels, schools, institutions, hospitals, nursing homes, industrial cafeterias, delicatessans and other facilities.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 17 to 21 credit hours per quarter.

TECHNICAL COURSES

| | | Credits | Hrs. |
|--------|--|---------|------|
| HE001U | Introduction to Food Service/Hospitality Careers | 1 | 12 |
| HE010U | Nutrition and Food Composition I | 4 | 48 |
| HE011U | Nutrition and Food Composition II | 4 | 48 |
| HE009U | Food Service Sanitation and Safety | 3 | 36 |
| HE005U | Food Production I | 6 | 144 |
| HE006U | Food Production II | 6 | 144 |
| HE007U | Food Production III | 5 | 120 |
| MA017U | Related Food Service Math | 3 | 36 |
| HE008U | Menu Planning and Servicing Fundamentals | 3 | 36 |
| HE016U | Quantity Food Purchasing | 3 | 36 |
| HE017U | Food Service Internship I | 6 | 216 |

RELATED COURSES

| | | | |
|--------|---------------------------------|-----|-------|
| MA002U | Basic Mathematics | 2 | 24 |
| CM002U | Communication Skills I | 3 | 36 |
| PY004U | Psychology of Human Relations I | 3 | 36 |
| | Elective | 3-4 | 36/48 |

FOOD STORE MANAGEMENT

The Food Store Management program is designed to prepare students for careers in the retail or wholesale food industry. Through specialized training, students are provided with the background and skills necessary for meeting the requirements of this vast and rapidly expanding career field.

The Food Store Management program is six quarters in length and features a combination of general education, business education and technical food marketing study. The program also provides on-the-job training periods in which the student gains actual work experience in retail or wholesale food businesses throughout Iowa.

Graduates receive an Associate in Applied Science degree.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 17 to 22 credit hours per quarter.

TECHNICAL COURSES

| | | Credits | Hrs. |
|--------|--------------------------------------|---------|------|
| MK012U | Introduction to Food Store Marketing | 4 | 48 |
| MK011U | Food Store Seminar | 6 | 144 |
| MK041U | Food Store Merchandising I | 3 | 36 |
| MK042U | Food Store Merchandising II | 3 | 36 |
| MK013U | Food Store Planning and Layout | 3 | 36 |
| AM005U | Checkout Management | 3 | 36 |
| AM012U | Food Store Management | 5 | 60 |
| AM003T | Business Internship | 24 | 864 |

RELATED COURSES

| | | | |
|--------|----------------------------|---|----|
| MK003T | Principles of Selling | 4 | 48 |
| AM032T | Introduction to Business | 4 | 48 |
| LW005T | Business Law I | 4 | 48 |
| MK001T | Principles of Marketing | 4 | 48 |
| AC001T | Principles of Accounting I | 4 | 48 |
| MK025T | Principles of Advertising | 4 | 48 |
| AM022U | Principles of Supervision | 3 | 36 |
| AC006U | Management Accounting | 4 | 48 |
| CM002U | Communication Skills I, | 3 | 36 |
| | or | | |
| CM101T | Composition I | 4 | 48 |

| | | | |
|--------|----------------------------------|----|-----|
| CM003U | Communications Skills II, | 3 | 36 |
| | or | | |
| CM117T | Composition II | 4 | 48 |
| PY004U | Psychology of Human Relations I | 3 | 36 |
| MA002U | Basic Mathematics | 2 | 24 |
| CM201T | Public Communications | 4 | 48 |
| EC015T | Principles of Business Economics | 4 | 48 |
| DP046U | Elements of Data Processing I | 3 | 36 |
| | Electives | 16 | 168 |

FLORICULTURE

The Floriculture program is designed to prepare students for careers in the floral industry. This program provides the student with classroom and laboratory instruction in all phases of floriculture and two five-week periods of business internship in a floral shop.

Classroom and laboratory time is devoted to commercial flower forcing (greenhouse growing and operation), retail florist shop operation and business management. During this time, the student gains actual growing experience in a greenhouse, learns the construction of all types of floral pieces, and studies the basic principles and procedures for the successful operation of a retail florist business. During the two business internship periods, each student has the opportunity to apply what he has learned to an actual job situation. Graduates receive a diploma.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 16.5 to 22 credit hours per quarter.

TECHNICAL COURSES

| | | Credits | Hrs. |
|--------|-------------------------------------|---------|------|
| AT008V | Floral Design (Special Projects) or | 1 | 25 |
| CS005V | Greenhouse Construction | 1 | 12.5 |
| BY009V | Diagnosing Plant Disorders | 2 | 28 |
| AG012V | Plant Identification and Care I | 2 | 24 |
| AG013V | Plant Identification and Care II | 2 | 28 |
| AG014V | Plant Growth | 3 | 42 |
| AM005V | Retail Flower Shop Operation I | 5 | 60 |
| AM006V | Retail Flower Shop Operation II | 3 | 35 |
| AM007V | Retail Flower Shop Operation III | 3 | 35 |
| AM008V | Retail Flower Shop Operation IV | 4 | 60 |
| AT001V | Floral Designing I | 5 | 120 |
| AT002V | Floral Designing II | 2 | 52.5 |
| AT003V | Floral Designing III | 2 | 52.5 |
| AT004V | Floral Designing IV | 1.25 | 30 |
| BY004V | Basics of Plant Growth | 3 | 36 |
| MK002V | Floriculture Seminar | 1 | 20 |
| AC005V | Floriculture Bookkeeping | 4 | 50 |
| AM003T | Business Internship | 12 | 440 |

RELATED COURSES

| | | | |
|--------|---------------------------------|---|----|
| MK003T | Principles of Selling | 4 | 48 |
| MK001T | Principles of Marketing | 4 | 50 |
| MA002U | Basic Mathematics | 2 | 24 |
| CM002U | Communication Skills I | 3 | 35 |
| PY004U | Psychology of Human Relations I | 3 | 35 |
| MK001V | Retail Advertising and Display | 4 | 50 |

GRAPHIC ARTS

The Graphic Arts program introduces the student to the basic fundamentals of the graphic arts industry, beginning with the history of graphic arts, printing processes, functional typography, lithography, layout and design, mathematics and bindery operation.

Advancing through the program, the student will learn more about lithography, including camera and darkroom, photo-composition, paste-make-up, theory of color, stripping and plate-making, and offset presswork. In the final stages the student will become familiar with management problems, estimating, production control, plant organization and layout, industrial relations and related technical data.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program. This will be 360 clock hours per quarter.

TECHNICAL COURSES

| | | Credits | Hrs. |
|--------|-------------------------------------|---------|-------|
| GR007U | Layout and Design | 4 | 96 |
| GR009U | Typography | 3 | 60 |
| GR011U | Copy Preparation I | 7 | 144 |
| GR012U | Copy Preparation II | 8 | 180 |
| GR030U | Copy Preparation III | 8 | 180 |
| GR019U | Platemaking I | 1 | 20 |
| GR020U | Platemaking II | 3 | 60 |
| GR021U | Process Camera I | 2 | 32 |
| GR022U | Process Camera II | 4 | 96 |
| GR023U | Process Camera III | 2 | 32 |
| GR024U | Stripping I | 2 | 32 |
| GR025U | Stripping II | 3 | 60 |
| GR026U | Stripping III | 2 | 32 |
| GR027U | Offset Presswork I | 4 | 96 |
| GR028U | Offset Presswork II | 7 | 144 |
| GR029U | Offset Presswork III | 4 | 96 |
| GR031U | Bindery/Operations | 1 | 20 |
| EC001U | Printing Economics | 1 | 12 |
| OE006T | College Typing I | 5-3 | 12-72 |
| OE039T | Individually Prescribed Instruction | 1 | 24 |

HOME FURNISHINGS

The Home Furnishings program is seven quarters in length and combines general education, business education and technical courses. It is designed to prepare students for careers in merchandising as a decorator, sales director, consultant, department manager, specialty shop manager, buyer and other management positions in furniture, drapery, wallpaper, paint, floor coverings and home accessories areas of retail stores.

Graduates receive an Associate in Applied Science degree.

All veterans must take the required number of hours per quarter in order to graduate within the approved number of quarters for this program.

This will vary from 20 to 24 credit hours per quarter.

TECHNICAL COURSES

| | | Credits | Hrs. |
|--------|--------------------------------------|---------|------|
| AT003U | Survey of Interiors I | 3 | 36 |
| AT006U | Survey of Interiors II | 2 | 28 |
| MK032U | Home Furnishings I | 3 | 36 |
| MK033U | Home Furnishings II | 4 | 48 |
| MK046U | Home Furnishings Trends/Practices I | 1 | 24 |
| MK047U | Home Furnishings Trends/Practices II | 1 | 24 |
| MK048U | Window Design Treatment | 2 | 28 |
| MK049U | Professional Practices | 2 | 48 |
| HE003U | Textiles I | 3 | 36 |
| HE004U | Textiles Laboratory I | 1 | 24 |
| HE019U | Textiles II | 2 | 24 |
| HE020U | Interior Analysis and Design | 5 | 72 |
| AT007U | Design Relationships | 2 | 24 |
| AT002U | Decorative Accessories | 2 | 28 |
| AT008U | Color in Interiors | 2 | 24 |
| AM003T | Business Internship | 12 | 432 |

RELATED COURSES

| | | | |
|--------|--|---|----|
| MK003T | Principles of Selling | 4 | 48 |
| AM032T | Introduction to Business | 4 | 48 |
| AM001U | Merchandise Analysis and Control | 3 | 35 |
| MK002T | Principles of Retailing | 4 | 48 |
| EC015T | Principles of Business Economics | 4 | 48 |
| MK001T | Principles of Marketing | 4 | 48 |
| MK025T | Principles of Advertising | 4 | 48 |
| AM022U | Principles of Supervision | 3 | 35 |
| AM006U | Credit Procedures | 3 | 35 |
| LW005T | Business Law I | 4 | 48 |
| DP046U | Elements of Data Processing I | 3 | 35 |
| AM020U | Retail Management | 4 | 48 |
| AC001T | Principles of Accounting I | 4 | 48 |
| MK014U | Merchandising | 4 | 48 |
| PY004U | Psychology of Human Relations I | 3 | 35 |
| MK019U | Small Business Organization/Management | 3 | 36 |
| CM201T | Public Communications | 4 | 48 |
| CM002U | Communication Skills I | 3 | 36 |
| CM003U | Communications Skills II | 3 | 36 |
| MA002U | Basic Mathematics | 2 | 24 |
| MK022U | Employment Seminar | 1 | 24 |
| MK024U | Business Internship Seminar | 1 | 48 |
| | Electives | 8 | 96 |

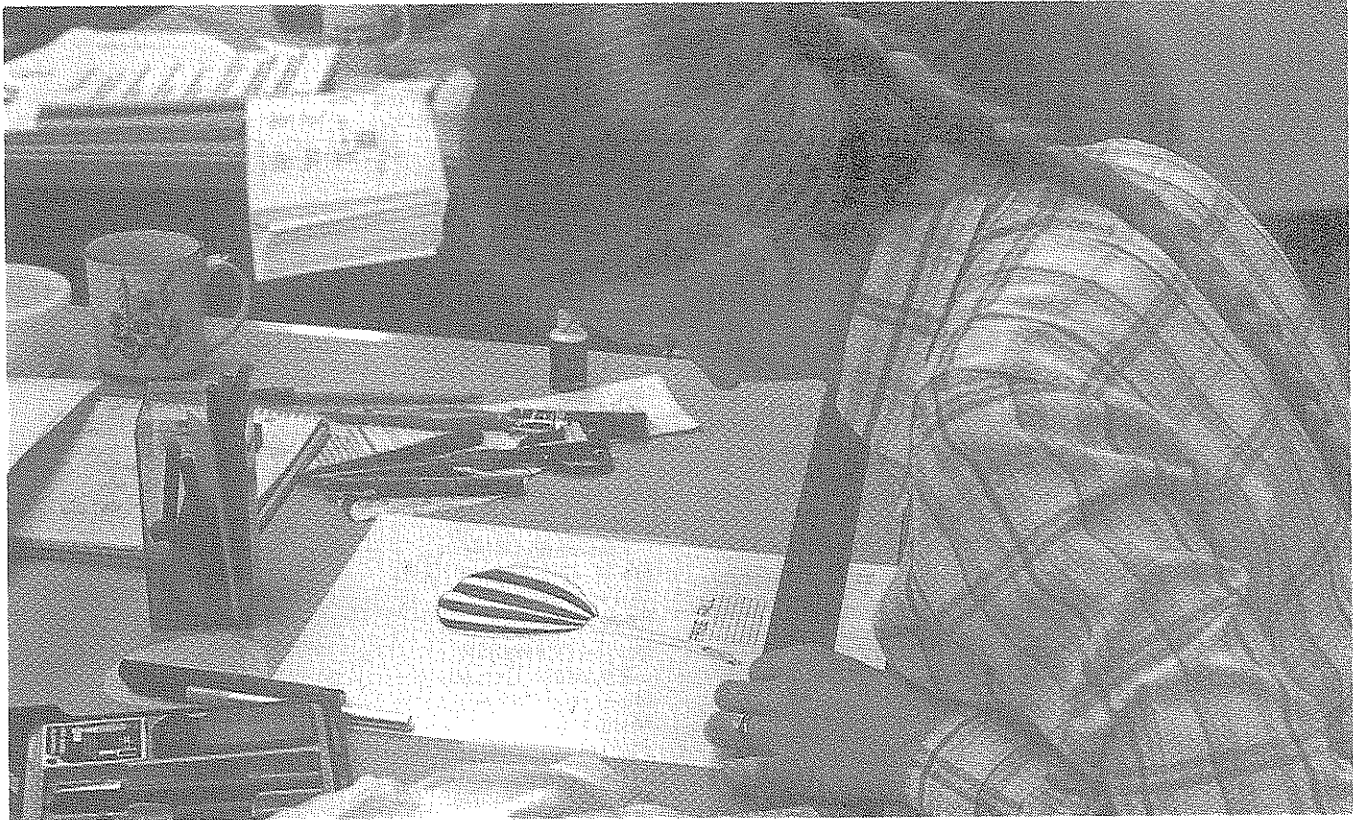
REAL ESTATE

The Real Estate program is designed to develop the foundation for a successful future in real estate. The program stresses a results-orientated approach that provides an opportunity to develop professional skills that will expand the student's knowledge of the real estate world.

The program is three quarters in length and features a combination of general education, business education and real estate study. The program also provides a field experience course which allows the student to gain experience with various types of individuals involved in the real estate business community. Graduates receive a diploma.

TECHNICAL CORE COURSES

| | | Credits | Hrs. |
|--------|--------------------------------|---------|------|
| MK007V | Real Estate Prin./Practices I | 3 | 36 |
| MK008V | Real Estate Prin./Practices II | 3 | 36 |
| LW019T | Real Estate Law | 4 | 48 |



| | | | |
|--------|---------------------------------------|---|-----|
| MK004V | Field Experience | 9 | 324 |
| MK006V | Principles of Real Estate Sales | 3 | 36 |
| MK010V | Specialized Real Estate Transactions | 3 | 36 |
| CS006V | Construction Principles & Blue Prints | 3 | 36 |
| MK005V | Financing Real Estate | 3 | 36 |
| MK009V | Appraisal I | 3 | 36 |

RELATED COURSES

| | | | |
|--------|-------------------------------|-----|-------|
| CM002U | Communications Skills I | 3 | 36 |
| MK001T | Principles of Marketing | 4 | 48 |
| MA003V | Applied Mathematics | 2 | 24 |
| PY004U | Psychology of Human Relations | 2-4 | 24-72 |
| | Elective | 3/4 | 36/48 |

ELECTIVE

| | | | |
|--------|---------------------|---|----|
| AM005U | Property Management | 3 | 36 |
|--------|---------------------|---|----|

RETAIL MANAGEMENT

The Retail Management program prepares students for careers in the retailing industry. The program stresses an understanding of business procedures and a knowledge of retailing principles.

The program is seven quarters in length and consists of a combination of classroom instruction and on-the-job training. During on-the-job training periods, the student gains actual work experience in retail firms throughout Iowa.

Graduates receive an Associate in Applied Science degree.

All veterans must take the required number of

hours per quarter in order to graduate within the approved number of quarters for this program. This will vary from 17 to 19 credit hours per quarter.

TECHNICAL COURSES

| | | Credits | Hrs. |
|--------|---------------------------|---------|------|
| MK010U | Retail Marketing Seminar | 6 | 144 |
| MK002T | Principles of Retailing | 4 | 48 |
| MK025T | Principles of Advertising | 4 | 48 |
| AM020U | Retail Management | 4 | 48 |
| AM003T | Business Internship | 24 | 864 |

RELATED COURSES

| | | | |
|--------|--|------|--------|
| MK003T | Principles of Selling | 4 | 48 |
| MK001T | Principles of Marketing | 4 | 48 |
| MK014U | Merchandising | 4 | 48 |
| AM032T | Introduction to Business | 4 | 48 |
| AM022U | Principles of Supervision | 3 | 36 |
| HE003U | Textiles, or Elective | 3 | 36 |
| AM006U | Credit Procedures | 3 | 36 |
| CM002U | Communication Skills I, or | 3 | 36 |
| CM101T | Composition I | 4 | 48 |
| CM003U | Communication Skills II, or | 3 | 36 |
| CM102T | Composition II | 4 | 48 |
| MA002U | Basic Mathematics | 2 | 24 |
| AM001U | Merchandise Analysis and Control | 3 | 36 |
| PY004U | Psychology of Human Relations I | 3 | 36 |
| MK019U | Small Business Organization/Management | 3 | 36 |
| EC015T | Principles of Business Economics | 4 | 48 |
| CM201T | Public Communications | 4 | 48 |
| AC001T | Principles of Accounting I | 4 | 48 |
| AC006U | Management Accounting | 4 | 48 |
| LW005T | Business Law I | 4 | 48 |
| DP046U | Elements of Data Processing I | 3 | 36 |
| MK016T | Counselor Selling | 4 | 48 |
| | Electives | 6/12 | 60/244 |

COMMUNITY EDUCATION DIVISION

COMMUNITY EDUCATION COURSES

In keeping with its philosophy of lifelong learning, the Community Education Division of Kirkwood Community College has developed a wide variety of credit and non-credit courses for persons who want to continue their education. These are designed for personal growth, as well as for career preparation or skill upgrading. Many of these courses are offered for the recreational opportunities they provide and the personal enjoyment they bring, while others provide a chance to learn a skill with which to earn supplementary income.

Instructors for these classes are sought out from among civic, business, industrial and cultural leaders throughout Kirkwood's seven-county area, to make available their expertise to the entire community. All classes are conducted with the philosophy of Community Education in mind—that "learning is enjoyable and should be the means to individual growth for every citizen of this area." Sociability and sharing are integral parts of this facet of Kirkwood's educational offerings.

New classes are offered on a quarterly basis. Information regarding specific class offerings is available from the Community Education Office on Kirkwood's main campus or from any of the college's Community Education centers.

COMMUNITY EDUCATION CENTERS

Kirkwood has Community Education Centers at seven locations. The centers offer High School Completion classes, Adult Basic Education instruction, high school refresher courses, G.E.D. preparation, tutoring, vocational classes for high school students (Secondary program), and general interest/part-time supplemental courses. The seven centers are:

Iowa City Community
Education Center
1816 Lower Muscatine Rd.
Iowa City, Ia.
Phone: 338-3658

Lincoln Community
Education Center
9th St. and 18th Ave. S.W.
Cedar Rapids, Ia.
Phone: 398-5437

Marion Community
Education Center
6th St. and 10th Ave.
Marion, Ia.
Phone: 398-5547

Monticello Community
Education Center
Plastic Lane
Monticello, Ia.
Phone: 465-5669

Washington Community
Education Center
W. Madison and So. Ave. D
Washington, Ia.
Phone: 653-4655

Williamsburg Community
Education Center
600 West Street
Williamsburg, Ia.
Phone: 668-2461

Hartwick Learning
Center
Hartwick, Ia.
Phone: (515) 525-2153

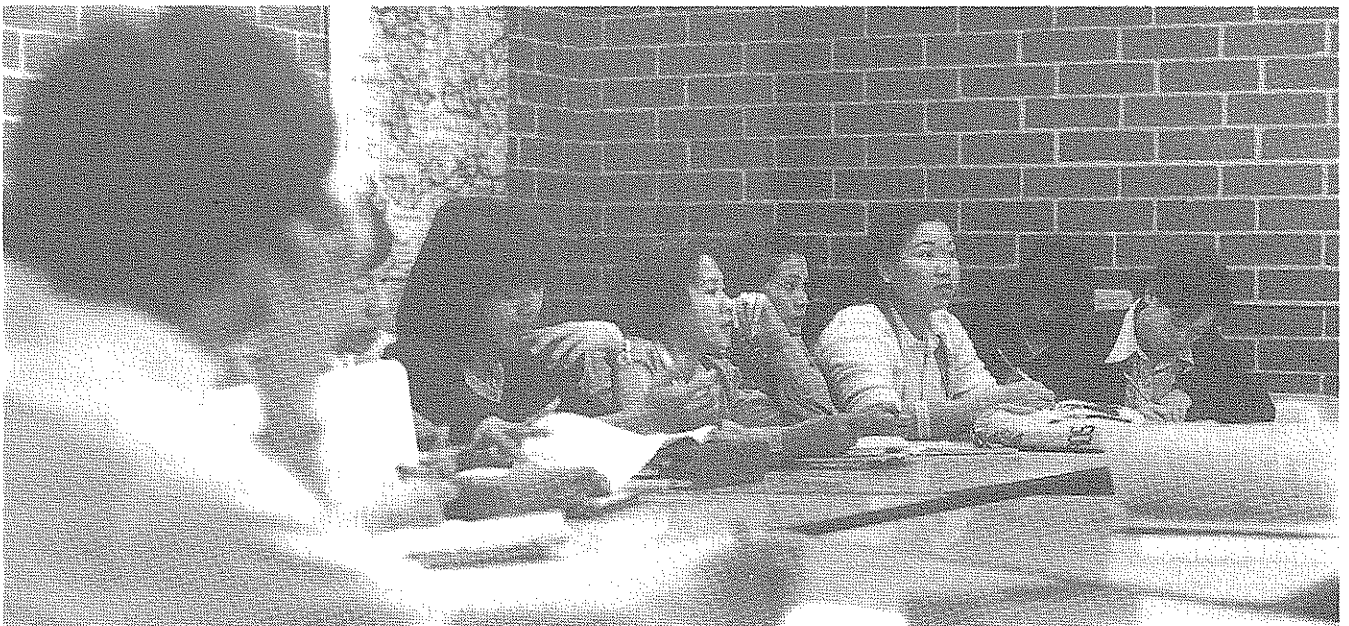
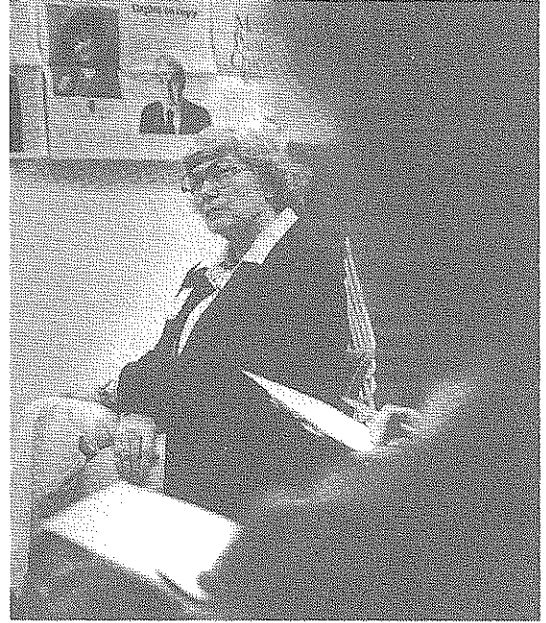
PROGRAMS TO MEET THE VARIED NEEDS OF PEOPLE

SECONDARY PROGRAMS AT KIRKWOOD

Secondary Programs at Kirkwood is a cooperative arrangement with area high schools to supplement the high school curriculum in vocational preparatory programs. Students are transported from their local high school to the nearest Secondary Program center for a portion of a school day.

Secondary Programs at Kirkwood enable the student to acquire and demonstrate the skills necessary for entry-level vocational careers in welding, data processing, electronics, auto mechanics, health occupations, child care, building trades, horticulture and agriculture.

For more information contact your local high school counselor or the nearest Kirkwood Community Education center.



GENERAL INTEREST AND RECREATIONAL CLASSES

General Interest and recreation classes are designed for adults who are not interested in earning academic credit, but who wish to further their education informally, enrich their cultural lives, improve their physical fitness or improve their personal efficiency.

These types of classes are self-supporting and offered as a community service in cooperation with local school districts. Classes are available in the following areas:

| AREAS | EXAMPLES |
|------------------|-----------------------------|
| Arts and Crafts | Batik, Pottery, Macrame |
| Special Interest | Foreign Language, Astrology |
| Recreation | Aerobic Dance, Volleyball |

SUPPLEMENTARY VOCATIONAL CLASSES

These classes are designed to help persons seeking job enrichment or upgrading. Classes are held at business and industrial sites as well as on the Kirkwood campus and in local high schools. The time and location of the classes vary. The subject areas include:

| AREAS | EXAMPLES |
|----------------------|---|
| Health Occupations | Nurse Aid, Anatomy and Physiology, EMTA |
| Trade and Industry | Woodworking, Auto Mechanics |
| Business and Office | Shorthand/Typing, Office Skills |
| Home and Family | Microwave Cooking, Family Dynamics |
| Personal Development | Assertiveness Training, Communication |
| Agriculture | Houseplants, Animal Nutrition, Gardening |
| Business/Management | Supervision, Delegation, Business Writing |

IN-SERVICE, SEMINARS, WORKSHOPS

Kirkwood provides in-service, seminars, and workshops to meet the varied needs of people, businesses, industries and communities. Many courses have been developed and are now available. Others tailored to individual needs are developed as requests arise. Current program areas include:

Trades and Industry
Business/Management
Recreation

Small Business Administration
Health Occupations
Agriculture and Natural Resources
Home and Family
Re-licensing: Nursing, Real Estate,
Cosmetology, Assessment

TRANSFER CREDIT (ARTS AND SCIENCES EXTENSION)

The Community Education Division in cooperation with the Arts and Sciences Division of the college offers credit extension courses in locations throughout Kirkwood's seven counties. Open to adults with a high school diploma, these courses include classes in English, mathematics, foreign language, fine arts, the humanities and social science.

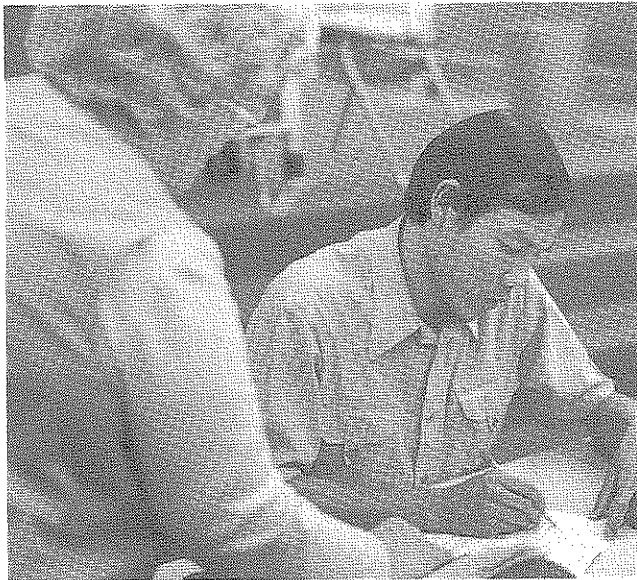
Many of the courses are offered through the college's Telecommunication System at Kirkwood's various Community Education centers. In addition, the college's Off-Campus College Credit Degree program makes it possible to complete an associate degree in several subject areas, including liberal arts and vocational-technical areas, through a combination of Telelink and television courses offered each quarter. College credit courses are also offered at Iowa City's West High School and Cedar Rapids, Kennedy High School.

HIGH SCHOOL COMPLETION

The Community Education Division provides the opportunity for persons of all ages to work toward the completion of their high school education. Kirkwood offers classes at various locations in the seven-county area and individualized programs are available at Kirkwood's Community Education centers. These programs are free to adults. A high school graduation ceremony takes place each spring.

CORRESPONDENCE STUDIES

High school completion by correspondence is made possible by the Community Education Division of Kirkwood through a variety of courses. There is no limit on the number of courses a student may take. However, the transfer of such credit to institutions other than Kirkwood is an optional matter for the accepting institution.



Enrollment for students who are considered actively enrolled in their local high schools is subject to the consent and approval of those schools. Prospective correspondence students who are not enrolled elsewhere may enroll in this program at any time.

The following courses are available through the Kirkwood high school correspondence program:

- | | |
|--------------------------|-----------------------------|
| Algebra I | Health for Young Adults I |
| Algebra II | Health for Young Adults II |
| American Government I | Literature I |
| American Government II | Modern Earth Science I |
| Applied Business Law I | Modern Earth Science II |
| Applied Business Law II | Modern Life Science I |
| Consumer Economics | Modern Life Science II |
| Consumer Math I | Physics I |
| Consumer Math II | Physics II |
| Essentials of English I | Sociology I |
| Essentials of English II | Sociology II |
| General Business I | Understanding the Newspaper |
| General Business II | U.S. History I |
| General Mathematics I | U.S. History II |
| Geometry I | World History I |
| Geometry II | World History II |

ADULT BASIC EDUCATION/RIGHT TO READ

This area of learning is offered to help persons improve their basic academic skills up to the eighth-grade level.

The classes are located throughout Kirkwood's seven-county area and are scheduled at times convenient to students. Students may continue their work to prepare for the General Education Development Test (GED) or earn credit toward a high school diploma. Community Education Centers located in Cedar Rapids, Iowa City, Marion, Monticello, Washington and Williamsburg provide flexible hours and individualized instruction for those who prefer this approach to learning.

The Right to Read program is unique, in that adults desiring to read better are assigned a tutor, who is a volunteer from the community. The participant and tutor are supplied the necessary learning materials and make their own arrangements and plans for achieving various reading goals. Participants receive approximately two hours of reading assistance per week. The program is operated through coordinators at Kirkwood's Community Education centers in Cedar Rapids and Iowa City.

SEMI-TRAILER TRUCK DRIVING

The Semi-Trailer Truck Driving program is designed to prepare men and women for entry employment in the trucking industry. The five-week curriculum includes classroom instruction, individualized student laboratory learning, driving range instruction and supervised practical experience driving on highways and interstates, and in towns and cities.

Graduates of the program are awarded a certificate, 15 college CEUs (Continuing Education Units), and the opportunity to take the state driving examination on campus.

INSTITUTIONAL PROGRAMS

Programs of learning which include all or a selection of the previously mentioned areas have been set up in such institutions as the Iowa State Men's Reformatory, Veteran's Hospital, county homes and halfway houses.

Instructional services, consultant services and curriculum guidance may be arranged for these types of programs through the Community

STUDENT LIFE



STUDENT AFFAIRS

COUNSELING SERVICES

The college provides a staff of professional counselors to assist students in vocational and educational planning and in solving problems of a personal or social nature.

The counselors seek to help students make decisions and plan for their future. Upon application to the college, students have an opportunity for an individual conference with a member of the counseling staff to consider their high school background, test results, interests, aptitudes and goals. They are assisted in selecting an appropriate curriculum and in determining their course of study.

A student who experiences difficulty or dissatisfaction with a particular curriculum that he or she has selected is encouraged to use the counseling service for further discussion with the counselor and or for individualized aptitude, interest and personality testing.

Assistance is also available to all students who desire help in acquiring better study habits, developing satisfactory personal and social relationships, solving financial problems, selecting a transfer school, and learning about employment possibilities. The counseling service maintains a file of occupational information, as well as catalogs of representative colleges and universities.

Counselors are available in several locations on campus. Students in all programs have access to counseling services, including those students enrolled in evening classes. In addition to providing services to enrolled students, counseling is available to any individuals from 7:30 a.m. to 8:30 p.m. Monday through Thursday and 8 a.m. to 5 p.m. on Friday.

HUMAN POTENTIAL LABS

Human Potential Laboratories are offered by the Counseling Department. Over 6,000 persons have participated in these labs since 1971. The laboratories are led by a member of the professional counseling staff and carry two hours of pass-fail transfer credit. Some students may find it advantageous to enter one of the labs prior to, or concurrently with, enrollment in a regular academic program. The laboratories are based on the principle that everyone operates with underdeveloped strengths, and that individuals are capable of aiding themselves and others in the realization of these strengths. Other credit course offerings include a one-credit course in assertive behavior training and a three-credit-hour course in career decision making.

REHABILITATION SERVICES

Within the Counseling Department, specialized counseling services on educational, vocational and personal matters are provided by two full-time rehabilitation counselors to students who meet the eligibility requirements for assistance from the Iowa Rehabilitation Education and Services Branch (RESB). In addition, financial assistance may be arranged. Students who have physical or mental disabilities which prevent them from getting or keeping certain jobs may apply for these services, which also include diagnosis and treatment through community agencies and medical personnel. Further information can be obtained from the RESB counselors.

PLACEMENT SERVICES

The Placement Office fulfills the following functions:

- Helps students to find part-time employment.
- Assists graduates to secure full-time employment.
- Helps to locate suitable work for students who leave school prior to graduation.
- Assists former Kirkwood Community College students to find employment.
- Conducts follow-up studies of former students.
- Endeavors to maintain an accurate picture of employment needs and trends in the community.

In order to utilize the services of the Placement Office, students should complete the appropriate forms for either part-time or full-time employment. Registration forms are available in the Placement Office. The Placement Office should be notified promptly of job acceptances.

PERSONAL ACHIEVEMENT DEPARTMENT

The purpose of the Personal Achievement Department is to provide an opportunity for all students to diagnose, develop and strengthen their skills in the areas of reading, writing, mathematics, and study skills. In addition to this skill development, we hope also to help students develop a sense of self-confidence in their abilities to learn.

TYPES OF ASSISTANCE

An individual may enroll in Personal Achievement courses for a variety of reasons, both personal and academic in nature. Some of these reasons may include the following:

- High school graduates who did not gain the skills necessary to succeed in college-level work may wish to improve their basic skills before entering a college program.
- Adults as learners who have been away from school for awhile may wish to review their basic skills either before or along with taking other courses at Kirkwood. These students may lack confidence in themselves or their skills.
- Currently employed individuals might need to improve themselves in any or all of these areas to remain competitive in their career areas.

—Those individuals who have been recommended to Personal Achievement by the results of the Self Assessment tests or by an instructor or counselor, may decide to take any one or any combination of courses to assist them in succeeding in their academic pursuits at Kirkwood.

COURSES AVAILABLE

The Personal Achievement Department offers courses in reading, writing, spelling techniques, mathematics, pre-algebra and basic study skills. All courses are offered on either an individualized, one-to-one basis with an instructor, or on a small group basis. Upon enrollment, the student's current skill level is determined through diagnostic testing for the purpose of identifying his or her strengths and weaknesses in these academic areas. Then, based on the results of these tests, a plan of instruction is developed with each student. Students may enroll in the reading, writing, math and spelling courses at any time during the quarter, provided space is available. These courses are offered for one to three hours of developmental credit, depending upon the recommendation of the instructor involved and his or her interpretation of the student's diagnostic test. Study skills is offered on a classroom basis.

A unique feature of Personal Achievement courses is that their curriculum and content is related to the specific subject matter or vocational interest of the student being served.

OTHER DEVELOPMENTAL SERVICES

For those students who want to find out what their current skill strengths and weaknesses are, the Self Assessment program is offered by the Counseling Department on a weekly basis.

The Opportunity Center is staffed by students who are trained as peer counselors. The functions of the center are to provide information and referral services, and to coordinate the student-to-student tutorial program.

Tutors are students recommended and verified by instructors in the subject areas they tutor. Any student who identifies a need for extra help in a subject is eligible for tutoring. This service is supported by Student Activities and the Counseling/Placement department.

SKILL CENTER

The primary objective of the Skill Center is the preparation of handicapped and disadvantaged persons for vocational training or placement in jobs. Personal and vocational goals are established through counseling between the student and the center's staff.

A trained staff of instructor/evaluators, student supervisors, vocational counselors and job placement personnel are available. Physicians, psychologists and psychiatrists are available on a referral basis, as well as services offered through the Linn County Mental Health Center, Residential Care Facility, Public Health Nursing and other social service agencies.

The Skill Center provides unique opportunities for career exploration, vocational assessment, work adjustment training, academic upgrading, job seeking skills, skill development and on-the-job training, with the objective of making appropriate recommendations for job placement or vocational training. Additional information and referral procedures can be obtained by calling 398-5455.

FINANCIAL AID

The financial aid program at Kirkwood Community College exists to make possible a college education for qualified students. Each *student* and his or her *family* is expected to make a maximum effort to meet college expenses. However, if it is determined that a family cannot meet the full costs for a year, assistance will be provided to the greatest extent possible from the following sources.

Basic Educational Opportunity Pell Grants: Grants to needy students.

Supplemental Educational Opportunity Grants: An additional aid program for those who demonstrate greater financial need.

National Direct Student Loans: Low-interest loans through the college; long-term repayments.

College Work-Study Program: Fifteen to twenty hours of work per week, built around the student's class schedule.

Iowa Guaranteed Student Loans: Borrowing from a bank or credit union. Students may borrow up to \$2,500 a year, but interest cannot be more than 9 per cent. Repayment and interest payments delayed until after graduation.

State of Iowa Scholarship Program: Upper 15 per cent of high school seniors. Application is made through local high school counselor.

Iowa Vocational-Technical Tuition Grants: Full-time Vocational-Technical students.

Veterans educational benefits: Provided under provisions of the G.I. bill and war orphans legislation, etc.

Rehabilitation services: See Rehabilitation Counseling under Counseling Services.

ADN Nursing Scholarships: Limited funds are available to students in the Associate Degree Nursing (ADN) program. These scholarships are based on need.

Short-term loans and scholarships.

KIRKWOOD SCHOLARSHIPS

The following scholarships are awarded through Kirkwood Community College. Application dates vary; the forms and complete information may be obtained from the Financial Aids Office.

The Kirkwood Scholar: This scholarship is awarded to applicants who have demonstrated outstanding academic achievement in high school or other studies, and whose career aptitude, leadership and participation in community activities best exemplify the community college student.

The Departmental Scholar: Departmental Scholars are selected by certain programs from students who have been accepted for admission to Kirkwood. The awards are made to students who have demonstrated outstanding career potential in their field of interest, but do not qualify for other financial aid and would not be able to enroll without financial assistance. Kirkwood currently has several scholarships available under this program.

The Community Scholar: Sponsored by individual leaders, business or civic clubs in your community, the Community Scholarship Awards are based on the student's academic record, financial need, personal desire and leadership abilities. Applicants must be residents of the community making the award(s) and must have been accepted for admission by Kirkwood. A community selection committee is established with the scholarship sponsor(s). Kirkwood now has several Community Scholarships available.

Minority Student Scholarships: Established by General Mills in 1975, this scholarship program provides assistance to minority students who have a need but do not qualify for other types of financial aid. This program is being supported by area business, industry and organizations.

Activity Scholarships: Activity scholarships have been established to recognize special abilities

and leadership potential by encouraging students to participate in extra-curricular activities. Activity scholarships are established in the following areas: Student Publications, Student Government, Athletics, Drama and Music.

Alumni Scholarship: The Kirkwood Alumni Association established this scholarship program to provide assistance to outstanding applicants whose financial needs could not be met through other sources. These scholarships are supported by individual contributions from alumni and fundraising projects sponsored by the Kirkwood Alumni Association.

Student Loans: Student loan accounts have been established to assist students in meeting emergency needs by providing small, short-term loans. These loans are administered by the counseling and placement center.

GENERAL REQUIREMENTS

Any student seeking financial aid at Kirkwood must:

- Be enrolled or accepted for enrollment in an approved program, (one that is at least six months in length and leading to a degree or other objective, and must maintain satisfactory progress toward their program objective.
- Be a citizen or permanent resident of the United States.
- Be pursuing at least six credit hours of course work per quarter. (Some programs require full-time attendance, such as the Basic Educational Opportunity Pell Grant program, for the larger financial aid awards.)

WHEN TO APPLY

The dates for requesting financial aid at Kirkwood are **January 1 to June 1** for aid funds to be awarded for use in the next fiscal year (July 1 to June 30). Applications received after June 1 will be processed if funds are available. Applications are processed in the order in which they are received, so students should apply as early as possible after January 1.

WHEN AID IS AWARDED

Students who will receive aid will be notified by letter in June or earlier as funds become available. At that time the student also will learn the amount of aid to be awarded. Within 10 days after the award letter is received, a student must notify the Financial Aids Office that he or she has accepted the aid. This is necessary so that funds not ac-

cepted can be redistributed to other students. Dates for awarding of scholarships vary depending upon the scholarship involved.

HOW TO APPLY

The necessary forms and instructions may be obtained by writing or visiting the Kirkwood Financial Aids Office in Room 123 of Linn Hall. The address is:

Financial Aids Office
Kirkwood Community College
Box 2068
Cedar Rapids, IA 52406

Application forms are available after January 1 of each year. **It is considered the student's responsibility to make sure all the necessary documents have been submitted to be considered for financial aid.** Remember, grants are gifts, but loans must be repaid.

GENERAL STUDENT INFORMATION

STUDENT HOUSING

The college does not provide on-campus housing. Therefore, all student housing is located in private facilities off campus.

The college itself does not directly place students in off-campus housing. However, the Information Desk in Iowa Hall does maintain a listing of housing to assist students in locating rooms and apartments. A copy of the housing list can be obtained by writing or calling Information Desk in Iowa Hall, 398-5656. If at all possible, housing arrangements should be made prior to the date of registration.

STUDENT ACCIDENT AND HEALTH INSURANCE

Students may participate in an optional accident and health insurance plan. The plan is based on a group policy. Students may choose between comprehensive accident and health coverage or accident coverage only. Students may enroll in these plans at registration or by contacting Campus Health Services, Iowa Hall.

HEALTH SERVICE

Kirkwood's student health service, located in Iowa Hall, is staffed daily by a registered nurse under



the direction of a consulting college physician. The service offers emergency treatment for injury and illness, and assistance in obtaining the services of local physicians if necessary. It will cooperate in every way possible to administer medical care or carry out instructions of the student's personal or family physician. Confidential counseling on a variety of health-related problems is available. Cost of hospitalization, doctor's appointments, prescription medicine, x-rays and laboratory fees must be covered by the student.

INFANT/CHILD CARE CENTER

Licensed, quality infant and child care is available at a minimal fee to all persons attending Kirkwood classes or activities. Kirkwood's infant/child care center is designed to provide care in a warm, nurturing environment. Kirkwood students are entitled to use the center on a full-time or part-time basis and are not limited to using the center only while attending classes. The center is open day and evening, depending upon the needs of the parents.

Professional staff workers qualified in early childhood education operate the center. They are assisted by students in Kirkwood's preparatory programs in education, nursing and social services. The center is located at Kirkwood's Lincoln Community Education Center, Sixteenth Avenue and Ninth Street S.W. in Cedar Rapids.

PARKING

All cars parked on the Kirkwood Community College campus are subject to regulations imposed by the College. These regulations are published each year in the student handbook and are available at the Iowa Hall Information desk.

BUS SERVICE

Bus transportation around Cedar Rapids and to Kirkwood is provided by the city bus company. The bus stops in front of Linn Hall and also at the East Campus. Special rates are available to Kirkwood students and bus schedules may be obtained at the Information Desk in Iowa Hall.

FOOD SERVICE

Cafeteria service is available in Iowa Hall from 10:30 a.m. to 1:30 p.m. weekdays. An array of a la carte, grill and deli-bar selections, as well as salads, desserts and beverages are available. Vending machines are available in the Iowa Hall Coffee-

house, Linn Hall lobby and the East Campus lounge during all hours that the buildings are open.

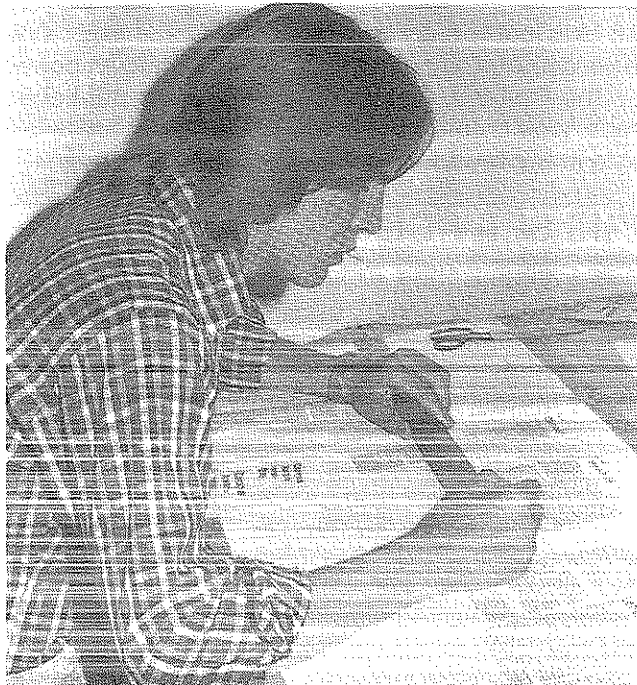
BOOKSTORE

The College Bookstore is located in Iowa Hall. It is owned and operated by Kirkwood Community College with all of its assets, obligations and policies under administrative control. All earnings are returned to student-related functions.

Besides maintaining a sufficient supply of textbooks needed for all courses at Kirkwood Community College, the bookstore carries a full complement of supplies, soft goods, gift items, greeting cards and paperback books.

To help reduce textbook costs, the bookstore operates a used book facility which allows a student to sell back a previously purchased book. This also affords other students the opportunity of purchasing these used copies at reduced prices. A representative of a reputable used-book company is on campus at the end of each quarter during final week for several days. He will buy back those books being dropped from course schedules, providing no new edition is pending and providing the book has a market value.

Bookstore hours are 9 a.m. to 4 p.m. Monday through Friday and 5:30 to 7:30 p.m. Tuesday and Wednesday evenings during the school year. Evening hours are subject to change during registration days and summer quarter.



CO-CURRICULAR ACTIVITIES

STUDENT ASSOCIATION

The official representative of the students of Kirkwood Community College is the Executive Board of the Student Association. Five Executive Board members are elected in May and one in October. Additional input is also provided by the Council of Ombudsmen, the Interclub Council and the Finance Council. The purpose of the student Association is to:

- 1) Provide a means of organized student expression in college.
- 2) Encourage and promote interest in college affairs and activities.
- 3) Provide a means whereby the administration of the college may be made aware of student needs, opinions and attitudes.
- 4) Develop and promote activities that will enrich the social, cultural and academic life of students at Kirkwood Community College.

The Student Association offices are located in the Student Activities office on the ground floor of Iowa Hall.

PUBLICATIONS

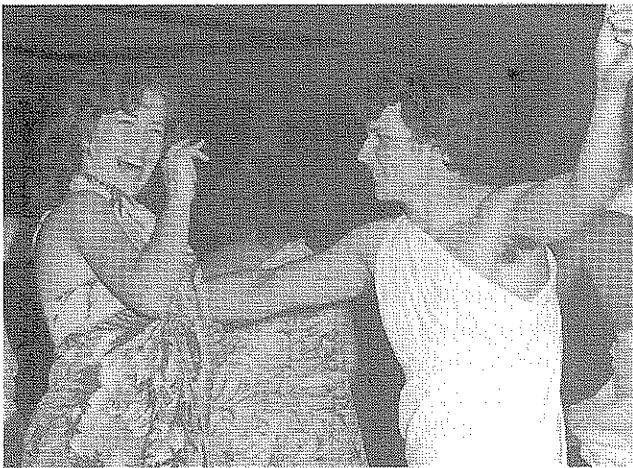
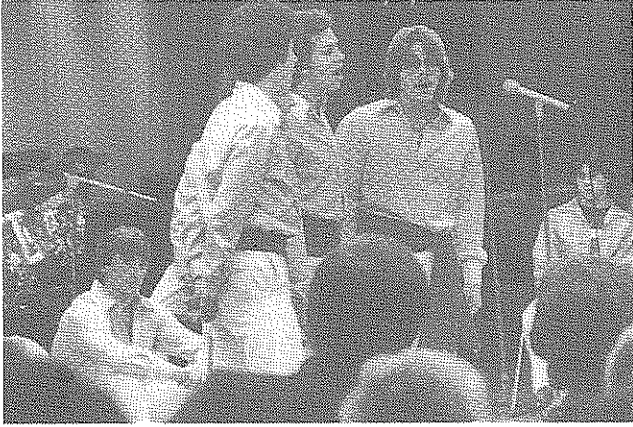
Student Newspaper: *Communique*, a bi-weekly community college newspaper is written and edited by a student staff with the consultation of a staff advisor. Any student interested in working on the staff, or in submitting material for publication, should contact the Student Activity Office in Iowa Hall.

Newspaper Supplement: *Prism* is published by a student staff with the consultation of a faculty advisor. Any student interested in contributing or working on the staff should contact the Student Activity Office.

Communique Registration Issue: This bulletin is published prior to the start of each quarter and includes all information on registration procedures, classes to be offered and other pertinent information regarding college policies that pertain to new or continuing students.

CLUBS AND ORGANIZATIONS

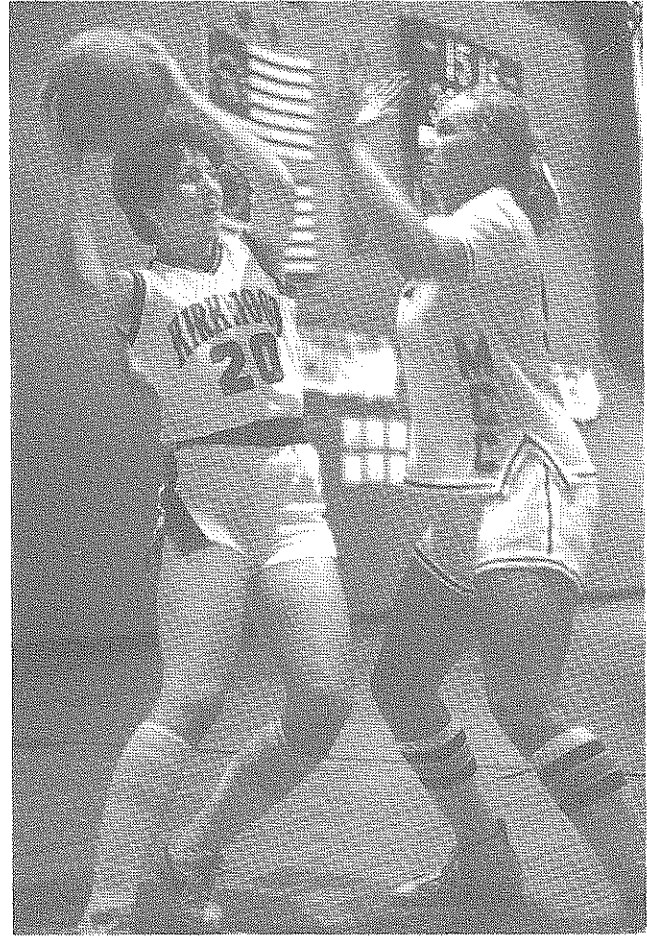
The Student Clubs and Organizations on campus sponsor the majority of activities held during the



year. Approximately one-fifth of the students enrolled at Kirkwood are club members. Clubs are formed through academic programs and special interest groups, and given formal recognition by the Executive Board of the student government. Faculty or staff are designated as advisors to the student groups. Each club elects officers and has a representative on the Inter-Club Council, which has the authority to grant permission for clubs to carry out activities. Information about student clubs can be obtained at the Student Activities Office, Iowa Hall.

SOCIAL AND SPECIAL EVENTS

Social and special event activities are coordinated by the Student Activities Office and the Inter-Club Council. A program of social and special events is offered by both the college and local communities. These programs include music, art, drama, concerts, plays, films and other events. Use of any campus facilities by student groups is arranged through the Student Activities Office.



INTRAMURALS, RECREATION

All full-time Kirkwood students may take Community Education general interest classes or participate in recreational leagues without paying any tuition charge. A validated student I.D. card will be required at the time of registration as proof of student status. This privilege has been instituted to make recreational extracurricular activities more geographically accessible to all Kirkwood students.

INTERCOLLEGIATE ATHLETICS

Kirkwood offers an intercollegiate athletic program for both men and women in a variety of sports. The college has women's teams in basketball, softball, and golf, and men's teams in basketball, baseball and golf. Kirkwood competes with teams from community and junior colleges in Iowa and bordering states, as well as with freshman and junior varsity teams of four-year institutions.

Kirkwood belongs to the Iowa Area Community College Athletic Association and participates in tournaments sponsored by the association.

POLICIES AND REGULATIONS

ADMISSION

It is the policy of Kirkwood Community College to accept for admission into its Arts and Sciences and Vocational-Technical Divisions all individuals with either a high school diploma or its equivalent, as determined by the General Education Development testing program. Mature adults who have not completed high school may be admitted, on an individual basis, to various programs offered by the college.

Admission to the college does not, however, ensure admission to all programs offered. The college reserves the right to guide the placement of students on the basis of counseling, examination, pre-enrollment interviews, and past academic achievement.

It is the policy for the college to consider the total individual in admission to the various programs. There are, therefore, no absolute admission standards. Each person possesses multi-potentialities and, as an applicant, must be viewed in the broadest way in relation to admission to any and all of the college's programs.

Generally, admission to programs is granted on a continuous basis as applicants complete required admissions procedures. Applicants will, therefore, find it to their advantage to apply as soon as they have decided to seek admission to a program. Prospective students may apply at any time after beginning their senior year in high school. Applications are accepted up to the day of registration in many college programs; however, if the college staff is to be of maximum assistance with pre-enrollment matters, an applicant should complete his or her application well in advance of the expected entrance quarter.

EQUAL OPPORTUNITY

It is the policy of Kirkwood Community College not to discriminate on the basis of race, color, creed, national origin, or religion, handicap, age, sex, or marital status in granting admission to and participation in its educational programs, college activities and services, or in its employment practices.

Inquiries regarding compliance with state and federal non-discrimination requirements may be directed to Dean of Student Affairs or Equal Employment Opportunity Office, Kirkwood Community College, P.O. Box 2068, Cedar Rapids, Ia. 52406I.

ADMISSIONS OFFICE

The Office of Admissions is located in Linn Hall, 6301 Kirkwood Boulevard S.W. For admissions information, call the Office of Admissions, 398-5517.

ADMISSION REQUIREMENTS AND PROCEDURES

Materials and procedures required for admission are listed below. All admissions materials are to be submitted to the Enrollment Services Office, Kirkwood Community College, P.O. Box 2068, Cedar Rapids, Iowa 52406.

ARTS AND SCIENCES

Kirkwood has an "open door" policy. This permits high school graduates or equivalent to apply and be accepted regardless of past academic achievements. The procedure includes:

- 1) Application Form
May be obtained from the Admissions Office.
- 2) High School Transcript
Prospective students, after submitting an application, should request their high school counselor or principal to send their final high school transcript to the Enrollment Services Office.
- 3) College Transcripts
Transfer students who want to transfer credits to Kirkwood must submit an official transcript from each college or university which the student has attended previously.
- 5) Student Health Form
The completed student health form required in some programs, is not submitted until after a student has been notified of acceptance. The form should be sent to the student health center. Applicants to programs that require a health form will be notified of the requirement.

VOCATIONAL-TECHNICAL

Shortly after all admissions materials are received, an applicant will be notified regarding admission. The procedure includes:

- 1) Application Form
May be obtained from the Admissions Office
- 2) High School Transcript
Prospective students should request their high school counselor or principal to send their final high school transcript to the Enrollment Services Office.
- 3) College Transcripts
Transfer students expecting to transfer credits to Kirkwood must submit an official transcript from each college or university which the student has attended previously.
- 4) Health Certificates
A health exam is required in some programs but not until after a student has been notified of acceptance. The health certificate should be sent to the student health center. Applicants will be notified about this requirement.
- 5) Personal Interview
A personal interview is required before a student may be admitted to some of the vocational-technical programs. Upon receipt of all materials, applicants will be asked to schedule a personal interview as appropriate for the program to which they are applying.

INTERNATIONAL STUDENTS (Non-immigrant aliens)

Students from foreign countries who wish to be admitted into regular credit programs and courses must submit:

- 1) Secondary school and college transcripts.
- 2) Evidence of adequate financial resources.
- 3) Health Certificate.
- 4) Information showing the degree of mastery of the English language. A minimum total score of 500 on the Test of English as a Second Language (TOEFL).
- 5) A \$100 admissions processing fee.

Students from foreign countries or refugees in the United States who wish to be admitted to the credit program in English as a Second Language must be 18 years or older and must submit the following:

- 1) Application form.
- 2) Secondary school and college transcripts.
- 3) Evidence of adequate financial resources.

Refugees in the United States who wish to be admitted in the English as a Second Language program on a non-credit basis should enroll under the procedures that apply to Adult Basic Education. Interested persons should contact the Community Education Division.

COMMUNITY EDUCATION

Admission to adult education programs is varied and flexible. Individuals interested in admission to General Studies, general adult education, and adult part-time vocational programs are advised to contact the Community Education Division at 398-5668 for information regarding admission and course offerings. See the Community Education section of this catalog for information on Kirkwood's Community Education programs.

TUITION AND FEES: CREDIT PROGRAMS

The following are tuition and fees for credit programs. They are subject to change at any time.

Residents of Iowa (See "Residence Qualifications",)

Full-time study: * \$195.00 per 12-week quarter.

Part-time study: * \$17.00 per credit hour.

Audit course work:

Students "auditing" or carrying courses for "no credit" are assessed tuition at the same rates as regular credit course work.

Non-Iowa Residents (See "Residence Qualifications")

Full-time study: * \$390.00 per 12-week quarter.

Part-time study: * \$34.00 per credit hour.

Audit course work:

Students "auditing" or carrying courses for "no credit" are assessed tuition at the same rate as regular credit course work.

International Students (Non-immigrant aliens)

Full-time study: * \$390.00 per 12-week quarter.

Part-time study: * \$34.00 per credit hour.

Audit course work:

Students "auditing" or carrying courses for "no credit" are assessed tuition at the same rate as regular credit work.

"Definitions of terms used above:

"Full-time study"—12 quarter hours credit or more in Arts and Sciences. All regular Vocational-Technical Division programs are considered full-time except those less than 12 weeks in length. In these cases, tuition is pro-rated based on the length of the program.

"Part-time study"—less than 12 quarter hours of credit.

RESIDENCE QUALIFICATIONS

Students enrolling at Kirkwood Community College shall be classified as residents or nonresidents of Iowa or as international students for admission, fee, and tuition purposes by the Enrollment Services Department. The decision shall be based upon information furnished by the student and all other relevant information. The department is authorized to require such written documents, affidavits, verifications, or other evidence as are deemed necessary to establish the domicile of a student, including proof of emancipation, adoption, award of custody, or appointment of a guardian. The burden of establishing that a student is exempt from paying the nonresident tuition is with the student.

The decision of the Enrollment Services Department on the residence of a student for admission, fee, and tuition purposes may be appealed to a review committee. The finding of the review committee shall be final.

For further information on residence classifications, contact the Enrollment Services Department.

SPECIAL FEES

Certain courses in the Arts and Sciences Division

and programs in the Vocational-Technical Division carry special fees. These fees are assessed only in cases where special equipment and/or consumable supplies and materials are used and help to offset the cost of these items. Such fees are paid quarterly and are nominal. Students should check individual program brochures for the latest figures on fees for courses and programs they plan to enter.

All students pay a student fee each quarter according to the schedule below:

Seven or more enrolled hours \$10
Less than seven enrolled hours..... \$ 2

This fee covers a variety of items and services, e.g., activities, ID card, student newspaper, etc.

REGISTRATION FEE

All students are required to pay a registration fee each quarter as follows:

Full-time (12 or more hours)..... \$10.00
Part-time (less than 12 hours) \$ 5.00

This fee covers parking, changes in course registration, graduation, and a variety of other items usually charged separately at other colleges.

OTHER FEE ARRANGEMENTS

Part-time Vocational: Tuition for part-time vocational programs depends upon the length and nature of the course. Normally, books and materials are not included in tuition.

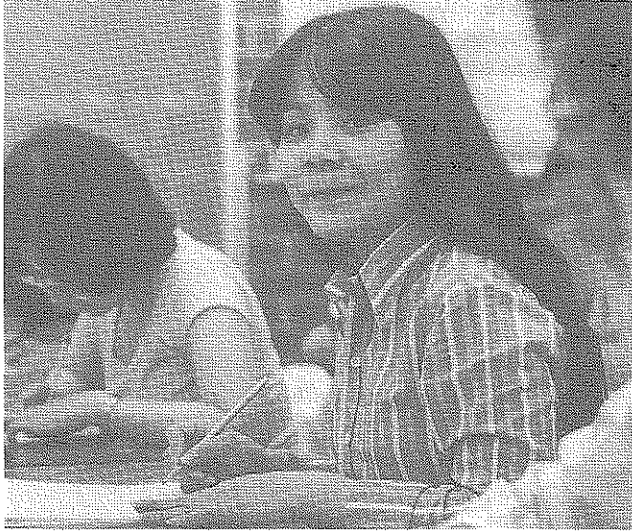
REFUND OF TUITION

Students who withdraw from the college will receive a tuition refund according to the following schedule:

| Time of Withdrawal | Percentage of Refund |
|---------------------------------------|----------------------|
| —1st through 5th class day of term: | 75% |
| —6th through 10th class day of term: | 50% |
| —11th through 15th class day of term: | 25% |
| —16th through last class day of term: | 5% |

Refunds will be made only when an "Exit Interview Form," signed by a Kirkwood counselor, is filed in the Registrar's Office. Refunds will be computed based on the date that the forms are received by the Registrar's Office.

During the first five class days of a term, a student who reduces his/her schedule below full-time will receive a 75 percent refund for the difference between the original tuition paid and the amount applicable to the reduced schedule.



Full refunds will be made only for students who: (a.) withdraw for reasons of personal health as certified by a licensed physician on a form provided by the Registrar's Office, (b.) are inducted, but not enlisted, into the nation's services, (c.) are forced to do so by college-initiated action, i.e. cancellation of a course. Fees other than tuition are non-refundable.

ACADEMIC REGULATIONS AND POLICIES

UNIT OF CREDIT

A unit of credit is a quarter hour. A quarter hour of credit is normally given for one hour in class each week for a period of twelve weeks. A unit of credit awarded in the adult high school is based on the student's ability in relation to his achievement.

COURSE LOAD

ARTS AND SCIENCES DIVISION:

Individuals pursuing 12 quarter hours or more during any quarter will be considered full-time students. To earn a degree in six quarters, students should plan to enroll for an average of at least 15 hours per quarter.

Students may not carry more than 18 hours of credit in any quarter without approval of their advisor and the appropriate division dean.

Students may not take a course for more or less credit than that assigned in the college catalog or the schedule of courses.

VOCATIONAL-TECHNICAL DIVISION:

A student in the Vocational-Technical Division normally enrolls for the number of credit hours required in each program of study. Refer to the section on vocational-technical programs of study in the latter part of this catalog for information concerning credits and/or course load.

Part-time course work may be undertaken in some programs. Students with an interest in attending part-time in the Vocational-Technical Division are advised to contact the Office of Admissions for details.

GRADING SYSTEM

The Kirkwood grades or marks and their meanings are given below:

| | | | |
|---|------------------------|----|---|
| A | Excellent | I | Incomplete |
| B | Above Average | X | Course repeated |
| C | Average | L | **Credit for prior education or experience (11/24/76) |
| D | Below Average | F | *Failing |
| P | Passing-Credit | FW | **Failure to withdraw (3/1/71) |
| T | Credit by examination | NI | **Irresponsible Audit (3/1/71) |
| E | Excused without credit | | |
| N | Audit | | |
| Q | No credit | | |
| W | Withdrew from course | | |

*The F grade was discontinued fall, 1972, and reinstated fall, 1981.

**Discontinued grades. Discontinuation date shown.

The grades A, B, C, D, F are included in computing the grade point average.

Credit toward graduation is granted for A, B, C, D, P and L.

REQUITAL OF FAILING GRADES

Students who receive "F" ("failing") grades at Kirkwood may request that these grades be changed to "Q" ("no credit") when these conditions are satisfied:

1. the student has earned at least 24 quarter hours of credit since receiving the "F" grade(s) and
2. the cumulative grade-point average earned since receiving the "F" grade(s) is not less than 2.0.

Forms for filing requests for requital of failing grades available from Enrollment Services, Room 123, Linn Hall.

GRADE REPORTS

Grade reports are mailed to students approximately two weeks after the close of a quarter. Grades will not be given out over the phone.

REPEATING COURSES

Students who achieve a personally unsatisfactory grade in a course may, according to procedures described below, repeat the course in an attempt for a better grade and have the original grade removed and replaced by "X".

Students wishing to take advantage of this policy must file a notification with the Enrollment Services. Forms for this purpose are available in that office.

Provisions of this policy are as follows:

- 1) Students may repeat a course as many times as they wish in an effort for a better grade.
- 2) Students must file notification of their repeat of a course for a better grade with Enrollment Services for each course repetition.
- 3) The original grade will be changed automatically to an "X". (The "X" carries no credit nor does it affect a student's grade point average.) A student may not repeat a course and then choose the better of the two grades. The repeat grade is always the one that will be computed as part of the student's record.
- 4) Students who withdraw from a course which they are repeating for a better grade under this policy will have the original grade re-entered on their record.

This policy in no way prevents a student from repeating a course and retaining both the original and the repeat grade. Where no notification of repeat is filed, the original and repeat grades are averaged; however, the student may not receive credit for the same course twice.

In any case, students who fail to successfully complete a required course must repeat the course until a passing grade is achieved if they expect to graduate. Students are not required to repeat elective courses that they do not successfully complete.

Students who have questions regarding how this policy applies to their own situation should discuss it with a member of the counseling staff.

INCOMPLETE GRADES

A student who fails to complete the assigned work of a course during a quarter or session can be assigned the grade "I" ("incomplete"). The length of time a student will be permitted to complete the course work must be worked out with the instructor assigning the "I". The "I" may be changed to

an "F" if the student hasn't, after a period of time deemed reasonable and sufficient, made up the incomplete work.

AUDITING COURSES

Audit enrollment in courses provides students the opportunity to attend a class as a non-credit participant, usually as a listener-observer. This kind of enrollment may have value for the student who wants an introduction to a subject outside his major field, a review or refresher in a subject, or other purposes where credit and grade either are not needed or would pose an unnecessary academic threat.

With the permission of the instructor and/or the assistant dean, a student may enroll in any course on an audit basis. It is required of audit enrollments that the student and instructor agree about what portion(s) of the course the student plans to audit and the requirements the instructor has about the student's class attendance and participation in class work. If the student fulfills the agreement for the audit, he or she will receive the grade of "N" ("audit") for the course and it will be entered on the student's academic transcript. If the student does not fulfill the audit agreement, the Registrar, upon request of the instructor, will delete the course from entry on the student's academic transcript.

Audit enrollments and grades carry no credit nor grade point value. No inference is made, nor should conclusions be drawn, about the quality or quantity of a student's mastery of the course subject matter.

Standard tuition and lab charges apply to all audit enrollments regardless of the length or scope of the audit.

CREDIT ASSIGNMENTS IN EMERGENCY SITUATIONS

Upon request of the student and at the discretion of the instructors involved, after the two-thirds point of a quarter a student may be given a grade and, therefore, credit for all courses he or she has in progress at the time of:

- His or her induction but not enlistment into the Armed Forces;

- Serious personal or family illness requiring the student to discontinue his or her studies;
- A death in the immediate family;
- Other “emergency circumstances” that preclude a student finishing the quarter.

No refund of tuition or fees will be made for a withdrawal handled under this policy.

ADDS AND DROPS

Students may add a course at any time through the fifth class day of a quarter or session, subject to the course load conditions and tuition schedule listed earlier.

Students may drop individual courses from their schedule any time up to 8 p.m. of the last drop day of the quarter or session as indicated in the official college calendar. After these times, students must remain in courses. Students who quit attending a class without officially dropping it will receive, at the discretion of the instructor, an “I” or an “F” grade.

A change in registration is not official until it is received in the Office of the Registrar, and all deadlines as stated herein apply to the day by which it must be received in that office. It is the responsibility of the student to see that all necessary forms reach that office and that they carry signatures as indicated on the form.

Dates, as indicated herein, are listed on the college calendar.

“Change in Registration” forms are available from counselors and the Office of the Registrar.

WITHDRAWAL POLICY

Students may withdraw, that is, cancel their entire registration, at any time up to the final exam period. Students officially withdrawing through the Office of the Registrar will be assigned a “W” for all courses for which they are then registered. In all cases of withdrawal, except in cases of physical or circumstantial impossibility, a student must secure the “approval” of a counselor. In cases of tragedy (death, disability, etc.), the Office of the Registrar can initiate a withdrawal for the student, even retroactively when the situation becomes known.

Students failing to withdraw officially will receive the grade deemed appropriate by the instructor, not to include a “W.”

CHANGE OF MAJORS

Vocational-technical students who change their major or arts and sciences students who change to a major in the Vocational-Technical Division will be accountable in terms of graduation requirements only for work done in the new major. The course work and grade point average earned in the initial major will continue as part of their transcript and record, but will not affect them in meeting graduation requirements of the new major. If course work successfully completed in the initial major is applicable to the new major, a student may petition the dean or the assistant dean for permission to apply these credits toward graduation requirements of the new major. Where permission is granted, the courses and the earned grades for those courses would be credited toward the new major.

As a prerequisite to taking advantage of this policy, students must complete certain forms in the Enrollment Services Department. This should be done in advance of making the change in majors.

Students who contemplate a change of major under this policy are advised as an initial step to discuss their plans fully with a member of the counseling staff.

ACADEMIC PROGRESS

In order to graduate from Kirkwood, students must satisfy all course requirements and achieve the cumulative grade-point-average established for the award sought.

Students who achieve and maintain a cumulative 2.00 grade-point-average and complete course requirements in the prescribed sequence are considered to be progressing satisfactorily.

Students receiving veterans benefits or other forms of sponsorship may have to meet other tests of what is satisfactory progress.

DISCIPLINARY PROBATION AND SUSPENSION

Disciplinary probation and suspension from the college is managed under the procedures described in the Board Policy Manual of the college. In general, such matters are handled by the Student Activities Department, with procedures for due process and appeal made available as appropriate.

RE-ADMISSION

Students who have been suspended for academic reasons may petition the Enrollment Services Department for re-admission. There is a mandatory period of one quarter before petitions for re-admission will be considered.

Students who have withdrawn from the college in good standing, and who desire to be re-admitted, should apply to the Office of Admissions. If they have attended another college or university, they must file an official transcript from that institution. Students who are re-admitted after absence from the campus and who desire an associate degree will be required to fulfill the current graduation requirements.

ASSIGNMENTS AND EXAMINATIONS

Students are expected to complete all class assignments and examinations on time. It is the student's responsibility to contact his or her instructor to make up any work missed during absence from each class. In cases where a test is given during the absence of a student, it is sometimes possible for the instructor to substitute another test at a later date. There may be occasions, however, when substitution of a test may not be feasible. When a student anticipates missing a test, a telephone call in advance to the instructor may save a great deal of difficulty later and prevent a possible lowering of the grade for that course in cases when a test is of a type that is difficult to make up.

A student must be present as scheduled for the final examinations. In cases of illness or emergency during examination times, a student may be excused and re-scheduled by the instructor. In cases where such illness or emergency may extend more than a few days, the procedure for incomplete course work should be followed.

STUDENT RECORD RETENTION POLICY

Kirkwood Community College retains the official academic record (transcript) of enrollment and credit earned in Kirkwood's credit programs in perpetuity. All other student record documents are destroyed three years after the student's last enrollment at Kirkwood.

Students who believe there is any inaccuracy in their official academic record (transcript) must no-

tify the Enrollment Services Department immediately. Upon the destruction of the supporting student record documents three years after the student's last enrollment at Kirkwood, the official academic transcript is regarded to be the final accurate record of academic accomplishment.

DEGREE AND GRADUATION REQUIREMENTS

ARTS AND SCIENCES DIVISION

TRANSFER OF CREDIT FROM OTHER INSTITUTIONS

The Arts and Sciences Division will accept the credits given to a student who has done successful work at any properly accredited college provided that the work was part of the curriculum of a two-year associate degree—equivalent to any of the associate degrees offered at Kirkwood or a baccalaureate degree or was part of such a program. Courses in any of these degree programs will transfer even though the student may have been involved in non-degree work at that institution. In order to receive the associate degree granted by the Arts and Sciences Division the student must also fulfill the requirements for those degrees as are listed in this catalog.

In the evaluation of transfer students' transcripts from institutions previously attended, Kirkwood applies the following general policies:

1) *Grades of "F" (or any other "failing." grades) of transfer students will be ignored in the computation of a cumulative transfer grade point average if any of the following conditions are met:

A. The courses involved were taken during or after the 1972 fall quarter and before the 1981-82 fall quarter; or

B. The student has not been enrolled in any program of higher education leading to an associate or baccalaureate degree for a period of at least three consecutive years; or

C. The student has served in the Armed Services of the United States for at least two years or any smaller portion thereof if discharged with a service-connected disability.

2) Grades corresponding to "D" or better will be accepted for transfer if from a properly accredited institution.

3) Decisions about the applicability of transfer courses toward Kirkwood requirements will be made by the Enrollment Services Department and reported to the student. Any question regarding this should be directed to that office.

When a transfer student's credits are accepted toward the associate degree of Kirkwood, the college cannot guarantee how other colleges will treat these same credits.

*This provision applies in equal measure to Kirkwood students.

ACCEPTANCE OF VOCATIONAL-TECHNICAL CREDIT TOWARD AA OR AAS DEGREES

Kirkwood Community College will accept for credit toward Associate in Arts or Associate in Science degrees, vocational-technical credits earned in courses which are part of two-year Associate in Applied Science degree technical programs at Kirkwood or other accredited Iowa Area Schools. (Such credits are hereinafter referred to as "technical" credits.) These technical credits are acceptable toward Associate in Arts or Associate in Science degrees subject to the following provisions and conditions.

1) A maximum of 24 quarter hours of technical credits earned in Kirkwood resident course work will be accepted toward Associate in Arts or Associate in Science degrees. They may not be used to satisfy core or general education requirements.

2) Kirkwood will accept for transfer (from another accredited Iowa Area School) a maximum of 24 quarter hours of earned vocational-technical credits toward Kirkwood Associate in Arts or Associate in Science degrees which the sending Area School has accepted toward their own Associate in Arts or Associate in Science degrees provided that:

A. A statement of that Area School's policy on internal articulation of vocational-technical credits toward their own Associate in Arts and Associate in Science degrees is on file with the Enrollment Services Department at Kirkwood.

B. The sending Area School's transcript clearly indicates which vocational-technical courses are acceptable toward their Associate in Arts or Associate in Science degrees.

After application of technical credits, a student must complete the following requirements to re-

NOTICE TO STUDENTS REGARDING FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT OF 1974

In accordance with provisions of Public Law 93-380 as amended (P.L. 93-568), the Family Educational Rights and Privacy Act of 1974, commonly known as the "Buckley Amendment," notice is hereby given to Kirkwood Community College students and their parents as follows:

It is the intention of the college to comply with provisions of this law. The college rules and regulations to implement compliance procedures are available to interested parties, and may be reviewed during normal business hours in the following campus locations: Enrollment Services, Student Affairs Office, and the Learning Resources Center. Students who believe the college is not complying with this law are hereby informed of their right to file a complaint with the U.S. Department of Health, Education & Welfare.

The college maintains only those "Education Records," within the definition of this law, which are essential to the process and procedures required to develop and maintain an accurate academic record for each student and to support such student accounting needs and requirements as are imposed by law, state and federal regulations, and college operational procedures. These records

may be found in some or all of the following offices: Enrollment Services, divisional, departmental, major program, Student Activities and advisors. Subject to provisions of the college rules, they may be reviewed by students upon request.

This law permits the college to make public certain "directory information" about students. It is the intention of the college to do so, within the scope of regular college policies and as may be appropriate to the normal course of college business and operations. The following information is regarded to be "directory" type information, and some or all of it may be made public: name, address, telephone listing, major field, class schedule, courses of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, age and/or date of birth, dates of attendance, degrees and awards received, and previous educational programs and institutions attended by the student. Any student objecting to his or her directory information being made public must file notice of such objections with the Enrollment Services Department.

*Dr. Bill F. Stewart,
President/Superintendent*

ceive an Associate in Arts or Associate in Science degree:

- 1) Satisfactorily complete all general education requirements established for the degree being sought.
- 2) Earn a minimum of the last 24 quarter credit hours of degree applicable course work in residence in transfer-credit courses in the Arts and Sciences Division at Kirkwood.
- 3) Earn a minimum of 90 quarter hours of credit acceptable toward the Associate in Arts or Associate in Science degrees (as defined under this and any other applicable policies of Kirkwood).
- 4) Earn the required minimum cumulative grade point average on all course work applied toward the degree sought. This cumulative grade point average will be computed using as many of the best earned technical credits as required to bring the degree applicable credit total to 90 quarter hours.

GENERAL REQUIREMENTS FOR THE ASSOCIATE IN ARTS OR ASSOCIATE IN SCIENCE DEGREES

- 1) Earn a minimum of 90 quarter hours of credit.
- 2) Earn the last 24 credit hours in residence at Kirkwood in a degree program for which the degree is sought.
- 3) Maintain a minimum cumulative grade point average of 1.80 (for programs begun before fall, 1981 and completed by spring, 1984) and 2.0 (for programs begun fall, 1981 or completed after spring, 1984).
- 4) Complete satisfactorily eight quarter hours in composition and four quarter hours in speech.

ADDITIONAL REQUIREMENTS FOR THE ASSOCIATE IN ARTS DEGREE

- 1) Complete general requirements described earlier.
- 2) Complete group requirements as follows:¹

| | * | ** |
|-----------------|----------------|-----------------|
| Humanities | 8 credit hours | 12 credit hours |
| Social Sciences | 8 credit hours | 12 credit hours |
| Math-Science | 8 credit hours | 12 credit hours |

- 3) Complete satisfactorily a college parallel with major emphasis in the humanities and/or social sciences.

¹For programs begun before fall, 1981 and completed by spring, 1984
^{**}For programs begun fall, 1981 and after or completed after spring, 1984

ADDITIONAL REQUIREMENTS FOR THE ASSOCIATE IN SCIENCE DEGREE

- 1) Complete general requirements described earlier.
- 2) Complete group requirements as follows:¹

| | |
|-----------------|-----------------|
| Humanities | 8 credit hours |
| Social Sciences | 8 credit hours |
| Math-Science | 30 credit hours |

ADDITIONAL REQUIREMENTS FOR THE ASSOCIATE OF SCIENCE DEGREE & CAREER OPTION

- 1) Complete general requirements described earlier
- 2) Complete group requirements as follows:¹

| | |
|-----------------|-----------------|
| Humanities | 8 credit hours |
| Social Sciences | 8 credit hours |
| Math-Science | 8 credit hours |
| Career Option | |
| Emphasis | 30 credit hours |

¹For a complete definition of which courses fulfill which group requirements, see the Arts and Sciences course description section.

VOCATIONAL-TECHNICAL DIVISION

REQUIREMENTS FOR ASSOCIATE IN APPLIED SCIENCE DEGREE

This degree is issued to those individuals who satisfactorily complete a two-year technical curriculum. Since technical programs vary in terms of their content, each program should be checked for specific course requirements for graduation.

GENERAL REQUIREMENTS FOR THE ASSOCIATE IN APPLIED SCIENCE DEGREE COMMON TO ALL PROGRAMS

- 1) Successful completion of all specific curricular course requirements.
- 2) Maintain a minimum cumulative grade point average of 1.80.
- 3) Satisfaction of the greater of the following two residence requirements:

A. Earn a minimum of the last 24 credit hours in no less than two quarters of resident course work at Kirkwood Community College in the program for which the degree is sought.

B. Meet, through residence course work at Kirkwood Community College, the minimal core and specialty requirements established

by the major department for the degree program.

(In some cases, some credits earned toward an Associate in Applied Science degree may be transferable to some baccalaureate degree-granting institutions).

REQUIREMENTS FOR A DIPLOMA

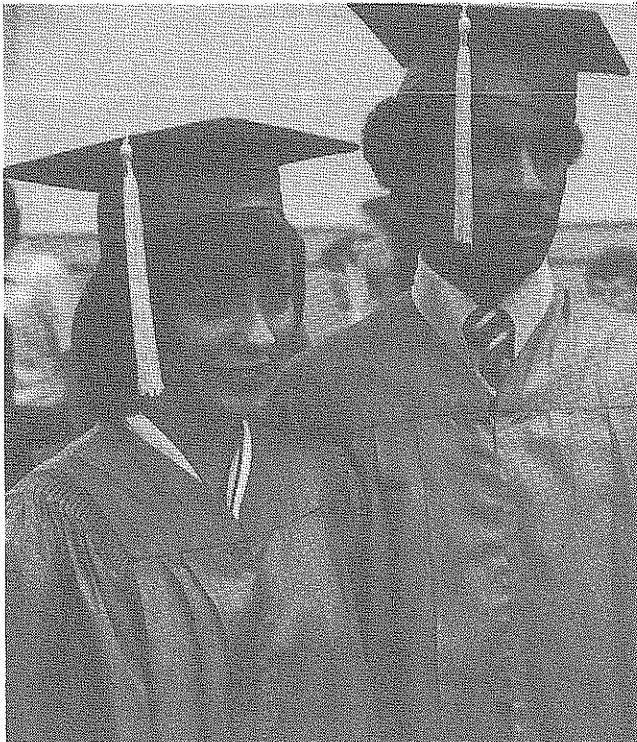
Diplomas are issued to individuals who satisfactorily complete full-time vocational or technical curricula of at least three quarters but less than two years (six quarters duration). They must maintain a cumulative grade point average of at least 1.80.

Normally, a student must take all of the courses required for a diploma program through course work in residence at Kirkwood. Individual exceptions to this requirement may be possible upon petition by the student to a committee composed of the program coordinator and/or the assistant dean and the dean of career education.

REQUIREMENTS FOR A CERTIFICATE

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 generally issued to students at the completion of a specific short-term program of study.

A student must complete all of the courses required in a certificate program in residence at Kirkwood Community College.



GENERAL STUDIES DEGREE

The Associate of General Studies degree is designed to meet the needs of people whose goals can not be met by traditional degree programs. It is intended for those adults who wish to continue their education, yet seek recognition of their past experiences and assistance in developing a program of study based upon their personal interests and career goals.

Just as the curriculum for each general studies student is individualized, so also is the assistance each person receives from Kirkwood's professional staff. Assistance is provided to each student in establishing, clarifying and stating his or her goals, as well as in identifying and documenting their prior experience.

The general studies student may utilize any of the educational programs and services of the college in developing his or her study plan. They may include both credit and non-credit courses or seminars offered by Kirkwood, Cooperative Education work experiences, and individualized general studies projects. Although some of the student's studies may not be accepted for college transfer credit, they will count toward the Associate of General Studies degree as long as they are a part of the student's approved study plan for the degree.

This degree program is not intended as an alternate means of preparing for careers already offered through the college's vocational-technical division or for careers requiring transfer to four-year colleges or universities.

OTHER GRADUATION INFORMATION

FILING A GRADUATION APPLICATION

Each student who plans to earn an associate degree, diploma, or certificate of program completion, must file a "graduation application" with the Enrollment Services Department at the beginning of the quarter in which he or she plans to complete the necessary course work.

"Graduation applications", should be submitted at the time that students register for classes in the quarter that requirements for graduation will be completed. However, applications will be accepted if filed with the Enrollment Services Department (123, Linn Hall) within one week of the close of registration.

While students may complete their requirements for graduation during any quarter, commencement exercises will be held at the end of the spring and summer terms. Students completing requirements in the fall or winter terms are encouraged to participate in the spring commencement exercises.

TRANSCRIPTS

Official transcripts are available through the Enrollment Services Department. Students may pick them up there or request that they be mailed to another institution. Transcripts sent to other institutions and employers are free of charge. Each transcript given or mailed to the student costs \$1.00 and must be paid for at the time it is requested.

REQUIREMENTS FOR THE ADULT HIGH SCHOOL DIPLOMA

- 1) A Kirkwood high school diploma will be granted when the student meets the requirements toward graduation.
- 2) The high school completion program is operated on both a quarter system (12 weeks) and by individualized instruction at area Community Education centers.
- 3) Students may begin at any time.
- 4) A student must earn a minimum of 48 quarter hours of credit.
- 5) Six quarter credit hours of study in residence at Kirkwood are required in the High School Completion program regardless of the number of remaining credits needed.
- 6) A student doing normal work may earn one credit for 12 weeks' work with grades A, B, C, and D. Due to a great deal of individualized instruction, students may earn 1½ maximum quarter credits in this 12-week period if the instructor feels they have achieved much more than normally achieved in that length of time. Credit for courses taken through individualized instruction is granted when a student demonstrates competency of the subject matter with no time limitations. No one fails.
- 7) Credit awarded for military school, vocational training and work experience (includes homemaker) are evaluated by the counselor before credit will be given. Any questions regarding credits or grades are considered by the counselor or area supervisor.
- 8) A High School Equivalency Certificate will not be given until an applicant has reached his or her eighteenth birthday and his or her high school class has graduated.

9) The counselor or coordinator in each high school completion center will make out a rough work-up sheet showing credits already earned and those that will be required for graduation. Also, a new student must fill out a No. 283 form. This form will initiate a process by which a copy of the student's previous high school work will be returned to the counselor.

REQUIREMENTS FOR THE IOWA HIGH SCHOOL EQUIVALENCY CERTIFICATE:

The Iowa High School Equivalency Certificate is granted on the basis of the attainment of an average standard score of 45 on the General Education Development (GED) Test. The test is offered at the Iowa City Community Education Center, Anamosa Reformatory, Monticello Community Education Center, Washington Community Education Center and the Kirkwood main campus.

A high school equivalency diploma issued by the Iowa Department of Public Instruction is awarded and a permanent transcript file is maintained by the college. Local school districts may issue an adult high school diploma if they choose. Conditions for granting the local adult high school diploma will be specified by the local Board of Education. Further information is available through Kirkwood's Community Education Division.

STUDENT RESPONSIBILITY FOR CATALOG INFORMATION

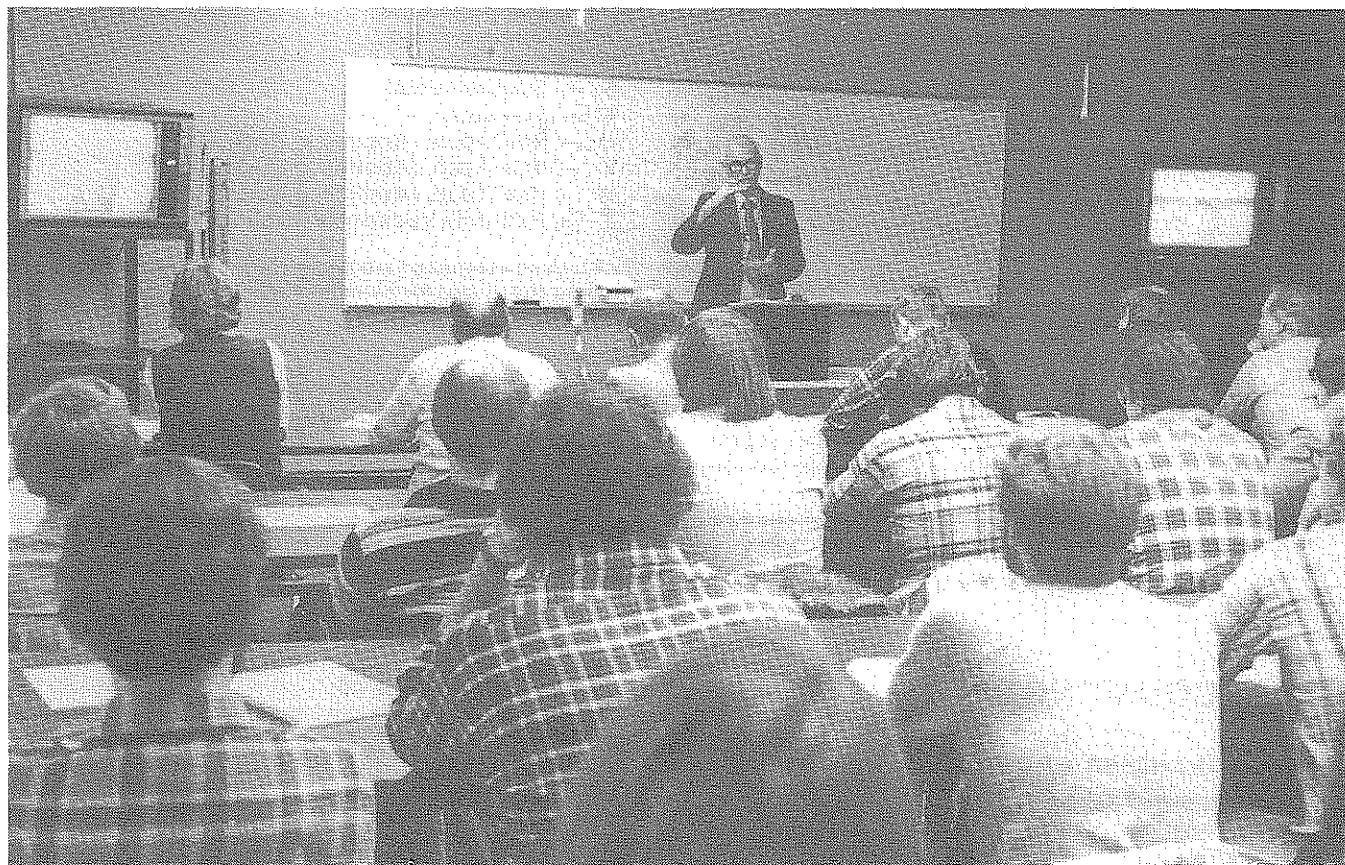
Each student is responsible for being familiar with the information appearing in this catalog. Failure to read the regulations will not be considered an excuse for non-compliance.

The college reserves the right to change policies or revise curricula as necessary due to unanticipated circumstances.

WAIVER OF REGULATIONS

Rules and regulations in this catalog have been adopted by the faculty, administration and board of directors of the college. When a student finds that extenuating circumstances might justify the waiver of a particular college regulation, however, the student may file a petition with the dean of student affairs, according to established procedures.

COURSE DESCRIPTIONS



GUIDE TO AREAS OF STUDY

The course descriptions in this section are listed according to the following prefixes assigned for each area of study:

| | | | |
|---|---|--|--|
| AC — Accounting | EA — Earth Science | HE — Home Economics | MU — Music |
| AF — ROTC | EC — Economics | HY — History | NS — Nursing |
| AG — Agriculture | EG — Engineering | IS — Interdisciplinary Studies | OE — Office Education |
| AM — Administration and Management | EL — Electricity and Electronics | JO — Journalism | PD — Personal Development |
| AT — Art | EV — Environmental Studies and Pollution Control | LE — Law Enforcement | PH — Physics/Astronomy |
| BY — Biological Science | FL — Foreign Languages | LS — Library Services | PR — Philosophy and Religion |
| CE — Cooperative Education | FS — Fire Safety | LT — Literature | PS — Political Science |
| CH — Chemistry | GE — Geography | LW — Law | PY — Psychology/ Education |
| CM — Communication (including speech) | GR — Graphics | MA — Mathematics | RE — Recreation |
| CO — Corrections | GS — General Studies | MH — Mechanics | SO — Sociology |
| CS — Construction | | MK — Marketing | SW — Social Welfare |
| DP — Data Processing | | MM — Metals and Manufacturing | TH — Therapy |
| DN — Dental | | MS — Medical and Surgical | |
| DR — Drama | | | |

A list of courses no longer taught at Kirkwood is available from the Registrar's Office.

COURSE NUMBERING SYSTEM

Each course description in this section is preceded by a course number, such as **AC001T**. Below is described what the letters and figures mean in each number:

- 1) The two-letter prefix in the number denotes the area of study in which the course may be found in this section. The area of study is the academic discipline that most nearly describes the content of the courses. (For example, "BY" is the prefix for courses that have biology as their basic subject matter.) The various areas of study and their prefixes are listed on this page. Since this section is organized alphabetically by prefixes, it is best to know the number of the course for which you are looking.
- 2) The three numerals in the body of the course number are random, and are not intended to imply any sequence for taking courses.
- 3) The letter at the end of the course number represents the level of instruction, according to the following code:

A — Adult Basic Education (ABE)
 D — Developmental
 G — General Adult
 H — High School
 S — Supplemental
 T* — Transfer
 U — Voc. Tech. (Applies to AAS)
 V — Voc. Tech. (Applies to Diploma)
 W — Voc. Tech. (Applies to Certificate)
 Z — Part-time Vocational-Technical

*T - Courses asterisked are under review by the curriculum instruction committee for permanent approval as part of the Arts and Sciences curriculum.

The credit value of each course is indicated in quarter hours following the title of the course. Where possible, the description also indicates the number of lectures and lab sessions involved. Thus, (3/1) indicates three lecture hours and one lab hour per week.

AC: ACCOUNTING

COLLEGE TRANSFER COURSES

Credit
hours

- ✓ **AC001T Principles of Accounting I** 4
 Approaches accounting theory and procedures from the business entity concept. Accounting principles covered include understanding the balance sheet and income statements, matching costs and revenues, working paper development, and debit-credit relationships. (4/0)
- ✓ **AC002T Principles of Accounting II** 4
 Emphasizes partnership and corporate entities, worksheet adjustments and asset valuation. Prereq: Principles of Accounting I. (4/0)
- AC003T Principles of Accounting III** 4
 Emphasizes management uses, and studies introduction to cost accounting, cost analysis, budgeting, fund flow, and statement analysis. Prereq: Principles of Accounting II. (4/0)
- AC004T Cost Accounting I** 4
 Relates principles and methods of handling materials, labor costs, and manufacturing expenses to the formulation of reports to management. Prereq: Principles of Accounting III. (4/0)
- AC005T Cost Accounting II** 4
 Emphasizes standard costing and budgeting. Prereq: Principles of Accounting III. (4/0)
- AC006T Intermediate Accounting I** 4
 Includes a review of accounting procedures and the reporting process. Provides an in-depth analysis of cash, receivable, and inventories. Prereq: Principles of Accounting III (4/0)
- AC007T Intermediate Accounting II** 4
 Emphasizes investment accounting, tangible and intangible assets, and liabilities. Prereq: Intermediate Accounting I. (4/0)
- AC008T Intermediate Accounting III** 4
 Covers corporation accounting, consignment and installment sales, and income correction and statement changes. Prereq: Intermediate Accounting II. (4/0)

AC015T Personal Income Tax 2
 Provides a basic knowledge of individual income taxation, its purposes and development, possible future modifications, and its significance for individual tax planning. (2/0)

AC016T Income Tax for Business 3
 Provides a basic knowledge of the structure of business income taxation, its purposes and development, possible future modification, and its significance for managerial decision-making. Prereq: Principles of Accounting II, Personal Income Tax or instructor's permission. (3/0)

***AC018T Income Tax I** 4
 Studies the federal income tax law, its purposes and development, and its significance for tax planning. Emphasis is placed on the application to the individual and the single proprietorship business. (4/0) Prereq: Principles of Accounting I

AC019T Agricultural Accounting 1-4
 Appraises methods of keeping farm and farm supply business records and accounts for farm and tax management and interprets capital, credit, income accounts, production records and net worth statements. Farm income tax procedures and management are also studied. (2-4/0-4)

VOCATIONAL-TECHNICAL COURSES

AC001U Accounting Survey I 3
 Covers accounting for the data processor. Includes basic concepts, definitions, terminology, techniques, and characteristics of accounting and accounting systems as found in medium and large organizations. Attention is given to the functions of accounting as they might be performed by data processing systems. (3/0)

AC003U Accounting for the Non-Accounting Manager 2
 Studies the various financial statements and their relation and contribution to the profitability of a business for the non-financial manager. Also covers terminology used in accounting practices. (2/0)

AC005U Small Business Recordkeeping 2
 Designed to help the small business person keep simple cash flow, expense, and receipt records. It also includes necessary recordkeeping for basic payroll and sales tax records. The assumption is made that students have not previously had any experience with bookkeeping or recordkeeping. (2/0)

- AC006U Management Accounting** 4
Presents management's viewpoint on cost analysis, budgeting, fund flow, and statement analysis. Prereq: AC001T (4/0)
- AC007U Dental Bookkeeping** 3
Covers basic principles of bookkeeping from the viewpoint of the dental assistant. Special attention is given to patient billing, preparing for audits, peg board accounting, use of data processing services, and tax forms. (3/0)
- AC008U Agribusiness Records** 3-4
Designed to familiarize students with farm records; accounting inventories, valuation cash flow, net worth, depreciation, and different types of record systems. (2-4/0-4)
- AC009U Accounting Problems** 2-5
Provides the student with the opportunity to secure assistance in accounting course work and provides an opportunity for more in-depth study. Time arranged. (0/3-10)
- AC001V Accounting Fundamentals I** 5
Introduces the complete accounting cycle for personal service and merchandising enterprises. Application of fundamental principles covered in laboratory practice. (5/0)
- AC002V Accounting Fundamentals II** 5
Continues Accounting Fundamentals I with further study of accounting for purchases, sales, inventory, prepaid expenses, longlived assets, and accounting for owner's equity. Prereq: AC001V (5/0)
- AC003V Accounting Fundamentals III** 5
Continues Accounting Fundamentals II, with emphasis on corporate organizations and an introduction to cost accounting. Prereq: AC002V (5/0)
- AC004V Office Accounting** 4
Provides an understanding of basic accounting concepts and procedures. Includes the recording of transactions, preparation of financial statements, and payroll problems. A practice set will be completed. (4/0)
- AC005V Floriculture Bookkeeping** 4
Studies the basic theories of accounting concepts and procedures as they apply to the floral shop. Special attention is given to recording basic transactions, credit, payroll and banking. (4/0)
- AC006V Medical Bookkeeping** 4
Covers basic principles of bookkeeping from the viewpoint of the medical assistant. Areas of study include journalizing, posting to the ledgers and taking a trial balance, and preparation of financial statement. Special attention is given to patient billing, preparing for audits, peg board accounting, use of data processing services, and insurance tax forms. (4/0)
- AC008V Income Tax Procedures** 3
Training in the preparation of federal and state income tax returns. (3/0)

AF: ROTC

- *AF005T Introduction to the Military** 1.5
Analysis of the role of the military in American society and as an element of American foreign policy. Course includes basic history of the military establishment, organization of the Department of Defense, current defense strategy and an introduction to leadership and management models to be developed further in other courses. (1.5/0)
- *AF006T Foundations of Military Organizations** 1.5
A "top-down" approach to military organizations with emphasis on the U.S. Army, division level and above. Course includes basic organization of the military service, to include missions and capabilities, a general break-out of branches of the Army, officer and non-commissioned officer duties and responsibilities, and a continuation of the management/leadership instruction initiated in "Intro to the Military." (1.5/0)
- *AF007T Military Strategy & Tactics** 1.5
An analysis of historic military battles with respect to the principles of warfare as delineated by Clausewitz. Course includes individual/group projects designed to study detailed applications of tactical concepts. Leadership techniques utilized by famous "captains" are highlighted. (1.5/0)
- *AF008T Tactical Military Analysis** 1.5
An introduction to small unit tactical military leadership responsibilities with emphasis on individual and squad-level tactics. Course leadership and management of small groups is highlighted. (1.5/0)

- *AF009T Intensified Basic Military Instruction** 6.0
A composite course containing essential elements of courses Intro to the Military; Foundations of Military Organ; Military Strategy and Tactics and Tactical Military Analysis. It encompasses organization of the U.S. Army, small unit operations, history of the Army, land navigation, small unit leadership and other related subjects. The course is designed for those students who wish to enter the Army ROTC Advanced program but who are precluded by time limitations from participating in the full two-year Basic Course. (6.0/0)
- *AF010T Small Group Leadership** 4.5
Introduction to organizational leadership with emphasis on unit goals and standards, performance motivation, delegation and authority, and training. Course includes preparation for and conduct of student-led classes in designated subject areas. Management/leadership instruction includes the use of case studies and organizational leadership problems. (4.5/0)
- *AF011T Principles of Military Operations** 4.5
Fundamentals of military planning and preparation of operations orders with application to small units. Course includes detailed examination of the organization, functioning and communications utilized by an infantry company in a tactical environment to include defensive operations, offense, retrograde, fire support and air-mobile operations. The course also includes a three-day field training exercise. (4.5/0)
- *AF012T Military Management and Law** 4.5
Emphasis on management and leadership in large organizations. Course includes instruction in military law and the military justice system as it applies to a new lieutenant. Instruction includes a comprehensive review of the requirements of a profession and the necessity for professional ethics. The effective management of resources and organizational behavior problems are highlighted. (4.5/0)
- AF013T Administrative Management** 4.5
Course includes a comprehensive review of management and leadership instruction as related to the models of leadership presented in the Basic Course. Administrative, logistical and management duties of junior officers are highlighted. Emphasis is placed on final preparation for commissioning, and current problems in the military and society. (4.5/0)

AG: AGRICULTURE

COLLEGE TRANSFER COURSES

- AG001T Fundamentals of Soil Science** 3-4
Introduces physical, chemical and biological properties of soils, their formation, classification and distribution. (2-4/0-2)
- AG002T Principles of Horticulture** 3-4
Explores horticulture in daily living: plant growth, environment, propagation, cultivation, pruning, protection, harvesting, quality control and selection. Also covers home grounds development and maintenance. (3-4/0)
- AG004T Introduction to Agricultural Education** 1
Reviews the agriculture teaching profession in secondary and post-secondary schools. (1/0)
- AG005T Animal Production** 4
Focuses on basic elements of the comparative characteristics and bodily functions of farm animals, their place in animal agriculture, and the production, evaluation and marketing of their products. Includes cattle for meat and milk, horses, sheep, swine and poultry. (3-4/0-2)
- AG006T Principles of Crop Production** 4
Introduces principles of plant-soil-climate relationships in crop production. (3-4/0-2)

VOCATIONAL-TECHNICAL COURSES

- AG002U Forage and Oat Production** 3-6
Involves study in the technical areas of various forages and oat production, including varieties, fertility, tillage methods and various management practices. The course also identifies and compares various pasture and forage management methods. (1-6/0-4)
- AG003U Agribusiness Procedures** 3-4
Reviews terminology used in agribusiness, the handling of money from sales, inventory control, customer credit control, business money management and basic double-entry bookkeeping. (3-4/0-4)

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| AG004U Swine Artificial Insemination | 2 | Develops skills of artificial insemination, heat detection and supportive background knowledge for swine breeding herds, and studies nutritional and genetics management practices in swine breeding. (1/2) |
| AG005U Agricultural Chemicals | 2, 3, 4 | Relates pesticide terminology, labels, uses, cost and safety, and also covers establishing herbicide test plots. (2-4/0-4) |
| AG006U Career Planning Seminar | .5-2 | Assists the student in managing his or her affairs as an employee. Includes "mini-courses" on current topics and also includes planning a student's courses and activities while at Kirkwood. (.5-2/0-2) |
| AG010U Park Maintenance Programs | 5 | Includes development and analysis of comprehensive maintenance programs for buildings, campgrounds, lake areas and related recreational facilities. Budgeting and recordkeeping are discussed. (4/2) |
| AG012U Employment Experience | 1-12 | Offers employment arranged to give students practical, full-time, on-the-job training with an employer or self-employed individual. |
| AG015U Park and Recreation Administration | 5 | Examines the planning, organizing and administering of parks employees and activities involved in parks operations. (4/2) |
| AG016U Feed Rations | 2-4 | Includes selection of ingredients, types of feeds, use of feed additives to formulate proper rations for different classes of livestock. (1-4/0-8) |
| AG017U Field Crop Production | 1-6 | Develops and applies understandings and abilities in crop production covering management practices, plant growth factors, seed variety, tillage and harvesting practices. (1-4/0-6) |
| AG018U Wildlife Reserves | 5 | Concentrates on proper wildlife management, which necessitates carefully planned and maintained reserve areas. This course covers these management techniques, including plant material, cover material, location and isolation. (4/2) |
| AG022U Horse Nutrition | 1-6 | Includes knowledge and understandings of types of feed stuffs used to fulfill required amounts of nutrients for different types of horses used under different conditions. (1-6/1-6) |
| AG026U Garden Center Operation | 5 | Covers purchasing, merchandising, advertising and business analysis as it pertains to the garden center. Students visit several local businesses as a means of interviewing owners. (4/2) |
| AG027U House Plants | 4 | Instructs students in the identification and cultural requirements of 150 semi-tropical to tropical plants commonly used as houseplants. Identification includes recognition of plants with both botanical and common names. Cultural requirements include such topics as soil mix, light, humidity, watering, and pest problems. (4/2) |
| AG029U Landscape Construction | 4 | Presents construction of retaining walls, mulched areas, patios, etc. and also covers proper methods for digging and planting trees and shrubs. (2/4) |
| AG030U Basic Landscape Drawing | 4 | Studies the landscape design process, functional and aesthetic organization of space and plant materials for pleasing effects. Site analysis, preparation of scaled drawings and lettering are practiced in laboratory exercises. (2/4) |
| AG031U Residential Landscape Design | 4 | Deals with the actual development of landscape drawings for homeowner clients. Client needs and motivation are explored. Students develop scaled, formal drawings, and informal sketches. (2/4) |
| AG032U Recreational Area Design | 4 | Deals with design of attractive, functional and durable areas utilized for recreational purposes. Structures, equipment and procurement techniques are analyzed. (2/4) |
| AG033U Grounds Equipment Management | 5 | Provides skills in the development and operation of a maintenance system for grounds and equipment inventories. Bidding, purchasing, recordkeeping and inventory analysis are stressed. Field trips are taken to several area park systems. (4/2) |
| AG034U Commercial Landscape Design | 4 | Teaches skills in designing for industrial and institutional sites, churches, etc., including analysis of landscaping as a business and instruction on specifications, bidding and recordkeeping. Skills in customer interviewing are developed. (2/4) |
| AGO35U Commercial Plant Production | 5 | Teaches production of plants for profit. Material presented includes growing techniques and scheduling, recordkeeping, and cost analysis for nursery and greenhouse businesses. (4/2) |
| AGO36U Fruit and Vegetable Production | 5 | Introduces the student to the production of midwestern fruits and vegetables and also provides much information on cultural practices, recommended varieties, storage, etc. Organic gardening is explored in depth. Demonstration gardens are utilized. (4/2) |
| AGO39U Plant Disease and Insects | 4 | Develops skills in identification and control of insects and diseases common to horticultural plant material. Special emphasis is devoted to symptom analysis. (2/4) |
| AGO41U Agribusiness Travel | 1-3 | Studies livestock, crop and management problems in agriculture in the United States through traveling to points of interest selected by the Agribusiness and Natural Resources Department. Student travel time is from one to two weeks. (1-3/0-6) |
| AGO42U Weed Identification | 2-4 | Includes material on identification, classification and control of mid-western broadleaf and grassy weeds. Students learn to observe many individual plant characteristics as a means of identification. Much emphasis is placed on control. (1-4/0-8) |
| AGO44U Plant Materials I | 5 | Develops skills in the identification and cultural requirements of 100 varieties of deciduous trees and flowering shrubs common to our geographical area. (4/2) |
| AGO45U Plant Materials II | 5 | Studies the identification and cultural requirements of 35 evergreens, 40 deciduous ornamental trees and shrubs, vines and groundcovers. (4/2) |
| AGO46U Plant Materials III | 5 | Studies the identification and cultural requirements of 75 ornamental trees and shrubs including many of the exotics and named varieties. (4/2) |
| AGO47U Herbaceous Plant Material | 4 | Studies the identification of annual and perennial flowers and bulb plants. Cultural requirements are explained for all plants. (2/4) |
| AGO48U Plant Propagation | 4 | Covers methods of multiplication of plants by seed or vegetative cuttings, grafts, buddings. Students develop proper techniques in laboratory exercises. (2/4) |
| AGO50U Horse Enterprise, Fall | 1-6 | Includes grooming, feeding, stabling, exercising and daily husbandry problems occurring in the fall of the year and also working with a colt crop. (0-6/2-12) |
| AGO51U Horse Shows | 1-6 | Identifies and applies necessary requirements to prepare a horse for show and includes instruction in participation of setting up and conducting a horse show. (0-6/2-12) |
| AGO53U Soil Fertility | 4 | Provides a working knowledge of soils and fertilizers. This course prepares a student for making proper amendments to an existing soil as a means of improving its productivity. (1-4/0-8) |
| AGO54U Horsemanship, Fall | 1-6 | Studies horse care before and after riding; initial seat position; elements of the seat; posting trot; aids; turns; leads off the cantor; equitation; and coordination of the aids. (0-6/2-12) |
| AGO57U Turfgrass Management | 4 | Considers the culture of turf with emphasis placed on soil, turf varieties, and weed identification and control. (2/4) |
| AGO59U Special Projects (Natural Resources) | 1, 2, 3, 4, 6 | Offers self-planned project work in individual interest areas. (0-4/1-8) |
| AG061U Ruminant Nutrition | 3-4 | Examines the anatomy and functions of ruminant digestive system along with discussions and demonstrations of feeding requirements and efficiencies of various classes of beef cattle. (1-4/0-4) |
| AG062U Horticulture Equipment | 4 | Studies equipment needed to handle the multiple maintenance problems posed by widely different landscaped areas on campuses, golf courses, woodlands, paved areas, nursery proper, and in the tree service areas. (2/4) |

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| AGO63U Beef Industry | 2-4 | AG114U Crop Production Orientation | 2-4 |
| Relates an overview and introduction to the beef industry and applies methods in starting cattle on feed, husbandry practices in the beef herd, and forage harvesting. (1-4/2-8) | | Determines acreage and location of Kirkwood's fields and test plots, plus estimation of grain and forage yields, and comparison of grain grading and marketing procedures. (1-4/2-8) | |
| AGO64U Beef Feed Lot Management | 2-4 | AG115U Modern Corn Production | 1-4 |
| Relates methods of starting cattle on feed and fall management of weaned calves, including branding, castration, vaccination and dehorning, and appraises feed lot budgeting and fall husbandry practices for the beef cow herd. (1-4/2-8) | | Studies and compares different types of tillage methods, seed varieties, fertilizer programs, diseases and chemical application used in modern corn production. (1-4/0-4) | |
| AGO65U Beef Feeding and Nutrition | 2-6 | AG116U Crop Enterprise, Spring | 1-6 |
| Treats the selection of feed rations for specific classes of beef cattle, based on economics of ingredients and cattle net energy requirements. Students will relate the causes and effects of various feed deficiencies and will use current ration formulation techniques, such as operating a programmable calculator. (1-6/2-12) | | Identifies and compares different tillage methods of establishing forage and oats. In addition, the course looks at seed variety, seed rates and depths of planting, inoculation of seed, and steps in forage improvement and renovation of pastures. (0-6/2-12) | |
| AGO71U Swine Breeding and Genetics | 2-4 | AG131U Modern Crop Production | 2-6 |
| Reviews basic livestock genetics and swine heritability, and identifies swine breeds, breeding programs, swine selection and swine record systems. (1-4/2-8) | | Analyzes Kirkwood crop production records. Students develop a crop marketing plan and evaluate the Kirkwood farm lab machinery inventory and needs. Students also attend several industry-sponsored events, such as the Agriculture Fertilizer and Chemical Dealer's Conference. (1-6/2-12) | |
| AGO72U Swine Records and Management | 2-6 | AG148U Applied Swine Husbandry | 1-6 |
| Identifies records needed in swine production and recordkeeping techniques. Students prepare and assess budgets, income, and expense records and cash flow as they relate to swine production. (2-6/0-12) | | Participation in a self-paced, individualized laboratory activity to develop proficiency in swine competencies. Laboratory competencies developed will be predetermined by the student and instructor. The course may be repeated for credit with the instructor's consent. (0-6/2-12) | |
| AGO73U Swine Evaluation and Selection | 2-6 | AG150U Livestock Nutrition | 2-4 |
| Recognizes swine reproductive characteristics and their importance, and identifies type and confirmation necessary for economic production. Breeding stock selection based on visual appraisal and performance records. (2-4/4-12) | | Provides basic information needed by salesmen, herdsmen and farmers in meeting the feed requirements of livestock. It includes an understanding of biological principles and body processes of animals. (1-4/0-4) | |
| AGO75U Horse Enterprise, Winter | 1-6 | AG152U Land Use and Conservation | 2-4 |
| Includes grooming, feeding, stabling, exercising and daily husbandry problems occurring in the winter quarter. The course also includes some horsemanship. (0-6/2-12) | | Studies conservation practices, such as terraces, contours and rotations in production agriculture. The course also studies soil types and their capacity to produce field crops. (1-4/0-6) | |
| AGO79U Field Crop Planning | 2-6 | AG159U Swine Nutrition and Feeding | 2-6 |
| Develops land planning skills through a simulated project of renting new property. Students use a soil survey, take and assess a soil test, choose a soil fertility program, and propose a partial budget and cash flow for selected crops. They also calibrate a grain drill, planter and sprayer, and lay out the farm lab crop test plots. (1-6/2-12) | | Describes the swine digestive system and nutrient needs of swine. Covers swine ration formulation, feeding techniques and feed manufacturing systems. (1-6/2-12) | |
| AGO81U Dairy Production | 1-12 | AG179U Advanced Livestock Evaluation | 1-6 |
| Includes dairy selection, breeding housing and equipment, nutrition, herd health and husbandry practices. This course is an elective; therefore, the class must be large enough to justify an instructor before offered. (1-6/1-6) | | Further develops students' potential in judging of livestock. Farm laboratory livestock and livestock farms will serve as a means for applying classroom knowledge. Students will also apply knowledge in various field trips to livestock exhibitions to judge and give reasons for their judgment. The course may be repeated for credit with instructor's consent. Prerequisite: Animal Evaluation and Selection. (0-6/2-12) | |
| AGO88U Swine Production | 1-4 | AG200U Animal Health Products | 2-4 |
| Examines the fundamentals of swine production for the pork producer to enable improvement of the breeding, feeding and management of his or her swine enterprise. Includes basic skills and new research ideas that will be beneficial to both the new and experienced pork producer. (1-4/0-4) | | Concentrates on products used to control diseases and parasites in animals. This course deals with product recommendations, basic principles of disease prevention and control, and effect of weather and environment on disease and disease symptoms. (1-4/0-4) | |
| AGO92U Beef Breeding and Reproduction | 2-6 | AG201U Horse Physiology and Hoof Care | 1-6 |
| Covers applied breeding of beef cattle including evaluation of breeding animals and developing breeding programs, and discusses tissue development of beef cattle and appraisal of performance data. (1-6/2-12) | | Discusses and identifies the conformation of the horse, the respiratory, digestive, nervous and circulatory systems, plus skeletal and muscle structure. Also provides instruction on the care and condition of horses' legs and feet. (0-6/2-12) | |
| AGO94U Grain Marketing | 1-3 | AG202U Horse Enterprise, Spring | 1-6 |
| Develops skills and knowledge in marketing grain commodities, with emphasis on pricing and services performed in the marketing system. (1-3/0) | | Includes grooming, feeding, personality, stabling, exercising, facilities and daily husbandry problems occurring in the spring of the year. Also includes show preparation. (0-6/2-12) | |
| AG103U Agricultural Finance | 2-4 | AG203 Horsemanship | 1-6 |
| Identifies credit sources in agriculture—where and how to secure credit, interest rates and repayment capacities for maximum farm income. (1-4/0-4) | | Continues Horsemanship, Fall, with emphasis placed on advance riding styles and techniques. (0-3/2-6) | |
| AG108U Shop Facilities and Equipment | 3 | AG204U Horse Breeding | 1-6 |
| Concentrates on the maintenance of physical plant and grounds of the farm equipment dealership in the areas of general carpentry, plumbing, electrical wiring and electric motors. (1/5) | | Covers the physiology of breeding, brood mare selection and care, and stallion management. Also breeding techniques, including artificial insemination. (0-6/2-12) | |
| AG109U AG Power Unit Operation | 5-6 | AG205U Facility Planning | 1-6 |
| Operating and maintaining various sizes of tractors, skid loaders, and single-unit and multiple-unit pickup trucks. Students may choose among twelve units, each carrying .50 credits. (0/1-12) | | Includes the principles of farmstead planning and arrangement, particularly toward site selection, traffic and predominant selection factors. Emphasis will be placed on distance from water and other services. (1-6/0-6) | |
| AG112U Agribusiness Management | 2-4 | AG206U Greenhouse Practices | 4 |
| Involves participation in advertising and promotion, pricing of merchandise, figuring discounts and taxes, the setting up of an agricultural merchandise display and agribusiness filing systems, and simplifying work in an agriculture business. (1-4/0-4) | | Covers the design and operation of greenhouse structures, heating, cooling and watering systems. Equipment utilized in pesticide applications is also discussed. (2/4) | |

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| AG208U Animal Science Management, Fall | 1-6 | Provides the "whys" of decision-making in farm management, financial, cash flow, budgeting analysis of lab enterprises as well as studies in genetics, nutrition and livestock production. (0-6/2-12) |
| AG210U Horse Training | 1-6 | Provides instructions for obtaining the abilities and skills of training various breeds and types of horses. (0-6/2-12) |
| AG211U Horse Judging | 1-6 | Provides instruction in judging various breeds and qualities of horses. Students will apply instruction by judging in competition and giving reason for their judgment. (0-5/0-8) |
| AG212U Stable Management, Fall | 1-6 | Designed to provide understandings and abilities in the organization, business aspects, and operation of horse stables. Areas of study include records, care and health of horses in the management of stables. (0-6/2-12) |
| AG213U Livestock Marketing | 1-6 | Analyzes livestock marketing procedures including types of markets, prices, marketing costs, grading, consumer demand, marketing regulations, and terminology. (0-6/2-12) |
| AG215U Farm Machinery Management | 1-4 | Studies the economics relating to size, efficiency, maintenance, and use of farm power and machinery. Includes discussion of renting, leasing and/or purchasing equipment. (1-4/0-4) |
| AG216U Stable Management, Winter | 1-6 | Continues Stable Management, Fall, with emphasis on facilities, equipment, records and money management. (0-6/2-12) |
| AG218U Special Projects: Agronomy | 1-6 | Designed as a planned, individual instruction course in which the student and instructor agree upon the project. Upon completion, the project is evaluated by instructor. (0-6/2-12) |
| AG219U Special Projects: Animal Science | 1-6 | Designed as a planned, individual instruction course in which the student and instructor agree upon the project. Upon completion, the project is evaluated by an instructor. (0-6/2-12) |
| AG220U Special Projects: Horse Science | 1-6 | Designed as a self-planned, individual instruction course for student work in the area of horse science under the evaluation of an instructor. (0-6/2-12) |
| AG221U Special Projects: Agribusiness | 1-9 | Designed as a self-planned, individual instruction course for student work in the area of agribusiness. (0-6/0-6) |
| AG222U Special Projects: Horticulture | 1, 3, 4, 6 | Is individualized study courses jointly planned by staff and student in areas of special interest. Research, lab experimentation or demonstration and other learning techniques can be involved. (0/2, 6, 8, 12) |
| AG223U Horse Physiology and Hoof Care | 1-6 | Provides instruction on the care and condition of horses' legs and hoofs. (0-6/0-12) |
| AG225U Animal Science Management, Spring | 1-6 | Provides the basis of decision-making in marketing, budgeting, and selecting breeding stock and breeding stock management. (0-6/2-12) |
| AG227U Stable Management, Spring | 1-6 | Continues Stable Management, Winter, with emphasis on specialized areas of stable management, types of stables, specialized stations, and care and health of breeding stock. (0-6/2-12) |
| AG228U Specialized Horse Training | 1-6 | Provides in-depth instruction in the specialized training of various breeds and types of horses. (0-6/2-12) |
| AG229U Horsemanship, Spring | 1-6 | Continues Horsemanship, Winter, with emphasis placed on advanced riding styles. Basic principles and fundamentals in schooling a horse over preliminary jumps. (0-6/2-12) |
| AG230U Animal Selection & Production Efficiency | 1-4 | Relates the selection of meat animals based on their physical appearance. Students describe the parts of the animal, terminology and reasons for selection. Also reviews livestock production efficiency standards. (1-4/2-4) |
| AG232U Swine Health and Pig Care | 2-4 | Develops a swine herd health program including sanitation and isolation practices. Economically important swine diseases, herd health practices, nutrition, facilities, and labor aspects of swine health are also considered. (2-4/4-8) |
| AG233U Swine Facilities and Equipment | 2-6 | Identifies and evaluates swine production facilities and equipment. Also included is a discussion of basic heating, ventilation and manure-handling systems. (2-6/4-12) |
| AG234U Small Animal Psychology | 1-6 | Studies dog and cat's nervous mechanism, including senses, reflexes and conditioned reflexes, instincts, needs, drives, hormones, and their effect on behavior. The course also studies how small animals learn and how to condition small animals for training. (1-6/0-6) |
| AG235U Small Animal Health | 1-6 | Includes state and federal laws regarding dogs and cats; anatomy and physiology, causes and preventions of common dog and cat diseases; veterinarian relationships; and determination of pulse, respiration, and temperature. (0-6/0-12) |
| AG236U Kennel Management | 1-6 | Small animal observation techniques, nutrition, grooming and conditioning are areas of study. Also covers small animal health terms, and budgeting and records. (0-6/0-12) |
| AG237U Special Projects-Animal Health | 1, 2, 3, 4, 5, 6, 9 | Designed as a self-planned, individual instruction course for student work in the area of animal health. (0/2-18) |
| AG239U Horse Industry Problems | 1-12 | A supervised, independent study course. The student, in consultation with the instructor, designs the horse industry competencies to be learned. Students generally attain these competencies off-campus in various horse industry businesses. Pre-req: Horse Husbandry classes first year. (0/2-36) |
| AG249U Beef and Dairy Cattle Artificial Insemination | 2 | Develops skills of artificial insemination, heat detection and supportive background knowledge for beef and dairy herds, and discusses recommended nutrition, management and genetics. (1/2) |
| AG250U Beef Cow-Calf Management | 1-4 | Participation in calving including proper nutrition, health, husbandry, and solving problems related to calving. Also includes keeping calving records, relating animal identification techniques, and reviewing pasture management. (1-4/2-4) |
| AG251U Modern Soybean Production | 1-4 | Studies and compares different types of tillage methods, seed varieties, fertilizer programs, diseases and chemical application, as well as weed control and new harvest methods used in modern soybean production. (1-4/0-8) |
| AG252U Plant Material Maintenance | 4 | Studies pruning, spraying, fertilizing and related maintenance practices for trees and shrubs. (2/4) |
| AG254U Grounds Management Problems | 4 | Analyzes grounds maintenance needs and teaches the development of management programs for recreational and commercial grounds. The campus laboratory is utilized as a study project. (2/4) |
| AG263U AG Career Orientation | 1-5-2 | Joins all first-year Agribusiness and Natural Resources Department students for the purpose of further understanding their present or pending career choices. Most career information presented is related to Kirkwood Community College. (.5-2/0-2) |
| AG265U Specialized Dog Training | 1-6 | Applies techniques in training dogs for open, utility and hunting classes for judged shows. (0-6/2-12) |
| AG266U Agriculture Leadership | 1-2-3 | Develops skills in using parliamentary procedure, business meeting agendas, techniques of delegation, communications module, organizational structure and listening skills. Determining cooperative activities, organizational funding, committee functions and leading discussion groups (1-2-3/0) |
| AG267U Beef Diseases Seminar | 1-3 | Relates causes and prevention of cattle diseases of economic importance in Iowa, as well as currently important cattle and sheep diseases. Also describes current state and federal health regulations. (1-3/0) |

- AG268U Interior Plants** 1-3
Identifies commonly grown houseplants and their cultural requirements for light, soil and water. The student learns insect and disease problems, and relevant propagation techniques for houseplants. (1-3/0-4)
- AG269U Greenhouse Production** 1-3
Investigates the growing of bedding and potted plants in the greenhouse environment. Economic considerations, space utilization and marketing patterns are analyzed. Production practices receive a heavy emphasis. (1-3/0-4)
- AG271U Swine Diseases Seminar** 1-3
Relates causes and prevention of swine diseases of economic importance in Iowa and swine diseases of current importance. Current state and federal health regulations are also covered. This course is generally taught by a veterinarian. (1-3/0)
- AG272U Horse Breeds** 1-4
Reviews horse breeds and their uses. Relates brood mare selection, stallion management and breeding techniques. (1-4/0-4)
- AG274U Horticulture Pesticide Application** 1-3
Utilizes herbicides, insecticides and fungicides to prevent and/or correct problems associated with plant material growth. Information applicable to state certification is emphasized. (1-3/0-2)
- AG276U Residential Planting Design** 1-3
Utilizes native and ornamental trees and shrubs in landscape planting. Students will practice basic drawing and design principles in preparation of design projects. (1-3/0-4)
- AG277U Native Trees and Shrubs** 1-4
Focuses on identifying and learning the cultural requirements of plant material considered native to Iowa. Students will analyze trees and shrubs in their natural environment. (1-4/0)
- AG278U Ornamental Trees and Shrubs** 1-3
Focuses on identifying and learning the cultural needs of woody plant material commonly used in landscape plantings. Emphasis is placed on plant materials not considered native to Iowa. (1-3/0)
- AG279U Rural Facilities Maintenance** 1-3
Compares principles and economics of farm and farm supply building construction. Emphasis on planning and maintenance. (1-4/0)
- AG280U Horse Diseases Seminar** 1-2
Relates causes and prevention of horse diseases of economic importance in Iowa and horse diseases of current importance. Current state and federal health regulations are described. This course is generally taught by a veterinarian. (1-2/0)
- AG281U Orientation to Production Agriculture** 1-12
Relates basic information on agriculture. Identifies agricultural terminology, seasonal happenings on the farm, and farmer characteristics. Describes basic approved practices in crop and livestock production. Discusses/practices farm machinery and maintenance. Reviews farm costs and returns. The farm laboratory will be used for class activities such as judging livestock, checking corn yield, and computing costs and returns. Designed for the student with little or no farm background. (1-12/2-12)
- AG282U Ag Service Center Operations** 1-12
Affords students an opportunity to work at their individual pace in the Kirkwood Ag Service Center, a supply-type store run within the Agribusiness and Natural Resources Department. Students may take the appropriate number of credits to meet their personal career needs. Students will spend 24 hours per credit hour taken working in the store. (1-12/2-24)
- AG284U Crop Harvesting and Drying** 2-4
Prepares students to operate the Kirkwood graindrying system. Students will also describe corndrying systems and determine grain shrink, assess harvest losses, corn and soybean yields, and adjust crops to moisture percent. (1-4/2-8)
- AG285U Introductory Crop Production** 1-6
Allows students to select basic crop production competencies and become proficient by working in the crop laboratory with staff supervision. Students and staff cooperatively select the competencies, which are self-paced. Designed for the student with a limited background in crop production. (1-5/2-12)
- AG286U Introductory Swine Production** 1-6
Allows students to select basic swine production competencies and become proficient by working in the swine laboratory with staff supervision. Students and staff cooperatively select the competencies, which are self-paced. Designed for the student with a limited background in swine production. (1-5/2-12)
- AG287U Applied Beef Husbandry** 1-6
Participation in a self-paced, individualized laboratory activity to develop proficiency in beef competencies. Laboratory competencies developed shall be predetermined by the student and instructor. The course may be repeated for credit with the instructor's consent. (0-6/2-12)
- AG288U Introductory Beef Production** 1-6
Allows students to select basic beef production competencies and become proficient by working in the beef laboratory with instructor supervision. Competencies developed are jointly planned by staff and student. Designed for the student with a limited background in beef production. (1-6/2-12)
- AG289U Horse Project** 2-6
An individualized study course jointly planned by staff and student. The student physically works with a horse, generally in the area of basic horse training and horsemanship. (1-3/2-12)
- AG290U Orientation to Horse Production** 1-12
Relates basic information on horse production and identifies basic horse terminology and horse industry happenings. The course also describes basic approved practices in horse nutrition, health, stable operations, breeds and selection, and is designed for the student with little or no experience with horses. (1-12/2-12)
- AG291U Agricultural Education Placement** 1-4
Assists students in planning their total course selection in the Agribusiness and Natural Resources Department. Assesses the student's past education and work experience, technical agriculture competence, and general education abilities. (1-4/2-4)
- AG292U Agricultural Energy Management** 3
Identifies different alternatives of agricultural energy for production agriculture consumption, including alcohol fuels, methane digestions and animal wastes, solar applications, and partial geo-thermal sources. Participants should gain a thorough understanding of the economics relative to each source of energy, and the theory of how those economics can be substituted into the agricultural business. (2-3/0-2)
- AG293U Orientation to the Animal Health Industry** 2-5
A supervised independent study course. The student, in consultation with the instructor, designs the animal health competencies to be learned. Students generally attain these competencies off-campus in various businesses that emphasize animal health. (2/2)
- AG294U Laboratory Techniques - Animal Health** 2-4
Practices common livestock laboratory procedures. Some examples are: identify worms and worm eggs in animal feces using a microscope; examine blood microscopically to identify blood parasites; collect a blood sample and perform blood cell counts; and prepare aerobic and anaerobic bacteria cultures. (1-4/4-8)
- AG012V Plant Identification and Care I** 2
Teaches identification and cultural requirements of flowering plants commonly sold for Christmas and winter, plus the identification and cultural requirements of green plants, all sold in the retail florist business. (2/0)
- AG013V Plant Identification and Care II** 2
Teaches identification and cultural requirements of flowering and bedding plants commonly sold for spring and summer in the retail flower shop, plus a continuation of the identification and cultural requirements of green plants. (4/0)
- AG014V Plant Growth** 3
Studies the environmental factors of light, light intensity, temperature, moisture and aeration needed to produce bud setting and optimum growth. Explores the practical use of sexual and vegetative propagation, and also studies bulb and root growth, sterilization, growth chemicals, and bedding plants and their sales in the retail business. (4/2)

AM: ADMINISTRATION AND MANAGEMENT

COLLEGE TRANSFER COURSES

- AM002T Principles of Finance** 3
Includes basic methods and principles concerning such topics as financing, working capital and fixed capital needs, stocks and bonds, the marketing of securities and the operation of financial institutions. (3/0) Recommended: Principles of Accounting III.
- ✓ **AM003T Business Internship** 1-12
Provides an opportunity to receive practical experience through on-the-job training in an approved business establishment. Valuable learning experiences are structured by the program coordinator and the training sponsor. (0/3-36)
- AM005T Principles of Management** 4
Covers basic concepts, behavior, practices and principles applied to the functions of planning, organizing and controlling the business enterprise. The course will include readings of leading management theorists. Prereq: Sophomore standing. (4/0)
- ✓ **AM032T Introduction to Business** 4
Surveys American business and the environment in which it operates; a study of the economic, social, and political influences, and business organization functions and responsibilities. (4/0)
- AM081T Personal Finance** 3
Approaches the financial problems of families. Explores decision making relative to acquiring and allocating income. Focuses on management of consumer credit, savings and investment, insurance, home ownership and estate planning. (3/0)
- AM083T Elements of Farm Management** 3-4
Applies farm accounts, economic principles and budgeting to the organization and management of a farm business including risk and uncertainty, precautions and adjustments, size of business, capital acquisition and control, as well as crop, livestock, machinery and labor management considerations. (3-4/0)
- AM087T Credit Administration** 3
This course, directed toward the executive level, concerns itself with factors influencing and determining loan policy. It is not a "how" and "whether to" guide to granting credit, but a discussion of methods of credit investigation and analysis, credit techniques, specific credit problems, and regular as well as unusual types of loans. (3/0)
- ***AM088T International Banking** 3
International Banking is an overview introduction to a vast field for those working in international departments as well as for those involved in the domestic activities of their banks. The essential objective of the course is to present the basic framework and fundamentals of international banking: how money is transferred from one country to another, how trade is financed, and other topics. (3/0)
- AM089T Negotiations** 3
Describes techniques of negotiation, organization and operation of the procurement team, and the preparation and conduct of negotiations of contracts and contract modifications by the team concept. Mock negotiations are conducted by the class using case studies. (3/0)
- AM090T Cost and Price Analysis** 3
Covers basic concepts in the analysis of contract pricing for initial awards, changes and terminations by cost and price analysis techniques; cost estimating; pricing arrangements by contract type; analysis of direct and indirect costs; mathematical, statistical, and other quantitative analysis pricing techniques weighted guidelines and return on investment profit objectives; cost principles and accounting standards; and preparation for negotiation. (3/0)

VOCATIONAL-TECHNICAL COURSES

- ✓ **AM001U Merchandise Analysis and Control** 3
Deals with techniques and procedures of determining profits, pricing of goods, inventories and merchandise control. Some of the problems faced by merchandisers are presented, analyzed and solved. Prereq: Basic Mathematics. (3/0)
- AM003U Business Practices** 2-3
Includes basic bookkeeping, purchasing, inventory records, employee-employer relations, advertising and customer relations. (2-3/0)
- AM004U Agriculture Foremanship** 2-4
Designed to provide students with the opportunity to study and apply skills of supervision and personnel management in agribusiness. Projects will be developed according to the student's enterprise. Management techniques will be stressed. (1-4/0-4)

- AM005U Checkout Management** 3
Teaches proper cash register operation and checkout procedures for the modern supermarket. Emphasis is placed on checker training, supervision, and control of the checkout function. (3/0)
- AM006U Credit Procedures** 3
Presents economic and sociological aspects of credit from a managerial viewpoint, the nature of credit, credit instruments, the role of credit in our economy, management of the credit and collection function. (3/0)
- AM012U Food Store Management** 5
Offers a comprehensive study of problem areas encountered in food marketing management. Policies and procedures in retail and wholesale food distribution are considered, and decision making or problem solving is explored through the use of case problems situations. (5/0)
- AM019U Office Administration** 4
Examines in detail the following aspects of office management: the impact of automation; organizing and planning office work; controlling people, forms, and machines that do the work; and creating proper human relations. (4/0)
- AM020U Retail Management** 4
Studies managerial principles as they apply to retailing and analyzes the functions of planning, organizing and controlling in relationship to managerial policy and human relations. Decision-making skills are developed. (4/0) Prereq: Sophomore standing.
- ✓ **AM022U Principles of Supervision** 3
Covers the development of supervision as a managerial directing function. Necessary skills and personal traits are explored. The proper motivation and cooperation attitudes, as they pertain to both individual and groups, are discussed. How company goals are best achieved by coordinating the requirements and needs of employees and management also is examined. (3/0)
- AM023U Management and Medical Ethics** 3
Provides an introduction to supervisory techniques, interviewing for jobs, budgeting, services, methods for making change, job descriptions, defining roles and organization. Includes ethical practices, relationship between ethics and law, legal processes, malpractice, PSRO's and liability. (3/0)
- AM025U Agribusiness Practices** 3-4
Distinguishes job requirements, business organization, personnel policy and product knowledge techniques in the agriculture supply industry. Insurance also is covered. Field trips are a large part of this course. (2-4/0-4)
- AM029U Wage and Salary Administration** 3
Designed to provide a rational approach to the various elements of a compensation program: job description, job evaluations, salary surveys and administration policies. (2/0)
- AM030U Sales Management** 2
Includes a discussion of sales organizations, policies for sales, merchandising and distribution, layout of territories, and selection and training of a sales force. (2/0)
- AM031U Management Information Systems** 3
Covers nature of systems, parameters for the business system, measurement problems, information theory, models for management, decision making and control of systems, and the utilization of the computer in all of these areas. (2/0) Prereq: DP010U or DP006T
- AM032U Introduction to Quality Control** 2 or 3
Introduces the techniques and principles of statistical quality control within industry. Various techniques of sampling will be utilized. Charting and graphing for observer results will be accomplished (2/0-2)
- AM033U Dental Office Management I** 3
Provides instruction for the student relative to dental business office management, traffic flow in office design, appointment control, office policies, job interviews, ethical conduct and proper terminology used in office procedures. (3/0)
- AM034U Dental Office Management II** 3
Provides instruction for the student relative to dental business office management, handling mail, supplies, invoices, filing and storage, case management, financial arrangements and taxes. (3/0)
- AM035U Industrial Engineering** 2
Considers management uses of industrial engineering techniques to plan, control and evaluate manufacturing projects. Also covers appropriation control, scheduling networks and economic lot sizes. (2/0)
- AM036U Traffic and Transportation Management I** 3
Examines the history of transportation. Provides an introduction to classification of freight and the principles of freight rates and tariffs. (3/0)

- AM037U Traffic Transportation Management II** 3
Covers shipping documents and their applications, freight claims, tariff circulars, construction and filing of tariffs. Also introduces freight rates and tariffs in practical application. (3/0)
- AM038U Traffic Transportation Management III** 3
Continues study in freight rates and tariffs, terminal facilities and switching, demurrage, reconsignment, stop-off, transit, routing, warehousing and distribution, materials handling and packaging. (3/0)
- AM039U Traffic Transportation Management IV** 3
Covers rates, import-export rates and procedures, further in-depth study of rates and routes, milling-in-transit, loss and damage, overcharges and undercharges. (3/0)
- AM040U Traffic Transportation Management V** 3
Reviews classification and rate committee procedures, tariff and rate interpretations, and provides an introduction to the Interstate Commerce Act. (3/0)
- AM041U Traffic Transportation Management VI** 3
Studies the Interstate Commerce Act and other acts pertaining to transportation, plus the rules of practice before the Interstate Commerce Commission. (3/0)
- AM042U Management Tools for Decision Making** 2
Designed as a discussion of management decision-making tools. Topics will include such areas as use of breakeven analysis, statistics, PERT and others. (2/0)
- AM044U Work Simplification** 2
Designed for everyone in business, industry and education interested in the philosophy of work simplification. (2/0)
- AM047U Human Resources Management** 4
Includes managerial philosophy of personnel administration, emphasizing study of the personnel techniques of recruiting, interviewing, selecting, placement, training and evaluating. (4/0)
- AM048U General Inventory and Production Control** 3
Designed to present the basic concepts and techniques of production planning and inventory control. The course stresses the influence that all usual departments within an industrial organization have upon the production planning and control function. (3/0)
- AM049U Labor and Management Relations** 2
Designed to expose participants to an objective view of how labor "feels" and how management and labor "view" each other within total institutional objectives. (2/0)
- AM050U Management By Objectives** 2
Concentrates on developmental perspectives as a managerial philosophy, with emphasis on MBO's expanding use and popularity. Included are the "how to" aspects of developing a MBO philosophy through dynamic participation in classroom exercises. (2/0)
- AM051U Industrial Safety** 2
Designed to familiarize management personnel with the rules and regulations of the Williams-Stuger Occupational Safety and Health Act. This course is an introduction to OSHA with a review of general implications of the law. It does not emphasize industrial or construction standards specifically. (2/0)
- AM052U Dining Room Management I** 5
Provides experiences in mid-management supervisory skills. Emphasizes development and implementation of production schedules, employee training, menu planning, ordering of supplies, production assignments and meal costing. (1/8)
- AM053U Dining Room Management II** 5
Continues experiences in mid-management supervision skills. Emphasizes meal service, types of table service, waiter/waitress training, order taking, customer relations and guest checks. Students compute daily "sales and income" and, in cooperation with the kitchen production report, determine profit/loss. (1/8)
- AM054U Public Administration Management** 3
Designed to give the student a basic understanding of principles and concepts underlying the generic field of public administration in federal, state and local government; line-staff, plan of control responsibility, accountability. (3/0)
- AM055U Current Topics in Management** 1-2
Designed for discussion and review of contemporary issues in the changing field of management. Course may be repeated for a maximum of four credit hours. A short-term course. (1-2/0)
- AM057U Transactional Analysis for Managers/Supervisors** 2
A course in practical transactional analysis for managers and supervisors. Emphasis is on the development of skills to facilitate working with people and getting them to work together with greater effectiveness in a variety of organizational settings. (2/0)
- AM058U Effective Work Behavior** 2
Raises the level of personal efficiency in a work environment by reviewing the personal, social and institutional relationships that exist. The skills and information presented are primarily for the benefit of the individual, and secondarily for the benefit of the employer. (2/0)
- AM059U Parts Room Management** 1-8
Practices purchasing, invoicing, transporting, billing, inventorying, storing, displaying and advertising as they relate to an Ag Supply Parts Department, as well as records and record-keeping systems and sales. (1-8/0-16)
- AM060U Human Behavior in Organizations** 3
Explores problems of human behavior in organizations by studying the work of human behavior scientists and other managerial experts, and relating this knowledge to actual practice today. This information, supplemented by films, cassettes and case studies, will permit the student to formulate his/her own philosophy about people and how to manage them. (3/0)
- AM061U Introduction to Management** 2
Explains the evolutionary development of management styles and philosophies. Studies will be made of the various authors of influential management techniques. Also included will be an examination of societal attitudes and their effect on the management process. (2/0)
- AM062U Management Communications** 3
Based on a unified communications concept and built around the technical principles common to oral, written and visual communications. Includes aspects of listening, interviewing, writing, reading, speaking and briefing techniques. (3/0)
- AM063U Techniques of Supervision** 2
Emphasizes the managerial directing function. Necessary supervisory qualities are examined, along with duties and responsibilities. Emphasis is on maximization of worker potential and application to achievement of individual and organizational goals. (2/0)
- AM064U Interstate Commerce Law and Practice I** 3
Prepares the student for the Interstate Commerce Commission's examination to practice, or the Number 4 examination of the American Society of Traffic and Transportation in: a) basic concepts, b) structure of the act, c) operating authority, and d) exemptions. (3/0)
- AM065U Property Management** 3
Examines a highly specialized but rapidly growing sector of the real estate profession. The course provides an overview of the field, and deals with specific practices and problems in management of various properties. Designed for those who want a comprehensive introduction to the challenging field of property management and who wish to gain new, practical information. (3/0)
- AM067U Organizational Behavior** 3
Examines groups in relation to organizational effectiveness. Focuses on factors that improve work group functioning. (3/0)
- AM068U Interstate Commerce Law and Practice II** 3
Prepares the student for the Interstate Commerce Commission's examination to practice, or the Number 4 examination of the American Society of Traffic and Transportation in: a) causes of action, b) civil liability, c) statute of limitations, d) the I.C.C., e) statutory provisions, f) economics, and g) tariff interpretations. (3/0) Prereq: AM064U Interstate Commerce Law & Practice I.
- AM069U Interstate Commerce Law and Practice III** 3
Prepares the student for the Interstate Commerce Commission's examination to practice, or the Number 4 examination of the American Society of Traffic and Transportation in: a) leading cases, b) rules of evidence, c) code of ethics, d) rules of practice, e) drafting the complaint, and f) judicial review. (3/0) Prereq: Interstate Commerce Law II.
- AM005V Retail Flower Shop Operation I** 5
Introduces the florist business and efficient shop layout. Studies expediting floral orders, purchasing and pricing, and selling floral products, including use of a cash register. (5/0)

- AM006V Retail Flower Shop Operation II** 3
Studies the floral business: etiquette and sales of all types of floral products (except wedding flowers), credit and collections, and floral terminology. 7 weeks. Prereq: AM005V (5/0)
- AM007V Retail Flower Shop Operation III** 3
Studies the floral business, holiday sales, diversification, floral shop sales, finding and holding a job, and floriculture terminology. 7 weeks. Prereq: AM006V (5/0)
- AM008V Retail Flower Shop Operation IV** 4
Studies the floral business: etiquette and sales of wedding flowers, business records and cost analysis, shop management and policies. Prerequisite: AM007V (4/0)

AT: ART

COLLEGE TRANSFER COURSES

- AT001T Art Appreciation** 4
Provides an overview of art from a historical, contemporary and aesthetic frame of reference. Recommended for non-art majors. (3/2)
- AT002T Art History: Pre-fifteenth Century** 3
Studies architecture, sculpture and painting from pre-history to Rome. (3/0)
- AT003T Art History: Fifteenth Century to Nineteenth Century** 3
Studies architecture, sculpture and painting from the medieval period through the eighteenth century. (3/0)
- AT004T Art History: Twentieth Century** 3
Studies architecture, sculpture and painting in the nineteenth and twentieth centuries. (3/0)
- AT005T Fundamentals of Ceramics I** 2
Introduces high-fire, hard-built and wheel-thrown pottery, and fundamental glaze and clay experimentation. (0/4)
- AT006T Fundamentals of Ceramics II** 2
Continues Ceramics I. (0/4) Prereq: AT005T or permission of instructor.
- AT007T Fundamentals of Ceramics III** 2
Continues Ceramics I and II with emphasis on form, throwing, and advanced glaze techniques. (0/4) Prereq: AT006T or permission of instructor.
- AT008T Fundamentals of Design I** 2
Introduces basic design concepts utilizing contemporary concepts of the visual experience. (0/4)
- AT009T Fundamentals of Design II** 2
Continues Design I. Explores problems of design form and structure. (0/4) Prerequisite: AT008T or permission of instructor.
- AT010T Fundamentals of Design III** 2
Continues Design I and II with emphasis on the third dimension, motion and space. (0/4) Prerequisite: AT009T or permission of instructor.
- AT011T Fundamentals of Drawing I** 2
Practices basic elements of perspective drawing, analytical drawing and figure drawing. (0/4)
- AT012T Fundamentals of Drawing II** 2
Continues Drawing I. Analysis of subject matter and accurate descriptive visual drawing. (0/4) Prereq: AT011T or permission of instructor.
- AT013T Fundamentals of Drawing III** 2
Emphasis is placed on the figure, using the various media of drawing. (0/4) Prereq: AT012T or permission of instructor.
- AT014T Fundamentals of Lettering** 2
Studies basic letter forms and the use of reed pens, problems in page design, and manuscript writing. (0/4)
- AT015T Fundamentals of Painting I** 2
Introduces oil painting. (0/4)
- AT016T Fundamentals of Painting II** 2
Continues Painting I. Includes oil and various water color methods. (0/4) Prereq: AT015T or permission of instructor
- AT017T Fundamentals of Painting III** 2
Continues Painting I and II with emphasis on composition and color. (0/4) Prereq: AT016T or permission of instructor
- AT018T Creative Photography I** 2
Studies photography as an art form, including the theory of photography with an introduction to contemporary photography methods. The student must provide his or her own camera. (0/4)
- *AT019T Intermediate Photography** 3
Continues development of skills in black and white picture-making techniques, as well as the development of a visual vocabulary necessary in understanding the aesthetics of black and white photography. (2/2)
- AT020T Creative Photography III** 2
Continues Creative Photography II. (0/4)
- AT021T Fundamentals of Printmaking I** 2
Introduces wood cut, engraving, dry point and silk screen techniques in contemporary and traditional methods of art reproduction. (0/4)
- AT022T Fundamentals of Printmaking II** 2
Introduces basic methods of intaglio printing and etching. (0/4) Prereq: AT021T or permission of instructor.
- AT023T Fundamentals of Printmaking III** 2
Continues Fundamentals of Prints and Composition I and II, with emphasis on advanced composition and technical methods. (0/4) Prereq: AT022T.
- AT024T Fundamentals of Sculpture I** 2
Introduces carving, modeling and casting. (0/4)
- AT025T Fundamentals of Sculpture II** 2
Continues Sculpture I, with emphasis on welding and combining media in the sculpture area. Explores form and color as they relate to sculpture. (0/4) Prereq: AT024T or permission of instructor.
- AT026T Fundamentals of Sculpture III** 2
Emphasizes advanced techniques and form with a concern for applying construction methods in a major sculpture project. (0/4) Prereq: AT025T.
- *AT032T Art America (TV Course)** 2-4
Emphasizes key concepts in the development of a fine arts tradition in America. Traces the history of American fine art from colonial times to the present, with a focus on painting, sculpture, architecture and photography.
- *AT034T Humanities through the Arts** 4
Approaches humanities through a study of seven major arts: film, drama, music, literature, painting, sculpture and architecture. (4/0)
- AT035T Independent Study in Ceramics** 1-8
Students work under instructor supervision to develop advanced skills in ceramics. Prerequisite: Fund. of Ceramics I AT005T. (0/2-0/10)
- *AT036T Color Photography** 3
Develops the skills required in processing and printing color photographs and examines the aesthetics unique to the color photograph. (2/2)

VOCATIONAL-TECHNICAL COURSES

- AT001U Fashion Art** 3
Develops sketching skill for quick illustrative purposes through a study of body proportion, design presentation, rendering techniques, motion studies and principles of illustration. Student assignments include independent projects, development of fashion training aids, newspaper illustrations and seminar presentations. (3/0)
- AT002U Decorative Accessories** 2
An analysis of the selling points, and use and coordination of accessories in the home. Knowledge is developed in artwork, flowers, table arrangements, porcelain and ceramics, and lighting and lighting theory. (2/0)
- AT003U Survey of Interiors I** 3
Surveys the development of architecture, ornament, decorative arts, interiors and furniture styles from prehistoric times to the 1800's. Projects require students to create their interpretations of a traditional interior through use of furniture, accessory selection, and a color materials board. (3/0)
- AT004U Fashion Analysis and Coordination** 2
Studies the elements of art and visual perception for application of design to merchandising, and the aesthetic application of selection and coordination of clothing and accessories. (2/0)
- AT006U Survey of Interiors II** 2
Continues Survey I to provide a study of the period from 1800 through the twentieth century. (2/0) Prereq: Survey of Interiors I.

- AT007U Design Relationships** 2
Covers the basic fundamentals of interior design. A study of the principles and elements of design and visual perception, and their relationship and application to home furnishings. (2/0)
- AT008U Color in Interiors** 2
A study of the principles and psychology of color and their application to designing environments. Includes a study of the characteristics of paints and pigments for residential decorating. Also includes lab projects in color planning, coordination and execution, oriented to sales and customer decorating services. (2/0) Prereq: AT003U, AT006U, AT004U.
- AT009U Interior Plant Design** 1-3
A course in developing plant material designs for small containers such as terrariums and dish gardens, as well as major installations in atriums and other indoor gardens. (1-3/0-2)
- AT001V Floral Designing I** 5
Introduces basic floral design principles and rules. Studies geometric design of bouquets, corsages, Christmas arrangements, memorial flowers and potted plants. Studies the care of cut flowers and foliage, use of tools and supplies, identification of flowers and foliage, and pricing and expediting of a floral gift. (1/9)
- AT002V Floral Designing II** 2
Studies floral designing and geometric forms including cut flowers, corsages, funeral and memorial flowers, plastic arrangements, potted plant decoration, cost pricing and expediting of floral gifts. Prereq: Floral Designing I. (7 weeks) (0/7.5)
- AT003V Floral Designing III** 2
Studies floral designing of geometric forms including cut flowers, funeral and memorial flowers, and basic wedding design. Prereq: Floral Designing II. (7 weeks) (0/7.5)
- AT004V Floral Designing IV** 1.25
Studies geometric forms of wedding designs using dried grasses, silk, foliage and cut flowers, including cut flower and corsage designing. Identification of flowers and foliage in season. (0/6) Prereq: AT003V.
- AT008V Floral Design Special Projects** 1
Studies the planning, pricing and designing of special design projects. (0/5) Prereq: AT003V.

BY: BIOLOGICAL SCIENCE

COLLEGE TRANSFER COURSES

- BY019T General Botany I** 4
Studies the general anatomy and physiological processes of plants. Initial studies are of plant cells, followed by a study of the vegetative organs and finally, the reproductive organs. Such physiological processes as photosynthesis, transpiration, absorption, conduction, respiration, pollination, and fertilization accompany the anatomical studies. Prereq: BY030T. (3/2)
- BY020T General Botany II** 4
Continues the work started in General Botany I. A survey of the plant kingdom from bacteria through the seed-bearing plants. General principles of plant taxonomy and ecology are emphasized throughout the course. (3/2)
- BY030T Principles of Biology** 4
Stresses the organization of plant and animal life at the molecular and cellular level: microscopic techniques, origin of life, cellular structure and function, plant and animal development, and genetics. (3/3)
- BY031T Biology of Organisms** 4
Emphasizes animal structure and function. Covers dissection of two representative vertebrates (the frog and fetal pig). Includes a study of the osmoregulatory, transport, digestive, skeletal, muscular, nervous, endocrine and reproductive systems, as well as the evolutionary significance of each. Prereq: BY030T or departmental approval. (3/3)
- BY032T Environmental Biology** 4
Emphasizes living systems and their environmental interactions. Includes a study of basic ecological concepts, energy, nutrient and mineral cycling, animal behavior, and population and community ecology. Includes several field trips to terrestrial and aquatic habitats and a specialized applied ecological project. Prereq: BY030T or one quarter of Man and the Environment and departmental approval. (3/3)
- BY033T Independent Study in Biology** 1
Provides readings, papers and/or basic research or other projects under the in-

dividual guidance of a staff member. Prereq: Consent of instructor and department chairman is required before registering. (Hours arranged.)

- BY034T Invertebrate Zoology I** 4
Surveys the classification, diversity, morphology, physiology, development, behavior, ecology and evolutionary relationships of the major invertebrate phyla. Emphasis will be on living forms, both freshwater and marine. Field work will stress adaptations and ecological relationships. Prereq: BY030T, (BY031T may be taken concurrently) or consent of instructor. (3/2)
- BY035T Invertebrate Zoology II** 4
A continuation of Invertebrate Zoology I. Groups covered will include the mollusks, annelida, arthropoda, echinodermata, in addition to numerous minor phyla. Laboratory work will stress both morphology and physiology, in addition to ecological distribution. Prereq: BY034T (3/2)
- BY036T Vertebrate Zoology I** 4
Introduces the principles of vertebrate zoology, emphasizing such topics as vertebrate morphology; taxonomy and systematics; evolution, phylogenetic relationships and diversity. Fishes, amphibians and reptiles are covered. Laboratory work supplements the lectures. Prereq: BY030T, (BY031T may be taken concurrently) or consent of instructor. (3/2)
- BY037T Vertebrate Zoology II** 4
A continuation of Vertebrate Zoology I with emphasis on birds and mammals. Ecological relationships and population dynamics also are stressed. Field trips, as well as in-lab experiences, supplement the material in this course. Prereq: BY036T (3/2)
- BY039T Human Anatomy and Physiology I** 4
Designed primarily for the medically-oriented student in health occupations and prospective majors in pharmacy, medical technology, baccalaureate degree nursing, zoology and other natural science fields. Integrates the study of mammalian anatomy and physiology with emphasis on structure and function of the human body. Gross and microscopic aspects of the interdependency of the functional body systems are stressed. Includes the study of the body as a whole, its organization and appearance of the cells and tissues as basic structural-physiological units. Emphasis will begin with a study of basic body structure, in addition to a concentrated study of body fluids, blood, R-E systems, and the endocrine system with applications to homeostasis. Lab work is based on current topics of study. (3/3)
- BY040T Human Anatomy and Physiology II** 4
Further studies of the structure and function of systems such as nervous, skeletal, muscular and cardiovascular are continued. Laboratories are designed to show basic phenomena such, as cardiology, muscle response and acid-base balance as well as dissection to integrate overall structure. Prereq: BY039T (3/3)
- BY041T Human Anatomy and Physiology III** 4
Studies of the structure and function of systems such as respiratory, digestive, excretory and reproductive are continued. Laboratory work is based on current topics of study with emphasis on homeostasis. Lectures and laboratories are designed to complement each other. Prereq: BY040T (3/3)
- BY042T Microbiology I** 4
Emphasizes pathogenic bacteria and viruses: their morphology, cultural characteristics and pathogenicity along with epidemiology, transmission, diagnostic test and an introduction to immunology. Laboratory emphasis on culturing, identification, staining, sterilization, disinfection and asepsis. (3/3)
- BY043T Microbiology II** 3
Continues Microbiology I with continued emphasis on immunology, diagnostic test, viruses and viral diseases and with studies in the rickettsia and fungi. Prereq: BY042T or instructor permission. (2/4)
- BY047T Introductory Genetics** 4
Introduces the mechanisms of inheritance, the molecular basis of inheritance, and the concepts of mutation and potential change. The lecture approach will present material from the classical (historical) position. Provides an introduction in the laboratory to genetic procedures, sample and problem matings, and other investigative techniques considered of major importance in such a course. (3/2)
- BY048T Introducing Biology (TV Course)** 3
Covers a wide range of topics from atoms and molecules through human ecology. Examples of some of the topics covered include the cell, plant nutrition, animal behavior, basic genetics and evolutionary theory. The course will be presented in 36 half-hour segments. (3)
- BY049T Fundamentals of Human Reproduction** 2
Basic concepts of human reproductive systems, fertilization and development are presented, along with physiological changes within the mother and fetus during pregnancy, labor and delivery. (3/0)

BY050T Natural Resource Conservation 4
Designed to explore problems in natural resource management, the concepts that underlie these problems and alternative solutions to these problems. In addition to basic ecological concepts, specific areas of focus include: the depletion, restoration, and maintenance of soils, water (irrigation, flood control, erosion, etc.), energy relationships, chemical pollution, politics and legislation relating to conservation, and others. (4/0)

VOCATIONAL-TECHNICAL COURSES

BY001U Dental Anatomy II, (DLT) 2
Continues the study of dental anatomy through waxing techniques in restoring individual characteristics of each tooth in the permanent dentition as it relates to prosthetic dentistry. (1/2)

BY002U Dental Anatomy I, (DLT) 3
Introduces terminology, identification, description and individual characteristics of the teeth and surrounding structures found in human dentition. Includes the drawing of various views of individual teeth, and the formation of required surfaces in wax on stone casts. (2/2)

BY003U Oral Anatomy 2
Specifies the anatomical and physiological features, structures and function of the human head that must be considered in the fabrication of dental prosthesis. (2/0)

BY006U Basic Anatomy and Physiology 4
Designed and required for students enrolled only in the following health occupation careers: Nursing Education, Orthopaedic Physicians Assistant, Medical Assistant, Medical Secretary, and Occupational Therapy Assistant. A systems approach to human structure and function is covered in one quarter. (3/2)

BY009U Homeostatic Physiology 3
Designed specifically for associate degree nursing students. Major emphasis is on integrating mechanisms of the nervous, muscular, endocrine, cardiovascular, respiratory, digestive and excretory systems used in maintaining homeostasis and their deviations in pathophysiology. Lectures, discussions and demonstrations are used in the course. Prereq: BY006U or equivalent. (4/0)

BY011U Functional Anatomy 4
Designed only for Occupational Therapy and Orthopaedic Physicians Assistant students for a detailed presentation of applications of functional neurology, skeletal and muscular structure and function, and regional functional anatomy of the limbs and back. Course will include lectures, group study, seminars and discussions. Prereq: BY006U or equivalent. (4/0)

BY013U Respiratory Physiology 4
A detailed study of human cardiovascular and respiratory functions for respiratory therapy students. The makeup, functions, control and interdependency of the two systems in other organ systems is stressed. Concepts are applied to clinical situations. Prereq: BY006U (4/0)

BY109U Oral Microbiology 2.5
Designed to provide the student with the basic principles of dental office asepsis, and of the biological hazards of an infectious and noninfectious nature that occur in the dental office. Includes the morphology and physiology of bacteria and viruses, selected microbial diseases and their transmission and prevention, the biological hazards of mercury, splatter and aerosols, the special patient (the heart patient and patients with infectious disease), principles of sterilization and disinfection, and general office asepsis with emphasis on the prevention of cross contamination. (2/1)

BY110U Dental Anatomy 3
Examines the structure, function and form of the teeth, individual teeth and their supportive structures. (3/0)

BY111U Head and Neck Anatomy 3
Examines general plan of the body as an integrated whole. Emphasis is on the structure and function of the head and neck. (3/0)

BY112U Introduction to Pathology 4
Covers basic concepts and terminology associated with major cellular, metabolic, genetic and general systemic disorders, and specific disorders associated with human body systems. The course is specifically designed for students enrolled in the Medical Record Technology program. Prereq: BY006U and BY009U (4/0)

BY113U Aquatic Wildlife 2
Studies the identification of fish, turtles, snakes and other fresh-water species. Emphasis is placed on environmental needs and concerns. (2/0)

BY114U Avian Wildlife 4
Includes comprehensive training in identification of nesting and game birds indigenous to the upper-midwest. Habitat analysis and conservation programs receive major emphasis. (4/0)

BY115U Mammalian Wildlife 4
Includes comprehensive training in identification of Upper-Midwest mammals. Emphasis is placed on actual habitat analysis, development of conservation programs for individual species and related field experience. (4/0)

BY004V Basics of Plant Growth 3
Introduces the parts of plants, their functions and how they work together to perform the basic process of growth. Explores the technique of plant propagation by sexual methods, including cutting, grafting and budding. Introduces soils, physical properties and the effect these have on fertility. (3/0)

BY009V Diagnosing Plant Disorders 2
Introduces plant disorders caused by improper control of environmental conditions' soil elements and fertility, common plant diseases, insects and other pests found on retail florists crops. Studies safety and use of chemicals used to eradicate plant diseases and pests. (4/0)

CE: COOPERATIVE EDUCATION

CE001T Cooperative Education Experience 1-8
Offers a structured work experience providing career education on the job for Arts and Science students in a field related to their major academic interest. Prereq: Instructor approval. Must be taken with CE002T. May be repeated for credit. (0/3-24)

CE002T Cooperative Education Special Topics 1-4
Offers a learning experience in conjunction with a structured work situation. Instruction and readings will relate to and supplement the particular job experience. Prereq: Instructor approval. Must be taken with CE001T. May be repeated for credit. (0/4-14)

CE003T Cooperative Education Preparation 0-1
Designed to complete individual needs prior to a cooperative education work experience. Testing, interviewing, and objective setting will be involved as needed by each individual. (0/2)

CE004T Career Decision Making 3
Designed to provide a grasp of the process of making a career decision. This is to be accomplished by identifying the individual's desires, relating these to the requirements of various career fields, and developing an understanding of the trade-offs involved in making a career decision. (3/0)

CH: CHEMISTRY

COLLEGE TRANSFER COURSES

CH001T Principles of Chemistry 3, 4
Designed for students who have not taken high school chemistry or those with otherwise deficient backgrounds. It covers the basis of inorganic chemistry. Topics include: introduction to measurement, atomic structure, chemical bonding, chemical reactions, kinetic molecular theory, chemical periodicity, and acids, bases and salts. The course may be taken as lecture only or lecture and laboratory.

CH002T Fundamentals of Organic Chemistry 4
Provides a survey of organic chemistry as a continuation of Principles of Chemistry, and is designed to give the student an introduction to the structures of organic compounds, nomenclature, physical and chemical properties, and organic reactions. Based primarily on the functional group approach. Prereq: Either high school chemistry or CH001T (3/2)

CH003T Fundamentals of Biochemistry 4
Continues Fundamentals of Organic Chemistry to provide a survey of the chemistry of living organisms, including basic chemistry of carbohydrates, lipids, proteins and nucleic acids, and an introduction to metabolism. Prereq: CH002T, or CH008T, or departmental approval. The three courses CH001T, CH002T, and CH003T are a normal sequence for students in nursing. (3/2)

CH004T Quantitative Analysis 6
Introduces methods of chemical analysis stressing gravimetric, volumetric and spectrophotometric approaches. Emphasis is placed on fundamentals of measurement, treatment of data, and error analysis. Prereq: CH008T (3/4)

CH005T General Chemistry I 5
Studies the basic principles of inorganic chemistry with emphasis on such concepts as measurements and problem solving, chemical reactions and equations, stoichiometry, atomic structure and nuclear chemistry, periodicity, chemical bonding, kinetic molecular theory and gas laws, and the structure and properties of matter. Prereq: CH001T or high school chemistry, and a working knowledge of algebra. (4/2)

- CH006T General Chemistry II** 5
Studies colligative properties along with thermodynamics and kinetics, chemical equilibrium, electrochemistry, acids, bases and complexions, and an introduction to organic chemistry. Prereq: CH005T (4/2)
- *CH007T Nutrition** 4
Designed to show the relationship between sound nutrition and good health. Topics studied are: energy requirements, carbohydrates, lipids, proteins, vitamins, minerals, metabolism, physical exercise, dieting, weight problems, evaluation of nutritional claims, vegetarianism, and proper nutrition during pregnancy and lactation. (3/2)
- CH008T Organic Chemistry I** 4
Introduces theory and practice of organic chemistry with emphasis on structure and nomenclature. Areas stressed are chemical bonding, functional groups, various types of isomerism, aromaticity, resonance, tautomerism and spectral interpretation. The lab includes the use of U.V.-visible, and I.R. spectrophotometers. Prereq: CH006T or departmental approval. (3/3)
- CH009T Organic Chemistry II** 4
Continues Organic I with emphasis on organic reactions and reaction mechanisms. The lab includes the preparation of several organic compounds. Prereq: CH008T (2/3)
- CH010T Organic Chemistry III** 4
Continues organic reactions and reaction mechanisms followed by a brief introduction to biochemistry. Prereq: CH009T (3/3)
- CH013T Independent Study in Chemistry** 1
Provides readings, papers, and/or basic research or other projects under the individual guidance of a staff member (0/2) Prereq: Department Approval

CM: COMMUNICATION

DEVELOPMENTAL COURSE

- CM007D Building Speech Confidence** 1
Designed around a taped, two-step process to provide a formal desensitization. The "systematic desensitization" consists of two steps: muscle relaxation and visualization. A combination of individual and group interaction will provide experiences in role playing, rehearsal and assertive behavior.

COLLEGE TRANSFER COURSES

- CM101T Composition I** 4
Develops expository writing with emphasis on organization, supporting details, style, vocabulary, and library research skills. Mechanical accuracy required. Students should take this course before finishing 45 hours (Required of all students for an A.A. or A.S. degree.) (4/0)
- CM102T Composition II** 4
Further develops student ability in writing. Teaches careful and responsible use of research tools and requires analysis of reading materials, audiences and self when communicating content material. Tests student ability to use fair and logical techniques of persuasion and to analyze critically readings in literature (4/0)
- CM106T Effective Reading and Study** 3
Provides instruction in college study skills, including techniques for improving concentration, comprehension and retention of information from textbooks, graphic materials, lectures and seminars. Skills in using a library for research and in taking tests are also taught. Includes diagnostic testing of each student's reading and listening skills (3/0)
- CM111T Creative Writing** 4
Offers students an opportunity to be creative in writing literary art forms of fiction, poetry and drama, and emphasizes structure, form and style. Also analyzes the publications market. Prereq: CM101T or consent of instructor. (4/0)
- CM112T Speeded Reading Laboratory** 1
Offers individualized work to increase reading speeds for students with no serious deficiencies in comprehension or vocabulary skills. Under the guidance of the instructor, students work independently using mechanical reading accelerators with self-corrected workbooks to develop the range of reading rates needed for efficient reading. (0/2)
- CM117T Composition II: Technical Writing** 4
Deals with objective precision in the writing of business correspondence, technical briefs, proposals and articles. Especially recommended for students in law enforcement, management, science, or pre-law. Prereq: CM101T or equivalent. (4/0)
- CM201T Public Communication**
Studies the fundamentals of speaking, emphasizing the development of speaking

skills (4/0)

- CM202T Group Communication** 3
Examines the theory and techniques used in discussion and group processes. The development of leadership and group skills is provided through frequent practical application in varying group sizes and opportunities. (3/0)
- CM204T Speech Communication** 4
The study of research-based foundations of interpersonal communication, with laboratory activities directed toward improving communication with others. One unit deals with presentational speaking skills. (4/0)
- CM205T Independent Study in Speech** 1-4
Provides readings and research opportunities under the guidance of a staff member. Consent of the instructor and department chairman required before registering.
- CM212T Bank Letters and Reports** 3
Designed for those bank officers, supervisors and employees who dictate or review correspondence. A review of letter forms that emphasizes fundamental principles underlying modern correspondence and examines different kinds of bank letters. (3/0)
- *CM213T Interpretative Reading** 2
Develops skills in the oral presentation of literature. Students will learn to interpret prose, poetry and dramatic literature through bodily action, voice and facial expression. (2/0)
- *CM214T Media Lab** 3
General introduction to media hardware and related software. Examines radio, TV, audio-visual and print technology. Students use equipment in lab setting. (2/2)
- *CM215T Independent Study in Writing** 1-4
Provides opportunity for independent writing projects under the guidance of a faculty member. Consent of the instructor and department chairman required before registering. Prereq: CM101T and prior approval of instructor and department head. (0/2-8)
- *CM306T Radio and TV Presentation** 2
Develops skills in announcing, speaking and performing before microphones and cameras. Considers various styles and presentation techniques. (2/0)
- *CM307T Radio Production I** 1
Teaches audio duplicating and mixing, use of sound effects, music sources and production libraries. Students will create and produce several radio commercials. Prereq: CM214T (1/0)
- *CM308T Radio Production II** 1
Follows Radio Production I. Prereq: Radio Production I (1/0)
- *CM309T Radio Production III** 1
Follows Radio Production II. Prereq: Radio Production II (1/0)
- *CM310T Audio/Video Production I** 1
Students use production hardware such as 35 mm cameras, tape recorders, portable video recorders and slide projectors to produce training, promotional and entertainment programs. Considers aesthetics of the various media. Of interest to the hobbyist as well as the career media student. Prereq: Media lab. (1/0)
- *CM311T Audio/Video Production II** 1
Follows Audio/Video Production I Prereq: Audio/Video Production I. (1/0)
- *CM312T Audio/Video Production III** 1
Follows Audio/Video Production II. Prereq: Audio/Video Production II. (1/0)
- *CM313T TV Production I** 1
Presents basic principles, procedures and techniques of television production, including camera operation, lighting, audio production and floor management. Prereq: Media Lab. (1/0)
- *CM314T TV Production II** 1
Follows TV Production I. Prereq: TV Production I. (1/0)
- *CM315T TV Production III** 1
Follows TV Production II. Prereq: TV Production II. (1/0)
- *CM 316T Special Projects** 1-3
Provides opportunity to carry out a media project under professional direction. Advanced students are required to organize and direct a three-credit-hour project. Other students may work in supporting roles of the production and earn one credit. Instructor permission required. (independent 3-9 hours per week)
- *CM317T Internship** 6-8
Provides on-the-job training in the media field. Prereq: consent of instructor. (20 hours per week)

***CM318T Broadcast Writing** 3
 Develops competency in broadcast writing, with emphasis on news and commercial styles (3/0)

VOCATIONAL-TECHNICAL COURSES

CM001U Business Communications 3
 Develops the skills and knowledge necessary to write effective business letters, memorandums and informal reports (3/0)

CM002U Communication Skills I 2-3
 Reviews communicative usage and mechanics of standard expression. Students apply communication skills through oral and written composition exercises. Offered for students enrolled in several occupational programs, three to five periods each week depending on the program. (2-3/0-2)

CM003U Communication Skills II 3
 Offers additional practice and application of skills acquired in Communication Skills I, with application to the student's individual vocational needs. Emphasis will be on developing of oral skills in career situations. Prereq: CM002U (2-3/0-2)

CM004U Communication Skills III: Technical Reporting 3-4
 Studies principles of organization and interpretation as they apply to preparing technical reports. Research and descriptive writing skills needed for both informal and formal reports will be emphasized. Prereq: CM003U (3-4/0-3)

CM005U Oral Communications 4
 Stresses the necessity of proper communications. This particular course concentrates on public speaking, demonstrations and leading group discussions. (2/4)

CM007U Medical Communications 4
 Provides skills in oral and written reporting that include chart and treatment auditing techniques. Prereq: Health-Illness-Health (TH002U) (4/0)

CO: CORRECTIONS

CO002T Introduction to Community Corrections 3
 Studies the correctional process as applied in the community by means of juvenile and adult probation and parole. (3/0)

CO004T Penology 4
 Surveys the history of penal institutions, examines the theories and practices relating to penal institutions, and explores prison reform in relation to various objectives of modern penology. (4/0)

CO006T Race Relations in the Criminal Justice System 4
 Examines race relations in the various segments of the criminal justice system. Explores social values and standards of minorities as they relate to the larger society. Looks at selected problems and possible solutions to conflict between races in the criminal justice setting. (4/0)

CS: CONSTRUCTION

CS001T Agricultural Construction Materials and Procedures 1-3
 Selection of building materials and their application to agricultural construction. (1-3/0-2)

CS002U Facility Construction 4-8
 Covers concrete work, carpentry and electricity, all areas in which most horticulturists need training. This course provides basic knowledge and skill development in these areas. (2-4/4-8)

CS007U Facilities Construction: Planning and Preparation 9
 Involves planning the construction of a turn-key farm-type facility, and the site preparation and concrete work under the supervision of an instructor. Prereq: Previous training or experience. (1-4/6-12)

CS008U Facilities Construction-Erection 9
 Completes the construction of a facility started in the Planning and Preparation course, including plumbing, heating, ventilation and electrical service. Prereq: Previous training or experience. (1-4/6-12)

CS003U Estimating 3
 Designed for architectural draftsmen. The course includes the techniques of estimating and quantity survey. (3/0)

CS034U Presentations 2
 Includes instruction in color, proportion and delineation. Offered for architectural draftsmen. (2/0)

CS035U Construction Materials 3
 Covers study of building codes, construction standards, wood, concrete, steel and unit masonry. (3/0)

CS036U Construction Methods 3
 Covers study of floor ceiling systems, masonry walls, foundation systems and sound control. (3/0)

CS037U Metal Fabrication 4
 Studies construction of metal buildings according to various farm usages. (3/2)

CS038U Electrical Construction 4
 Gives students skills for building electrical power systems for rural buildings using schematics, controls, codes and references. (3/2)

CS039U Plumbing 3
 Deals with the supply of water to rural buildings and the disposal of after-use, with emphasis given to use of tools and materials to build, repair or replace these systems. (3/4)

CS040U Job Planning and Scheduling in Carpentry 5
 Covers developing building plans and scheduling the construction of a building, based on the availability and location of various building materials in the community and on local state and vocational building codes. (3/4)

CS041U Heating and Ventilation 4
 Covers individual systems of heating, cooling and ventilation and their appropriate controls in using the many sources of energy available today. (3/2)

CS042U Construction Techniques 5
 Provides students with experiences in building various modular buildings. (3/4)

CS043U Masonry and Concrete 4
 Develops skills in pouring and finishing concrete structures, both flat and vertical. Laying concrete block also is practiced. (3/2)

CS044U Excavation 4
 Studies the use of various types of earth-moving equipment. The student will work at site preparation, excavation, earth moving and grading for various types of construction. (3/2)

CS045U Fundamentals of Carpentry I 5
 Covers the identification and use of carpentry tools and materials as related to the rural construction industry. (3/4)

CS046U Fundamentals of Carpentry II 5
 Covers the identification and use of accessory materials and various types of fasteners used in form construction, including the use of laser levels, standard levels and steel tapes in construction measurement. (3/4)

CS047U Construction Lab I 10
 Utilizes laboratory projects to emphasize blueprint reading, hand tools and equipment usage, layout, cutting, assembly and fastening. Field study includes setting batter boards, excavation, computing, construction and erecting forms, pouring footings and foundations, setting posts and beams, flooring, and wall layouts. (0/20)

CS048U Construction Lab II 10
 Involves forming floors, subflooring, wall construction and erection and rough openings. Cutting and installation of rafters, ceiling joists, roof sheathing and shingles, cornices and ventilators, installation of windows, exterior door and frames, painting/staining of exterior wood surfaces, application of siding, and masonry work. (0/20)

CS049U Construction Lab III 10
 Covers layout and installation of insulation, vapor barriers, sheetrock, rock lath, paneling, forming of soffits, cabinets and vanities, hanging doors, casing windows and doors, door hardware, baseboard, base shoe, chairnails, stirs, chimney and fireplace brick work, and general adjustments (0/20)

CS050U Construction Lab IV 6
 Covers the final installation of concrete work (relating to sidewalks, patios, etc.), and complete interior and exterior finish work. General grading and landscaping of training project lot. (0/12.5)

CS051U Construction Related I 5
 Presents fundamental carpentry theory and related information concerning proper care, use and safety of hand/power tools, leveling instruments, materials and practices used in the construction of a residential building. Stresses the practical use and application of tables and scales on framing square, principles of footings and foundations, construction and/or erection of concrete forms, backfilling, laying

floor joists, subflooring, wall layout and erection. (5/0)

CS052U Construction Related II 5
Involves identifying and figuring roof framing, roof sheathings, shingles, ceiling framing, assembly and installation of windows, exterior door frames and doors. Emphasis on bracing, aligning and squaring. Planning and installation of exterior sidings, masonry work, concrete floors, slabs, and driveways. (5/0)

CS053U Construction Related III 5
Presents topics to cover selection and applying of insulation, vapor barriers, installing of sheetrock, rock lath, taping texturing, interior paneling, construction of soffits, building and or setting of vanities and cabinets, hanging doors and door hardware, casing of windows and doors, applying baseboard, base shoe, chairrails, and stairway construction. Introduction to Allied Building Trades covering methods and systems on residential wiring, heating, ventilating, air conditioning, plumbing and masonry work as related to the training project. (5/0)

CS054U Construction Related IV 2
Presents instructional units relating to finishing of flooring, interior and exterior wall/ceiling finishes, papering, completing work on cabinets and vanities, and drainage systems. Review of layout on landscape plans and principles completed for the training project. (2/0)

CS055U Greenhouse Facilities and Equipment 1-4
Studies construction and operating plastic, fiberglass and glass in small and large greenhouse structures. Heating, cooling, watering and ventilating systems will be evaluated for efficiency and effectiveness. (1-4/0-4)

CS056U Farm Facility Maintenance 4
Provides an opportunity for students to do maintenance on buildings and their support services, including heating, water systems and electrical systems (2/4)

CS057U Rural Concrete and Masonry 3
Develops skills in designing and casting concrete flat work. Laying concrete block is discussed. (2/2)

CS058U Rural Plumbing 3
Discusses types of farm water systems, pipe and fittings, and provides the student with basic skills in plumbing construction and repair. (2/2)

CS059U Rural Carpentry 3
Covers the identification and use of tools, fasteners and materials used in farm carpentry. (2/2)

CS060U Rural Electrical Construction 3
Provides experience in construction and repair of basic electrical circuits. Terms and measurements are studied. (2/2)

CS061U Rural Construction Supervision 1-6
Covers the planning and scheduling of enterprise projects and the supervision by the student of enterprise work crews. (1-6/0-9)

CS005V Greenhouse Construction 1
Studies design and construction of greenhouses and other related growing structures, including floor plants and environmental equipment needed for optimum plant growth. (2.5/0)

CS006V Construction Principles and Blue Prints 3
Studies the physical characteristics of property to be listed, including residential and commercial properties. Also provides instruction in blueprint reading. (3/0)

DP: DATA PROCESSING

COLLEGE TRANSFER COURSES

DP006T Computer and Data Processing Concepts 3
Covers fundamentals of computers and computerized data processing, data processing concepts, computer terminology, computer devices, basic systems considerations, programming techniques, and data accuracy and control. (3/0)

DP007T Fundamentals of Bank Data Processing 3
Broadly based, non-technical, and designed for the manager who uses the computer as a tool, rather than the computer scientist. The courses are geared to fundamental principles, concepts and functions on the basis of what everyone in banking must know about the characteristics of automation. Discusses computer systems and languages, the present and potential uses of computers, and societal influence of growing computer dependence. (3/0)

***DP009T Making It Count** 2
This series is an introductory applications course on computers and computer operations, including computer hardware and software. (1/0)

VOCATIONAL-TECHNICAL COURSES

DP001U Self-Service Aids for Programmers 1
Covers basic operation of keypunch machines and the use of the card sorter, reproducer and interpreter. Intended to make students self-sufficient in preparation of programs and test data. (.5/1)

DP002U Punched-Card Data Processing 2
Studies functional wiring and basic operation of unit record equipment. Includes the interpreter, reproducer, sorter and collator. (1/2)

DP003U Computer Operating Techniques 3
Includes study and practice of computer operating techniques, student study and performance in the areas of card/tape/disk handling, computer console control and peripheral equipment operation. (1/2)

DP005U Introduction to S/360-370 3
Presents the System 360 and System 370 architecture and hardware. Includes direct access storage devices, the techniques of file organizations and programming systems support for these devices. (3/0)

DP007U Assembler Language I 5
Studies IBM Basic Assembler Language programming concepts and techniques. Includes the writing and testing of Assembler Language programs and routines. (3/4)

DP009U Assigned Operations Projects 3
Assigns projects closely simulating actual operation of a data center. Provides hands-on experience in input scheduling, I/O device and console operating, and output handling. (1/4)

DP010U Data Processing for Managers 2
Explores and provides practical exercises in data processing concepts and the equipment used, in sufficient detail to permit the manager to judge the advisability of putting his or her operational systems on a computer. The students will be instructed in evaluating programming languages, manpower requirements and equipment that would be required to make this change. (2/0)

DP011U Introduction to Report Program Generator (RPG) II 4
Presents the language facilities of RPG II. Students will write and test several programs. (3/2)

DP013U Introduction to COBOL Programming 5
Presents ANSI COBOL programming language fundamentals and coding techniques. This course includes the writing of COBOL programs using structured techniques. (3/4)

DP014U Advanced COBOL Programming 5
Continues introduction to COBOL Programming and extends exposure to more complex techniques, including table handling, sorting and file maintenance. (3/4)

DP016U Introduction to Fortran Programming 3
Introduces Fortran programming concepts and techniques, with numerical analysis and other methods for solving mathematical/scientific/business problems. Prereq: DP006T or equivalent. (2/2)

DP018U Introduction to Programming Language I 5
Introduces PL/I concepts and techniques emphasizing applications of the business world. Students will write and test several programs. Prereq: DP013U or DP016U or permission of instructor. (3/4)

DP021U Disk Operating System (DOS/VS) Concepts and Facilities 3
Provides an introduction to the concepts and facilities of the Disk Operating System/Virtual Storage. Includes sufficient information to allow a student to load the supervisor, initiate operation of the system in a multiprogramming environment, run programs and terminate the system using appropriate statements and commands. (2/2)

DP022U Disk Operating System Coding 5
Covers all facilities of the Disk Operating System, including the job control language, supervisor services, systems maintenance, the linkage editor functions and multiprogramming facilities. Is designed for programmers who plan to use the Disk Operating System of the S/370. Prereq: DP021U or permission of the instructor. (4/2)

DP026U Programming Systems 4
Presents the concepts and facilities provided by various manufacturers in their operating systems. Also includes some commercial software systems (spoolers, librarians, reporters, etc.). (4/0)

DP027U Systems Utilities 2
Develops knowledge and skill in the use of various systems utilities and offers actual working experience with a sort, merge, monitor and various utilities. (1/2)

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| DP036U Assigned Programming Projects | 5 |
| Offers supervised work experience at various data processing tasks, which serve as learning tools as the tasks are completed. These tasks may be done within a real or simulated business organization. (1/8) | |
| DP037U Installation Management I | 3 |
| Offers seminar coverage of specialized subjects peculiar to supervising or managing a data processing department. Prereq: three quarters of data processing. (3/0) | |
| DP039U Records and Scheduling of Data Processing Operations | 3 |
| Studies types, formats and typical systems for maintaining records for a data processing installation. Prereq: DP006T (3/0) | |
| DP040U Related Equipment I | 1 |
| Includes characteristics, functions and use of equipment related to data processing: microfilm processing and handling, after-handling equipment, ledger card machines, copying equipment and key-driven equipment controlled by paper tape. (0/2) | |
| DP041U Program Design and Documentation | 3 |
| Presents the techniques to analyze a problem for solution by computer, and designing and documenting the solution. Includes step-by-step documentation of solution algorithm. Techniques presented include flowcharts, decision tables, Wernier Charts and structured design. (3/0) | |
| DP042U Program Testing | 3 |
| Presents the techniques of planning and documenting the testing, and modifying and correcting computer programs. Includes the coding techniques required to reduce coding and logic errors to improve error detection and correction. Also includes programming considerations for program maintenance. (2/2) | |
| DP044U Data Management I | 4 |
| Presents the concepts and techniques of Data Access Methods. Storage methods presented include sequential, index sequential, direct and virtual storage access methods. Prereq: DP014U or permission of instructor. (3/2) | |
| DP046U Elements of Data Processing I | 3 |
| Explores the use of various manual and mechanized data processing systems for business applications, and familiarizes the student with the functional characteristics of data processing systems. Basic business applications of order writing, billing, accounts receivable, inventory accounting and sales analysis are covered. (3/0) | |
| DP048U Business Applications of Data Processing I | 3 |
| Presents computer considerations in dealing with general financial systems. Students will be exposed to the characteristics of such areas as general register, receivables, payables, payroll, etc. (3/0) | |
| DP049U Introduction to Systems | 3 |
| Includes systems, procedures, systems analysis and design, purposes, responsibilities, applications and techniques of the systems activity as found in a business organization. (3/0) | |
| DP083U Data Management II | 5 |
| Continues Data Management I. Includes concepts of data base organization and management. Provides coding experience for data base using Data Language I (DL/I). Prereq: DP044U or permission of instructor. (3/4) | |
| DP084U Business Applications of Data Processing II | 3 |
| Includes computer applications of dealing with nonfinancial systems. Students will be exposed to such applications as personnel, inventory, etc. Prereq: DP048U or permission of instructor. (3/0) | |
| DP085U Data Communications | 5 |
| Presents the concepts and considerations for programming in an on-line environment. Presents facilities of communications controllers including CICS. Prereq: DP014U and DP083U or permission of instructor. (3/4) | |
| DP001V Introductory Key punch | 3 |
| Offers training for the occupation of key punching; punching and verifying of cards that serve as input to unit record and computer equipment. (0/6) | |
| DP003V Vocational Key punch | 3 |
| Provides extensive training in key-punching occupations. Offers training on several types of machines. (1/14) | |

DN: DENTAL

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| DN001U Dental Materials | 4 |
| Gives students an opportunity to acquire a basic understanding of the various types of dental materials, their uses and their manipulating techniques. (2/4) | |
| DN002U Porcelain Techniques | 4.5 |
| Covers basic principles of design, fabrication and staining of restorations of porcelain, or porcelain to metal, including operation and maintenance of related equipment and use of supplies. Prereq: BY002U and BY001U. (1/7) | |
| DN003U Orthodontics (DLT) | 3 |
| Studies irregularities of teeth and the fabrication of appliances as prescribed by the dentist to correct those irregularities. Prereq: BY002U, BY001U. (5/4.5) | |
| DN004U Dental Terminology | 2.5 |
| Includes ability of student to dissect words used in dental terminology as to roots, prefixes and suffixes. Also includes a brief introduction to dental history, ethics and jurisprudence, work authorization and professional organizations associated with the dental laboratory field. (2/1) | |
| DN005U Dental Equipment I | 1 |
| Studies proper arrangement, care and maintenance, safety procedures and availability of common types of dental equipment used within the first quarter. Includes some operation. (.5/1) | |
| DN006U Clinical Experience and Seminar I (DLT) | 12 |
| Utilizes dental laboratories or dental offices to gain practical experience relating to instructional and manipulative skills learned in the classroom. (0/32) | |
| DN007U Clinical Experience II and Seminar (DLT) | 12 |
| Continuation of Clinical Experience I. (0/32) | |
| DN008U Acrylic Jacket Crown and Veneers II (DLT) | 5 |
| Covers the principles, techniques of staining and curing, and fabrication of various types of acrylic jacket and veneer crowns. (2/6) | |
| DN009U Precision Attachments Partials (DLT) | 4 |
| Studies principles and design of various types of intracoronal retention for removable partial dentures, including actual construction of removable partial dentures incorporating precision attachments. (1/6) | |
| DN010U Cast Metal Base Dentures | 2 |
| Continues complete denture construction involving the design and construction of complete dentures with cast metal bases (ticonium). (.5/3) | |
| DN020U Laboratory Management (DLT) | 3 |
| Study in surveying potential sites for new dental laboratories, their design, book-keeping and cost analysis, and all facets dealing with the establishment and operation of a dental laboratory. (3/0) | |
| DN021U Denture Techniques I (DLT) | 6.5 |
| Provides an introduction to the outline and study of procedures related to denture construction. Involves the fabrication of temporary removable partial dentures and complete dentures. (3/7) | |
| DN022U Denture Techniques II (DLT) | 6 |
| Adventures into the aesthetics, phonetics and function associated with complete dentures. Working with a special advanced articulator and advanced work in tooth arrangements. (2/8) | |
| DN023U Articulators and Articulation | 2 |
| Introduces the study of mechanical devices used to simulate the movements of oral anatomy with relation to the construction of dental prosthesis. (1/2) | |
| DN024U Cast Inlay and Crown (DLT) | 5 |
| Applies the techniques of pouring casts, mounting techniques, recognition of gingival margin preparations, preparation and trimming of individual dies, and the actual construction of inlays and crowns. (2/6) | |
| DN025U Crown and Bridge (DLT) | 10 |
| Studies types, designs and procedures used in constructing fixed partial dentures, including actual construction of various types of fixed partial dentures. (4/12) | |
| DN026U Partial Denture Techniques I (DLT) | 4 |
| Examines the principles and theories of survey, design and blockout techniques for simple removable partial dentures, and actual construction of cobalt-chrome removable partial dentures. (1/6) | |
| DN027U Partial Denture Techniques II (DLT) | 5 |
| An advanced study in the design and fabrication of special types of removable partial dentures. (2/6) | |

- DN028U Guided Independent Study: Orthodontics** 8
Allows the student and instructor to prepare a contract for individualized study in orthodontics. This contract will include the phase of orthodontics that the student and instructor feel is necessary to make the student knowledgeable and competent in this field of laboratory work. Prerequisite: Previous modules related to this subject.
- DN029U Guided Independent Study: Fixed Bridges** 8
Allows the student and instructor to prepare a contract for individualized study in fixed bridges. This contract will include the phases of fixed bridgework that the student and instructor feel is necessary to make the student knowledgeable and competent in this area of laboratory work.
- DN030U Guided Independent Study: Ceramics** 8
Allows the student and instructor to prepare a contract for individualized study in ceramics. This contract will include the phases of porcelain that the student and instructor feel are necessary to make the student knowledgeable and competent in this field of laboratory work.
- DN031U Guided Independent Study: Removable Bridges** 8
Allows the student and instructor to prepare a contract for individualized study in removable bridges. This contract will include the phase of removable partials that the student and instructor feel is necessary to make the student knowledgeable and competent in this field of laboratory work.
- DN032U Guided Independent Study: Full Dentures** 8
Allows the student and instructor to prepare a contract for individualized study in full dentures. This contract will include the phases of full dentures that the student and instructor feel are necessary to make the student knowledgeable and competent in this field of laboratory work.
- DN101U Dental Orientation** 2
Provides information necessary to build a complete and knowledgeable foundation upon which to anchor a meaningful career as a dental assistant, including dental terminology, understanding of dental assistant certification and a thorough study of state practice acts. (2/0)
- DN102U Dental Materials** 3.5
Includes the chemical and physical composition of the basic groups of dental materials. The laboratory phase offers clinical demonstration of the use of each material and individualized manipulative practice. (3/1)
- DN103U Dental Assisting** 5.5
Provides the student with the basic principles of chairside assisting. It includes the identification, use and maintenance of equipment and instruments; sterilization and disinfection techniques, instrument transfer, oral evacuation and oral diagnosis procedures. Background material and chairside techniques concerning operative functions, crown and bridge work, and prosthetics will be included. (5/1)
- DN109U Lab Practicum I (DA)** 4.5
Assigns each student to clinical areas at the College of Dentistry in Iowa City and Veterans Hospital to provide practical experience in the various departments of operative, crown and bridge, pedodontics, periodontics, endodontics, oral surgery, radiology and orthodontics. An overview of dental assisting in all areas of dentistry. (1/6.5)
- DN110U Lab Practicum II (DA)** 7.5
Continues Lab Practicum I at the College of Dentistry in Iowa City. (1/13)
- DN111U Clinic I (DA)** 3.5
Applies knowledge and skills in a dental office on internship to include: chairside procedures, business office procedures and dental laboratory procedures. (.5/9)
- DN112U Clinic II (DA)** 3.5
Continues Clinic I in a private dental office. (.5/9)
- DN113U Dental Radiography I** 2.5
Presents a basic background of the production of dental x-rays, hazards and safety. Emphasis is given to exposing, processing and mounting dental films. (2/1)
- DN114U Dental Radiography II** 1.5
Continues Dental Radiography I with emphasis on exposure angulation, evaluation of films and corrective measures. (1/1)
- DN115U Dental Lab Assisting** 4.5
Provides practice and application of laboratory skills commonly performed in a private dental office, such as pouring and trimming of study casts, construction of bite-blocks, soldering and construction of removable acrylic appliances. (2/5)
- DN116U Dental Lab Assisting II (DA)** 2
Involves the construction of dies and wax patterns for casting crowns and inlays, and the dental assistant's responsibilities in using a commercial laboratory. (1/2)
- DN120U Dental Therapeutics** 2.5
Provides instruction in obtaining and recording vital signs. Discusses systemic diseases, conditions and potential emergencies, in addition to medications used in dentistry and for emergencies. Prereq: DN103U. (2/1)
- DN121U Disease and Prevention** 3.5
Presents concepts of prevention through an understanding of oral disorders, problems and treatment, control of bacterial plaque formation and methods of oral hygiene instruction for patients. (3/1)
- DN127U Preventive Dentistry Seminar I** 4
Examines the oral structures (normal and abnormal), and former development and detection of dental disease, including laboratory application in the theories, philosophy and mechanics of teaching dental patients.
- DN128U Preventive Dentistry Seminar II** 4
Continuation of Preventive Dentistry Seminar I. Prereq: Preventive Dental Seminar I. (3/2)
- DN131U Dental Management Seminar I** 3
Emphasizes improving the efficiency of routinely performed tasks by a systems approach to problem solving for the mechanics of a total office, and analysis of office operation and production. Prereq: Dental Assistant graduates, employed dental assistants with six months of experience, or by exam. (3/0)
- DN132U Dental Management Seminar II** 3
Explores the psychological principles in communications and decision-making with a discussion of management theories and philosophies. Prereq: DN131U. (3/0)
- DN133U Dental Assisting-Set A** 8
Includes Dental Orientation (DN101U), Dental Anatomy (BY110U), and Head and Neck Anatomy (BY111U) for off-campus students.
- DN134U Dental Assisting-Set B** 8
Includes Dental Materials (DN102U) and Dental Laboratory Assisting (DN115U) for off-campus students.
- DN135U Dental Assisting-Set C** 5.5
Includes Dental Assisting (DN103U) for off-campus students.
- DN136U Dental Assisting-Set D** 4
Includes Dental Radiography I and II (DN113U, DN114U) for off-campus students.
- DN137U Dental Assisting-Set E** 5.5
Includes the Dental Specialty Course (DN141U); for off-campus students.
- DN138U Dental Assisting-Set F** 8
Includes Oral Microbiology (BY109U), Dental Therapeutics (DN120U), and Disease and Prevention (DN121U) for off-campus students.
- DN139U Dental Assisting-Set G** 9
Includes Dental Office Management I and II (AN033U, AM034U), and Dental Book-keeping (AC007U) for off-campus students.
- DN140U Dental Assisting-Set H** 22
Includes Laboratory Practicum I & II, (DN109U, DN110U), Clinic I & II (DN111U, DN112U), and Advanced Practicum (DN143U) for off-campus students. (25-35)
- DN141U Dental Specialties** 5.5
Presents specialty areas of dentistry: pedodontics, endodontics, orthodontics, periodontics, oral surgery and sterile procedures. Includes procedures, instruments and current concepts of assisting in these areas. (5/1)
- DN142U Dental Assistant Seminar** 1
Is designed to provide guidance for employed dental assistants making application for the off-campus dental assistant diploma program. Includes supplemental instruction based on a student's needs, and assistance in preparation of project performance. This course is required for all students enrolled in course sets.
- DN143U Advanced Practicum** 3
Enhances proficiencies in intra-oral functions. Prereq: DN109U. (1/3.5)
- DN144U Dental Laboratory Technology Core** 5
Provides an orientation to the dental laboratory technician profession, dental laboratory technician terminology, as well as dental equipment related to all phases of dental technology. Dental and oral anatomy relevant to the fabrication of dental prostheses also is presented. (1/8)
- DN145U Full Denture Technology I** 6
Provides instruction necessary for a technician to fabricate and repair simple dentures. Materials and equipment used in the fabrication of full dentures are studied, followed by instruction in the construction of temporary and complete dentures. Prereq: DN144U. (1/10)

DN146U Full Denture Technology II 11
Studies the construction of dentures involving special techniques and instrumentation (articulators). Dentures will be constructed with special attention given to aesthetics, phonetics and function. Denture relines, rebases and duplication also will be covered. Prereq: DN145U. (2/18)

DN147U Partial Denture Technology I 11
Offers instruction for the design and fabrication of partial dentures. Materials and equipment used in the construction of partial dentures are studied, followed by the principles and theories of survey, design and blockout. These theories are then applied in the construction of nickel base and chrome-cobalt partials. Prereq: DN144U. (2/18)

DN148U Partial Denture Technology II 3
Introduces designing and fabricating special types of partial dentures. Prereq: DN147U. (1/4)

DN149U Clinic Ia 2
Provides the student with comprehensive practical experience in a dental laboratory in full denture technology. (0/6)

DN150U Clinic Ib 2
Provides the student with comprehensive practical experience in a dental laboratory to gain skill in partial denture technology. (0/6)

DN151U Clinic Ic 2
Provides the student with comprehensive practical experience in a dental laboratory to gain skill in crown and bridge technology. (0/6)

DN152U Clinic Id 2
Provides the student with comprehensive practical experience in a dental laboratory to gain skill in ceramics technology. (0/6)

DN153U Clinic Ie 2
Provides the student with comprehensive practical experience in a dental laboratory to gain skill in orthodontic technology. (0/6)

DN154U Clinic IIa 12
Assigns the student to a dental laboratory, dental office or institution that will provide the student with the opportunity and assistance needed to become skilled in all phases of full denture technology. Prereq: DN149U, DN150U, DN151U, DN152U, DN153U. (0/36)

DN155U Clinic IIb 12
Assigns the student to a dental laboratory, dental office or institution that will provide the student with the opportunity and assistance needed to become skilled in all phases of full denture technology. Prereq: DN149U, DN150U, DN151U, DN152U, DN153U. (0/36)

DN156U Clinic IIc 12
Assigns the student to a dental laboratory, dental office or institution that will provide the student with the opportunity and assistance needed to become skilled in all phases of full denture technology. Prereq: DN149U, DN150U, DN151U, DN152U, DN153U. (0/36)

DN157U Clinic IId 12
Assigns the student to a dental laboratory, dental office or institution that will provide the student with the opportunity and assistance needed to become skilled in all phases of full ceramics technology. Prereq: DN149U, DN150U, DN151U, DN152U, DN153U. (0/36)

DN158U Clinic IIe 12
Assigns the student to a dental laboratory, dental office or institution that will provide the student with the opportunity and assistance needed to become skilled in all phases of full ceramics technology. Prereq: DN149U, DN150U, DN151U, DN152U, DN153U. (0/36)

DN159U Crown and Bridge Technology I 7
Applies dental anatomy in correlation with restoration of permanent dentition. Materials and equipment associated with crown and bridge restoration are discussed, followed by the preparation of simulated precious and non-precious castings. Prereq: DN144U. (2/10)

DN160U Crown and Bridge Technology II 11
Utilizes the competencies and knowledge learned in Crown and Bridge I with additional instruction that will include pontic designs, one-piece castings, additional spruing principles, soldering, waxing units inside of clasp, types of waxing techniques, and types of occlusion. Prereq: DN159U. (1/20)

DN161U Ceramics Technology I 11
Provides the competencies and knowledge of materials, equipment and technique

required to fabricate porcelain jackets and other types of single anterior and posterior porcelain restorations. Metal design, waxing, spruing, casting and finishing directly related to such single units will be studied. Some characterizing and stain also will be considered at this time. Study of color will be included in this course. Prereq: DN144U. (2/18)

DN162U Ceramics Technology II 5
Applies the knowledge of Ceramics I. Various types of bridge frameworks will be designed, constructed and porcelain fired to broaden the ceramist's ability. Additional staining and characterizing will be used to develop naturalness in the aesthetic qualities of the restorations. Prereq: DN161U. (1/8)

DN163U Orthodontic Technology I 6
Studies tooth movement and space maintenance, which are applied to the construction of appliances using the necessary materials and equipment. Prereq: DN144U. (1/10)

DN164U Dental Equipment II 1
The student studies and learns to operate the equipment used in the second quarter. (.5/1)

DN165U Dental Equipment III 1
The student studies and learns to operate the equipment used in the third quarter. (.5/1)

DN166U Dental Equipment IV 1
The student studies and learns to operate the equipment used in the fifth quarter. (.5/1)

DR: DRAMA

DR101T Introduction to Theatre 4
Introduces the various methods of stagecraft with emphasis on the study of a number of plays and the observation of performances to discover the relationship of the playwright to the creation of an actual performance. (3/0)

DR102T Theatre Workshop 2
Provides students with experience in theatrical production. Students may work in one of a number of production areas under the guidance of experienced theatre personnel. Guidance and frequent critiques provide students with an understanding of production activities. This course may be repeated for credit once. The production schedule determines the number of hours required per week. (0/4)

DR103T Theatre Production 3
Provides students with on-campus production experience. The course is responsible for presenting a series of short dramatic presentations and provides opportunities in acting, directing and staging. (3/0)

DR104T Drama: Play, Performance, Perception (TV Course) 2-4
A course in the viewing of plays in the European tradition, which includes emphasis on criticism, history and appreciation. Each play is accompanied by a short expository documentary that completes the hour and includes guest appearances by professional performers such as Julie Harris, Anna Russell, Ruby Dee and Ossie Davis. The expository documentaries incorporate critical commentary, capsule performances, parody and related readings. (1/0)

EA: EARTH SCIENCE

EA001T Introductory Geology 4
Presents basic concepts in geology, i.e., earth materials and processes, historical geology, and geological resources. Constructive and destructive forces involved in shaping the planet will be discussed. Plate tectonics and sea-floor spreading will serve as a unifying factor for the course. (4/0)

EC: ECONOMICS

COLLEGE TRANSFER COURSES

EC007T Independent Study in Social Science (Economics) 0, 1, 2, 3, 4
Provides readings, papers and/or basic research or other projects under the individual guidance of a staff member. Consent of the instructor and department chairman is required before registering.

EC008T Money and Banking 3
Stresses the practical aspects of money and banking, and emphasizes the basic monetary theory needed by the banking student in a job. Emphasis also is placed on such problems as economic stabilization, types of spending, the role of gold, limitations of central bank control, government, fiscal policy, balance of payments, and

foreign exchange, showing their repercussions on the banking industry in affecting yield curves and the structuring of portfolios. Prereq: Recommend EC013T. (3/0)

EC009T Principles of Collective Bargaining 3
Covers problems of the industrial labor setting as applied to collective bargaining. Topics reviewed include wage determination and employment theory, internal and external problems of the labor force, union structure and government, growth and theory of labor movements and evolution of substantive labor law in the U.S. Emphasis will be placed on the historical, political and institutional setting of the collective-bargaining process. (3/0)

EC010T Labor Law (Taft-Hartley) 3
An institutional and historical approach to public policy considerations in labor relations law from 1806 to the present. Topics reviewed include the "Greek" of labor law; "strikes," "picketing," "organizational," "boycotts" "unfair labor practice," "union security," "duty to bargain," etc. Relationships between the large group conflicts of labor relations and other large group conflicts (e.g., race relations) will receive attention. Attention also will be directed to the public sector. (3/0)

EC011T Dispute Settlement and Labor Relations 3
Offers an analysis of problems encountered in the area of employer-employee differences with respect to the meaning and application of contract terminology. Cases in arbitration are used to illustrate problem areas in the industrial relations setting. Areas of study include: grievance handling; arbitration of grievances; discipline; wages; vacations and holidays; work assignments; seniority; distribution of overtime; subcontracting; technological change. Additional attention will be directed to the public sector. No prior course is required. (3/0)

EC013T Principles of Economics (Macro) 4
Introduces principles of the economizing problem with emphasis on national income and employment analysis. Includes national income accounting, the business cycle, money and banking, fiscal and monetary theory and policy, and economic growth. Recommended for students pursuing a baccalaureate degree program. (4/0)

EC014T Principles of Economics (Micro) 4
Emphasizes markets, the price system and the allocation of resources, demand and supply, market structures, price and output determination, and income distribution. Recommended for students pursuing a baccalaureate degree program. (4/0)

EC015T Principles of Business Economics 4
Acquaints the student with the business enterprise in the perspective of the modern economy, and introduces the economizing problem and analysis of markets and the price system. The course also examines national income and employment theory. Recommended for associate degree programs only. Transfer status uncertain. (4/0)

EC016T Contemporary Economic Problems 4
Offers advanced analysis of some of the topics discussed in Principles of Economics (Macro and Micro). The course will focus on one or more contemporary economic problems. Individual and group projects will be assigned. Prereq: EC013T and EC014T. (4/0)

***EC018T Unions and the Political System 3**
Describes the structure and functions of all levels of government including separation of authority, executive privilege, and presidential appointive powers. The role of pressure groups, the union's role in our two-party system, plus recent trends in the "labor vote" also will be discussed, as will the issues that unions want enacted into law. (3/0)

***EC020T Labor Law (Landrum-Griffin) 3**
Continues the study of labor law using an institutional and historical approach to public policy considerations in labor relations law. Topics reviewed include: individual rights and the duty of fair representation, admission to union membership, union elections, enforcement of the agreement, union democracy, etc. Emphasis will be placed on the public sector. (3/0)

VOCATIONAL-TECHNICAL COURSES

EC001U Printing Economics 1
Covers estimating production costs, specification of equipment, materials inventory and control, and the study of systems that expedite graphic reproductions. Application of techniques in estimating to actual job production specifications and cost. (1/0)

EC003U American Institutions 3
Studies of macro economics using simple models to develop concepts of money and banking, national income, and international trade. The volume of individual businesses and the GNP are analyzed for the practical purpose of evaluating future potential. (3/0)

EC004U Agricultural Economics I 3-4
Identifies economic concepts, principles and relationships as they relate to the

agricultural industry. Reviews the principle of diminishing returns, marginal costs, opportunity cost, substitution, and the concept of risk and uncertainty. (3-4/0)

EG: ENGINEERING

COLLEGE TRANSFER COURSES

EG007T Engineering Graphics I 3
Includes study of sketching, lettering, freehand drawing, use of drawing instruments and principles of projection. Also lines, perpendicularity, parallelism, revolution, topography and piercing points.

EG008T Introduction to Engineering: Computation 3
Emphasizes digital computer programming utilizing Fortran and time-shared BASIC programming; engineering applications using logic operations, decision and transfer, loops, subprograms, input/output and flow charts. It is a required course in engineering and is designed for undergraduate students who have had no, or only a minimum amount, of experience in digital computer programming. Prerequisites are high school algebra and trigonometry or departmental permission. (3/0)

EG009T Materials Science I 5
A foundation course in materials science designed to show relationships between structures and properties of various materials at the atomic, micro and macro levels. The course is a core requirement in all engineering curriculums. Prerequisite: CH005T or departmental approval.

EG010T Statics 3
Covers such topics as vector algebra, forces, couples, equipollent force-couple systems, Newton's laws, friction, equilibrium analysis of particles and finite bodies and applications. This course principally serves both the civil engineering and mechanical engineering undergraduate engineering programs for which it is a required course. Prereq: One semester or two quarters of college-level calculus. (3/0)

EG011T Dynamics 5
Emphasizes vector calculus, Newton's laws, dynamics of particle motion, multi-particle systems, and rigid bodies in plane motion and applications. It serves principally both the civil and mechanical engineering undergraduate programs for which it is a required course. Prereq: EG010T and MA037T. (5/0)

EG012T Thermodynamics I 6
Includes basic elements of classical thermodynamics, including first and second laws, reversibility, irreversibility, Carnot cycle, properties of pure substances; closed simple systems and one-dimensional steady-flow open systems, and engineering applications. The course is a core course in the basic and applied science portion of the curriculum and is required of all engineers except those in chemical engineering. Prereq: CH005T or equivalent and one semester or two quarters of college-level calculus. (6/0)

***EG013T Introduction to Electrical Science 3**
Elementary d.c. and a.c. passive circuits. Complex impedance, network analysis, Thevenin's theorem and network theorems. Elements of transient response. Elementary electromagnetic theory. Coulomb's law, Ampere's law, Gauss's theorem. (3/2)

***EG014T Mechanics of Deformable Bodies 5 qtr hrs/3 sem hrs**
Investigation of resistance of materials to external stress. Studies stress-strain relationships in beams, columns, plates, shells and other structural elements. Prereq: MA037T and MA010T. (4/0)

VOCATIONAL-TECHNICAL COURSES

EG001U Statics 8
Studies composition and resolution of forces, equilibrium of force systems, plane trusses and structures, and friction. Prereq: Technical Math II. (6/4)

EG002U Kinematics of Mechanisms 7
Studies the analysis of kinematic systems for displacement, velocity and acceleration. Graphical and analytical methods are used in the solutions. Systems include linkages, cams and gear trains. (4/6)

EG003U Dynamics 7
Covers particles and rigid bodies in translation, rotation and plane motion; work and energy; and moments of inertia of mass. (4/6)

EG004U Machine Design 7
An application course in which the skills acquired during the first four quarters are focused on problems involving the size, shape and material requirements of machine parts for various loading conditions. Machine components that are analyzed are: shafts, weldments, fasteners, springs, clutches and brakes, gears and gear trains, bearings, and chain drives. (2/10)

- EG005U Engineering Materials** 2
Studies the terminology used in describing the properties of engineering materials. Reference descriptions are reinforced with actual tests conducted on ferrous metals to determine their mechanical properties. (1/3)
- EG006U Strength of Materials I** 4
An analytical study of material properties and the application with respect to joints, torsional devices and beams, including shear and moments, stresses, and beam design. (3/2)
- EG007U Strength of Materials II** 5
Studies the deflection of beams, statically indeterminate beams, combined stresses and columns. Provides complete structural analysis. (5/0)
- EG008U Engineering Problems** 3
Includes basic operations of scientific electronic calculators and an introduction to Fortran IV programming. (2/3)

EL: ELECTRICITY AND ELECTRONICS

- EL001U INTRODUCTION TO ELECTRONICS** 3, 4
Develops the student's ability to use electronic test equipment properly, function effectively in a laboratory and a shop environment, learn the basic skills necessary for a technician, and provides an overview of the field of electronics. (2/4)
- EL002U Electric Circuits I** 6
Studies resistive circuits with both constant and time-varying power sources. The first portions of the course introduce the physics of electricity, along with units, definitions, symbols and notations. The major portion of the course is a study of methods and techniques of analyzing circuits. Application of Fortran IV computer programming to circuit analysis also is introduced. (5/2)
- EL003U Electric Circuits II** 6
Studies the steady-state sinusoidal analysis. Includes reaction, resonance, and frequency response. Prereq: Electric Circuits I. (5/2)
- EL006U Communication Electronics** 7
Uses a systems approach to cover requirements and options relating to radio and communications, and examines modulation techniques including AM, FM, PM and SSB, as well as time division multiplexing and frequency division multiplexing. Prereq: EL015U. (4/6)
- EL007U Communication Electronics I** 5
Studies oscillator, amplitude and frequency modulation theory. A classroom and laboratory study is made of receivers and their associated circuits. Transmission of radio energy is introduced. Prereq: Electronic Circuits II. (3/5)
- EL008U Communication Electronics II** 5
Continues the study of communication systems, including antennas, transmission lines, F.M. multiplex systems, microwave systems, remote control devices and basic transmitter troubleshooting techniques. Prereq: EL007U. (3/4)
- EL010U Television Circuit Analysis** 7
Applies the general topics covered in Communications Electronics (EL006U) and Transmission Systems (EL012U) to the specific systems used for generation, transmission and reception of color television and stereo FM. Prereq: Communication Electronics and Transmission Systems. (4/6)
- EL012U Transmission Systems** 6
Continues the systems approach initiated in Communication Electronics (EL006U). Here topics include antennas, transmission lines, propagation of EM waves, waveguides and microwave devices. Prereq: Communication Electronics. (4/4)
- EL013U Industrial Electronics** 3
Takes theoretical as well as a laboratory approach to the analysis of control devices and circuits. Some of the topics covered include controlled rectifiers, thyristors, unijunction transistors and zener diodes. Prereq: Electric Circuits I. (2/3)
- EL015U Solid-state Circuit Analysis and Design** 7
An analytical approach, with laboratory applications, to solid-state circuitry and basic transistor amplifier analysis and design. Topics covered include biasing techniques, equivalent circuits and their parameters, small-signal amplifiers, large-signal amplifiers, multi-stage amplifiers, feedback and oscillators. The theory and application of field-effect transistors, unijunctions and new devices also are covered. Prereq: Electric Circuits II. (4/6)
- EL018U Fundamentals of Electrical Service** 5
Covers the generation, distribution and types of consumer power systems as they apply to rural electrical service. Use of tools, equipment, materials and fixtures as

they relate to layout of electrical circuits also is studied. (3/4)

- EL022U Network Analysis and Design** 4
Applies network analysis to such topics as filters, equalizers and tuned amplifiers. This course includes an introduction to filter network synthesis. Prereq: Transform Circuit Analysis. (3/2)
- EL026U Electricity** 3
Studies electric circuits and machines. Emphasis is placed on the fundamentals of electricity relative to the operation of electric machines. Topics covered are basic electricity (AC and DC), magnetism, DC generators, and motors. AC generators and motors, transformers, and basic electric machine control. Prereq: Technical Math II. (2/3)
- EL027U Basic and Applied Electricity** 8
Covers the diagnosis and repair of electrical problems as they relate to tractors, trucks and small engines. Modern test methods and equipment are stressed. (4/11)
- EL029U Electronic Circuits I** 12
Studies the theory and application of the physics of electricity as it is applied to the field of electronics. Included are definitions, symbols; components, Ohm's law, Kirchhoff's laws, Norton's and Thevenin's theorems, and the principles of magnetics. Laboratory experiments are designed to aid learning of the theories studied. Prereq: High School Algebra. (8/8)
- EL030U Electronic Circuits II** 10
Continues Electronic Circuits I, applying the laws from Circuits I to alternating current circuits, active devices, coupling methods, resonant circuits and radio frequency amplifiers. Prereq: Electronic Circuits I. (5/10)
- EL033U Electronic Test Methods** 3
Covers use of test equipment in performing measurements, alignment, trouble shooting, and in gaining an understanding of the types of circuits studied in Communications Electronics (EL006U). Prereq: Communications Electronics. (2/3)
- EL034U Transform Circuit Analysis** 4
Includes analysis of multiple-time constant circuits (R-L-C) by the use of Laplace transform techniques. Prereq: Electric Circuits III. (3/2)
- EL035U Active Devices** 7
Provides the student with a basic understanding of how active devices work, how amplifiers amplify, and how a circuit is analyzed and designed. The course provides a background needed to progress into more complex circuits and systems. Prereq: Electric Circuits I. (4/6)
- EL058U Design Projects I** 1
Allows the student to select, research, plan, design and make drawings of an electronics project that will be constructed in Design Projects II. This may be an individual or group project. Prereq: Solid-State Circuit Analysis & Design. (0/2)
- EL059U Design Projects II** 2
Provides final design, breadboard construction, testing, fabricating and retesting of the project started in Design Projects I. Prereq: Design Projects I. (0/4)
- EL060U Microprocessors I** 3 or 5
Studies microcomputers based on the 8080A microprocessor. Includes interfacing device select pulses, instruction set, data bus techniques, input/output techniques, flags and interrupts. Lab work provides experience in programming a microcomputer, and designing and constructing computer circuits. Prereq: EL061U. (3/0-4)
- EL061U Digital Circuits and Systems** 3-4
Applies basic digital principles to more complex digital circuits including the basic microprocessor. Includes registers, encoders, decoders, converters, counters, memory elements and arithmetic circuits. (3/0-2)
- EL062U Digital Principles** 5-6
Introduces the basic digital concepts. This course covers number systems, Boolean expressions, logic circuits, gates, and the operation of flip-flops. (5/0-2)
- EL063U Microprocessors II** 3 or 4
Applies basic digital principles to more complex digital circuits including the basic microprocessor. The student learns to write programs in the 8080 language, debug assembly language programs, and provide I/O device controls in assembly language. Prereq: EL060U. (3/0-2)
- EL001V Electronic Shop Methods** 1
Covers the shop skills needed by technicians in a modern electronics service center. Topics included are soldering techniques, wiring parts placement, and the use and care of hand tools. (0/3)
- EL002V Audio Systems** 8
Covers basics of solid-state amplifiers including the various amplifier types and bias configurations. Other topics covered include hi-fi and recording systems, distortion, decibels, and signal characteristics. Prereq: Introduction to Electronics. (4/8)

EL003V Broadcast Systems 4
Includes a study of the complete systems for generation, transmission and reception of color television and broadcast FM stereo. Prereq: Audio Systems. (3/2)

EL004V Television I 11
Includes a study of the TV broadcast system, transmitter systems, receivers, troubleshooting techniques and alignment procedures. (5/12)

EL005V Television II 4
Extends the student's experience into color television, covering such topics as transmitters, receivers and receiver servicing. Prereq: Television I. (2/5)

EL006V Troubleshooting 5
Offers practical experience in troubleshooting electronic equipment in a service shop atmosphere, with student responsibility in the areas of supervision, scheduling of work, safety, showroom displays, technical testing, measuring and troubleshooting. Prereq: Communication Electronics I. (1/9)

EL008V Electrical Principles 11
Studies the theory and application of the physics of electricity, including definitions, symbols, components, Ohm's law, Kirchhoff's laws and the theory of magnetism. Laboratory experiments are designed to enhance the learning of the theories studied. (8/7)

EL009V Shop Processes 2
Develops skills in the use of hand tools, drill press, oxyacetylene welding and brazing. Also covered are care of tools, inventorying, soldering and wiring techniques. (0/5)

EL010V Electrical Circuits 10
Studies electrical circuits including motors, circuit breakers, controls, three-phase systems, transformers, relays and the proper use of special measuring instruments. Prereq: Electrical Principles. (5/10)

EL011V Diagram Interpretation 3
Develops skills in reading schematics, wiring diagrams and blueprints. (2/3)

EL012V Electro-mechanical System I 4
Studies real systems, both mock-up and actual equipment. Included are such things as motor control panels, and appliances such as automatic washers, dryers and dishwashers. Prereq: EL008V. (3/2)

EL013V Digital Circuits 2
Introduces the service technician to electronic computer circuits. Some of the topics studied are logic gates, number systems, arithmetic circuits, flipflops, counters and converters. (1/2)

EL014V Electro-mechanical Systems II 7
Continues Electro-mechanical Systems I; this course also includes refrigerator, electric ranges, garbage disposers, and small appliances, as well as industrial systems. Prereq: EL0012V. (5/5)

EL015V Control Circuit Devices 5
Introduces vacuum and gas tubes, and solid-state devices. Use of these devices in control circuits is stressed. Emphasis also is placed on silicon-controlled rectifiers, diodes, transistors, phanotrons and thyratrons. Prereq: EL010V. (4/3)

EL016V Control Circuits and Systems 8
Studies the types of control circuits and systems found in industry and in home appliances. Some of the topics covered include welding controls, motor controls, automatic door openers, temperature controls, humidistats and warning devices. Prereq: EL015V. (5/7)

EL017V Equipment Troubleshooting 10
Offers the student the opportunity to troubleshoot all types of electro-mechanical equipment. It provides an opportunity for the student to practice all of the troubleshooting techniques learned during the course. Prereq: EL014V. (5/10)

EL018V Principles of Refrigeration 7
Familiarizes the student with basic refrigeration terms and the major components, tubing and fittings in a refrigeration system. Also acquaints the student with the principles of heat quantity measurements, and the theory of refrigeration and refrigeration systems. Prereq: EL012V. (5/5)

EL019V Basic Electricity 1-2
Addresses the basic concepts of electricity including definitions, voltage and current measurements, and energy consumption. Circuit and equipment protection devices and personal safety also are discussed. (2-1/0)

EV: ENVIRONMENTAL STUDIES AND POLLUTION CONTROL

COLLEGE TRANSFER COURSES

EV001T Man in the Environment: Atmosphere 4
One of three non-sequential courses in the interdisciplinary area of man and the environment. All three quarters are taught cooperatively by a social scientist, a biologist and a physical scientist, with subject matter coming from a variety of disciplines. This quarter deals with weather, air pollution, and noise. Problems, concepts, and alternatives are studied for each topic. Three hours science credit and one hour social science credit. (4/0)

EV002T Man in the Environment: Hydrosphere 4
Includes interaction of atmosphere hydrosphere and lithosphere biology of a closed ecosystem, ecology, water environment, pollution of waters, thermal pollution, wastewater treatment, control technology, humanity and water, legislation and pollution control. Three hours science credit and one hour social science credit. (4/0)

EV003T Man in the Environment: Lithosphere 4
Emphasizes land-based problems of environmental interactions. Topics are: the urban environment, transportation, population, food, solid waste, national priorities, economics of pollution, legal aspects of pollution, control enforcement, conservation, and comparative social and political systems, responses to environmental issues. Two hours science credit and two hours social science credit. (4/0)

EV007T Energy Today 4
Designed to examine energy concepts, problems and alternatives. Topics include energy sources (solar, nuclear, coal, etc.), energy conservation for the consumer, energy in living systems, and politics and economics of energy production, distribution and use. Three hours science credit and one hour social science credit. (4/0)

VOCATIONAL-TECHNICAL COURSES

EV004U Introduction to Environmental Health 2
Includes an understanding of the history and philosophy of the environmental health profession and the development of a professional code of ethics. The basic elements of environmental control of water, air, food, insects, rodents, and waste materials are included. (2/0)

EV009U Recreational Sanitation 2
Examines the application of sanitation principles to recreational facilities. The study of sanitation control at mass gatherings, swimming pools and parks is included. Recreational sanitation programs are developed and evaluated. Prereq: EV004U, EV015U or approval of department head. (1/2)

EV010U Solid Waste Management 2
Examines the principles of collection, handling, storage, and disposal of solid wastes by landfilling, incineration and composting. Developing community solid waste control programs and codes are studied. The course includes studies of techniques for nuisance investigations and solid waste problem solving. (1/2)

EV013U Supervised Field Studies 12
Offers supervised on-the-job training in inspection procedures, complaint investigations, food, water and milk sampling, report writing, and administration in a typical work environment. (0/36)

EV014U Seminar: Environmental Health 2
Studies problems encountered during the student's field learning experience. (2/0)

EV015U Insect and Rodent Control 2
Includes identification of insects and rodents of public health significance. The course explores techniques of surveying for insects and rodents. Special consideration is given to the techniques involved in the control methods for flies, mosquitoes, and household insects and rodents. (1/2)

EV018U Air Quality Management 4
Considers the sources of air pollution, the classification of pollutants, the meteorological aspects, the effects of atmospheric pollution, the prevention and control of air pollution, and the monitoring of pollutants. (4/0)

EV024U Diseases of Man 2
Develops an understanding of terms associated with disease transmission. The course examines various chains of transmission, and the cause and effect relationships of diseases associated with the environment. It studies the investigation of disease outbreaks caused by a breakdown of sanitation. (2/0)

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| EV025U Water Supplies I | 2 | Considers the various sources of water, the physical characteristics of water, and sources of water contamination. The types, construction, and protection of water wells are studied. Techniques of water-well inspection and code enforcement are emphasized. (1/2) |
| EV026U Wastewater Systems I | 2 | Defines the terms associated with wastewater disposal. The sources of wastewater and the relationship to public health are studied. Soil percolation tests, and designing and inspecting septic tanks are practiced. Study of the sewage disposal code and its enforcement is included. (1/2) |
| EV027U Food and Milk Sanitation | 6 | Includes a basic understanding of milk and food microbiology. Techniques for inspecting milk sanitation on dairy farms and in milk-processing plants are investigated. Restaurant inspection and food manufacturing plant inspection are studied. Techniques for sampling and testing of milk and foods are presented. Prereq: EV004U, EV024U, or approval of department head. (4/4) |
| EV028U Shelter Environment | 6 | Examines planning, zoning, and proper land use. Techniques for housing and institutional inspection are included. Housing and sanitation surveys are made and evaluated. Studies of code enforcement of laws involving housing, nursing homes and schools are included. Prerequisite: EV004U, EV024U, EV015U or approval of department head. (4/4) |
| EV029U Water Supply Systems II | 3 | Examines methods of water acquisition and methods of water treatment as applied to small and large water systems. Sampling and analysis procedures for water quality are presented. Water distribution methods are discussed. Prereq: EV025U. (2/2) |
| EV030U Wastewater Systems II | 3 | Offers additional knowledge in private wastewater system design and investigation. A study of methods of collection and disposal of sewage employed by municipalities and other public entities is included. Laboratory and field testing techniques are introduced. Prereq: EV026U. (2/2) |
| EV031U Quality Control Product Analysis | 2 | Introduces methods of protein, moisture, fat, crude fiber, ash, vitamins and mineral analysis. Course includes methods of sampling and product inspection. (0/4) |
| EV032U Basic Chemical Instrumental Methods | 3 | Introduces methods of chemical analysis stressing the use of instruments such as ultraviolet, visible and infrared spectroscopy, atomic absorption, potentiometric, and gas liquid chromatography. Students will also learn basic electronic troubleshooting, and preventive maintenance related to chemical instruments and equipment. (2/3) |
| EV033U Laboratory Management and Safety | 2 | Introduces techniques in laboratory management in such areas as purchasing chemicals and equipment, chemical storage, recordkeeping, inventory control and quality control programs. Also includes techniques in lab safety procedures. (2/0) |
| EV034U Agricultural Product Analysis | 2 | Introduces methods of basic soil analysis, fertilizer analysis for nitrogen, phosphorous and potassium, fecal stock analysis and moisture treating. (0/4) |
| EV027V Water and Wastewater Plant Administration | 2 | Offers instruction and practice in planning and conducting an organized system of plant recordkeeping and report writing. An introduction to personnel procedures, public relations, and municipal management responsibilities in water and wastewater processing is included. (2/0) |
| EV030V Water Treatment | 3 | Offers instruction in water treatment methods, equipment, maintenance, and plant control. Hands-on pilot plant operation of coagulation, softening, sand filtration, and chlorination units is included. Prereq: Introduction to Water and Wastewater. (1/5) |
| EV034V Wastewater Collection | 2 | Covers the collection of wastewaters by gravity and pumping. Discussion of design, installation, maintenance, and repair of wastewater collection systems is included. Manhole safety is emphasized. (1/2) |
| EV035V Introduction to Water and Wastewater Treatment | 2 | Introduces the basic concepts and principles of water and wastewater treatment. Emphasis is placed on terminology and unit process identification. (2/0) |
| EV036V Basic Laboratory Skills | 2 | Emphasizes the use and care of basic laboratory glassware and equipment, including laboratory safety procedures. Discussion of basic chemical equations, solutions, and acid/base titrations is included. (1/3) |
| EV038V Water Analysis | 2 | Covers basic principles of approved chemical and microbiological analyses of potable water. Laboratory techniques include hardness, iron, alkalinity, fluoride, chlorine, turbidity, and coliform determinations. Discussion and demonstration of advanced analytical procedures are included. Prereq: EV036V. (0/4) |
| EV039V Pumps | 1 | Includes instruction in basic operating principles, maintenance, and repair procedures of pumps typically found in water and wastewater treatment facilities. (0/2) |
| EV040V Basic Environmental Science | 3 | Addresses cycles of nature, with emphasis on ecological and microbiological theory as it relates to water and wastewater treatment. An introduction to the organic chemistry and physics of wastewater treatment is included. (2/2) |
| EV041V Wastewater Treatment I | 3 | Focuses on the operation and maintenance of wastewater treatment processes. Pretreatment, sedimentation, trickling filters, and basic solids handling are covered. Hands-on operation of the pilot wastewater treatment plant is included. Prereq: EV035V. (0/6) |
| EV042V Wastewater Analysis I | 2 | Provides instruction in the basic parameters of wastewater analysis, with emphasis on approved BOD, solids, and ammonia analysis procedures as required by state and federal discharge permits. Prereq: EV036V. (1/3) |
| EV043V Operations Reports | 1 | Presents instruction in the proper method for completing state and federal discharge permit reports. (1/0) |
| EV044V Water Resources | 2 | Surveys the hydrologic cycle and its relationship to water as a resource for human consumption, and agricultural and industrial usage. Includes discussion of water pollution and its effects on man and the environment. (2/0) |
| EV045V Wells | 2 | Provides instruction on ground water movement, general design, construction, and maintenance of water wells, and calculation of well performance. (2/0) |
| EV046V Water Distribution | 2 | Focuses on design principles, installation, repair and operation of water distribution and storage components, such as hydrants, meters and cross-connection prevention devices. Includes discussion of basic hydraulics and flow measurement devices. Prereq: Introduction to Water and Wastewater Treatment. (1/3) |
| EV048V Wastewater Analysis II | 2 | Covers advanced wastewater analysis procedures such as oils and grease, COD, seeded BOD, fecal coliform, and phosphorus determinations. Discussion and demonstration of other advanced procedures are included. Prereq: Wastewater Analysis I. (0/4) |
| EV049V Lagoons | 2 | Discusses principles and concepts of operation and maintenance of waste and stabilization lagoons, series flow, parallel flow, fill and draw operations, loading, detention time, and drawdown. (2/0) |
| EV050V Special Projects | 2 | Offers special investigative projects related to water or wastewater plant operations selected by the student with approval of the department advisor. Prereq: approval of instructor. (0/4) |
| EV051V Internship | 4/8/12 | Offers a supervised training period in a water or wastewater treatment plant. The student participates in the routine daily operation and maintenance of the host water or wastewater treatment facility. Prerequisite: approval of instructor. (0/40) |
| EV052V Sludge Treatment and Disposal | 2 | Discusses principles and concepts of operation and maintenance of sludge treatment and disposal unit. Topics include anaerobic digestion, aerobic digestion, dewatering and drying techniques. (1/2) |
| EV053V Wastewater Treatment Plant Troubleshooting | 1 | Focuses on process control for plant operation. Students identify selected problems in plant processes and develop viable approaches to problem solving. (0/2) |
| EV054V Activated Sludge and Rotating Biological Contactors | 2 | Emphasizes the operation and maintenance of activated sludge and rotating biological contactors treatment units. Hands-on operation of the activated sludge plant and rotating biological contactors is included. (1/2) |
| EV055V Treatment Plant Operation | 2 | Offers supervised training period in either water and/or wastewater treatment plant operation. The student participates in routine operation and maintenance of the pilot plant. Prereq: EV041V, EV039V, EV054V, EV052V. (0/4) |

FL: FOREIGN LANGUAGES

Individualized Foreign Language Program

All courses in the Department of Foreign Languages are on a modular system of individualized instruction. Instructors, native consultants and paraprofessionals assist the student. Students who have had previous language study should consult the department head for correct placement.

- FL001T Elementary French I** 4
Develops fundamental skills in the French language. The emphasis is on acquiring the proficiency to communicate with the native speaker in everyday situations. Includes activities that promote an understanding and knowledge of French-speaking peoples and their culture. (4/0)
- FL002T Elementary French II** 4
Continues Elementary French I. Prereq: Elementary French I or equivalent. (4/0)
- FL003T Elementary French III** 4
Continues Elementary French II. Prereq: Elementary French II or equivalent. (4/0)
- FL004T Intermediate French I** 3
Develops fundamental skills in the French language. The emphasis is on acquiring the proficiency to converse easily with the native speaker on general topics and to read contemporary materials. Includes activities that promote an understanding and knowledge of French-speaking peoples and their culture. Prereq: Elementary French III or equivalent. (3/0)
- FL005T Intermediate French II** 3
Continues Intermediate French I. Prereq: Intermediate French I or equivalent. (3/0)
- FL006T Intermediate French III** 3
Continues Intermediate French II. Prereq: Intermediate French II or equivalent. (3/0)
- FL007T French Civilization I** 3
Provides readings on France, the French people and their way of life, and the provinces. Course is conducted in French. May be taken as independent study. Prereq: Intermediate French III or equivalent. (3/0)
- FL008T French Civilization II** 3
Provides readings on French history, politics, unions, education, and the economy. Course is conducted in French. May be taken as independent study. Prereq: Intermediate French III or equivalent. (3/0)
- FL009T French Civilization III** 3
Provides readings on the cultural heritage of France from the Middle Ages to the present. Units include literature, music, art, drama. Course is conducted in French. May be taken as independent study. Prereq: Intermediate French III or equivalent. May be repeated for credit. (3/0)
- FL010T Elementary German I** 4
Develops fundamental skills in the German language. The emphasis is on acquiring the proficiency to communicate with the native speaker in everyday situations. Includes activities that promote an understanding and knowledge of the people of Germany and their culture. (4/0)
- FL011T Elementary German II** 4
Continues Elementary German I. Prereq: Elementary German I or equivalent. (4/0)
- FL012T Elementary German III** 4
Continues Elementary German II. Prereq: Elementary German II or equivalent. (4/0)
- FL013T Elementary Spanish I** 4
Develops fundamental skills in the Spanish language. The emphasis is on acquiring the proficiency to communicate with the native speaker in everyday situations. Includes activities that promote an understanding and knowledge of the Spanish-speaking peoples and their culture. (4/0)
- FL014T Elementary Spanish II** 4
Continues Elementary Spanish I. Prereq: Elementary Spanish I or equivalent. (4/0)
- FL015T Elementary Spanish III** 4
Continues Elementary Spanish II. Prereq: Elementary Spanish II or equivalent. (4/0)
- FL016T Intermediate Spanish I** 3
Develops fundamental skills in the Spanish language. Emphasizes acquiring the proficiency to converse easily with the native speaker on general topics and to read contemporary materials. Includes activities that promote an understanding and knowledge of Spanish speaking peoples and their culture. Prereq: Elementary Spanish III or equivalent. (3/0)
- FL017T Intermediate Spanish II** 3
Continues Intermediate Spanish I. Prereq: Intermediate Spanish I or equivalent. (3/0)

- FL018T Intermediate Spanish III** 3
Continues Intermediate Spanish II. Prereq: Intermediate Spanish II or equivalent. (3/0)
- FL019T Spanish Civilization** 3
Provides readings on Spain, the people and the land, their history and way of life. Students may choose to emphasize a special interest area. Conducted in Spanish. May be taken as independent study. Prereq: Intermediate Spanish III or equivalent. May be repeated for credit. (3/0)
- FL020T Spanish-American Civilization** 3
Provides readings on the Spanish-speaking countries of the Western Hemisphere. Student may choose a special interest area: Mexico, Central America, South America, or some common aspect of all or several of these countries. Conducted in Spanish. Prereq: Intermediate Spanish III or equivalent. May be repeated for credit. (3/0)
- FL023T Intermediate German I** 3
Develops fundamental skills in the German language. Emphasizes acquiring the proficiency to converse easily with the native speaker on general topics and to read contemporary materials. Includes activities that promote the understanding and knowledge of German people and their culture. Prereq: Elementary German III or equivalent. (3/0)
- FL024T Intermediate German II** 3
Continues Intermediate German I. Prereq: Intermediate German I or equivalent. (3/0)
- FL025T Intermediate German III** 3
Continues Intermediate German II. Prereq: Intermediate German II or equivalent.
- FL031T Advanced German I** 3
Provides for improvement of speaking, reading and writing skills through multimedia materials on contemporary German civilization. Prereq: Intermediate German III or equivalent. (3/0)
- FL032T Advanced German II** 3
Continuation of Advanced German I. Prereq: Advanced German I or equivalent. (3/0)
- FL033T Advanced German III** 3
Continuation of Advanced German II. Prereq: Advanced German II or equivalent. (3/0)

FS: FIRE SAFETY

COLLEGE TRANSFER COURSES

- FS001T History and Philosophy of Fire Science** 2
Provides a basic description and explanation of the core courses required for the associate degree. Discusses history and philosophy of fire protection; organization at the local, state and national level; relationships with the insurance industry, governmental bodies and other agencies. Includes a study of how our fire services are organized, an introduction to basic fire problems, and an evaluation and survey of fire protection. (2/0)
- FS002T Fire Protection Systems and Equipment** 4
Examines the in-house devices and systems utilized to support the role of the fire service in the detection and suppression of fire. (4/0)
- FS003T Industrial Fire Protection and Security** 2
Develops the precautions and safeguards essential for protection of lives and property in various types of occupational establishments. (2/0)
- FS004T Fluid Flows** 4
Involves application of the laws of hydraulics, design features, flow characteristics and tests needed to ensure adequate water supplies on the fire ground. Flow testing is an integral part of this course. (4/0)
- FS005T Strategic Planning for Fire Protection** 3
Designed to help the student understand the overall fire problem at the area, community, multiple building complex, or the individual building levels. The course provides the student with the ability to identify overall and specific fire problems. It describes the management tools (systems analysis) and data collection systems from which the student can then develop solutions and alternatives. (3/0)
- FS006T Fire Investigation** 2
Studies technical matters in a clear and useful manner, permitting the individual to go to the scene of a fire and come back with some answer as to what caused it, who set it, what defect was responsible, or generally, what happened. (2/0)

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| FS007T Hazardous Materials | 4 |
| Discusses the properties of chemically active and hazardous materials, such as flammable liquids, combustible solids, oxidizing and corrosive materials, and radioactive compounds, as they are related to materials and processes connected with transportation, storage, usage and fire potentials. (4/0) | |
| FS008T Tactics for Fire Protection | 3 |
| Includes organization for major fires, including pre-planning, command post operations, utilization of manpower and equipment for large scale operations, and supply and communication. (3/0) | |
| FS009T Fire Protection Administration and Management | 2 |
| Includes application and implementation in the fire service: relationship of administration at various levels of the organization including communications, legal aspects, budgeting and evaluation of fire data for statistical purposes. Provides an in-depth study of management as it is defined: a dynamic process that effectively utilizes all resources, human and material, in the achievement of policy and goals established for the department. (2/0) | |
| FS010T Building Design for Fire Protection | 4 |
| Studies building construction as it relates to its reaction under fire conditions. Interpretation and application of fire prevention in building codes as they are related to the structural strengths of a particular design. (4/0) | |
| FS012T Fire Behavior | 4 |
| Involves a qualitative study of chemical and physical aspects of fuels, the combustion process and the products of combustion as these aspects apply to the causes, spread and the extinguishing of a fire. A combination lecture, demonstration and class participation course designed to teach the basic facts necessary to understand fire behavior. The latter part of the course will include the principles of fire suppression. (4/0) | |
| FS013T Fire Insurance | 3 |
| Presents basic concepts of how fire insurance industries operate. Discusses insurance contracts, basic insurance terminology, basic rate structures, how rates are set, how debits and credits are assessed, and buying an insurance contract. (3/0) | |

GE: GEOGRAPHY

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| GE001T Human Geography | 4 |
| Studies the geography of population and the principle ways of life with consideration of the capacity of the earth for future population growth. (4/0) | |
| GE004T Of Earth and Man: Introduction to Geography | 4 |
| Compares the activities of men in societies occupying similar environmental zones. A presentation of the range of choices that we face in meeting the challenges of human existence. This course is concerned with the relationship of man, culture and environment, and seeks to develop an understanding of that complex relationship. (4/0) | |

GR: GRAPHICS

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| GR001U Electronic Drawing | 3 |
| Studies the theory of orthographic projection, and provides familiarization with drawing instruments, materials and drafting practices as applied to electronics. Students do a block diagram and a schematic of a selected system. (1/5) | |
| GR002U Engineering Drawing I | 6 |
| Deals with the following topics: the use of drawing instruments, geometric constructions, orthographic projection, freehand drawing, isometric and oblique pictorial drawing, auxiliary and sectional views. (2/8) | |
| GR003U Engineering Drawing II | 6 |
| Studies dimensioning and tolerancing practices. Weldments and structural assemblies, and assemblies utilizing the more commonly used fasteners are drawn. A major part of the quarter is spent in drawing a complete set of working drawings including assemblies, details and bills of materials. (2/8) | |
| GR004U Engineering Drawing III | 5 |
| Covers more specialized areas of drawing such as the graphing of engineering data, and the drawing of gears, profiles, motion diagrams, and linkages. Intersections and developments of sheet metal parts are drawn. (0/10) | |

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| GR005U Design Problems I | 2 |
| Concentrates on design principles, design procedures, design problem observations, design problem solutions, layouts, working drawings, design collateral, specifications and vendor research. (2/3) | |
| GR006U Design Problems II | 6 |
| Includes instruction in design principles and procedures, problem observations and problem solutions. (1/11) | |
| GR007U Layout and Design | 4 |
| Studies two-dimensional design and its relationship to graphic reproduction in terms of balance, contrast, color, form and texture for specified communications. Covers the application of design theory to actual production work in a laboratory environment. (1/7) | |
| GR009U Typography | 3 |
| Studies typefaces as related typographic design and layout. Historical evolution of type is traced from the origins of the alphabet to the present. Discusses terminology, including the several ways in which type is composed. A prerequisite for this is a typing course. (1/4) | |
| GR011U Copy Preparation I | 7 |
| Presents an introduction to cold-type composition. Basic elements of simple strike-on paste-up, and an overview of high-speed typesetting systems. (2/10) | |
| GR012U Copy Preparation II | 8 |
| Covers advanced elements of cold-type composition, including photo-mechanical typesetting, preparation of artwork with intent for color, photo-mechanical transfer techniques, and line and halftone considerations. Prereq: Copy Preparation I or consent of instructor. (2/13) | |
| GR019U Platemaking I | 1 |
| Presents an introduction to the kinds of lithographic plates, nomenclature and specific applications for each in the printing cycle. Exposure and development of plates is stressed. (.50/1.16) | |
| GR020U Platemaking II | 3 |
| Surveys the chemistry involved in preparing plates as related to problems encountered on the press: length of run, additions, deletions, and proper application of preservatives. Prereq: Platemaking I or consent of instructor. (1/4) | |
| GR021U Process Camera I | 2 |
| Studies high-contrast photography as it relates specifically to the lithographic process. Emphasis is placed on the production of line negatives and positives, with an introduction to contact printing. (1/1.66) | |
| GR022U Process Camera II | 4 |
| Presents advanced techniques of line and halftone negatives, including an introduction to the theory of special effects. Related darkroom operations and nomenclature. Prereq: Process Camera I or consent of instructor. (1/7) | |
| GR023U Process Camera III | 2 |
| Offers advanced theory and practical application of photographic sensitized materials applicable to the lithographic printing processes. Attention is given to special effects, photographic techniques, and an introduction to the theory of color separation. Prereq: Process Camera II or consent of instructor. (1/1.66) | |
| GR024U Stripping I | 2 |
| Covers simple stripping of negatives and positives to layout specifications for duplicator size presses. (.50/2.16) | |
| GR025U Stripping II | 3 |
| Covers advanced stripping techniques, including multiple impositions, color register and pin register systems. Introduces to step-and-repeat and multiple-burn stripping applications. Prereq: Stripping I or consent of instructor. (1/4) | |
| GR026U Stripping III | 2 |
| Offers a systematic application of advanced stripping techniques for single color and multiple color runs on duplicator and larger lithographic presses. Prereq: Stripping II or consent of instructor. (1/1.66) | |
| GR027U Offset Presswork I | 4 |
| Emphasizes the practical and technical aspects of offset printing including all machine parts and operations in the "make-ready" cycle related to duplicator size presses. (1/7) | |
| GR028U Offset Presswork II | 7 |
| Emphasis is placed on tone control and the press as related to line and halftone reproduction. Fountain solutions and formulae related to inks, paper, plates, pH control and associated techniques are studied. Prereq: GR027U or consent of instructor. (2/10) | |

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| GR029U Offset Presswork III | 4 |
| Advanced study of theory and practical aspects relating to color reproduction and plating, including operation of presses larger than duplicator. Consideration is given to troubleshooting and maintenance of large and small presses. Prereq: GR028U or consent of instructor. (1/7) | |
| GR030U Copy Preparation III | 8 |
| Studies advanced principles of preparing artwork for commercial offset, including newspaper, magazine and book publication techniques. Practical applications of high-speed phototypesetting systems. Prereq: GR012U or consent of instructor. (2/13) | |
| GR031U Bindery Operations | 1 |
| Offers practical application of the various binding operations, including fastening and covering printed materials, folding, stitching, cutting, trimming, punching and other associated finishing operations. (1/1.66) | |
| GR032U Architectural Drafting I | 13 |
| Covers sheet layout, orthographic projection, dimensioning, line quality, sketching, perspective and lettering. (2/22) | |
| GR033U Architectural Drafting II | 13 |
| Teaches the proper procedures in developing site plans, plan views (footing plans, floor plans and framing plans), elevations and wall sections. Prereq: GR032U. (2/22) | |
| GR034U Architectural Drafting III | 11 |
| Covers the development of a set of working drawings for a commercial or institutional type building. Students learn to use manufacturer's reference materials. Prereq: GR032U, GR033U. (2/18) | |
| GR035U Architectural Drafting IV | 14 |
| Enables student teams to develop a set of working drawings for an addition to an existing building. Prereq: GR032U, GR033U, GR034U. (2/27) | |
| GR036U Related Disciplines | 2 |
| Covers graphic application of electrical, plumbing and mechanical work as related to architectural working drawings. (2/0) | |
| GR037U Blueprint Reading I | 5 |
| Designed to develop skills in reading actual blueprints of residential construction regarding placing of window and door openings, roof openings, stairwells, double joists, partitions, closets, hallways, and roof plans. Provides an introduction to materials estimating, the basic process of determining the amount of a specific material needed for a particular plan. Also covers price estimating, material planning and estimating delivery needs. (5/0) | |
| GR038U Blueprint Reading II | 3 |
| An introduction to the construction relationship between various allied trades by means of residential/commercial blueprint interpretation. It stresses the usage of instruction manuals, catalogs, graphic conversions or written instructions in actual application. (3/0) | |
| GR039U Principles of Drafting and Sketching | 4 |
| Introduces the student to general drafting techniques such as lettering, lines and symbols, dimensioning practices, orthographic projection, pictorial drawings, section views, floor plan views and elevation views. (Introduces "pencil talk", a vital part of communication-related crafts and technologies.) Covers interpreting of blueprints and plans, and the reading of specifications basic to the building trades. Also reviews basic arithmetic, fractions, decimals, percentages, and formulas necessary to solve construction problems. Emphasis will be placed on calculation of concrete projects, lumber measurements, floorings and flat work, labor cost and estimates. (3/2) | |
| GR001V Graphic Skills | 2 |
| Develops basic drafting skills, both freehand and with layout instruments. (1/2) | |

GS: GENERAL STUDIES

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| GS001G Introduction to the Associate of General Studies Degree | 3 |
| Introduces the goals, components and policies of the Associate of General Studies Degree program. The student will determine the appropriateness of this degree for achieving his or her educational goals, and acquire skills for developing a portfolio, securing available learning resources, writing learning objectives, developing evaluation procedures and developing a preliminary plan. (3/0) | |
| GS002G Portfolio Development | 1-4 |
| Emphasizes the portfolio, which is the formal written communication in which the student defines and documents his or her learning experiences and requests col- | |

lege recognition towards the attainment of an Associate in General Studies degree. The process of developing a portfolio is for persons who have prior learning that cannot be easily measured through CLEP or proficiency exams. (1-4/0)

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| GS003G Final Plan Development: Associate in General Studies | 1 |
| Provides an opportunity for students to consult and receive direction and assistance from a mentor in the development of a final plan. Prereq: GS001G May be repeated with permission of department chairman and mentor. (1/0) | |
| GS004G Independent Projects: Associate in General Studies | 1-12 |
| Provides readings, papers and/or basic research or other projects under the individual guidance of a staff member. The course will allow students to explore and experience material not offered in other Kirkwood class offerings. Independent projects may be taken each quarter to a maximum of 12 credit hours. Prereq: Permission of department chairman. (1-12/0) | |

HE: HOME ECONOMICS

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| HE001U Introduction to Food Service/Hospitality Careers | 1 |
| Introduces students to careers in the hospitality/food service industry, as well as training requirements and personal characteristics desirable for employment in the industry. Guidance is offered in developing individual career goals. (1/0) | |
| HE002U Fashion History | 3 |
| Covers the development of costume and accessories as a part of a socio-economic and cultural force from ancient times to the present, and its relationship to fashion design and trends of today. (3/0) | |
| HE003U Textiles I | 3 |
| Studies natural fiber characteristics, yarn processing, fabric construction and fabric finishing. The qualities of fabrics are analyzed in relationship to factors of design, strength and durability. (3/0) | |
| HE004U Textiles I Laboratory | 1 |
| Studies properties of fabrics and fibers. Offers directed laboratory activities that provide knowledge for fabric identification and analysis of fiber characteristics. (0/2) | |
| HE005U Food Production I | 6 |
| Provides experience in the use and care of small and large quantity cooking equipment. Emphasizes kitchen procedures, work simplification processes, and kitchen safety and sanitation. Introduces food preparation skills and techniques for yeast breads, quick breads, pastry, cakes, cookies, other desserts, salads, dressings, sandwiches, eggs, beverages, fruits, vegetables, appetizers, relishes, milk and milk products, breakfast dishes, condiments and seasonings. (0/12) | |
| HE006U Food Production II | 6 |
| Provides continued experience in the use and care of equipment, safety, sanitation, and work simplification procedures. Includes large and small quantity food production in meat, poultry, fish, seafoods, soups, sauces, gravies, yeast breads, convenience and synthetic foods, dehydrated and concentrated foods. Prereq: HE005U (0/12) | |
| HE007U Food Production III | 5 |
| Offers field studies to complement employment experiences. Specialized projects such as catering, cake decorating, etc., enable the student to develop areas of specialty. Prereq: HE006U (0/12) | |
| HE008U Menu and Servicing Fundamentals | 3 |
| Applies basic nutrition principles and aesthetic values to menu planning, and directs study toward the various forms of commercial/institutional menus, and their relationships to food purchasing, costing, personnel, equipment and determination of selling price, dependent upon the types of establishment. (3/0) | |
| HE009U Food Service Sanitation and Safety | 3 |
| Studies the relationship and requirements of food, food handling and food preparation necessary to produce safe and sanitary foods, including the study of food-borne illnesses, pest control, commercial dishwashing, personal sanitation and grooming and local sanitation regulations. Identifies safe working practices, conditions, equipment safety, OSHA requirements and basic first aid procedures. (3/0) | |
| HE010U Nutrition and Food Composition I | 4 |
| Studies the basic principles of nutrition in relation to feeding individuals of all ages. Emphasizes study of foods; their nutritional contributions, composition and characteristics, and requirements in handling, preparation, service and storage. (4/0) | |

- HE011U Nutrition and Food Composition II** 4
Continues study of foods; their nutritional contribution, composition, and characteristics; and requirements in handling, preparation, service and storage. Emphasis is on red meats, poultry and fish. Prereq: HE010U (4/0)
- HE012U Equipment and Design** 4
Studies the types and capabilities of commercial/institutional food service equipment available. Studies floor plans of commercial/institutional kitchens in relation to menu needs, work flow, space and personnel. Students design a commercial or institutional floor plan, including equipment, specifications and approximate cost. Includes field trip studies of large quantity kitchens and equipment companies. (3/2)
- HE013U Gourmet Foods/Catering** 3
Studies specialty, regional, national and "gourmet" foods. Include menu planning, preparation and service of above food types, and costing each type. Special emphasis is directed toward catering menus for various groups with study of menu needs and pricing, portion and cost controls, equipment and service. Prereq: HE007U or permission of instructor. (0/6)
- HE016U Quantity Food Purchasing** 3
Studies the requirements for quantity food purchasing related to food specifications, specification writing, and determining specifications according to various menu requirements. Includes study of inventories and relation of inventory records to purchasing. (3/0)
- HE017U Food Service Internship I** 6
Provides six-week employment experiences to apply competencies learned in the classroom and laboratory, to gain additional quantity food production experience and to develop the ability to work with food service-oriented people. Prereq: Successful completion of required classroom and laboratory courses. (6/36)
- HE018U Food Service Internship II** 6
Provides six weeks of employment experiences to apply competencies learned in the classroom and laboratory, to gain additional mid-management experiences in working with food service personnel and quantity food preparation and service. Students must meet with the instructor in seminars to discuss experiences and problems identified during the internship, to emphasize job-seeking skills and necessary interpersonal relationships with fellow employees, and to evaluate their personal objectives, goals and accomplishments. Prereq: Successful completion of required classroom and laboratory courses. (6/36)
- HE019U Textiles II** 2
Studies basic characteristics and principles of man-made fiber production, emphasizing fabric service-ability in specific end uses—clothing, household textiles, and non-wovens. Prereq: HE003U (2/0)
- HE020U Interior Analysis and Design** 5
An analysis of the interior, including the construction materials and mechanical systems. A study of graphic presentation as it interprets design for the consumer, including blueprint reading, perspective, elevations and medias. Emphasis on graphic presentation as a selling aid and communication tool with client and tradesman. Includes units on schedules, estimates, bids and contract. (4/1)

HY: HISTORY

- HY001T U.S. History (Seventeenth and Eighteenth Century)** 4
Surveys the social, political and economic history of the United States with emphasis on the forces resulting in the emergence of the new nation through the age of Jackson. (4/0)
- HY002T U.S. History (Nineteenth Century)** 4
Surveys the social, political and economic history of the United States from the 1840's through the Progressive Era. (4/0)
- HY003T U.S. History (Twentieth Century)** 4
Surveys the social, political and economic history of the United States from World War I to the present. (4/0)
- HY008T Independent Study in Social Sciences (History)** 0, 1, 2, 3, 4
Provides readings, papers and/or basic research or other projects under the individual guidance of a staff member. Prereq: Consent of instructor and department chairman is required before registering.
- HY016T Europe in the Age of Monarchy** 4
Explores the social, cultural, intellectual, economic and political foundations of Western civilization in Europe from the Middle Ages to Absolutism and Constitutionalism. (4/0)

- HY017T Europe in the Age of Revolution** 4
Studies four revolutions—the Scientific, the French, the Industrial and the Nineteenth Century Liberal revolutions—that changed the traditional Western society into the modern world. (4/0)
- HY018T Europe in the Age of Totalitarianism** 4
Examines themes of modern European civilization. Emphasis is on the development of nationalism, the rise of Communism and Fascism, and the changes in the present society. (4/0)

IS: INTERDISCIPLINARY STUDIES

- IS008T Science and Society** 4
Considers the interactions of science and society during past ages, in the present and for the future. Topics include fads and fallacies in science; interactions of science, music, art, literature and politics; government support of science; role of science in various civilizations; energy production and use; the space program; and "consumer survival." (4/0)
- IS009T Death and Dying** 4
Examines selected topics dealing with death and dying, including health care, religious, social, legal and funeral practices. (4/0)
- IS010T Man Evolving** 4
Considers biological evolution and applications to the history of man. Hypotheses and theories concerning origins of the earth, life, levels of life, man and races are examined. Topics investigated include primate classification and relationships, human evolution, anthropological and archaeological techniques, the evolution of prehistoric culture, man's migration into North America, etc. Concept-building subject areas include scientific method and logic, genetic principles, population genetics, evolutionary principles, and paleontological principles. (4/0)
- *IS014T Irony in Latin American Fiction** 1
Introduces plot and theme analysis as applied to four satirical Latin American short stories. (1/0)
- *IS015T Folk Music of the Andes** 1
Surveys forms and types of South American popular music. Recorded music and samples of lyric poems show a variety of ethnic elements in Latin American culture. (1/0)
- IS027T Environmental Encounters** 3-4
Utilizes a wilderness area as a living classroom to teach the concepts of environmental science, outdoor living skills, sensory awareness and self-expression, leadership training, group dynamics, history and personal values clarification. (0/9-12)
- *IS028T You and Your Community** 1
Focuses on historical development of the Cedar Rapids area and on the resources, operations and programs of educational and government agencies. The arts, business, industry and labor also are examined. (1/0)
- *IS033T Non-verbal Dimensions of Inter-cultural Communication** 1
Emphasizes the concept that examining the non-verbal behaviors of other cultures can broaden our awareness and understanding of ourselves as well as others. (1/0)
- *IS038T Introduction to Latin American Fiction** 1
Emphasizes perceptual tendencies in Latin American cultures revealed through the use of satire, symbolism and fantasy in novelettes and short stories. (12/0)
- *IS039T Foundations of Reasoning** 2
An interdisciplinary course introducing the techniques of problem analysis, decision making, logic, and creative thinking. Also includes a brief survey of historical perspectives of modern thinking as well as biological, physical, linguistic and psychological bases of reasoning. (2/0)
- IS041T Human Sexuality** 4
An overview of the psychological, sociological and biological aspects of human sexuality. Explores issues such as gender, sexual response, behavior, motivation, values, homosexuality, conception, contraception, sexual dysfunction, pornography, and legal issues. (4/0)
- IS042T Encounters in Humanities** 4
By asking a series of questions about various examples of human activity (literature, philosophy, history, visual arts and music), the course teaches a method of inquiry for use in understanding and appreciating the humanities. (4/0)
- IS001V Homemaker-Home Health Aide I** 5
A preparatory course for persons who desire employment as homemaker-home health aides. This course will address orientation to this occupation, and the follow-

ing topics as they relate to this occupation: human relationships, food/nutrition, home management, child care, elderly care, and care of the disabled. (5/0)

IS002V Homemaker-Home Health Aide II 3
Addresses health needs as they relate to this occupation, including medical ethics, types of patients, body mechanics, routine care procedures, and caring for patients in isolation. The second phase of 120-hour training for persons who desire employment as homemaker-home health aides. (1/4)

JO: JOURNALISM

JO101T Introduction to Communications Media 4
Presents a broad yet incisive picture of communications media. Print media, radio and television, advertising and public relations are examined from both the historical and contemporary perspectives. Use of educational media is also discussed. (4/0)

JO102T Journalism Laboratory 2
A laboratory for basic reporting and news writing. Combines weekly meetings and independent work on college publications. May be taken twice. (2/1)

JO103T Introduction to Photography 3
Introduces students to camera types, parts and techniques of film processing and printing. This is a fundamentals of photography course. (3/0)

JO104T Photo Journalism 3
Introduces students to the use of photography in journalism. Emphasis is on color photography and processing, time and business management, and sequencing and layout of photographic pictorials. Prereq: JO103T. (3/0)

JO105T Newswriting and Editing 3
Involves an in-depth study of objective news reporting, as well as training in writing and editing the news story, writing headlines, and layout. Prereq: CM101T. (4/0)

JO106T Promotion and Public Relations 3
Designed to teach students how to plan an effective promotion campaign by identifying target audiences, understanding the effect of mass communication media, and preparing materials for media campaigns. Students will be involved with campaign projects. (3/0)

***JO107T Advanced Layout** 2
Includes work with typography and two-dimensional design. Production-oriented assignments result in dummy sheets and actual paste-ups for newspaper, magazine, brochure and advertising formats. Prereq: CM214T. (0/4)

JO108T Advanced Reporting 3
Emphasis is on advanced reporting and writing. Students cover topics ranging from government and the courts to business, economic and social issues. Prereq: JO105T. (3/0)

LE: LAW ENFORCEMENT

LE002T Patrol Procedures 4
Studies the basic methods used by a police patrolman. Subjects covered are planning the patrol, methods of patrol, problems faced by the patrolman, relations with the public, specialized patrol activities, response for various types of emergency calls, and dealing with persons presenting such special problems as illness, intoxication, amnesia and mental illness.

LE004T Criminal Investigation 4
Presents the basic techniques of criminal investigation, including examination of the criminal scene, collecting physical evidence, interrogation and investigation, drawings, report writing and basic photography. Investigative methods related to specific crimes such as arson, burglary and homicide will be treated. Specialized detection methods and services of the crime laboratory will be included.

LE005T Crime Scene Investigation 4
Deals with advanced methods of criminal investigation, utilizing special methods and techniques as they apply to felony and misdemeanor cases. (4/0)

LE008T Independent Study in Criminal Justice 1-3
Provides readings, papers and/or basic research or other projects under the individual guidance of a staff member. Prereq: Consent of instructor and department chairman (hours arranged). May be repeated for up to 10 credit hours.

LE009T Introduction to Criminal Justice 4
Covers the various sub-systems in our present and past criminal justice system. It will hint at the future and study proposed changes that affect the major components of this sphere of knowledge. The major sub-components, including law enforcement, corrections (both adult and juvenile), and the courts will be discussed. (4/0)

LE010T Traffic Safety and Accident Investigation 4
Examines the development, purpose and organization of the vehicle code, supervision and control of traffic, selective enforcement procedures, and accident prevention and investigation. Also examines the purposes and analysis of accident statistics, report writing and courtroom presentations for prosecution of violators. (4/0)

LE012T History of Police in America 4
Traces the development of the police officer and the police organization, from the colonial period to modern times. Investigates the problems encountered during various periods of development of American police agencies. (4/0)

***LE014T Motorcycle Safety Education** 4
Develops the knowledge necessary to organize and administer the program. This would include class scheduling, instruction of staff, physical support, cycle procurement, community support and promotion. (3/2)

LS: LIBRARY SERVICES

LS001T Instruction in Educational Media 3
Covers the planning and production of different types of projected and non-projected teaching materials for use in the classroom, and selection, utilization and evaluation of audiovisual materials in educational programs. (3/0)

LS003T Library Literature 3
Considers the specialized materials commonly used by library personnel, including catalogs, indexes and other bibliographic tools. (1/3)

LS004T Public Services in the Library 3
Provides an understanding of the function and operation of public service procedures in various types of libraries. (3/0)

LS006T Technical Processes 3
Covers principles and practice of technical procedures, involving the ordering and typing of catalog cards, filing, preparation of new material, and maintenance of the current collection. (3/0)

LS007T School Library Operations 3
Covers library service to children and adolescents, and those operations and routines which are common to school libraries. The latter include library instruction and orientation, story hours, construction of displays and bulletin boards, reserve work, technical services in the school library, and direct cooperative projects with classroom teachers. Also included are circulation and shelving routines. (3/0)

LS008T Introduction to Uses of the Library I 1
Provides basic skills in library research. Covers library classification systems, and use of the card catalog and pamphlet file. (1/0)

LS009T Introduction to Uses of the Library II 1
Continues work in basic library skills begun in Uses of the Library I. Examines periodical indexes. (1/0)

LS010T Introduction to Uses of the Library III 1
Final course in the sequence. Examines various types of reference sources. Prereq: LS009T. (1/0)

LS011T Library Technician Practicum 4
Offers experience in a library setting where students serve as aides. Students spend 10 to 12 hours per week working under the supervision of a librarian. Prereq: consent of instructor. (0/10-12)

LT: LITERATURE

LT001T Children's Literature 4
Analyzes children's reading interests by examining the three levels of ability and the types of literature available. It is primarily a historical survey of the literature with emphasis on contemporary literature. Prereq: CM101T or consent of instructor. (4/0)

LT002T Science Fiction 4
Includes the study of short stories and novels of the science fiction genre. Special emphasis is on utopian and fantasy science fiction. Authors studied include Herbert, Brunner, Vonnegut, Asimov and Heinlein. Prereq: CM101T or equivalent. (4/10)

LT003T Selected Topics 2, 3
Offers specialized study in interest areas. Areas may include special courses in mythology, American culture, detective novels or other concentrations. (2-3/0)

- LT101T Introduction to Fiction** 4
Introduces the techniques and purposes of the novel and the short story. Both forms are based on the students' interests, and broadening and refining those interests. Intensive analytical and interpretative reading, and extensive comparative reading will help to enrich and improve the students' literary tastes. In addition to basic texts, supplemental reading lists will refer students to a variety of library reading in the novel and short story. Prereq: CM101T or equivalent. (4/0)
- LT102T Introduction to Dramatic Literature** 4
The purposes and kinds of dramatic works will be analyzed, and extensive comparative reading will indicate some of the significant types and forms used in dramatic convention. In addition to the study of a number of individual plays, supplemental reading will refer students to a variety of dramatic works. Prereq: CM101T or equivalent. (4/0)
- LT103T Introduction to Poetry** 4
Develops skill in interpreting the elements of the formal structure of poetry, and evaluates different theories of how poems gain meaning. The study develops a perceptive acquaintance with a large number and variety of the world's poetry. Prereq: CM101T or equivalent. (4/0)
- LT104T American Literature** 4
Introduces major American prose literature with a concentration on writers from 1820 to 1925. Prerequisite: CM101T or consent of instructor. (4/0)
- LT105T The Shakespeare Plays I** 2 or 4
An introduction to the drama of William Shakespeare. Students view professional television productions of each play studied. Staging, plot, characterization, and the use of language are discussed within the context of each play. (24-48/0)
- LT201T Masterpieces of World Literature: The Ancient World** 4
Analyzes selected writings from the Bible, Greek drama, and Greek and Roman narrative poetry. These works will be approached primarily on their contextual basis, with some attention to style, meaning and form. Prereq: CM101T or equivalent. (4/0)
- LT202T Masterpieces of World Literature: Medieval, Renaissance and Neo-classical Periods** 4
Studies epic poetry of the medieval period, some of Chaucer's works, and some of Shakespeare's plays and poetry. These works will be explored using a combination of generic, social-cultural, mythical and comparative approaches. Prereq: CM101T or equivalent. (4/0)
- LT203T Masterpieces of World Literature: 19th and 20th Centuries** 4
Discusses selected prose and poetry of nineteenth and twentieth century Europe and America. Works will be read as masterpieces of art and studied by employing a combination of critical approaches. Prereq: CM101T or equivalent. (4/0)
- LT204T Black Literature** 4
Analyzes American Black literature as art forms and for sociological impact, and provides a historical overview of significant Black writers. Prereq: CM101T or equivalent. (4/0)
- LT205T Independent Study in Literature** 1-4
Provides readings, papers and/or research projects in literature under the guidance of a staff member. Consent of instructor and department chairman is required before registering.
- LT209T Literature of Terror** 4
Explores fear or horror in literature from medieval times to the present. Beginning with the medieval folk tale and ending with twentieth century psychological horror, this course will attempt to show how literature has dealt with the theme of fear throughout western history. This course will be concerned with horror fiction as a reflection of historical phenomena, but also as a work of art understandable in its own terms. Prereq: CM101T or equivalent. (4/0)
- LT210T Popular Literature** 4
Includes a survey of popular literature, which covers such genres as the thriller, the romance, the detective, the western and science fiction. The course attempts to evaluate their effect on modern society and to give these types of literature their place on the literary scene. Prereq: CM101T or equivalent. (4/0)
- LT211T Introduction to Film** 4
Covers film history, criticism and analysis of major films. The works of Chaplin, Renoir, Cocteau, Bergman, Antonioni and Truffaut will be viewed and analyzed. The emphasis of the course is upon criticism and analysis of film as an artistic medium and upon the historical and societal implications of the film. Prereq: CM101T or equivalent. (4/0)

LW: LAW

- LW001T Criminal Procedural Law** 4
Deals with the procedural aspects of the criminal justice system; includes the limits on prosecution; proceedings prior to trial; and the rights and privileges of the defendant. Emphasis is on the safeguards and protections of "due process" as they relate to procedures. (4/0)
- LW002T Criminal Evidence** 4
Studies the kinds and degrees of evidence, and the rules governing the admissibility of evidence in court. (4/0)
- LW003T Criminal Law** 4
Reviews the historical development of criminal law and the resultant philosophy of law that has developed. The law-making process, with the societal and political influences, is examined and discussed. Comparisons of common law with contemporary law are analyzed in an attempt to determine what impact historical events and societal changes have had in bringing about change. (4/0)
- LW004T Applications of Criminal Law** 4
Examines specific definitions of criminal behavior as set forth by law. Subjects include: homicide, robbery, burglary, arson, larceny, rape, auto theft and others. Study will progress from historical definitions to contemporary Iowa law. (4/0)
- LW005T Business Law I** 4
Surveys principles of law as applied to business relationships and transactions. (4/0)
- LW006T Business Law II** 4
Studies partnerships and corporations, real property, negotiable instruments, sales, insurance, trusts and estates, government and business. Prereq: Business Law I. (4/0)
- LW007T Constitutional Law** 4
Studies the development of fundamental principles in Constitutional law, integrating both case-by-case study of United States Supreme Court decisions and broad examination of the judicial legal processes. Coverage includes the nature of judicial review, powers of the Supreme Court, President and Congress, and Federalism. (4/0)
- LW008T Introduction to Law** 3
Introduces the philosophy and history of common law as it relates to the court system and law office operations in Iowa. The role of the legal assistant in the modern law office will be examined. (3/0)
- LW009T Legal Research** 3
Reviews the American judicial system and the relationship between the federal, state and local systems; also, study of the law library and research. (3/0)
- LW010T Legal Processes** 3
Examines the processes and methods of legal decision making by judicial legislative and administrative agencies; and ethical and professional practice standards applicable to lawyers and law office personnel. (3/0)
- LW011T Estates and Trusts I** 3
Provides the basic legal concepts of the more common forms of wills and trusts, and their ramifications. Studies the Iowa District Court relating to probate, administration of estates in probate court, and estate and inheritance taxes. (3/0)
- LW012T Estates and Trusts II** 3
Covers the basic legal concepts of the more common forms of wills and trusts, and their ramifications. Studies the Iowa District Court relating to probate, administration of estates in probate court, and estate and inheritance taxes. Prereq: LW011T. (3/0)
- LW013T Tax IV: Estates and Gifts** 3
Focuses on the basic legal concepts of the more common forms of wills and trusts and their ramifications; and studies the Iowa District Court regarding probate; administration of estates in probate court, and estate and inheritance taxes. Prereq: LW012T. (3/0)
- LW014T Legal Internship** 2
Provides practical experience in the functions and responsibilities of a legal assistant. The student will research legal problems utilizing the law library; will be able to understand the more common forms of legal procedures and agreements, and to perform the functions of a legal assistant in an office setting. The student will be evaluated by the coordinator and the employer. Prerequisite: one year in the Legal Assistant curriculum. (0/6)
- LW015T Torts** 3
Studies the principles of the law of tort, and preparation and use of pleading and other documents involved in the trial and appeal of the civil action. (3/0)

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| LW016T Civil Litigation | 3 |
| Continues Torts and Trials I. Prerequisite: LW015T. (3/0) | |
| LW017T Business Organizational Law I | 3 |
| Provides a study of the attorney's role in the formation of business entities. This includes proprietorships, partnerships, corporations and other business vehicles, with a survey of the fundamental principles of law applicable to each, and the training to prepare the necessary documents for the organization and operation of each entry. (3/0) | |
| LW019T Real Estate Law | 4 |
| Studies the law of real property and surveys the more common types of real estate transactions and conveyances, such as deeds, contracts, leases, deeds of trust and recording systems, and public documents. (4/0) | |
| LW020T Law Office Management | 3 |
| Aids in effective planning and use of financial resources. Topics will include management techniques, human relations, fees, accounting for time, planning and development in the law office, training, law library management and maintenance, tickler procedures, and word processing future trends. (3/0) | |
| LW021T Commercial Law | 4 |
| Studies the fundamentals of the laws of contracts, sales and transactions, and the right of creditors in transactions involving commerce. (4/0) | |
| LW023T Bankruptcy Law | 3 |
| Provides a study of the Bankruptcy Act and applicable case law. The filing requirements under the act and related court rules are emphasized. (3/0) | |
| LW024T Domestic Relations | 3 |
| Provides a study of laws of marriage, divorce, child custody and support, tax aspects of divorce and separation, separations, annulments, paternity, adoptions, and mental health commitment procedures. The emphasis of the course is on the procedural and practical aspect of the laws. (3/0) | |
| LW025T Personal Law | 4 |
| The course offers coverage of the individual's rights in the court systems together with an introduction to criminal law, tort law, divorce law, insurance law, employment law and student rights. (4/0) | |
| *LW026T Legal and Ethical Issues | 2 |
| Deals with various legal and ethical issues affecting the media. Libel, privacy, obscenity, privilege, access, copyright and other contemporary issues involving the First Amendment are included. Also included is a section dealing with the duties and responsibilities of the media practitioner in contemporary society. Prereq: JO101T. (2/0) | |
| LW027T Contract Law I | |
| Designed to provide purchasing personnel with the knowledge of legal principles governing contracts as evolved from common law, statutes, regulations, and court and board decisions, with emphasis on the direct application to the legal aspects of purchasing. (3/0) | |
| LW028T Contract Law II | 3 |
| Continues legal principles governing contracts as evolved from common law, statutes, regulations, and court and board decisions, with emphasis on the direct application to the legal aspects of purchasing. (3/0) | |
| *LW029T Legal Writing | 3 |
| Studies legal analogization and the fundamentals of legal writing of office memorandum, case briefs, trial briefs and appellate briefs. Prereq: LW009T (Legal Research). (3/0) | |
| *LW030T Legal Ethics | 1 |
| Studies the canons of professional ethics and disciplinary rules applicable to lawyers, together with applicable disciplinary proceedings and court decisions. (1/0) | |
| LW002U Agricultural Law | 1-4 |
| Considers the local, state and federal laws as they relate to farm management and agribusiness in regard to contracts, mortgages, environmental protection, taxation, real estate, tenancy and other legal problems relating to agribusiness. (1-4/0-4) | |
| LW001V Medical Law | 2 |
| Studies medical jurisprudence as applied to health personnel in performing activities in health care centers. (2/0) | |

MA: MATHEMATICS

DEVELOPMENTAL COURSE

MA020D Beginning Algebra **5**
Includes the properties of the real numbers, linear equations and linear inequalities in one variable, factoring, fractions, systems of linear equations, exponents, radicals, second-degree equations and inequalities in one variable. This course presumes no background in algebra. (5/0)

COLLEGE TRANSFER COURSES

MA003T Mathematical Beginnings **1**
A mathematical history course covering some of the major theorems that have either changed the thinking about mathematics or started a new area of concentration. (2/0)

MA031T Intermediate Algebra **5**
Includes the properties and manipulation of real numbers, polynomials, rational expressions, rational exponents, and radicals. Develops techniques for solving first degree equations and inequalities, second degree equations, and systems of two dimensional linear equations. Introduces the concepts of function and graphs. Prereq: MA020D or one year of high school algebra. (5/0)

MA032T College Algebra **5**
Includes extensive methods of solving linear, quadratic, and higher degree polynomial equations and inequalities. Systems of equations are solved by various methods, including matrices and determinants. Exponential, logarithmic, and other functions will be studied and graphed. The concepts of binomial theory, series and sequences will be introduced. Prereq: MA031T or equivalent. (5/0)

MA033T Trigonometry **5**
Studies functions, inverse functions, periodic functions, circular functions, identities; trigonometric equations, and applications using the properties of the trigonometric functions. Prereq: MA032T. (5/0)

MA034T Analytic Geometry **5**
Includes point and plane vectors, direction cosines, the straight line, the conics, transformations, polar coordinates, the point and space vectors, surfaces and curves. Prereq: MA033T or equivalent. (5/0)

MA035T Calculus I **5**
Includes limits, derivative, differentiation, the differential, elementary applications of calculus, and introduction to integration. Prereq: MA034T. (5/0)

MA036T Calculus II **5**
Continues Calculus I and includes the study of the integral, integration, methods of integration, parametric equations, and improper integrals. Prereq: MA035T. (5/0)

MA037T Calculus III **5**
Includes study of indeterminate forms, infinite series, series expansion of functions, partial differentiation, and multiple integration. Prereq: MA036T. (5/0)

MA038T Differential Equations I **5**
Includes solutions of differential equations, equations of first order and first degree, variables separable, exact equations and reduction to exact equations, and linear equations; geometric applications and physical application. Prereq: MA037T. (5/0)

MA039T Differential Equations II **4**
A continuation of Differential Equations I. More on series solutions, systems of linear differential equations, approximate methods of solving first-order equations. An introduction to Laplace transforms, and Sturm Liouville problems is also included. Prereq: MA038T.

MA040T Linear Algebra **5**
A post-calculus course that includes a study of vector spaces, determinants, linear transformations and matrices, bilinear and multilinear forms, and polynomial rings. Prereq: MA036T. (5/0)

MA041T Fundamentals of Statistics **5**
Includes descriptive statistics (mean, median, mode, standard deviation and variance). The emphasis is on inferential statistics and probability distributions as applied to confidence intervals, hypothesis testing of mean and standard deviation, and applications in business and other fields. Correlation and linear regression lines are also introduced. Prereq: MA032T, MA043T or instructor approval. (5/0)

MA043T Finite Mathematics **5**
Includes matrices, systems of linear equations, linear programming, functions, combinatorial techniques, probability, math of finance, and applications. Prereq: MA031T or instructor's approval. (5/0)

- MA046T Personal Calculators: A Tool for Problem Solving** 1
Includes a study of the functions of a pocket scientific calculator. Emphasis is on problem solving in topics from consumer math to advanced business or engineering problems. Prereq: MA020D or one year of high school algebra. (1/0)
- MA049T Personal Calculators II: A Tool for Problem Solving** 1
Extension of Course I with programming techniques involving looping, branching, sub-routines, and other advanced techniques on T-1 59, HP 67 or HP41C calculators. Prereq: MA046T. (3/0)

VOCATIONAL - TECHNICAL COURSES

- MA001U Agricultural Mathematics** 2-4
Stresses problems relating to agronomy, animal science, ag business, ag economics and ag mechanics. This course is designed to aid the student in reviewing mathematics practical to agriculture. (2-4/0-4)
- MA002U Basic Mathematics** 2
Covers basic fundamental operations of addition, subtraction, multiplication and division. The course includes working with fractions, review of decimals, and use of percent in business. Course work is orientated toward individual instruction allowing the student to complete the course in line with his ability to grasp the material presented. (0/4)
- MA003U Mathematics II** 1-5
Covers basic algebra as it relates to fundamental equations, ratios and proportion, and percentages. Covers applied geometry as it relates to finding length, areas, volumes, etc. Also covers basic right angle trigonometry and gives more practice in solving "stated" problems. (2-5/0)
- MA004U Mathematics III** 1-5
Includes the study of algebraic symbols, directed numbers, fundamental operations and factoring of algebraic expressions: Graphs, linear and simultaneous equations, and trigonometric functions are also covered. Emphasis is placed on application to technology. (1-5/0-2)
- MA007U Engineering Computations I** 2
Surveys calculator market to aid students in purchase of a personal calculator. Problem exercises cover scientific type functions, and mental calculations are stressed for the purpose of checking calculator results. (0/4)
- MA008U Engineering Computations II** 2
Presents problems in applied geometry with particular emphasis on the analytic approach, using electronic calculators to obtain solutions. (0/4)
- MA011U Mathematics I** 1-5
Covers basic math skills such as addition, subtraction, multiplication, and division of whole numbers, decimals and fractions: Covers specifically dimensional analysis and significant digit concepts. Also gives practice in solving "stated" problems and covers introductory algebra concepts. (1-5/0)
- MA012U Technical Mathematics I** 3-4
Includes fundamental concepts and operations, functions and graphs, trigonometric functions, linear equations and determinants, factoring and fractions, quadratic equations, vector algebra, and exponents and radicals. Emphasis is placed on applications to technology. (3 or 4/0 or 1)
- MA013U Technical Mathematics II** 5
Continues Technical Mathematics I and includes a study of logarithms, numerical trigonometry of right and oblique triangles, analytical trigonometry and applied geometry. (5/0)
- MA014U Technical Mathematics II E** 4
Continues Technical Mathematics I and includes a study of logarithms, the j-operator systems of equations, inequalities, variation and progressions, inverse trigonometric functions, elements of analytic geometry and introduction to different calculus. Emphasis is placed on application to technology. (4/1)
- MA015U Technical Mathematics III** 4
Introduces applied calculus. Emphasis is placed on application of applied calculus to the understanding, analysis and solution of engineering problems. Topics covered are derivations of functions, with application to maxima, minima and related rate problems, integration techniques with application to area, volume and moment of inertia problems. (4/0-1)
- MA017U Related Food Service Math** 3
Studies recipe forms, standardization and quantity conversions, computing recipe costs. Includes work with portion controls, use of standard weights and measures, recipe yields and production charts. Prereq: Basic Math. (3/0)

- MA036U Statistical Preparation** 4
Designed to provide the student with the necessary formulas to perform statistical data on the patient care, i.e., average daily census, rate of occupancy. (4/0)
- MA003V Applied Mathematics (Real Estate)** 2
Designed to provide a review of basic math and its application to measurement of the various physical entities of real estate. Topics to be included are land, building, and room measurements. (2/0)

MH: MECHANICS

- MH002U Hydraulics** 4-8
Studies the use of hydraulic pumps and systems. Special emphasis is given to pumping, controlling and measuring flows, and to system design and analysis. Special emphasis is also placed on distinguishing the difference between types of valves, pumps, hose and connection arrangement and flow patterns. (2-4/5.5-11)
- MH013U Basic and Applied Gas Engines** 8
Covers servicing and repairing all makes and models of a two-and four-cycle, air-and water-cooled gasoline engines including the rotary engine. (4/11)
- MH016U Power Transfer Systems** 4
Compares principles of design, construction and operation of manual and hydrostatic transmissions, clutches, axles, belts, chains and differentials. (2/5.5)
- MH018U Automatic Transmissions** 8
Covers diagnosing and repairing hydraulic controlled transmissions and torque converters. (4/11)
- MH019U Reconditioning and Repair** 4
Covers reconditioning and repairing used equipment other than power units, using arc and acetylene welding, pop riveting, soldering, grinding, lathe work and fibreglassing. (2/5.5)
- MH012U Unit Diagnosis and Overhaul I** 8
Covers diagnosis and overhaul of gasoline and diesel power units with special emphasis on student work with a minimum of instructor supervision. Prereq: MH008U. (4/11)
- MH022U Systems Diagnosis and Repair I** 8
Concentrates on diagnosis and repairing all systems of outboard motors, stern drives, lawn mowers, garden tractors, chain saws, mini-bikes, bicycles and all two-and four-cycle stationary power plants. Students may elect to specialize or generalize. Prereq: First and second quarters of Grounds Recreational Vehicle and Repair. (4/11)
- MH026U Vehicle and Equipment Sales and Service Management** 4
Studies the profit sources of a business dealing with ground and/or recreational vehicles, and the procedures that contribute to obtaining maximum profit from each source. (4/0)
- MH029U Automotive Internship** 1
Consists of on-the-job training for the student in automotive mechanics. The student must be employed full-time, be a registered apprentice, and attend required related instruction classes. The student is rotated on work assignments in the various automotive service and parts departments that include brakes, chassis, transmissions and drive trains, power plants, electrical systems, engine diagnosis and tuning, heating and air conditioning, and miscellaneous automotive systems. May be repeated up to 12 hours.
- MH030U Automotive Fundamentals** 3
Covers foundation for other courses and the introduction to the automobile and auto servicing. Includes steering, suspension, alignment and tires. (3/0)
- MH031U Brakes** 3
Covers theory of brake systems and the repair of both disc and drum types, as well as the various components. (3/0)
- MH032U Automotive Electrical I** 3
Covers the basic electrical systems found in automotive equipment, including lights, ignition, batteries, warning systems, charging systems and regulators. Also the diagnosis procedures. (3/0)
- MH033U Automotive Electrical II** 3
A continuation of Automotive Electrical I. (3/0)
- MH034U Vehicle Inspection** 3
Designed to meet requirements of State of Iowa inspection procedures. Successful completion requires passing State exam. (3/0)

MH035U Engines 4
Covers instruction in the theoretical procedures necessary to rebuild completely an automotive engine, and includes the disassembly and assembly techniques along with the restoring of tolerances by the machining of engine components. The student will be able to identify and list the procedures for engine diagnosis, removal, disassembly, rebuilding and service to worn parts. (4/0)

MH036U Fuels, Lubricating and Cooling 4
Covers fuel systems, engine fuels, carburetors, injectors, diagnosing and servicing. Also engine lub systems and cooling. (4/0)

MH037U Tune-up I 3
Includes the use of testing equipment necessary for proper servicing of the automobile as it pertains to the engine. Servicing carburetors, ignition starting, charging pollution devices. (3/0)

MH038U Tune-up II 3
A continuation of Tune-up I. (3/0)

MH039U Emission Control 3
Studies theory and causes of emission as they relate to the automobile and includes study of devices used to control these effects. (3/0)

MH040U Power Trains and Transmissions I 3
Includes a study of automatic transmission, clutches, standard transmission, overdrives, propeller shafts and rear axle assemblies, which entails theory of operation, diagnosis, maintenance and repair procedures. The objective of this course is to provide the related theory of transmissions and drive systems as needed. (3/0)

MH041U Power Trains and Transmissions II 3
A continuation of Power Trains and Transmissions I. (3/0)

MH042U Air Conditioning and Heating 3
Designed to teach the theory of automotive heating and air-conditioning systems, with emphasis on the basic air-conditioning cycle and servicing procedures. The objective of this course is to enable a student to obtain a working knowledge of automotive heating and air-conditioning systems. The student will be able to identify the components, explain the theory of various systems, and know proper servicing techniques. (3/0)

MH043U Auto Parts Department Manager 3
Includes an in-depth study of parts-numbering systems, storage, cataloging and retrieval of parts departments. Also included are ordering, stocking and management techniques. The objective of this course is to provide the automotive student with related theory in the operation of a parts department. (3/0)

MH044U Auto Service Department Manager 3
Introduces students to dealer management. Topics include marketing techniques, financial analysis, personnel management, work scheduling and distribution, and use of flat rate manuals. The objective of this course is to provide the student with a solid background in the overall management of a service department. (3/0)

MH045U Machinery Operations 1-6
Gives experiences in operating and adjusting harvesting, tillage and planting equipment appropriate for the season of the year during which the course is offered. (1-4/2-6)

MH047U Farm Machinery Maintenance 4
Provides students with an opportunity to do maintenance and minor repair on farm tractors and equipment. (2/4)

MH048U Ag Equipment — Tillage and Planting 8
Discusses the operation and adjustment of farm tillage and planting equipment, including plows, discs, harrows, planters and seeders. (4/8)

MH049U Ag Equipment (Harvesting) 8
Covers the operation and adjustment of the various types of grain-harvesting equipment — choppers, combines and pickers. (4/8)

MH050U Diesel Fuel Systems 4-8
Covers the many types of diesel pumps and injectors, and their operation, repairs and adjustment. Specific application of pumps and injectors is discussed. (2-4/4-8)

MH051U Unit Diagnosis and Overhaul II 8
Covers diagnosis and overhaul of gasoline and diesel power units, with special emphasis on student work with a minimum of instructor supervision. (4/11)

MH052U Unit Diagnosis and Overhaul III 8
Covers diagnosis and overhaul of gasoline and diesel power units, with special emphasis on student work with a minimum of instructor supervision. (4/11)

MH053U Systems Diagnosis and Repair II 8
Concentrates on diagnosing and repairing all systems of outboard motors, stern drives, lawn mowers, garden tractors, chain saws, mini-bikes, bicycles and all two-

and four-cycle stationary power plants. Students may elect to specialize or generalize. (4/11)

MH001V Auto Mechanics Lab I 10
Offers formal classroom as well as on-the-job instruction in shop practices, complete auto service procedures, automotive electrical systems, fuel systems, brakes, drive train, etc. (0/20)

MH002V Auto Mechanics Lab II 10
Continues Auto Mechanics Laboratory I. (0/20)

MH003V Auto Mechanics Lab III 10
Continues Auto Mechanics Laboratory II. (0/20)

MH004V Auto Mechanics Lab IV 10
Continues Auto Mechanics Laboratory III. (0/20)

MH005V Auto Mechanics Related I 10
Covers safety practices, mathematics, customer relations and employer-employee relations. (10/0)

MH006V Auto Mechanics Related II 8-10
Continues Auto Mechanics Related I. (8-10/0)

MH007V Auto Mechanics Related III 10
Continues Auto Mechanics Related II. (10/0)

MH008V Auto Mechanics Related IV 10
Continues Auto Mechanics Related III. (10/0)

MH009V Collision Lab I 12
Instructs through discussion, visual aids, and demonstrations covering the basics in assembly, sheet metal and frame, trim and glass, and refinishing. Students will practice proper use of hand and power equipment, and materials, and develop skills in repair procedures. (0/25)

MH010V Collision Lab II 12
Continues Collision Laboratory I. (0/25)

MH011V Collision Lab III 12
Continues Collision Laboratory II. (0/25)

MH012V Collision Related I 3-5
Provides instruction in shop processes and responsibilities, shop problem solving and basic repair procedures. (3-5/0)

MH013V Collision Related II 3-5
Continues Collision Related I. (3-5/0)

MH014V Collision Related III 3-5
Continues Collision Related II. (3-5/0)

MK: MARKETING

COLLEGE TRANSFER COURSES

✓ **MK001T Principles of Marketing** 4
Studies the concepts, institutions, procedures, methods and problems in moving goods or services from the producer to the consumer. (4/0)

✓ **MK002T Principles of Retailing** 4
Studies retailing and its functions in a free enterprise system. All facets of retail operation are considered, including planning, organization, personnel, facilities, control, pricing, buying, selling and promotion. (4/0)

✓ **MK003T Principles of Selling** 4
Provides the basic skills needed to sell goods and services in a free enterprise economy. Theory is followed by practical application by each student. (4/0)

MK006T Principles of Insurance 3
Exposes students to different types of insurance contracts, the concept of risk, and government's relationship with the industry. (3/0)

MK007T Principles of Banking 3
Presents the fundamentals of bank functions in a descriptive fashion so that the beginning bankers may view their chosen profession in a broad perspective. (3/0)

MK008T Trust Functions and Services 3
Presents a complete picture of the services rendered by institutions engaged in trust business. Providing an introduction to the services and duties involved in trust operations, the course is intended for all bankers, not only those who are engaged in trust business. (3/0)

MK013T Marketing for Bankers 3
This course discusses the basis of public relations, both internal and external, and seeks simply to explain the why, the what, and some of the how of public relations and marketing. It is intended as an overview for all bankers, in terms of what everyone in banking should know about the essentials of bank public relations and marketing. (3/0)

MK014T Exploring World Trade 3
Provides students with an overview of the concepts of international trade. Students will acquire an awareness of the effects of monetary exchange, trade duties and restrictions, sociological problems and other areas of involvement in international trade. (3/0)

MK016T Counselor Selling 4
Presents the technical aspects of customer assistance. The student should have had previous sales experience to enroll in this course. Prereq: instructor's consent. (4/0)

MK017T Techniques of Exporting 3
Covers terminology, payment terms, financing, drafts, letters of credit, and United States foreign government trade controls. The course is structured for the person who has no previous foreign trade experience. Prereq: MK01 or consent of instructor. (3/0)

MK019T Real Estate Finance 3
Approaches the subject from the viewpoint of the mortgage loan officer who seeks to develop a sound mortgage portfolio. A picture of the mortgage market is presented first, followed by the acquisition of a mortgage portfolio, mortgage plans and procedures, mortgage loan processing and servicing, and finally the obligations of the mortgage loan officer in overall portfolio management. (3/0)

MK020T Savings/Time Deposit Banking 3
Presents the historical development of savings institutions and an awareness of the basic economic function of the savings and policies of these institutions. Different types of financial savings are reviewed in order to describe the system of financial flows of income to capital investment. (3/0)

MK021T Foreign Trade Documentation 3
Involves the student directly in the actual details of processing an export order from the time it is received until payment is received. It will cover export shipping, documents, packaging, traffic procedures and insurance. The course is structured for the person who has had no previous foreign trade experience. Prereq: MK014T or consent of instructor. (3/0)

MK022T International Transportation 3
Covers the functions of the movements of goods from the point of origin to international and intercontinental destination. These functions include choice of carrier and port of exit and entry, routing, packaging, insurance, claims, rates and freight forwarder functions. Prerequisite: MK014T or consent of instructor. (3/0)

MK023T Business Potential Seminar 3
Designed around a series of seminars for the small business owner, manager and employee. It deals with the image of business, customer potential analysis, advertising and promotion, merchandising for more sales, the satisfaction of the customer and the development of the master plan for a profitable business. (3/0)

MK024T International Business 3
Intended to teach the theoretical and practical concepts of international business that are related to international trade. The course will outline world effects of private and governmental trade, as well as the effects of foreign and domestic economic policy on overseas trade. Prereq: MK014T or consent of instructor. (3/0)

MK025T Principles of Advertising 4
Acquaints the student with the philosophy of advertising, historical concepts and practical applications of advertising at the local and national levels. Includes media and media selection, copywriting and layout with an emphasis on product selection for advertising. (4/0)

MK026T Principles of Real Estate 3
Designed to introduce the student to the fundamental concepts of real estate, including law, terminology and ethics. Primary attention will be given to students preparing for the real estate licensing examination. (3/0)

MK027T Advanced Documentation 3
A case problem course involving application of transaction theories. Students will gain experiences with actual transaction problems involving proforma, letters of credit, ocean freight documents and other control systems. Prereq: MK021T. (3/0)

MK028T Purchasing I 3
An introduction to the purchasing function as an element of an industrial business operation: organization, techniques and coordination of other functions, concepts of materials management, and economy effected by prudent buying. (3/0)

MK029T Purchasing II 3
A continuation of Purchasing I. (3/0)

VOCATIONAL - TECHNICAL COURSES

MK002U Basic Salesmanship 1-4
Leads students to recognize personal traits needed for success in a sales career and identify basic sales principles as they relate to the agricultural industry. (1-4/0-4)

MK003U Agricultural Product Marketing I 2-4
Emphasizes grain marketing from the producer's standpoint. Economic principles and seasonal supply cycles, grain grades and least-cost market options are covered. (2-4/0-4)

MK004U Agricultural Futures Marketing 2-4
Covers the futures marketing system from a hedging standpoint. In addition, forward contracting as a price protection for farm commodities is explained and discussed. (2-4/0-4)

MK007U Principles of Fashion Merchandising 3
Provides a historical and evolutionary introduction to the field of fashion merchandising: sociological, psychological and economic aspects of fashion; fashion terminology; fashion cycles; and current practices in fashion retailing. (3/0)

MK008U Fashion Show Procedures 5
Includes the principles of fashion show production: planning, coordinating and directing the fashion show. (3/4)

MK010U Retail Management Seminar 1
Designed to help prepare students for careers in retailing. The majority of seminar time is set aside for individual student help. Students also are given time to investigate retailing opportunities, prepare reports and complete projects related to their individual retailing interests. May be repeated for a total of six hours. (0/2)

MK011U Food Store Seminar 1
Provides various instructional approaches to practical problems in food marketing, with special emphasis on the technical study of the food merchandising field and the development of projects through the use of food store marketing facilities. May be repeated for a total of six hours. (0/2)

MK012U Introduction to Food Store Marketing 4
Offers an introduction to the specialized field of food merchandising. Study and materials will be based on the principles, practices and procedures relating to the retail and wholesale food industry. (4/0)

MK013U Food Store Planning and Layout 3
Includes the study and actual development of the organization and planning necessary for proper merchandising and layout of a retail or wholesale food operation. (3/0)

MK014U Merchandising 4
Studies principles and methods of successful merchandise selection, analyzing the market, and coping with the problems of buying. Inventory control and pricing procedures are included. (4/0)

MK015U Marketing Study Tour 1-2
Provides a short period of orientation (lectures, films, discussion and study) prior to tour departure. Written report due after termination of the tour. Cities and itinerary will vary to include educational appointments with retail stores, manufacturing companies and showrooms, advertising agencies, national conventions and market-week activities. (1/1-2)

MK018U Visual Merchandising 2
Offers basic instruction in display construction, the relationship of display to the total promotional program, the role of the display manager, elements of display design, construction materials and merchandise selection. A laboratory provides the student an opportunity for display construction. (1/2)

MK019U Small Business Organization/Management 3
Designed to examine the fundamentals of organizing a small business. Covers such topics as finance, demographics, promotion, market competition, and site location and analysis. The student will be involved in a business simulation project. Prereq: instructor's consent. (3/0)

MK022U Employment Seminar 1
Provides preparatory training in job-seeking skills for fashion/home furnishings majors, prior to their supervised business internship period. Emphasizes application, resume, and interviewing techniques; philosophy and purpose of career programs, and an introduction to the availability and use of current resource literature in professional areas of study. (0/2)

MK023U Industrial Marketing 3
Introduces and investigates the functional areas of industrial marketing. Industrial

distributor and manufacturer marketing principles and methods are examined. Industrial marketing simulated experiences will be given through an industrial marketing business game. (3/0)

MK024U Business Internship Seminar 1
For fashion/home furnishing students concurrently enrolled in a business internship. Includes goal setting and learning objectives for the internship period, discussion and evaluation of internship experiences, and work problems encountered. (0/2)

MK032U Home Furnishings I 3
Studies furnishings, including fundamentals of good design, color in interiors, background materials, window treatments and fabrics. Emphasis placed on practical aspects of home furnishings, including measurements and estimates. Prereq: Textiles I and II. (3/0)

MK033U Home Furnishings II 4
Studies sales/servicing in the home furnishings store through projects requiring the student to select the elements employed in the creation and coordination of an interior. The course covers the fundamentals of space planning, product knowledge, trade sources, furniture arrangement, room coordination and the solution of specific customer problems. (4/0)

MK035U Agribusiness Sales 1-4
Describes the application of selling aids, selling innovation, prospecting for customers, importance of customer relations, handling customer objections, meeting the competition, and the preparation of sales calls, sales reports and the necessity of organization. (1-4/0-4)

MK039U Introduction to Purchasing 2
Designed for those persons who are employed in the purchasing field and have had no formal classroom instruction; or those persons enrolled in marketing who want to expand their knowledge of the purchasing field. (2.5/0)

MK041U Food Store Merchandising I 3
Offers a basic look at the principles involved in retail food merchandising, with practical examples and illustrations of how they maximize profits and customer satisfaction when properly applied. (3/0)

MK042U Food Store Merchandising II 3
Offers a continuation of the principles involved in retail food merchandising, with emphasis on advertising and promotions, display, profit planning and control, government regulation and trends affecting merchandising. Prereq: MK041U (3/0)

MK043U Trends and Practices Fashion Merchandising I 1
Explores current practices in specialized areas of merchandising. Includes current designers and design concepts in marketing. Explores trends through field trips, guest speakers, and review of marketing literature. (0/2)

MK044U Trends & Practices Fashion Merchandising II 1
Explores current practice in specialized areas of merchandising. Includes affiliations and organizations. Explores trends through field trips, guest speakers, and review of marketing literature. (0/2)

MK045U Problems in Fashion Merchandising 1
A synthesis of two years of study for entry into the professional field. Emphasizes job campaign strategy, and placement bureau services and activities. Special problems in fashion merchandising are cited, analyzed and discussed. (0/2)

MK046U Home Furnishings Trends & Practice I 1
Explores current practices in specialized areas of merchandising, including current designers and design concepts in marketing. It also explores trends through field trips, guest speakers, and marketing literature, and familiarizes students with drafting equipment, material to create floor plans and furniture elevations, and visual means of selling. (0/2)

MK047U Home Furnishings Trends & Practice II 1
Explores current practices in specialized areas of merchandising, including professional affiliations and organizations. It also explores trends through field trips, guest speakers and review of marketing literature, and emphasizes job campaign strategy, and placement bureau services and activities. (0/2)

MK048U Window Design Treatment 2
An in-depth study of window styles and treatments including problem solving, fabric selections, treatment, and hardware selection and installation. Emphasis is placed on the selling and servicing of the drapery customer. Prereq: AT003U, AT006U, HE003U, HE019U. (2/0)

MK049U Professional Practices 2
A synthesis of two years of study for entry into the professional field, including techniques of total customer presentation and an introduction to resource people

through a designer-client project. Prereq: Sophomore standing in Home Furnishings program. (0/4)

MK001V Retail Advertising and Display 4
Emphasizes instruction and practical experience in the areas of ad layout, design and construction for use with local advertising media. Includes relationship of display to the total promotional program and a study of elements of display, construction materials, merchandise selection and the actual display construction. Course meets only during summer quarter (10 weeks). (5/0)

MK002V Floriculture Seminar 1
Provides various instructional procedures for practical problems in the retail florist business. Emphasis is on retailing and an annual floral design show planned entirely by the students. (0/2)

MK004V Field Experience 9
Devoted to observations of the activities involved in a real estate firm. Observation activities will include client presentations, open house, promotions, and closing transactions. During each field experience period, planning will be done cooperatively between the student and other teacher coordinators. (0/9)

MK005V Financing Real Estate 3
Studies the institutions involved in real estate financing, and the procedures and techniques requisite to the analysis of risks involved in financing real estate transactions. Also examines instruments used in financing, terminology and real property taxation. (3/0)

MK006V Principles of Real Estate Sales 3
Studies the relation of the salesperson to broker. Also such factors of selling as sources of prospects, bringing the prospect and property together, the use of advertising in the selling function, the basic development of a salesperson, and sales presentation. (3/0)

MK007V Real Estate Principles/Practices I 3
Introduces the basic principles of real estate administration. The legal and economic characteristics of real estate, real estate markets, appraising methods and mortgage lending are some of the topics examined. (3/0)

MK008V Real Estate Principles/Practices II 3
Provides further understanding of the basic principles of real estate administration. Government and political trends, regional and local economic influences, and land development are some of the topics examined. Prereq: MK007V. (3/0)

MK009V Appraisal I 3
Examines the nature of real property value, the functions and purposes of appraisal, and the functions and methods of estimating value with emphasis on residential market value. (3/0)

MK010V Specialized Real Estate Transactions 3
Includes transactions relating to non-residential and/or investments sales. Farm, commercial and investment transactions are emphasized. (3/0)

MM: METALS AND MANUFACTURING

MM001U Manufacturing Processes I 3
Covers ferrous metals and materials, machining and cutting tools, layout tools, gaging and inspection, measuring, hand tools, sawing and turning lathes. (1/5)

MM002U Manufacturing Processes II 3
Develops skills in turret and automatic lathes, screw threads, drilling, milling, grinding and finishes, shaper and planer, and numerical control machines. (1/5)

MM006U Rural Metals and Welding 3-4
Covers the identification of metals, and the use of arc and acetylene welding and soldering as it applies to the farm. (1-3/2-4)

MM001V Machinist Laboratory I 8-10
Studies heat treatment of various metals and other basic metallurgical procedures; instruction in the proper care and use of measuring and layout tools; development of skills in following machines; drill press, engine lathe, turret lathe, horizontal and vertical milling machines, grinders, shaper, tracer lathe, numerically controlled machines and other types of production machine tools. (0/16-20)

MM002V Machinist Laboratory II 8-12
Continues Machinist Laboratory I. (0/16-24)

MM003V Machinist Laboratory III 8-13
Continues Machinist Laboratory II. (0/16-26)

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| MM004V Machinist Laboratory IV | 8 | Continues Machinist Laboratory III (in the evening program only). (0/16) |
| MM005V Machinist Related I | 4-10 | Offers instruction in applied mathematics for machinist, blueprint reading, machine technology, metallurgy, heat treating, and safety. (4-10/0) |
| MM006V Machinist Related II | 4-6 | Continues Machinist Related I. (4-6/0) |
| MM007V Machinist Related III | 4 | Continues Machinist Related II. (4/0) |
| MM008V Machinist Related IV | 4 | Continues Machinist Related III (in the evening program only.) (4/0) |
| MM009V Production Machinery | 1-2 | Covers classroom study and shop practice on the use of metal-forming machinery and maintenance of welding equipment. (0/56) |
| MM009V Production Machinery | 2 | Covers classroom study and shop practice on the use of metal-forming machinery and maintenance of welding equipment. (0/56) |
| MM010V Welding for Automotive Mechanics | 2 | Covers the set-up and operation of metallic arc and oxyacetylene welding equipment. Welding techniques used for welding in the flat position with arc welding, gas welding and brazing also are included. Welding safety is stressed. |
| MM011V Introduction to Arc Welding | 1 | Includes operation of AC and DC welding equipment. Striking an arc, beads of weld in all directions in the flat position, and building beads of weld. Welding safety is stressed. (2/24) |
| MM012V Welding Special Projects | .5 to 5 | An individualized course for those needing specific welding training other than the regular courses, or practice for various weld tests. Also for those needing review or up-grading of methods and skills. (0/12 to 120) |
| MM017V Semi-automatic Welding | 3 | Studies the set-up and operation of the semi-automatic welding process, using both hard wire and flux core wire. (6/54) |
| MM019V Heliarc Welding | 5 | Covers all position welding techniques on ferrous and non-ferrous materials, using the heliarc welding process. (6/98) |
| MM020V Special Arc Welding Techniques | 3 | Studies the welding methods used on cast iron, stainless, hard surfacing and all position weld techniques used on light gage metal. (6/54) |
| MM022V Welding Inspection | 2 | Studies shop and lab welding inspection techniques giving practice in the selection, preparation and interpretation of both destructive and non-destructive welding tests. (0/56) |
| MM023V Student Project | 2 | Provides for preparation of an original project by the student in the areas of fabrication, inspection or welding process. (0/56) |
| MM024V Welding Technology | 4 | Studies welding processes and power sources including welding metallurgy, strength of materials, design of weldments, cost of welding and production methods. (60/0) |
| MM025V Weaving the Electrode | .5 | Covers the welding techniques used to make beads of weld any width. Three basic weave patterns are taught. Prereq: Introduction to Arc Welding. (0/12) |
| MM026V Introduction to Joint Welding | 1 | Studies in detail fillet welds in the flat position using single and multiple pass techniques. Includes an introduction to welding metallurgy. (4/24) |
| MM027V Powered Iron Weld Methods | 1 | Covers the methods used to make fillet welds using large diameter powdered iron "drag rods"; also the selection, and the A.W.S. numbering system of covered electrodes. (4/24) |
| MM028V Flame Cutting | 1 | Developes the skills needed in oxy-acetylene flame cutting, including set-up, operation and maintenance of equipment. Oxyacetylene safety is stressed. (6/12) |
| MM029V Butt Joints: Flat | 1 | Introduces the basic methods of preparing and welding butt joints in the flat position, with and without backing strips. Also includes the use of the A.W.S. welding symbols. (6/24) |
| MM030V Horizontal Weld Techniques | 1 | Introduces horizontal welding techniques and methods used to make various types of joints in the horizontal position. (0/24) |
| MM031V Vertical Welding Techniques | 1 | Introduces vertical welding techniques and methods used to make various types of joints in the vertical position. (0/24) |
| MM032V Overhead Welding Techniques | .5 | Introduces overhead welding techniques and methods used to make various types of joints in the overhead position. (0/12) |
| MM033V A.W.S. Test:Low-hydrogen Electrodes | 3.5 | Covers the testing of welds including the preparation and welding of A.W.S. Welder Certification Guided Bend Tests in all positions, using E-7018 electrodes. Students must pass this test to complete the metallic arc welding section of the welding program. (6/70) |
| MM034V Blueprint Reading for Welders | 3 | This covers lines and views, size description, and welding layout, with emphasis on welding terms and symbols. It also includes interpreting welding prints. (36/0) |
| MM035V Oxy-acetylene Light Gauge Steel Welding | 1 | An introduction to oxy-acetylene welding including the set-up and operation of equipment and accessories. Welding procedures for light gauge steel sheet metal in all positions, and common joint types are taught. (4/16) |
| MM036V Oxy-acetylene Heavy Steel Welding | 1 | Provides instruction in the correct welding procedures to use for heavy steel plate in all positions, and various joint types. (4/16) |
| MM037V Brazing and Silver Solder | 1 | Introduces the techniques and procedures used to braze, braze weld, and silver solder. (4/16) |
| MM038V Oxy-acetylene Cast Iron Repair | 1 | Studies the various methods of oxy-acetylene repair welding of cast iron. (4/16) |
| MM039V Oxy-acetylene Non-ferrous Materials | 1 | Covers methods and procedures used for oxy-acetylene welding of non-ferrous materials. Aluminum welding techniques are stressed. (4/16) |
| MM052V Bench Work: Engine Lathe I | 4 | Introduces measuring tools, layout, saws, drill press and engine lathe work. The work on lathe covers tool grinding, speeds and feeds, as well as turning. (0/8) |
| MM035V Engine Lathe II | 4 | A continuation of Engine Lathe I, covering tapers, thread cutting, face plate and chuck work. Also included is sine bar, dial indicator and other precision guage work. Prereq: Engine Lathe I. (0/8) |
| MM054V Milling I | 4 | Covers basic set-ups on the vertical and horizontal milling machines. Also included is work with the shaper and planer. Prereq: Eng. Lathe I. (0/8) |
| MM055V Milling II | 4 | A continuation of milling machine operations including indexing, gear cutting and rotary table milling. Also covered in this course is the metal cutting band saw. Prereq: Milling I. (0/8) |
| MM056V Grinding and Heat Treat | 4 | Covers the operation and set-up of surface cylindrical and tool grinders. Also includes basic heat treatment and metallurgy. Prereq: Eng. Lathe I. (0/8) |
| MM057V N.C. Operation and Programming | 4 | Includes the set-up and operation of a two-axis tape machine, and the programming and tape punching. Prereq: Eng. Lathe I. (0/8) |
| MM058V Turret Lathe | 4 | Includes the basic set-ups and operations of a turret lathe. (0/8) |
| MM065V Pipe Welding Techniques | 8 | The study of shielded metal arc welding of pipe joints in all positions and in accordance with A.S.M.E. and A.P.I. pipe welding codes. Prereq: MM033V. (26/134) |

MS: MEDICAL AND SURGICAL

COLLEGE TRANSFER COURSE

MS001T Emergency and First Aid Procedures 1-3
Provides three areas of instruction: 1) Red Cross multimedia basic first aid, 2) American Heart Association approved basic life support (cardio-pulmonary resuscitation), and 3) safety emphasis for procedures in general health-related practices. (1-3/arranged)

VOCATIONAL-TECHNICAL COURSES

MS0004U Orthopaedic Conditions I (OPA) 4
Investigates specific orthopaedic disorders, their etiology, course and varied treatment modalities. Incorporates orthopaedic history and physical examination techniques, and fundamentals of roentgenology. Subject areas include the upper extremity, neck and back. (4/0)

MS005U Orthopaedic Conditions II (OPA) 4
Deals with disjunction of the lower limb. Metabolic, endocrine, neuromuscular and neoplastic disease states are discussed. (4/0)

MS0006U Operating Room Techniques I (OPA) 3
Provides the basic principles and skills necessary to assist with surgical procedures in the operating room, including sterile techniques, positioning and instrumentation. Selected operative procedures are studied. (2/2)

MS0007U Immobilization Techniques 7
Focuses on the principles and techniques of plaster casting and splinting utilized in the treatment of musculo-skeletal disorders, and includes care of the cast and the involved patient, fracture identification, healing and complications. Concepts of traction and internal fixation are introduced. (4/6)

MS0008U OPA Clinic I 4
Provides practical experience in a hospital emergency room, orthopaedic operating room and orthopaedic out-patient clinics. In the emergency room, the student assists with the care, treatment and transportation of patients, especially those with traumatic injuries. In the orthopaedic operating room, the student functions as an operating room technician. In the orthopaedic outpatient clinic, the student observes and assists staff with patient evaluations and treatments. Students are assigned a minimum of six weeks in each area. Performance is based on knowledge and skills acquired through the first-year course offerings. Emphasis is placed on patient/personnel relations and the development of technical skills. (0/8)

MS009U OPA Clinic II 4
A continuation of OPA Clinic I. (0/8)

MS010U OPA Clinic III 7
Focuses on developing skills in surgical assisting. The student is assigned to a local orthopaedist in private practice to assist with the care of office and hospitalized patients, with special emphasis on assisting with all types of orthopaedic surgical procedures. Activities involve patient positioning, draping and prepping for surgery, and retracting and maintaining hemostasis during surgery. Students develop surgical case studies during operating room rotations. (0/20)

MS011U OPA Clinic IV 7
Offers an intensified, comprehensive clinical practicum in St. Paul, Minnesota. Emphasis is placed on increasing skills in assisting with the immediate care and treatment of patients with traumatic injuries, and also offers the student an opportunity to assist a number of orthopaedists with a variety of procedures in the hospital and office environment. (0/20)

MS012U OPA Clinic V 13
Involves a three-month assignment in a private orthopaedic office or clinic. Under the direction of the orthopaedist(s), guided by predetermined learning objectives, the student participates as an OPA, including assisting with office procedures and emergencies, accompanying the orthopaedist on hospital rounds and assisting in surgery. (0/40)

MS014U Respiratory Therapy Techniques I 5
Provides lectures and laboratory practice in the techniques used to administer gas and aerosol therapy. Included is the study of medical gases; regulation of gas flow; storage and safe handling of compressed gas systems; devices used to generate humidity aerosols; administering therapeutic gases; and operation of environmental control systems. (3/4)

MS015U Introduction to Physical Therapy, Orthotics and Prosthetics, (OPA) 3
Studies the basic concepts of biomechanics and physical therapy in relation to the care and rehabilitation of the orthopaedic patient, and includes principles of orthotics and prosthetics with emphasis on terminology, gait concepts, recognition of abnormalities and problem-solving techniques. (3/0)

MS017U Ventilation Therapy 5
Introduces rationale for IPPB therapy, pressure, volume and flow classifications of ventilators, mechanics of IPPB therapy, techniques and hazards, continuous ventilation, pressure and volume cycled ventilators, compliance monitoring alarms, IMV, PEEP, CPAP. Emphasis on mechanics of providing ventilating techniques. Prereq: MS023U. (4/2)

MS019U Clinical Experience I 8
Provides orientation to hospitals with closely supervised patient care techniques in oxygen therapy, changing cylinders and processing equipment for sterilization. Prereq: MS014U. (0/16)

MS020U Clinical Experience II 8
Requires the student to participate actively under direct supervision of a clinical instructor. Clinical skills in gas therapy, airway management and chest physical therapy are expected to be refined to the point where there are few mistakes. The student should demonstrate sound judgement in interpersonal skills, but clinical judgment is not expected at this time. The student will observe and participate in IPPB therapy to a limited extent. Prereq: MS019U. (0/16)

MS021U Clinical Experience IV 4
Assigns students to specific diagnostic clinics and laboratories for observation and practice of laboratory skills in diagnostic procedures. Includes pulmonary function, bronchoscopy, and electrocardiogram labs. Prereq: MS051U. (0/8)

MS022U Clinical Experience V 8
Emphasizes active participation in clinical areas of general medical-surgical wards, intensive care units, coronary care units, pediatric wards and neonatal intensive care units. The student should be able to judge the appropriateness of a physician's orders for basic therapy and recognize contraindication to therapy. The student will, to a limited extent and under close supervision, establish continuous ventilation. Prereq: MS021U. (0/16)

MS023U Respiratory Therapy Techniques II 4
Provides lectures and laboratory practice in making a physical assessment of the respiratory system; providing basic airway care and chest physical therapy techniques. Prereq: BY006U, MS014U. (3/2)

MS025U Introduction to Health Care 4
Offers an overview of the medical care system, medical specialties and allied health fields, and an insight into the hospital organization and the interrelationship of its personnel in meeting the needs of the clientele. The course also stresses the fundamentals of patient care, safety and comfort, and includes basic nursing procedures, medical terminology, medical ethics and legal responsibilities. (2/4)

MS032U Pediatric Respiratory Equipment and Clinical Topics 4
Investigates the anatomy and physiology of newborn, neonatal cardio-respiratory diseases and disorders, pediatric cardio-respiratory diseases and disorders, pediatric oxygen therapy equipment, ventilators and CPAP devices. Prereq: MS017U. (3/2)

MS033U Clinical Experience VI 8
Offers continued active participation in all areas of the hospital. The course goal is to refine the students' skills in the care of critically ill patients. Emphasis will also be placed on experiences in pulmonary rehabilitation. Prereq: MS022U. (0/16)

MS036U Independent Study in Health Science 1, 2, 3, 4
Provides readings, papers and/or basic research projects under the individual guidance of a staff member. Prereq: consent of instructor and program chairperson.

MS037U Clinical EEG Lecture I 1
Provides basic knowledge of electroencephalography to understand how the EEG is utilized for diagnosis of various cerebral disorders. Includes history, development, basic neurophysiological concepts of EEG, normal and abnormal brain wave patterns in adults and children, effect of consciousness level or mental process upon EEG, pharmacology and various electroencephalographic signs of cerebral disorders. (1/0)

MS038U Introduction to EEG Laboratory Techniques/Seminar 8
Introduces the student to basic EEG techniques in the classroom and their practical application in the laboratory, including basic instrumentation and operation. (2/12)

MS040U Applied Electronics/Instrumentation 3
Provides theory and application of systems related to EEG instruments. Laboratory sessions provide practical applications of the course material. (2/2)

MS041U General Neurology I 2
Provides medical and neurological terminology, neurological symptoms and signs, and neurological examination in relationship with functional neuroanatomy, including neurological diagnostic methods. Introduces the disorder epilepsy. (2/0)

MS042U Clinical Laboratory I (EEG) 8.5
Continues introduction to laboratory techniques. Applies basic EEG techniques of recording in the clinical laboratory. History taking, patient handling and recording techniques will be correlated in a seminar. Normal and abnormal adult EEG will be introduced. (1/15)

MS043U General Neurology II 2
Studies neurologic disease entities, including toxic and metabolic disorders, headaches, cerebrovascular disease, tumor and infectious processes. Also covers neurosurgical techniques, trauma, demyelinating, degenerative diseases, and diseases of peripheral nerves and muscles. (2/0)

MS044U Clinical Laboratory II (EEG) 15
Continues Clinical Lab I. Provides additional knowledge of EEG findings. Pediatric EEG, development, both normal and abnormal, and appropriate techniques are stressed. Seminars are designed to compliment clinical experience and recording techniques. (1/28)

MS045U Special Instrumentation Techniques I 3.5
Provides exposure to recent advances of electrodiagnostic techniques utilizing the computer system. Content includes visual, auditory and somatosensory evoked potentials, CNV and radio-telemetry. Special emphasis will be placed on evoked potentials in the laboratory setting. (1.5/4)

MS046U Clinical Laboratory III, (EEG) 13
Introduces techniques in intensive care and outside laboratory settings. Emphasis is on abnormal patterns of all age groups and special techniques. Students will be required to exercise judgement initiative in techniques and instrumentation. (1/24)

MS047U Special Instrumentation Techniques II 4
Provides the practical aspect of electromyography and studies of nerve conduction velocity and blink reflex by observing and assisting neurologists. (.5/7)

MS048U Clinical EEG Lecture II 2
Provides integrating information of EEG characteristics and specific patterns for cerebral disorders. Emphasis will be placed on disorders in which EEG serves as a critical diagnostic tool. (2/0)

MS049U Clinical Laboratory IV (EEG) 9
Emphasizes the ability to demonstrate clinical and technical competencies and problem solving in a varied clinical setting; includes laboratory management. Students will develop and present related reports for discussion in seminar. (1/16)

MS050U Diagnostic Laboratory Techniques 2-4
Provides technician and therapist students instruction in spirometry volumes and capacities, basic mechanics, functional residual capacity measurements, theory and operation of blood gas analyzers, and electrocardiographic techniques. Therapist students will learn: measurements of gases, distribution and diffusion of gases, body plethysmography, measures of resistance and compliance, arterial puncture techniques, bronchoscopy procedures, and recognition of cardiac arrhythmias. (1/32)

MS051U Clinical Experience III 4-8
Provides active participation for refinement of clinical skills in IPPB therapy, changes of continuous ventilator circuits, checks of ventilator settings. Prereq: MS020U. (0/8-16)

MS052U Clinical Medicine I 3
Provides the study of general medicine and medical subspecialties, general body response to diseases, essentials of diagnosis and treatment, review of upper airway disorders, respiratory disorders, cardiovascular and G.I. disorders, renal and nervous system disorders. (3/0)

MS053U Clinical Medicine II 3
Examines general surgery and subspecialties, thoracic and cardiovascular surgery, chest trauma, neurosurgical procedures, pediatrics and obstetrics. (3/0)

MS054U Pharmacology I 1
Introduces the administration, distribution, metabolism and excretion of drugs in the body, pharmacy terminology, aerosol medications, and respiratory physiology pertaining to drug administration. There is further study of pharmacologic action of bronchodilators, mucolytics, proteolytics, wetting agents and anti-foaming agents, which includes patient assessment following drug administration. (1/0)

MS055U Pharmacology II 2
Studies the autonomic nervous system and cardio-respiratory drugs affecting it, cardiac drugs, anesthetics and muscle relaxants, antibiotics, steroids, narcotics, barbiturates, diuretics, bronchial asthma inhibitors, anti-coagulants and drugs used in cardio-pulmonary resuscitation. Prereq: CH003T, BY009U. (2/0)

MS056U Educational Techniques 3
Provides a systems approach to designing a learning program. Includes stating objectives in behavioral terms, writing a lesson plan, presentation techniques,

strategies for learning, clinical education and evaluation, use of media, production of audio-visual materials, and production of self-instructional package or presentation of inservice lecture. (3/0)

MS057U Clinical Experience VII 8
Refines all clinical skills. The student is expected to demonstrate sound clinical judgement and ability to function independently in critical care areas. Offers practice in clinical evaluation and instruction of freshmen students under direction of a clinical instructor, and selected experiences in elective clinical rotations. (0/16)

MS058U Advanced Life Support 2
Provides a review of cardio-pulmonary resuscitation. In addition, lecture and laboratory practice will be provided in inendotracheal intubation, cardiac defibrillation, intravenous therapy and fluid replacement, and treatment of immediate life-threatening conditions. (1/2)

MS059U Advanced Pathology 3
Offers an in-depth study of cardio-respiratory disorders, relating to the respiratory therapists' roles in diagnosis, treatment and support. Prereq: MS052U, MS053U, MS050U and Advanced Pharmacology. (3/0)

MS060U Advanced Respiratory Therapy Equipment and Procedures 4
Examines establishing a continuous ventilation, predicting necessary ventilator adjustments, criteria for weaning and weaning procedures, including nasotracheal suctioning, monitoring systems, assessing ventilator performance, choosing ventilators for clinical situations, VD/VT measurements, bedside spirometry, fluidics and application to respiratory equipment. Prereq: MS014U, MS023U, MS017U. (4/1)

MS061U Medical Terminology I 2
An orientation course in the vocabulary of medicine. Efforts are directed toward correct pronunciation and spelling of words through self-paced learning with videotapes as well as classroom participation. (2/0)

MS062U Medical Terminology II 2
Continues Medical Terminology I with concentration on spelling, defining and applying terminology common to systems of the body by the medical field. Prereq: MS061U. (2/0)

MS063U Pharmacology 2
Studies drug terminology, laws, and metric and apothecary systems. (2/0)

MS064U Medical Terminology III 3
Continues Medical Terminology I and II. Prereq: MS062U. (3/0)

MS065U Applied Pharmacology 1
Focuses on the medicines related to the practice of orthopaedics in terms of indications, contraindications, complications and dosage. (1/0)

MS066U Physical Assessment and Interpretation 3
Offers the basic principles and techniques of physical assessment, and provides insight into the pathology that may be found. (1/4)

MS008V Supervised Clinical Experience I (MA) 6
Offers experience in private doctors' offices, hospitals, clinics, industry or wherever medical treatment is given under supervision of doctors, registered nurses and school instructors. (1/16)

MS009V Supervised Clinical Experience II (MA) 13
Continues Supervised Clinical Experience I (MA). Prereq: MA008V. (1/36)

MS022V Clinical Procedures I 2
Provides the basic principles and skills necessary for orientation to basic lab techniques used by medical personnel in a medical setting. Includes urinalysis, electrocardiogram and x-ray. (1/2)

MS023V Clinical Procedures II 5
Continues Clinical Procedures I and studies hematology, drugs, and solutions. Hematology studies consist of complete blood counts and blood typing. Pharmacology teaches the technology for administration of drugs by all methods, basic math, and dosages. Prereq: MS022V. (3/4)

MS024V Clinical Procedures III 2
Continues Clinical Procedures II and physical therapy. Prereq: MS023V. (1/2)

MS025V Medical Procedures III (Administrative) 2
Covers services management, including computer science information and current trends. (2/0)

MS026V Advanced Operating Room Techniques 3
Provides study of specific surgical procedures that are performed routinely in a general hospital. Includes applied anatomy and physiology, patient positioning, surgical skin preparation and limited instrumentation. (3/0)

- MS027V Advanced ORT Clinical** 10
Introduces the student to the operating room environment and provides practical application of acquired knowledge and skills, through circulating and scrubbing in a variety of surgical procedures as the student demonstrates increased competency. (0/20)
- MS028V Medical Procedures I (Administrative)** 4
Provides an orientation to medical assisting in a medical setting, including housekeeping and front office techniques, which consist of making appointments, scheduling, history taking, telephone techniques, decision making, patient-doctor relationship, and administrative techniques. Examining room technical skills are also taught. (2/5)
- MS029V Medical Procedures II (Administrative)** 1
A continuation of Medical Procedures I (Adm). Includes additional office procedures, specialties, instruments and administrative techniques. Prereq: MS028V. (0/2)

MU: MUSIC

- MU007T Vocal I** 2
Designed to teach, in a group situation, the basic skills of singing to beginning students. Various concepts of voice will be presented concerning these skills. Includes overcoming self-consciousness, breath control, tone production, interpretation and performing musical exercises. A varied repertoire will be learned so that the student may apply concepts and techniques to simple songs. (0/4)
- MU008T Vocal II** 2
A continuation of Vocal I. (2/0)
- MU010T Voice** 1
Offers private instruction for advanced students in voice. May be repeated for six credits. Periods to be arranged. Prereq: MU008T or permission of instructor. (1/0)
- MU011T Music Appreciation** 4
Includes elements and types of music with some attention to major periods and composers. (4/0)
- *MU012T Advanced Music Theory I** 4
Continues the first-year music theory. Prereq: MU025T. (4/0)
- *MU013T Advanced Music Theory II** 4
Continues Advanced Music Theory I Prereq: MY012T. (4/0)
- *MU014T Advanced Music Theory III** 4
Continues Advanced Music Theory II. Prereq: MU013T. (4/0)
- MU015T Band** 1
Designed for students with ability and desire to play in a band. May be repeated for a total of six credits. (0/3)
- MU016T Chorale** 1
Meets three hours weekly. May be repeated for a total of six credits. Period to be arranged. Prereq: permission of instructor. (0/3)
- MU019T Beginning Piano** 2
Designed to teach beginning piano in a group situation. The basic music skills and vocabulary are taught and developed into the techniques needed to perform music. Simple, familiar folk and popular songs are learned to develop these basic skills and techniques. The course is also designed to help the student overcome self-consciousness while playing the piano and to stimulate ensemble playing in order to perfect the basic skills and to learn from one another. (0/4)
- MU022T Ensemble** 1
Offers instruction and performance in small vocal groups. May be repeated for a total of six credits (0/3)
- MU024T Music Theory II** 4
Continues Music Theory I. Includes instruments and voices, four-part choral writing, harmonic progression, style periods, the major-minor dominant 7th chord and leading-tone chord. Prereq: MU124T. (4/0)
- MU025T Music Theory III** 4
Continues Music Theory II. Prereq: MU024T. (4/0)
- MU034T Beginning Guitar** 2
Designed to teach beginning guitar in a group situation. The basic skills and vocabulary are taught and developed into the technique needed to perform music. Simple, familiar folk and popular songs are used to develop these skills and techniques. (0/4)

Applied Music

For each hour of credit, the work in applied music requires 10 lessons during the quarter. Unless otherwise directed by the department head, these lessons will be on a weekly basis. It is possible for a student to enroll for two hours of the same instrument with the permission of the department head. The appropriate faculty will determine the level of the student's qualification by audition and/or previous study in the instrument or vocal area.

The following are the instrument areas. Each represents one hour of credit. (.5/0)

- | | |
|---------------------------|-------------------------------|
| MU101T Organ | MU110T Trombone |
| MU102T Piano | MU111T Coronet-Trumpet |
| MU103T String Bass | MU112T French Horn |
| MU104T Cello | MU113T Saxophone |
| MU105T Viola | MU114T Bassoon |
| MU106T Violin | MU115T Clarinet |
| MU107T Percussion | MU116T Oboe |
| MU108T Tuba | MU117T Flute |
| MU109T Baritone | |
- MU118T Guitar** 1
Offers private lessons for intermediate and advanced guitarists. Prereq: MU034T or consent of the instructor. (.5/0)
- *MU122T Jazz Ensemble** 1
A performance-oriented class designed around the traditional stage band instrumentation. Provides back-up instrumentation for Show Choir. Audition required (0/3)
- *MU123T Show Choir** 1-2*
A performance-oriented class that gives students the opportunity to work with music in rock, show and jazz idioms. Fully choreographed. Audition required. *Credit is variable. (0/3-4)
- MU124T Music Theory I** 4
A comprehensive study of the fundamentals of harmony, ear training and sight singing. Includes notation, scales, modes, intervals, key, tonality, the anatomy of melody, harmony and melodic organization. (4/0)
- *MU125T Community Chorus** 1
Performs a variety of vocal music, ranging from repertoire from the Renaissance to several twentieth century styles. Prereq: permission of instructor. (0/20)

NS: NURSING

- NS001U Changing Patterns of Health Care and Nursing (ADN)** 2
Focuses on changing patterns of the health care delivery system and the complex team relationships that affect the quality of health service. Prereq: NS008U. (2/0)
- NS002U Metrology** 1
Uses a programmed instruction text to assist learning of conversion and application of apothecary, metric and household systems of measurement. A nursing core course. (Pass/no-credit evaluation.) (1/0)
- NS003U Nursing I (Fundamentals of Nursing)** 9
Focuses on function of the nurse in beginning clinical practice and the behavioral changes required to implement fundamental care for all patients and/or residents (care, comfort, safety, nutrition and elimination). The patient, as an individual, and the physical-emotional-cultural relationships also are studied. Students with reading and/or mathematic deficiencies may be required to enroll in the personal achievement courses. (5/8)
- NS004U Nursing II (Introduction to Medical-surgical Nursing)** 10
Continues Nursing I with focus on fundamental nursing knowledge and techniques for the care of all patients. Special emphasis is on the nursing care of patients having surgery. Fluid and electrolytes, oxygen, nutrition, pharmacology and elimination are stressed. Concepts of stress in self and others, death as a progressive, individual process, health care and health promotion are included. A nursing core course. Prereq: NS003U, NS002U, NS013U and BY006U. (5/10)
- NS005U Nursing III (Maternal and Child Nursing)** 12
Focuses on physical and mental changes occurring during pregnancy and the birth process. The study of the needs of ill children in relation to the well child is emphasized. Includes identification of community health agencies and services through study and visitation. A nursing core course. Prereq: NS004U. (5/14)

NS006U Nursing IV (Medical-surgical Nursing) 13
 Focuses on nursing care of patients with healing problems requiring hospitalization. Principles underlying nursing care and nursing techniques are learned, with focus on the nursing process. Prereq: NS005U. (5/16)

NS007U Nursing V (Medical-surgical Nursing) (ADN) 12
 Focuses on the systematic application and analysis of care given to, for and with the hospitalized person with more complex medical-surgical health problems. Supportive and therapeutic modalities are continued throughout the nursing core; i.e., fluid and electrolytes, pharmacotherapeutics, surgical and diet. Prereq: NS006U. (4/16)

NS008U Nursing VI (Psychiatric Nursing) 10
 Focuses on the care of persons with emotional problems utilizing the nursing process. Principles relating to communication, the nurse-patient relationship and psycho-social needs are applied to the nursing care. The role of the nurse in caring for patients in various settings and in coordination with other professionals is explored. Attitudes, values, feelings and emotions as present in all persons and as an integral part of all interpersonal relationships are used in the continuing development of a philosophy of human caring in nursing. Prereq: Nursing V (Medical-surgical) NS007U. (5/10)

NS009U Nursing VII (Advanced Maternal and Child Nursing) (ADN) 12
 Focuses on the care of obstetrical, newborn and pediatric patients. Nursing content is focused on the care of patients with complications. The psychosocial and learning needs of persons at the various stages of development. Complex health problems are explored in depth. Specific nursing measures are developed, which are utilized in planning, implementing, evaluating nursing care for the patient and family. Prereq: NS008U. (4/16)

NS010U Nursing VIII (High Priority Care and Management Principles) 16
 Focuses on the role of the nurse in planning, implementing and evaluating nursing care for groups of patients and those requiring priority care utilizing the nursing process. The student is assisted with the transition to the nurse practitioner role. The team-leading method of patient care is studied in relation to managerial skills. Prereq: NS009U Nursing VII (Advanced Maternal and Child Nursing). (4/24)

NS011U Nursing IX Seminar 2
 Focuses on the legalities and guidelines within which the nurse's patient care responsibilities are defined by the law and by nursing practice. Prereq: NS009U. (2/0)

NS012U Advanced Placement Seminar (ADN) 1
 Open to advanced placement nursing students to explore the role expectation of the associate degree nurse, develop skills in problem-solving, communication, self-evaluation and self-directed learning. (1/0)

NS013U Normal Nutrition 2
 Designed to provide the foundation of knowledge of normal nutrition necessary to application of nutritional therapy in the nursing care of the patient with special nutritional needs. A nursing core course. (2/0)

NS017V PN Nursing Seminar, (LPN) 2
 Deals with the legal and ethical implications and responsibilities of the licensed practical nurse. Consideration is given to the rights and privileges of the patient. A nursing core course. Prereq: NS005U. (2/0)

OE: OFFICE EDUCATION

COLLEGE TRANSFER COURSES

OE001T College Shorthand I 4
 Presents the shorthand theory and develops the ability to take dictation consisting of basic vocabulary. For students with no knowledge of shorthand or instructor's approval. (3/2)

OE002T College Shorthand II 4
 Offers a review of shorthand theory and continues to develop shorthand dictation ability on gradually increasing vocabulary levels. Introduces typewriter transcription. Prereq: OE001T or instructor's approval. (3/2)

OE003T College Shorthand III 4
 Emphasizes increased rate of dictation and development of introductory transcription skills. Prereq: OE002T or instructor's approval. (3/2)

OE004T College Shorthand Transcription 3
 Continues shorthand sequence with emphasis on increasing the student's ability to

transcribe difficult material from shorthand notes and to polish related transcription skills. Prereq: OE003T or instructor's approval. (2/2)

OE006T College Typing I .5-3
 Consists of modules one through six. Module I covers the alphabetic keyboard; module II, the number keys; module III introduces the basics of correspondence; module IV, the basics of tabulations and manuscripts; module V, other correspondence; and module VI introduces business forms and additional manuscript instruction. This course is designed for those with no previous typing instruction. Advanced placement may be arranged by successful completion of a diagnostic test. Speed goal is 35 wpm. Students should consult an instructor before enrolling. (0/1-6)

OE007T College Typing II .5-3
 Consists of modules 7-12. This sequence is designed to improve the knowledge and skill developed in the first modules. Includes learning additional letter styles as well as more complex manuscripts, tabulations and business forms. Speed goal is 45 wpm. Prereq: OE006T or instructor's approval. (0/1-6)

OE008T College Typing III .5-3
 Consists of modules 13-18. This sequence is designed to develop expert typing skill and knowledge, and is primarily for the secretarial major. Begins with a review of previous instruction. Offers an opportunity for extensive practice of very difficult material. Concludes with office-style projects. Speed goal is 55 wpm. Prereq: College Typing I and II or instructor's approval. (0/1-6)

OE009T Office Machines 4
 Provides for integration of and relevance between basic mathematics and office machines. Mathematical concepts are applied to the operation of adding and calculating machines. Special emphasis is placed on electronic calculators. Prereq: Knowledge of basic mathematics. (3/2)

OE010T Filing Systems and Records Control 3
 Designed to introduce and develop the principles governing what records to keep, how to store them and how to find them quickly when needed. Consideration will be given to criteria for determining disposition or retention of records, alphabetic indexing rules, records storage methods and systems, and principles for the selection of records equipment supplies. (3/0)

OE011T Secretarial Procedures 4
 Integrates the skills, knowledges and personal qualities necessary for an administrative secretary to perform the operational and supervisory functions for today's office. Provides simulated office activities, problem-solving techniques and decision-making experiences, with special emphasis on creativity and professionalism. Prereq: OE007T, OE002T or instructor's approval. (3/1)

OE012T College Typing IV .5-3
 Consists of modules 19-24. Each module offers a different office simulation in which a student is provided practice in applying advanced typewriting skills to a realistic job situation. Speed goal is 65 wpm. Prereq: College Typing I, II and III or instructor's approval. (0/1-6)

OE038T Electronic Typewriter .5
 Consists of learning the mechanical features of the Executive Typewriter and becoming proficient in its use. Includes exercises in tabulation, centering, justifying and shadow printing. Skill goal is 65 words a minute. Prereq: OE014T-OE037T.

OE041T Word Processing Lab I 1
 Designed to teach the basic operations of the memory typewriter. When it is completed, the student should be able to do most one-page letters, memos, or reports. (0/2)

OE042T Word Processing Lab II 1
 Designed to teach advanced material necessary for special applications on the memory typewriter. When it is completed, the student should be able to type letters, memo or reports with tables, columnar or statistical material. (0/2)

VOCATIONAL - TECHNICAL COURSES

OE001U Office Procedures I 4
 Refines knowledge and skills, and introduces new concepts and procedures leading to realistic preparation for seeking office employment. Units include experience with copying and duplicating equipment, telephone and receptionist duties, as well as basic secretarial functions. Students learn effective job application techniques. Prereq: College Typing I. (3/2)

OE002U Office Procedures II 3
 Provides simulated office activities and problem-solving situations that will develop and apply a wide range of office skills. Students are rotated through different office positions and undergo realistic patterns of interaction, which will better prepare them to perform day-to-day operations, to develop self-confidence and to cultivate

the personal traits and the human relations skills necessary for success in office occupations. Prereq: Typing II. (1/4)

OE003U Insurance Machine Transcription 3
Designed to concentrate on the letters, memos and reports used in insurance offices. Both accuracy and increased transcription rate will be stressed, and actual letters will be used. Prereq: insurance terminology and proficiency in machine transcription. (2/1)

OE005U Spelling 1-4
Provides self-paced learning activities for either remedial or enrichment instruction in spelling skills. (0/2-8)

OE007U Office Procedures (OPA) 2
Develops procedures necessary to assist the orthopaedic surgeon and related personnel with care of patients in the office environment. Includes communications procedures, inventory management, ordering orthopaedic shoes and adjustments, and applied pharmacology. (1/2)

OE009U Medical Records Science II 4
Provides for a survey of the history of medical record science and the profession, including analysis of medical record content, stressing accuracy, completeness, and correlation of data. Also covers numbering of terminal digit filing systems with emphasis on retention policies and storage methods. (4/0)

OE010U Nosology and Health Data 4
Designed to develop skill in the use of approved disease and operative classification systems. Emphasis is on techniques used in health information retrieval, and analysis and report preparation for medical staffs and community health agencies. (4/0)

OE011U Directed Practicum 1-6
Provides students with positions in medical record centers in order to gain experience in medical record analysis, filing, storage, coding and indexing, as well as statistical reporting and related medical record functions and responsibilities. This course is required for two quarters prior to graduation. (0-3/0-20)

OE012U Medical Records Science III 4
Provides for the training of storage and microfilming of records, including field trips to hospitals and related health institutions to learn of record retention. Prereq: OE009U. (4/0)

OE013U Documentation of Medical Records 3
Provides for an understanding of the completeness of medical records and allows the student to learn of methods of determining lengths of stay. The student also will analyze records to determine necessary signatures needed to complete the records. (1/2)

OE014U Legal Aspects of Medical Records 2
Enables the student to know what medical information can be released to proper authorities—proper release of information from the medical records. (2/0)

OE015U Medical Records Science I 4
Designed as a comprehensive, advanced medical office simulation. Basic secretarial skills are combined with skills needed to perform secretarial duties in a doctor's office, hospital medical record room or specialized hospital department. Prereq: OE007T. (3/2)

OE016U Medical Secretarial Machine Transcription I 3-5
Develops transcription skills with emphasis on medical terminology and gives practice in transcribing medical letters, forms and reports. The course provides a review of English grammar as used in medical reports and introduces students to medical case histories, consultation reports, operative reports, discharge summaries, x-rays, and reports used in specialized medicine (e.g., pediatrics, ophthalmology.) (2-3/2-4)

OE019U Word Processing 2
Teaches efficient operation of several kinds of transcribing machines. Emphasis is also given to spelling, grammar usage, punctuation, capitalization, business letter styles, typing shortcuts, and error correction. Terminology used in various kinds of business communication is also introduced. Prereq: OE007T. (1/2)

OE021U Medical Secretarial Machine Transcription II 3
Develops speed and accuracy in transcribing reports of medical specialties and introduces students to problem-oriented medical records used in many hospitals and clinic offices. (2/2)

OE022U Medical Record Science IV 4
Designed to give the student an understanding of the function of accrediting agencies in the health-care field. Other units include use of medical records in long-term care facilities, trends in the health-care field, problem-oriented medical records and special registries. (4/0)

OE023U Medical Record Seminar 1
Designed to prepare the students for directed practicum. Introduces students to procedures in seeking employment. Students learn effective job application techniques. (1/0)

OE024U In-service Education 1
Provides the student with the basic skills necessary to conduct training programs. (1/0)

OE025U Certified Professional Secretary Review 3
Reviews the six areas of the Certified Professional Secretaries exam: behavioral science in business, business law, economics and management, accounting, secretarial skills and office procedures. (3/0)

OE026U Concepts of Word Processing 2
An introductory course designed for persons who desire up-to-date information on word processing topics; such as an overview of word processing, the equipment involved, career opportunities, electronic mail and automated filing, and workflow procedures. (2/0)

OE027U Law Office Procedures 3
Designed as a finishing course in specialized legal secretarial training, combining skills previously learned in legal typing and terminology, shorthand, and office procedures. Through lectures, class discussions, simulated projects, field trips and panel discussions, students are acquainted with typical law office procedures applicable to different areas of legal work—probate work, real estate transactions, civil actions, etc. Prereq: Legal Typing and Legal Terminology. (2/1)

OE033V Legal Dictation 3
Develops student's ability to take dictation of difficult materials and to transcribe in legal document form. Prereq: College Shorthand III. Legal Terminology. (2/1)

OE044V Legal Machine Transcription 3
Develops student's ability to transcribe legal materials in document form from machine dictation. Prereq: Legal Terminology and proficiency in transcribing machines. (2/1)

OE055V Legal Typing 3
Provides instruction in typing of information on printed legal forms, and in completion of legal instruments and documents common to local jurisdiction practices. Prereq: College Typing III. (2/2)

OE066V Legal Terminology 3
Provides instruction in the correct definitions, spelling and application of approximately 400 terms commonly used in legal secretarial work. (3/0)

OE077V Medical Secretarial Dictation 4
Develops a medical shorthand vocabulary, concentrates on building shorthand speed on medical material, and on producing mailable letters and reports with medical terminology. Prereq: College Shorthand III, Medical Terminology, Basic Anatomy and Physiology. (3/1)

OE010V Medical Secretarial Machine Transcription 3
Develops further transcription skills with emphasis on medical terminology. Gives practice in transcribing medical letters and forms, case histories, consultation reports, operative records, discharge summaries, X-rays and EKG reports. Prereq: Medical Secretarial Terminology, Basic Anatomy and Physiology, and Transcribing Machines. (2/2)

OE011V Medical Secretarial Office Procedures 4
Designed as a comprehensive advanced office simulation. Basic secretarial skills are combined with skills needed to perform secretarial duties in a doctor's office, hospital record room or specialized hospital department. Prereq: College Typing II or approval of instructor. (4/0)

OE012V Medical Secretarial Typing 3
Concentrates on typing medical letters and forms, case histories, consultation reports, operative records, discharge summaries, X-ray and EKG reports, and the preparing of abstracts and articles for medical journals. Prereq: OE008T. (2/2)

OE013V Medical Typing 2
Concentrates on the typing of forms, letters and other business papers common to the medical office, and introduces the use of transcribing machines. (1/2)

OE014V Insurance Terminology 2
Emphasis will be on the correct spelling and application of terms used in the insurance field. (2/0)

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| OE019U Transcribing Machines | 2 |
| Teaches efficient operation of several kinds of transcribing machines. Emphasis is also given to spelling, grammar usage, punctuation, capitalization, business letter styles, typing shortcuts, and error correction. Terminology used in various kinds of business communication is also introduced. Prereq: OE007T. (1/2) | |
| OE016V Office Careers | 1-2 |
| Provides an atmosphere to analyze the career opportunities available to clerical and secretarial workers. Special emphasis is placed on careers, personal development and projects related to individual interest areas. (1-2/1-2) | |
| OE025V Office Education Seminar | 1 |
| Correlated with the student's program of studies and business internship experiences. Time assigned by program. (1/0) | |
| OE028V Insurance Typewriting | 3 |
| Introduces the forms, policies and letters common to most insurance offices. The typing of numbers will be stressed, and accuracy will be a major objective. (2/2) | |
| OE030V Receptionist Seminar | 1 |
| Provides instruction in the area of greeting callers, making appointments, doing introductions, and other related receptionist responsibilities. (1/0) | |
| OE031V Business Skills (Insurance) | 2 |
| Promotes a working knowledge of basic medical insurance programs and forms utilized in recordkeeping of insurance claims. (2/0) | |
| OE032V Medical Insurance Seminar | 1 |
| An introduction to Blue Cross/Blue Shield, Title XIX, Medicare, CHAMPUS, and Commercial Insurance. (1/0) | |

PD: PERSONAL DEVELOPMENT

DEVELOPMENTAL COURSES

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| PD002D Personal Achievement Math | 1-3 |
| Designed on an individualized or small group basis, to help students master the basic skills of mathematics as well as to help students who need a review of math skills. The course may cover any one or all of the following modules: whole numbers and fractions, whole numbers and decimals, ratios, proportion, percent, pre-algebra, basic geometry, metric system and technical math. (1-3/0) | |
| PD003D Personal Achievement Reading | 1-3 |
| Designed to measure the student's present reading skills and from that measurement provide an individualized program for the improvement of skills. The course is divided into three main areas: pronunciation, vocabulary and comprehension. The reading materials utilized are related to the student's interests. (1-3/0) | |
| PD004D Personal Achievement Basic Writing | 1-3 |
| A course designed to assess a student's writing strengths and weaknesses. The student receives instruction on an individualized or small group basis in the areas of skill needs while building on skills already mastered. The course is divided into two parts: knowledge about language and experience using the language. The course will prepare the student to take Composition I and may also be supplemental support for those students enrolled in Composition I, Composition II, Communications Skills and/or other courses. (1-3/0) | |
| PD006D Orientation to American Culture | 1 |
| Presentation of information that will help the student function in American society and at Kirkwood Community College. Topics to be covered include American institutions and customs, and the educational system. Student activities include conversation, oral reports, notetaking and quizzes. This course is required during the first term for those enrolled in English as a Second Language. | |
| PD007D Personal Achievement Basic Study Skills | 1 |
| Basic study skills include instruction and practice in the following areas: time schedule and management, using textbooks, systematic study attack methods, notetaking, concentration and retention, test-taking and listening skills. (0/2) | |
| PD014D Personal Achievement Math (Pre-algebra) | 3 |
| Pre-algebra is taught on a small group basis for students planning to take Beginning Algebra. Reviews fractions, decimals, ratios and percents. Introduces exponents, operations with negative and positive number, combining algebraic expressions, and solving simple equations. (3/0) | |

COLLEGE TRANSFER COURSES

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| PD001T Group Dynamics | 2 |
| Emphasizes small group procedures for personal development in education. Structured group procedures and micro-counseling skills will supplement materials relevant to academic adjustment and success. (2/0) | |

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| PD005T Human Potential Lab | 2 |
| Designed to allow the student to become involved in group interaction in an atmosphere that is conducive to assisting the student in the formation of a realistic, positive self-concept. Emphasis is on the personal growth of the individual's involved and development of the attributes important in establishing harmonious inter-personal relationships. (2/5) | |

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| *PD007T College Orientation | 1 |
| Provides students with college information, and helps them make academic decisions and develop a two-year academic course plan. The course is open only to new Kirkwood full-time students (0/2) | |

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| PD010T Life-style Planning | .5-1 |
| Assumes that the student is raising some basic questions about life and/or work, or the circumstances have raised these questions. Its purpose is to help identify the direction the student wants to take in life and work, and then move in that direction. (.5-1/0) | |

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| PD012T Assertive Behavior Training | 1 |
| An introduction to the assertiveness model for communication and behavior. Identification of individual communication problems and practice in assertive communication in small groups are the focus of this course. (1/0) | |

VOCATIONAL - TECHNICAL COURSE

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| PD001U Personal Development | 1-2 |
| Provides the study and application of techniques for improving personal appearance, mental attitude, poise and personality, such as hair care, skin care, wardrobe selection, weight control and personality development. (1/0-2/0) | |

PH: PHYSICS/ASTRONOMY

COLLEGE TRANSFER COURSES

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| PH001T College Physics I | 4 |
| Open to all students wanting a non-calculus level physics course. Designed primarily for students interested in pre-medical, pre-dental, pre-pharmacy, pre-forestry or pre-teacher education programs, and all who seek to meet science requirements in their professional programs. Emphasizes introductory physics concepts and methods of scientific reasoning. First quarter of this sequence treats the structure and properties of matter, descriptions of motion, Newton's Laws, conservation laws, rotation and vibration, and unifying principles. Prereq: Introductory algebra course in high school or college. (3/2) | |
| PH002T College Physics II | 4 |
| Continues Physics I and covers wave motion, liquids, gases, the gas laws, heat and the heat laws of thermodynamics. Applications to the life sciences are integrated with material throughout the quarter. Prereq: PH001T. (3/2) | |
| PH003T College Physics III | 4 |
| Continues College Physics II, and includes static and current electricity, electromagnetism, optics and optical devices, and nuclear physics. Applications to the life sciences are integrated with material throughout the quarter. Prereq: PH002T. (3/2) | |
| PH004T General Physics I | 4 |
| Designed primarily for students in engineering, mathematics and physics, as well as for those needing a problem-solving physics course using calculus-level mathematics. The first quarter of this three-quarter sequence covers the topics of vectors, Newton's Laws, momentum, energy and rotational dynamics with applications to engineering problems. Prereq: MA008T (may be taken concurrently). (3/2) | |
| PH005T General Physics II | 4 |
| Continues General Physics I. Includes the subjects of oscillatory and wave motion, gas laws, thermal properties of materials and the laws of thermodynamics. Quarter ends with an introduction to electricity. Prereq: PH004T and MA007T concurrently. (3/2) | |
| PH006T General Physics III | 4 |
| Continues General Physics I and II, includes work in current electricity, electromagnetism, waves, optics and application of physics to current problems. Prereq: PH005T and MA007T concurrently. (3/2) | |
| PH007T Astronomy | 4 |
| An introductory course centered around a variety of topics including the universe and the earth in space, properties of stars, nuclear energy sources, the solar system, quasars, black holes and life in the universe. Laboratories and observations are incorporated. Prereq: none. (3/2) | |

PH008T 21st Century Introductory Physics 4

A one-quarter introductory physics course with lab experience. Provides basic work with scientific reasoning and with fundamental concepts in classical and modern physics. Recommended for students who plan to take college or general physics, as well as all liberal arts students desiring an introductory science course. (3/2)

PH009T Independent Study: Physics 1-4

Provides readings, papers and/or basic research or other projects under the individual guidance of a staff member. Offers advanced work in the topics of general physics. The work is an extension in breadth and depth of the materials covered in PH004T, PH005T and PH006T. Independent study may be taken each quarter (to a maximum of three quarters) with topics each quarter paralleling the topics of general physics. Prereq: General Physics (may be taken concurrently) and consent of instructor. (1-4/0)

PH011T Medical Physics 4

Designed for students enrolled in respiratory therapy and pre-nursing. Deals with theory and applications of the gas laws, fluid dynamics, hydrostatics, simple machines and electricity as they apply to respiratory therapy and the life sciences. (3/2)

PH013T Project: Universe (Introduction to Astronomy) 3

A basic introduction to astronomy. Via this television course, students are given a comprehensive introduction to the origin, characteristics and evolution of the solar system, the stars, galaxies and the universe as a whole. (1.5/0)

VOCATIONAL - TECHNICAL COURSES**PH001U Applied Physics I 2 or 4**

Studies properties of matter and mechanics, including the following topics: force, motion, relationships, work energy and power, vectors and graphic solutions, simple machines, rotation, torque, power and transmission; properties of solids, liquids and gases; temperature and thermal properties; vibration and wave motion, and basic sound and light. (1/2-3/2)

PH002U Applied Physics II 4

Studies control system technology including the following topics: concepts and evaluation of control systems: methods of describing components; characteristics; control system components; analysis and design considerations. Prereq: PH001U. (3/2)

PH003U Heat, Light and Sound 5

Studies theoretical considerations and techniques of application of the topics of heat, light and sound. Major emphasis is placed on the application of heat energy conversion, heating and air conditioning. Prereq: Technical Math II. (4/2)

PH004U Technical Chemistry and Physics I 3.5

Includes study of weight and measurements, charts, proportions, chemical and physical properties, and reactions relating to the mixing, gelation and solidification of dental materials, including the laws of physics as they relate to the dental laboratory fabrication. (2/3)

PH005U Technical Chemistry and Physics II 4

The study and application of principles contained in Technical Chemistry and Physics I. (1/6)

PH006U Technical Physics III 2

Studies forces, stresses and support relating to anatomical structures, dental materials or designs; principles of splinting and broken stress; and color or optical illusions created in restorations; applicable to the construction of crowns, and fixed or removable partial dentures. (1/2)

PH001V Mechanisms 4

Studies the theory of mechanics and machines. Included are topics in forces and their effects, balance, equilibrium, gravitation, motion and mechanical movements. Also covered are simple machines, mechanical power transmission, friction and lubrication, and pressure. (3/2)

PR: PHILOSOPHY AND RELIGION**PR001T Introduction to Philosophy 4**

Examines the foundations of philosophical thought in the West from Descartes to the present day, with emphasis on problems of ethics, aesthetics, epistemology and metaphysics. (4/0)

PR002T Introduction to Religion 4

Includes a consideration of each of the great religions in the context of contemporary society. Variations in the structure, organizations and functions of religion are systematically examined. (4/0)

PS: POLITICAL SCIENCE**PS002T American Government 4**

Studies American policy based on a close examination of the processes of decision making. Emphasis is placed on voting behavior and citizen interaction within the system. Empirical data is employed as a basis for many analytical techniques. (4/0)

PS004T International Relations 4

An analysis of governments interacting in political, security and economic dimensions. Emphasis is on the sources of foreign policy. Problems will be examined through current world concerns. (4/0)

PS005T Independent Study in Political Science 0, 1, 2, 3, 4

Provides readings, papers and/or basic research or other projects under the individual guidance of a staff member. Prereq: consent of instructor and department chairman.

PS006T Iowa Government: Today and Tomorrow 4

Provides close examination of Iowa government processes and institutions, with specific emphasis on decision making. (4/0)

PS008T Comparative Governments 4

Examines political institutions, problems, processes and ideologies in selected countries. "First," "Second" and "Third World" states will be studied and their interrelationships examined. (4/0)

PY: PSYCHOLOGY/EDUCATION**COLLEGE TRANSFER COURSES****PY002T General Psychology 4**

Provides an introduction to the study of human and animal behavior with emphasis on such topics as learning, motivation, personality and abnormal psychology. Wherever possible, psychological theories and principles are utilized to explain and predict behavior. (4/0)

PY004T Education Psychology and Measurement 4

Considers and evaluates the following items: factors of physical and mental development; child and adolescent characteristics as they may effect the general learning situation; problems of classroom management, construction, use, interpretation and evaluation of standardized and teacher-constructed tests. Prereq: PY002T. (4/0)

PY005T American Public Education 4

Explores the multi-million dollar education industry that touches and shapes the lives of all of us. Examines the impact of schooling on the person, in terms of individuality, creativity, self-concept and socialization. Students will examine current beliefs about education and its effectiveness. (4/0)

PY006T Independent Study in Psychology 0, 1, 2, 3, 4

Provides readings, papers, and/or basic research or other projects under the individual guidance of a staff member. Prereq: consent of instructor and department chairman. (Hours arranged.)

PY007T Field Experience/Education I 4

Offers experience in classroom or education setting in which students serve as teacher aides. Student spends 10-12 hours per week at a practicum site working under the supervision of a teacher. Students may choose to work in preschools, elementary or secondary schools. Prereq: consent of instructor. (0/10-12)

PY009T Introduction to Teaching 4

An introduction to the concerns and activities of beginning teachers. The primary focus is on teaching in public schools, K-12, though many topics are applicable to any learning situation. (4/0)

PY020T Psychology of Growth and Development: Conception to Senescence 4

Examines the process of human development with special emphasis on the formative years—birth to adolescence. Topics range from socialization and personality development to identity crisis and death. Prereq: PY002T.

PY023T Independent Study: Education 1-4

Provides readings, papers and/or basic research or other projects under the individual guidance of the staff members. Prereq: consent of instructor and department chairman. (1-4/0)

PY024T Exceptional Child 4

Studies children who are exceptional in the context of mental, emotional, physical and social development. The adult manifestations of the above developmental patterns also will be examined. Prereq: PY002T. (4/0)

PY025T The Young Child 4
 Characteristics and development of the young child are examined via current literature on early childhood. Observations and readings will provide students with an understanding of educational strategies relating to the developing child. (4/0)

PY026T Aide for the Handicapped—Orientation 2
 Examines the roles of professionals and paraprofessionals. Basic terminology dealing with mental, learning, physical and behavioral disabilities is presented. Discussions are centered around situations that students may face while in a practicum. Following visits to local agencies and schools, the student selects a practicum placement for the following quarter. (2/0)

PY027T Skill Development—Observation and Management of Behavior 4
 Develops skills needed to work as a paraprofessional in educational and community agencies. The course consists of four modules: Observation of Behavior; Developing and Maintaining Behavior; Behavior Contracts and Token Economies; and Eliminating and Decreasing Behavior. (4/0)

PY028T Skill Development—Mainstreaming and Mild Disabilities 4
 Develops skills needed to work as paraprofessional with students having mild mental, behavioral and learning disabilities. The course consists of four modules: The Special Education System; Developmental Activities; Teaching Basic Skills; and Communication Skills. (4/0)

PY029T Practicum and Seminar—Aide for the Handicapped I 4
 Places the student in an agency or educational setting working as a paraprofessional. Students will develop specific objectives related to program competencies. Bi-weekly seminars are held to assess progress and discuss student experiences. Prereq: PY026T and one Skill Development course. (1/9)

PY030T Practicum and Seminar—Aide for the Handicapped II 8
 Places the student in an agency or educational setting working as a paraprofessional. Students will develop specific objectives related to program competencies. Bi-weekly seminars are held to assess progress, discuss student experiences, practice job-interviewing skills and prepare resumes. Prereq: PY026T and two Skill Development courses. (1/21)

PY031T Skill Development—Physical and Multiple Disabilities 4
 Develops skills needed to work as a paraprofessional in educational and community settings. The course consists of four modules: Physical Health and Self Management; Multiple Disabilities; Psychological Aspects of Disabilities; and Community Living. (4/0)

PY033T Teacher Associate Seminar 1
 Stresses the practical aspects of the teacher associate's role in an educational environment. Duties, responsibilities, expectations, and attitudes on the job will be examined. Job-seeking and problem-solving skills will also be included. (1/0)

PY035T Introduction to Mental Retardation 4
 Provides a broad overview of mental retardation. A brief discussion of developmental factors leading to mental retardation will be followed by history of the "normalization" process. Educational, familial and vocational implications will also be presented in light of recent developments within the field. (4/0)

PY037T Field Experience/Education II 4
 Offers additional experience in a classroom or educational setting, from pre-school to adult education. The student will spend 5-12 hours per week at the practicum site working under the supervision of a teacher. (0/12)

PY038T Field Experience/Education III 4
 Offers additional experience in a classroom or educational setting, from pre-school to adult education. The student will spend 5-12 hours per week at the practicum site working under the supervision of a teacher. (0/12)

PY039T Social Psychology 4
 Studies the individual in society. Topics include interpersonal attraction, person perception, group process, aggression, attitude formation and change, persuasion, conformity and deviation, and leadership. Human behavior will be examined from the perspective of the experimental method. (4/0)

VOCATIONAL - TECHNICAL COURSES

PY003U The Profession 1
 Familiarizes students in architectural drafting with ethics and procedures. Personal appearance and human relations are also stressed. (1/0)

PY004U Psychology of Human Relations 2-4
 Covers basic psychological principles of human behavior. Designed to help students understand themselves and those persons with whom they will work. The course is adapted to the needs and interests of students, depending on the program in which they are enrolled, and is open to students in vocational-technical programs only. (2-4/0-4)

PY007U Sales Psychology and Human Relations 3
 Explores the human motivational and behavior factors. Emphasis is placed on understanding human behavior from a supervisor's point of view. Basic fundamentals of salesmanship are studied, with emphasis on successfully approaching professional people. (3/0)

PY001V Human Relations and Shop Supervision 1
 Covers organizational principles and patterns of shop leadership. (1/1)

RE: RECREATION

RE001T Foundations of Recreation 4
 Designed to introduce the basic philosophical, historical and scientific foundations and development in leisure and recreation; the function and setting of organized recreation; and a survey of organizations and agencies concerned with recreation. (4/0)

***RE003T Recreation Leadership** 4
 Designed to enhance leadership skills in the student by examining various techniques used in the recreation and education fields. (4/0)

***RE006T Bowling** 1
 An activity course designed to improve the bowling skills of each student regardless of the degree of previous experience. Qualified instructors, instructional lane and instructional films will be available, in addition to hours of actual bowling experience. (0/2)

***RE012T Fundamentals of Physical Fitness and Conditioning** 1
 Provides students with an understanding of the value of physical fitness, the alternative methods for achieving and maintaining fitness, and actual experience in developing a personal plan for fitness. (.5/1)

***RE013T Orientation to Community Recreation Agencies** 3
 Provides the student with an opportunity to visit local facilities that deliver leisure services. Includes lectures by agency staff members describing their role in the community. (2/2)

***RE015T Theory of Coaching Basketball** 3
 Introduces the coaching profession, with specific emphasis on basketball, fundamentals, strategy, organization, public relations, and coaching psychology. (3/0)

RE016T The Nature of Backpacking
 Provides students with opportunities to learn the skills of hiking and living in the backcountry. (3/0)

***RE017T Recreation Activities Project** 1-4
 Provides an opportunity to participate in various recreation experiences, including backpacking, canoeing, whitewater rafting and others. (0/2-3)

***RE018T Recreation for Special Populations** 4
 Designed to examine the recent trend in recreation toward serving the physically and mentally handicapped as well as the elderly. (4/0)

***RE019T Fundamentals of Golf** 1
 Develops the basic skills necessary for a beginning golfer. (0/2)

***RE020T Beginning Archery** 1
 Familiarizes students with the fundamentals of archery. Correct methods of bow stringing, safety and short-range target practice will be stressed. Equipment will be provided. (0/1)

***RE021T Sports Participation** 1
 Designed to give credit for knowledge and skills gained through varsity sports participation. Students may earn one credit per term up to a maximum of six credits. Although participation in a single sport can earn only one credit per year, a second credit can be earned for an additional year's participation in the same sport. Prereq: permission of instructor. (0/2)

***RE022T Administration of Physical Education and Athletics** 3
 Examines the policies, procedures, and current problems associated with the administration of physical education and athletic programs, with major emphasis on the secondary level. (3/0)

- *RE023T Prevention and Care of Athletic Injuries** 3
Introduces conditioning programs and training methods that tend to prevent athletic injuries. Provides basic skills in injury evaluation and acquaints the student with treatment procedures, while providing practical experience in taping techniques. (2/2)
- *RE024T Beginning Tennis** 1
Introduces the basic skills (forehand, backhand, service), strategy and rules of tennis. (0/2)
- *RE025T Recreation Programming** 4
Provides the student with knowledge in setting up and administering recreation classes. (4/0)
- RE026T Volleyball Techniques** 1
Instructs students in the basic rules and fundamentals of volleyball, including on-court participation. (0/2)
- *RE027T Principles and Theory of Lifetime Fitness** 1
Provides students with an understanding of the value of physical fitness, the alternative methods for achieving and maintaining fitness, and actual experience in developing a personal plan for fitness. (1/2)
- *RE028T Elementary Activities** 3
Familiarizes students with the methods, techniques, materials and safety concepts involved in organizing and managing an elementary activities program. Includes some lab experiences. (2/2)
- RE029T Tae Kwon-Do** 1
Provides instruction in blocking, kicking, punching and thrusting techniques. Through traditional form techniques, controlled sparring and free sparring, the student will learn methods of self-defense against one or more attackers. All students will be required to adhere to the tenets of Tae Kwon-Do; Courtesy, Integrity, Perseverance, Self-control and Indomitable Spirit. (0/2)
- *RE030T Introduction to Physical Education** 2
An overview of the foundations, philosophies, history and principles of physical education. (2/0)
- *RE031T Techniques of Teaching Dual Sports** 3
Techniques and methods of teaching badminton, table tennis, tennis and racquetball. (1/2)
- SO: SOCIOLOGY**
COLLEGE TRANSFER COURSES
- SO004T Introduction to Sociology** 4
Surveys the basic principles, concepts, research strategies and empirical findings representative of the field today. The course examines the range of sociological thought, identifies areas of specialization within the discipline, and establishes a basis for further study in the field. (4/0)
- SO005T Marriage and the Family** 4
The nature of contemporary family institutions is explored by studying the family as an ideological, demographic, historic, economic and legal entity. The marital life cycle is documented through current research. Marital dissolution and remarriage are also examined. The course emphasizes both the continuities and discontinuities in the family experience of individuals and the society as a whole. (4/0)
- SO006T Social Problems** 4
Examines objective social conditions that have been defined as social problems. Problems are viewed as consequences of given types of social organization. Social causation is emphasized. The course focuses on gaining factual and theoretical knowledge to build better explanations for the existence and persistence of social problems. (4/0)
- SO007T Criminology** 4
Surveys the nature, causes and extent of crime and delinquency; major consideration is given to apprehension, control and treatment. (4/0)
- SO008T Introduction to Cultural Anthropology** 4
Considers group life in various cultures. Involves anthropological insights relative to human behavior in a comparative perspective. Includes selected aspects of both physical and cultural anthropology. (4/0)
- SO009T Independent Study in the Social Sciences (Anthropology)** 0, 1, 2, 3, 4
Provides readings, papers and/or basic research or other projects under the in-

dividual guidance of a staff member. Prereq: consent of instructor and department chairman is required before registering. (Hours arranged.)

- SO010T Independent Study in the Social Sciences (Sociology)** 0, 1, 2, 3, 4
(See above course description for SO009T.)
- SO011T Juvenile Delinquency and Deviancy** 4
Analyzes the various components of delinquency, home, school, peer group and community structure. Explores the role of therapeutic and detention centers, and the juvenile court, as well as approaches to prevention and treatment. (4/0)
- SO013T Sociology of Poverty** 4
Focuses on structured social inequality and its consequences for the life chances of the poor in the United States. Poverty is studied as one aspect of the distributive system. A general theory of the distributive system is advanced. The special concerns of low income groups are explored as a problem in distributive justice. (4/0)
- *SO015T Sociology of Aging** 4
Considers many of the issues associated with the role of the elderly in our society. By analyzing current research, students will investigate the attitudes, preferences and lifestyles of the aging. (4/0)

VOCATIONAL - TECHNICAL COURSE

- SO001U Industrial Organization** 3
Studies the union systems in the United States. Studies wages, union policy, local and national union organization, and the laws pertaining to union and employer. (3/0)

SW: SOCIAL WELFARE

- SW005T Field Experience and Seminar I** 6
Places the student as an aide in a human services agency 15 hours a week. The experience will be discussed at a one-hour seminar, the purpose of which is to maximize the experience by gaining insights from other students and the instructor. These insights should enable the student to objectify his or her work experience. (1/15)
- SW007T Field Experience and Seminar II** 9
Provides on-the-job training for mastery of competencies of human service values, communication skills, problem solving and job skills. Prereq: consent of instructor. (1/24)
- SW008T European Social Policy and Human Services** 6
This study tour will include readings, class lectures and tours of European sites. Students will study how these countries have faced social problems, and developed social policies and programs to deal with these problems. Comparisons will be made among pre-industrial, industrial, and post-industrial problems and programs in areas of service to the elderly, children and families, the handicapped and the poor. These will be discussed in terms of normalization, social integration, rights to service, prevention and other issues. (6/0)
- *SW009T Introduction to Human Services** 4
Introduces the value base of human services, and evaluates problems that can be encountered in working with people when these values conflict with client needs. Introduces the framework of the human services approach, specifically systems analysis and problem-solving techniques. Concepts of systems analysis will be accompanied by applications of these concepts to problems. (4/0)
- *SW010T Human Service Policy and Programs** 4
Investigates the relationship between social service programs and related social issues in the context of cultural conditions. Introduces historical trends in human services, as well as acquaints students with current human services available to various client groups. (4/0)
- *SW011T Making Observations** 4
Focuses on learning the distinction between inference and behavior, and recording behaviors in a systematic way. This also includes learning the importance of environment as an influence on human behavior. Closely related competencies to be addressed are writing behavioral objectives and contracts. (4/0)
- *SW012T Intervention Skills** 4
A overview of various intervention techniques (reality therapy, rational-emotive therapy, transactional analysis, etc.). Students also learn principles of the helping interview, and practice interviewing in beginning, middle and ending phases. (4/0)

TH: THERAPY

TH001U Occupational Therapy Management Skills 2
Provides knowledge of sound equipment maintenance procedures, purchasing procedures and supplies maintenance. Also provides knowledge of rudimentary personnel management skills. Prereq: TH003U, TH005U and TH006U. (2/0)

TH002U Health-Illness-Health 10
Provides knowledge of the factors which influence/interfere with an individual's ability to function in basic life concerns such as self-care, play-leisure work experience. This includes knowledge of physical and psychosocial disease and disease processes. This is supplemented by practicum experience appropriate to didactic material. Prereq: BY011U. (8/6)

TH003U Major Crafts 8
Provides knowledge and skills relating to the major crafts used in Occupational Therapy, including weaving, leathercraft, ceramics and woodworking. (0/16)

TH004U Developmental Processes 6
Provides a knowledge of normal physical and psychosocial developmental processes that affect a person throughout life, stressing integration of the physical with the psychosocial. Prereq: PY002T. (5/2)

TH005U Therapeutic Techniques I 4
Provides a knowledge of the general aspects of occupational therapy and the work environment by didactic work and field observation. Includes defining the role of the Occupational Therapy Assistant. Provides learning skills in minor crafts and introduces the concept of activity analysis. (3/2)

TH006U Therapeutic Techniques II 3
Interpersonal relationship techniques important to occupational therapy are ex-

plored. Interpersonal skills are broadened. The structuring of interpersonal skills and activity is learned. Includes one-to-one and group techniques. Prereq: TH005U. (1/4)

TH007U Therapeutic Techniques III 15
Provides skills and knowledge of activities of daily living, work simplification, activity analysis and therapeutic techniques as used with various physical and psychosocial disorders. Provides knowledge of utilization of physical and psychosocial rehabilitation principles and the interrelation between the two, as considered in occupational therapy. The student learns to evaluate, plan and implement an occupational therapy program, as appropriate to an assistant. Practicum experiences are used to identify and/or reinforce needed learning. Prereq: TH002U. (11/8)

TH008U Clinic C 8
Offers learning activities in an occupational therapy clinic emphasizing the psychosocial aspects of therapy. Prereq: all occupational therapy courses except TH011U. (0/24)

TH009U Clinic B 8
Offers learning activities in an occupational therapy clinic emphasizing the physical disability aspects of therapy. Prereq: all Occupational Therapy courses except TH011U. (0/24)

TH010U Clinic A 8
Encompasses pediatric development and/or geriatric or other specialized experience. Objectives will be consistent with the projected need or desire of the student. Prereq: CM007U, TH007U and TH002U. (0/24)

TH011U Seminar OTA 2
Reviews clinical and didactic experience to prepare the student for certification. Prereq: two of the major clinics, TH010U, TH009U or TH008U. (2/0)

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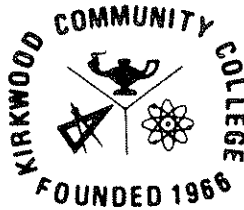
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